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Evaluation of Fisheries Dependent Information (FDI) for EU Fleets (STECF 24-11)

Zanzi, A., Motova-Surmava, A., Hekim, Z. (eds)

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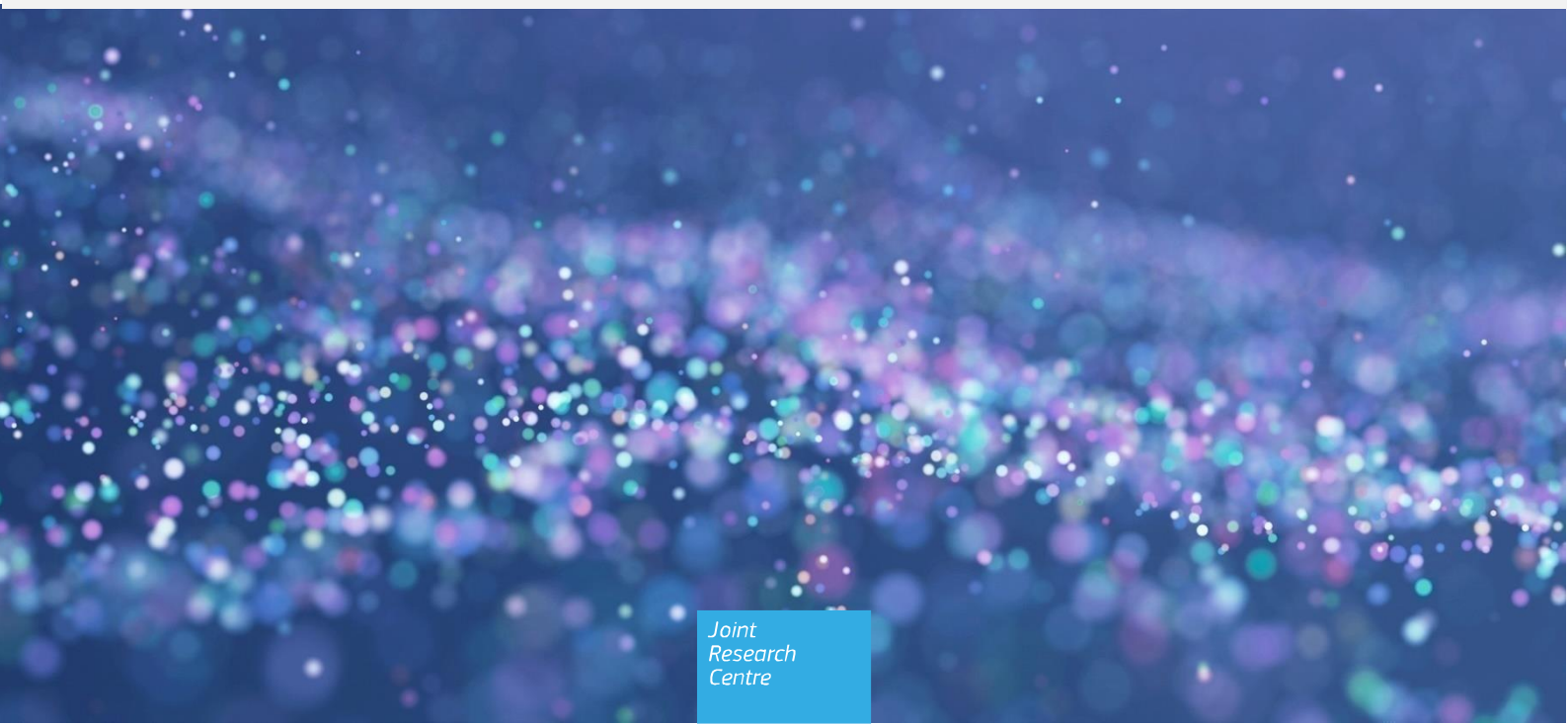

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Authors

STECF advice:

Bastardie, Francois; Borges, Lisa; Casey, John; Daskalov, Georgi; Döring, Ralf; Drouineau, Hilaire; Goti Aralucea, Leyre; Grati, Fabio; Hamon, Katell; Ibaibarriaga, Leire; Jardim, Ernesto; Jung, Armelle; Ligas, Alessandro; Mannini, Alessandro; Martin, Paloma; Moore, Claire; Motova-Surmava, Arina; Nielsen, Rasmus; Nimmegeers, Sofie; Nord, Jenny; Pinto, Cecilia; Prellezo, Raúl; Raid, Tiit; Sabatella, Evelina Carmen; Sampedro, Paz; Somarakis, Stylianos; Stransky, Christoph; Ulrich, Clara; Uriarte, Andres; Valentinsson, Daniel; van Hoof, Luc; Velasco Guevara, Francisco; Vrgoc, Nedo

EWG-24-11 report:

EWG chairs Motova-Surmava Arina and Zanzi Antonella

Experts: Adamowicz, Maciej; Avdic Mravlje, Edvard; Cano, Suzana; Cañas, Lucia; Carlshamre, Sofia; Ciorciaro, Domenico; Davijuka, Irina; Demaneche, Sebastien; Egekvist, Josefine; Fernandes, Ana Cláudia; Gibin, Maurizio; Hekim, Zeynep; Ioannou, Myrto; Isajlovic, Igor; Jakovleva, Irina; Kavadas, Stefanos; Kovsars, Maksims; Liontakis, Angelos; Maina, Irida; Mantzouni, Irene; Molla Gazi, Karolina; Moore, Claire; Nicheva, Simona; Nimmegeers, Sofie; Raid, Tiit; Rantanen, Perttu; Russo, Tommaso; Vukov, Ivana; Wischnewski, Julia

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. This report on fisheries dependent information has been reviewed by STECF during the 2024 winter plenary meeting.

STECF Report on EWG 24-11 Evaluation of FDI for EU Fleets

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 was provided with the draft report of the EWG, including [3 electronic annexes (Annex 3 – Exemptions coding tables, Annex 4 – Exemptions data extract and Annex 5 - Maps of effort and landings)]

STECF comments

EWG 24-11 met in Ispra, Italy from 9 to 13 September 2024.

TOR 1. Review and document the completeness of the data set and feedback from Member States on the approaches used and problems encountered in responding to the data call.

STEC notes that the FDI data call requested data from the year 2023 with the possibility to resubmit the years 2013-2022. Time series further back than 2013 were not requested, although Member States were encouraged to submit them on a voluntary basis.

STECF notes that all Member States submitted data for all requested tables by the legal deadline of the data call. Some Member States re-uploaded data between the legal deadline and the operational deadline, and some Member States also re-uploaded data during the EWG. The internal consistency of the uploaded data, which includes consistency; i) with the data call specifications ii) between different tables of the FDI data call and iii) between years, was checked using the Qlik tool. A second cross-check was carried out with an external data source (EUROSTAT) to verify the completeness of the data sets submitted. STECF notes that the coverage of discard data remains low, with discards for 79% of total landings either not known or not sampled.

The EWG noted some improvement in data quality as Member States resubmitted data for the years 2013-2022. Of the data transmission problems identified in 2023, 17 were resolved with the resubmission of data in 2024 and 16 were still classified as pending. This year, 34 issues with low or medium severity and issue type quality or coverage were identified and registered in the Data Transmission Monitoring Tool (DTMT).

TOR 2. Provide landings and discards data for exemptions in discard plans.

STECF observes that the EWG was asked to provide percentage of landings and discards data for exemptions in discard plans based on the method adopted by EWG 23- 10, 22-10, 21-12 and 20-10 and the outputs of ad hoc contract 2452. The EWG provided the discard information for each exemption in two separate formats: with and without fill-ins and reported the shortcomings that should be considered for a proper interpretation of the results. STECF acknowledges that as a measure of quality of the discard estimates reported and fill-ins, the coverage as percentage of landings with discards is also provided in the data tables.

TOR 3. Review dissemination formats and produce dissemination tables and maps of spatial effort and landings by c-squares.

STECF observes that the EWG used the same format for the dissemination of the data as applied in 2023. STECF acknowledges that the EWG evaluated how confidentiality would impact various options for more aggregated dissemination tables at country level. The EWG identified tables aggregated by

“country*supra_region*vessel_length_range*gear*sub_region2” as a first proposal to disseminate data at country level. The EWG also explored the spatial products that could be disseminated at country level without compromising the confidentiality of the data provided by Member States. Any potential proposal of a new format of dissemination tables needs to be decided and approved by National Correspondents.

STECF observes that the refusal information contained in Table B is still not disseminated and the possibility of dissemination will be studied during a next FDI Methodological meeting.

STECF observes that the EWG assessed the use of the FDI data and provided a list of ad hoc requests for which Member States had to grant data access to confidential data that is not disseminated publicly. However, the EWG could not access the number of users that downloaded the data directly from the dissemination website due to the recent changes in the dissemination website. STECF suggests that a method of tracking the data sets and maps produced in the EWG is established.

TOR 4. Discuss data submission results following recent changes in the data call and definitions, discuss further feasibility of other changes.

STECF notes that the "activity level", "fishery" and "gear" dimensions were included in the AER data call as non-mandatory variables. In 2024, only three Member States used activity level variable in the AER data call. After a thorough analysis of the pros and cons and considering current limited use of these indicators, the EWG concluded that currently it is not possible to include all three optional indicators in the FDI data call. The EWG also provided recommendations to follow RCG ECON guidelines on clustering that, if followed, would not compromise correspondence between fleets’ definitions in both data calls. Nevertheless, it is necessary to continue the comparison between FDI and AER data and this task has been proposed for the FDI Methodology workshop in 2025.

STECF notes that the EWG decided to postpone the introduction of AphiaID (unique taxonomic identifier provided by Aphia platform) and scientific name as new variables in the FDI tables until 2027, when the implementation of the ICES RDBES for the extraction of FDI will be feasible.

TOR 5. Access results of pilot IDs / Domain names submission to Med&Black Sea data call and discuss MS experience with the Med and Black Sea region data submission in 2024. Discuss development of RDBFIS – Integrated Fisheries Information System for the Mediterranean and Black Sea.

STECF notes that incorporating the Med&Black biological data into the FDI database would enhance its completeness, providing a more comprehensive overview of all EU fisheries in terms of landings, effort, capacity and biological information. Such a database could potentially reduce the number of data requests to Member States and provide a valuable tool for STECF; and if publicly disseminated a valuable tool for researchers, managers and society as a whole.

STECF notes that the possibility of incorporating the Med&Black biological data into the FDI tables was evaluated during the EWG. The concept of DOMAIN variable and its uses in the context of FDI have been explained, showing that DOMAIN column will not be an obstacle for the integration of Med&Black biological data with their specificities of sampling design and raising procedure. In order to harmonize the Med&Black data calls with FDI, alternative options of procedure were described during the EWG. The two options that would allow the integration of the data in FDI with a lower impact on the Med&Black databases, consider change of the name of the ID column in the Med&Black Sea data call (option 1) or the inclusion of two new DOMAIN variables, one for landings and one for discard in the Med&Black Sea data call (option 2). That should be followed by transition of biological data

from Med&Black Sea data base to FDI format when domains are consistently reported between two data calls.

STECF observes that in the long-term, when the RDBFIS is functional, the data extraction process to respond to the FDI data call will be automated with the creation of the DOMAIN variable at the country level. And biological data in FDI format could potentially be extracted directly from RDBFIS in the Med&Black Sea region as from RDBES in the North Atlantic Region. STECF observes that the next step of the process should be confirmed by the Commission, Member States and Regional Coordination Groups.

TOR 6. Provide recommendations on protocol for the work done under the annual ad hoc contract that provides the catches, landings and discards, at a level ofaggregation corresponding to the fleet, area and gear type as specified in each exemption of each delegated regulation specifying the details of implementation of the landing obligation with the aim to incorporate work done to the STECF EWG procedures, as this is one of the major deliverables of the FDI database for DG MARE as end user.

STECF notes that the work to extract information related to different exemptions was done during the EWG and the annual ad hoc contract that covered all preparatory work needed for this task. Moving forward, if the ad hoc contract is not available, the EWG provided recommendations to change the procedure to estimate the information on exemptions from the landings obligation to streamline the preparatory work required. These recommendations aim to reduce the time spent on this task during the EWG meeting, ensuring the data is ready for national checks on or after the fist day of the meeting. STECF observes that to streamline the procedure three R scripts have to be further developed to automate part of the work and to enable EWG to extract exemptions without preparatory work before the meeting:

- script 1: translation of the legal text to FDI definitions. Human verification of the results, or manual check/update of the coding tables is needed for data extract (see Annex 2 of the EWG 24-11 report). Script 1 is still being developed,
- script 2: used by the ad hoc contract to merge FDI Table A with Extraction code Table and to extracts the FDI data for exemptions,
- script 3: produces summary tables and plots as an alternative to the Excel files previously provided by the ad hoc contract. This output was developed by EWG 24-11 but requires additional resources to be finalised.

The whole process and the R scripts need to be finalised, reviewed and tested in the FDI Methodology workshop in 2025 to enable exemptions data provision without preparatory ad hoc contract in 2025.

STECF observes that the EWG propose that the relevant units of DG MARE fill the table of ´follow up the exemptions´ with changes or new exemptions introduced in the EU legislation.

Before the resources to finalise the process outlined above are allocated, the EWG considers that DG MARE should confirms the usability of the new approach and visualisation output produced by EWG 24-11. The script with relevant package and data could be obtained from the FDI Workspace and shared with DGMARE by JRC or EWG co-chairs.

STECF conclusions

STECF concludes that the EWG addressed all the ToRs appropriately and endorses the report and the related annexes.

STECF concludes that the resubmission of data of previous years (2013-2022) improved the data quality and enabled that half of the issues related to data quality or coverage identified in 2023, could be solved during the EWG this year. The number of new issues identified in 2024 was similar to previous year, however their impact was classified as low or medium.

STECF concludes that the dissemination of data at the country level could potentially be useful for end-users (scientists, managers etc.). However, dissemination of more aggregated data tables and spatial information would need to be defined during the next FDI Methodology meeting, incorporating the conclusions of the Workshop about data confidentiality concepts (recommended by RCG NANSEA & Baltic 2024 to the Commission), and then be validated by National Correspondents. STECF also concludes that the information of refusal rates, contained in Table B, cannot be disseminated and the guidance on how to disseminate needs to be elaborated in a FDI Methodology meeting.

STECF concludes that monitoring the impact of FDI data dissemination and the needs of FDI data end-users is essential to ensure both the accuracy and relevance of FDI outputs. STECF therefore suggests inventorying the number of downloads from the website and, during the FDI Methodology meeting, to define a method (e.g. DOI, creative commons licence, or citation) to track the use of the FDI data.

STECF concludes that the possibility of incorporating Med&Black biological data into the FDI was found to be feasible using a DOMAIN variable. The short-term option would involve maintaining the two data calls and the addition of two new DOMAIN variables, one for landings and another for discards to the Med&Black Sea data call. A long-term option, once the RDBFIS is operational, is to use this data base and to automate the process of data extraction for the FDI data calls. This would also include the creation of the DOMAIN variables at the country level and improving the efficiency. STECF further concludes that DG MARE needs to inform the EWG and outline the way to move further if it considers this process valuable.

STECF concludes that the recommendations and scripts under development by the EWG to facilitate the process of estimating landings and discards for each exemption of the landing obligation without ad hoc preparatory contract, have to be confirmed by the DG MARE and finalised by FDI Methodology meeting.

Contact details of STECF members

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Name	**Affiliation**[1]	Email
Bastardie, Francois	Technical University of Denmark, National Institute of Aquatic Resources (DTU-AQUA), Kemitorvet, 2800 Kgs. Lyngby, Denmark	fba@aqua.dtu.dk
Borges, Lisa	FishFix, Lisbon, Portugal	info@fishfix.eu
Casey, John	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	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	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
Grati, Fabio	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	Wageningen Economic Research, The Netherlands	katell.hamon@wur.nl
Ibaibarriaga, Leire	AZTI. Marine Research Unit. Txatxarramendi Ugartea z/g. E-48395 Sukarrieta, Bizkaia. Spain.	libaibarriaga@azti.es
Jardim, Ernesto	Independent expert	ernesto.jardim@gmail.com
Jung, Armelle	DRDH, Techonopôle Brest-Iroise, BLP 15 rue Dumont d'Urville, Plouzane, France	armelle.jung@desreguinsetdeshommes.org

Name	**Affiliation**[1]	Email
Ligas, Alessandro	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	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, U.K	arina.motova@seafish.co.uk
Moore, Claire	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	Flanders research institute for agriculture, fisheries and food, Belgium	Sofie.Nimmegeers@ilvo.vlaanderen.be
Nord, Jenny (chair)	Independent consultant	nordjenny@hotmail.com
Pinto, Cecilia (vice-chair)	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)	AZTI -Unidad de Investigación Marina, Txatxarramendi Ugartea z/g 48395 Sukarrieta (Bizkaia), Spain	rprellezo@azti.es
Raid, Tiit	Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallin, EE-126, Estonia	Tiit.raid@gmail.com
Sabatella, Evelina Carmen	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

Name	**Affiliation**[1]	Email
Sampedro, Paz	Spanish Institute of Oceanography, Center of A Coruña, Paseo Alcalde Francisco Vázquez, 10, 15001 A Coruña, Spain	paz.sampedro@ieo.csic.es
Somarakis, Stylianos	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	Independent expert	auriartes@hotmail.com
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	Wageningen Marine Research Haringkade 1, Ijmuiden, The Netherlands	Luc.vanhoof@wur.nl
Velasco Guevara, Francisco	Spanish Insitute 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

REPORT TO THE STECF

EXPERT WORKING GROUP ON
Fisheries Dependent Information FDI
(EWG-24-11)

9-13 September 2024

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

1. INTRODUCTION

The STECF EWG 24-11 met during 9–13 September 2024 in Ispra, Italy. The meeting opened at 10:00 on 9 September and was adjourned at 16:00 on 13 September 2024.

1.1 Terms of Reference for EWG-24-11

DG MARE focal person: Martin Mortensen, Evelien Ranshuysen-Essat (D3), Anabel Andujar-Vazquez, (C5), Ilaria Vielmini, Christoph Priebe (C1), Leonie O'dowd (C3)

JRC focal person: Zeynep Hekim

Chairs: Arina Motova-Surmava and Antonella Zanzi

Background information

EWG 24-11 Evaluation of Fisheries Dependent Information (FDI) for European Fleets to review the data transmitted by Member States under the 2024 FDI data call to judge:

1. If data submitted is complete in terms of areas of fishing, types of fleet segment and gear operated and species identified;
2. If data submitted is complete in terms of type of data requested: capacity metrics, effort metrics, landings, discards and spatially disaggregated landings and effort.

In addition, the EWG is asked to map the data on fishing effort obtained from the call for spatially disaggregated data.

In considering the completeness of the data submitted the EWG is entitled to use external sources of data where necessary, as well as expert judgement.

The STECF EWG is requested to:

1. Review and document completeness of the data set and feedback from Member States on approaches used and problems encountered in responding to the data call.
   1.1. As a matter of priority, the EWG is requested to ensure that all unresolved data transmission (DT) issues encountered prior to and during the EWG meeting are reported online via the Data Transmission Monitoring Tool (DTMT). Such issues should be reported in full within 2 weeks of the end of the EWG.
   1.2. Review outputs of the ad hoc contract that provides the catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in the EU relevant delegated regulations specifying the details of implementation of the landing obligation for 2025.
   1.3. Review data quality checks and produce National methodological chapters.
   1.4. Discuss the development of quality checks relevant to FDI EWG under QualiTrain project.
2. Provide landings and discards data for exemptions in discard plans. Based upon the previous work and method established in STECF EWG 20-10, EWG 21-12, EWG 22-10, EWG 23-10, and the output of the ad hoc contract:
   2.1. STECF is asked to provide figures for landings and discards in 2023, at a level of aggregation corresponding to the fleet, area and gear type as specified in Delegated Commission Regulations (EU) 2023/2459, 2023/2623, 2023/2918, 2023/2462 and 2023/2460 specifying details of implementation of the landing obligation for 2025.
   2.2. STECF is asked to assess and if possible, provide percentages of discards estimates below and above MCRS at a level of aggregation corresponding to the fleet, area and gear type as specified in in Delegated Commission Regulations (EU) 2023/2459 and 2023/2623 specifying details of implementation of the landing obligation for 2025.

2.3. Where there is insufficient discard data for the above task, the STECF is asked to provide estimated catches (landings + discards) for 2023. Only if this is possible and sufficient data is available for such estimation.

3. Review dissemination formats and produce dissemination tables and maps of spatial effort and landings by c-squares
   3.1. Discuss current dissemination formats and check if it is still relevant. Update script produced to support the dissemination of the data if needed. Discuss the possibility of disseminating the spatial data at national level and feasibility to aggregate it to level that would not compromise confidentiality of the data provided by Member States.
   3.2. Discuss interpretation of the Table B and agree on format of dissemination of refusal rate data
   3.3. If GIS technical skills are available in the EWG, produce maps of effort and landings by c-square (to be inserted in the EWG report) for the following regions (as defined in COM-2016-134 for areas other than 'distant waters') and major gear types (as defined in appendix 4 of the data call):
      a. Baltic; North Sea; North Western Waters; South Western Waters; Mediterranean and Black Seas; Distant waters
      b. Trawls (except beam trawls) with mesh < 100mm; trawls (except beam trawls) with mesh ≥100mm; beam trawls with mesh < 120mm; beam trawls with mesh ≥120mm; seine nets; gillnets and entangling nets; dredges; hooks and lines; surrounding nets; pots and trap.
4. Discuss data submission results following recent changes in the data call and definitions, discuss further feasibility of other changes:
   4.1. Discuss changes in the AER fleet definitions and feasibility to add new fields to the FDI data call.
   4.2. Discuss changes requested by ICES RDBES.
5. Access results of pilot IDs / Domain names submission to Med&Black Sea data call and discuss MS experience with the Med and Black Sea region data submission in 2024. Discuss development of RDBFIS – Integrated Fisheries Information System for the Mediterranean and Black Sea.
6. Provide recommendations on protocol for the work done under the annual ad hoc contract that provides the catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in each exemption of each delegated regulation specifying the details of implementation of the landing obligation with the aim to incorporate work done to the STECF EWG procedures, as this is one of the major deliverables of the FDI database for DG MARE as end user.

2. DATA PROVISIONS AND CHECKS

2.1 DCF FDI data call 2024

The DCF Fisheries Dependent Information (FDI) data call 2024 opened on 27th May 2024 with the legal deadline on 26th June 2024 and the operational deadline on 29th August 2024.

The 2024 FDI data call was consistent with the comments and suggestions from the EWG 23-10 (see the STECF report of the EWG 23-10, chapter 4) where the EWG agreed on calling the data with the same table format used in the 2023 data call. The following changes proposed during the EWG 23-10 were implemented in the 2024 data call:

- Regarding the feasibility to further extend the time series, it was concluded that it would not be feasible to request the data further back than 2013, as for some Member States data are not available on the level of aggregation required by the FDI data call. The EWG agreed that MS could be encouraged to submit the data before 2013 on a voluntary basis
- Removing the reporting of the Biologically Sensitive Area (BSA sub-region).
- For the tables H and I containing the spatial information, it should not be possible to submit the sub-region variable with the code 'NK'
- The data call text can be improved with more direct references to the EU MAP legislation text
- Functional Units are under revision in ICES and should be checked before the next FDI data call to update Appendix 9

The format of this data call was detailed in the annex sent to the Member States with the official letter. The annex was also published with the Excel templates on the JRC DCF website (https://dcf.ec.europa.eu/data-calls/fdi_en). In the annex to the data call, 11 tables were described, among which table K was optional and tables C, D, E, and F were not requested for the Mediterranean and Black Sea regions (GFCM GSAs).

Data were requested for the year 2023 with a possibility to resubmit data for years 2013-2022.

Data confidentiality declaration

To protect confidential data used during the EWG 24-11, the experts signed the following declaration at the beginning of the meeting.

In order to answer the term of reference of the EWG 24-11, the Fisheries Dependent Information (FDI) data provided by Member States in the context of the DCF FDI 2024 data calls will be used. These data call requests data at a detailed level; for this reason, it is possible for Member States to mark data as confidential.

I hereby declare that I was informed by the STECF secretariat and the chairs of the EWG 24-11 that the dataset used during the EWG contains some confidential data and that access to and use of the datasets is only permitted in the EWG context. Consequently, all DCF FDI datasets shall be removed from all the electronic supports used (e.g. hard disk, memory stick, etc.), and no electronic or paper copies of the data shall be kept by experts after completion of the EWG 24-11 report.

2.2 Data check on uploads and data evaluation before EWG 24-11

Timeliness and coverage

All Member States submitted data for all the requested tables by the legal deadline of the data call (see Figure 2.2.1).

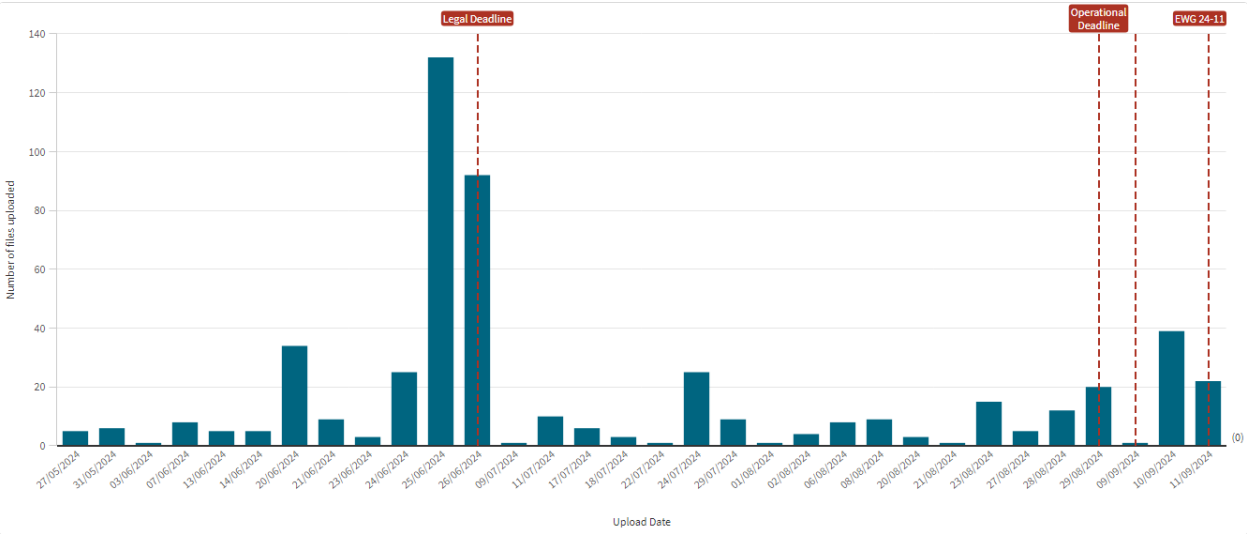
Figure 2.2.1. Timeliness overview: data sets uploaded by Member States during the FDI data call with the date of the first successful upload (table K is optional and tables C, D, E and F are not requested for Mediterranean and Black Sea countries).

Country	TABLE_A	TABLE_B	TABLE_C	TABLE_D	TABLE_E	TABLE_F	TABLE_G	TABLE_H	TABLE_I	TABLE_J	TABLE_K
Belgium	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024	25/06/2024	25/06/2024
Bulgaria	25/06/2024	25/06/2024	-	-	-	-	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-
Croatia	26/06/2024	26/06/2024	-	-	-	-	26/06/2024	26/06/2024	26/06/2024	25/06/2024	-
Cyprus	26/06/2024	25/06/2024	-	-	-	-	25/06/2024	26/06/2024	25/06/2024	25/06/2024	-
Denmark	21/06/2024	26/06/2024	26/06/2024	26/06/2024	26/06/2024	26/06/2024	21/06/2024	21/06/2024	21/06/2024	21/06/2024	26/06/2024
Estonia	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-
Finland	26/06/2024	3/6/2024	26/06/2024	26/06/2024	26/06/2024	26/06/2024	25/06/2024	24/06/2024	24/06/2024	25/06/2024	-
France	25/06/2024	26/06/2024	26/06/2024	26/06/2024	26/06/2024	26/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-
Germany	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	14/06/2024	27/05/2024	27/05/2024	14/06/2024	-
Greece	26/06/2024	25/06/2024	-	-	-	-	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-
Ireland	14/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	13/06/2024	13/06/2024	13/06/2024	13/06/2024	-
Italy	26/06/2024	26/06/2024	-	-	-	-	26/06/2024	26/06/2024	26/06/2024	26/06/2024	-
Latvia	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-
Lithuania	7/6/2024	7/6/2024	-	-	7/6/2024	7/6/2024	7/6/2024	7/6/2024	7/6/2024	7/6/2024	-
Malta	25/06/2024	25/06/2024	-	-	-	-	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-
Netherlands	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024
Poland	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024
Portugal	21/06/2024	26/06/2024	25/06/2024	25/06/2024	26/06/2024	25/06/2024	23/06/2024	23/06/2024	24/06/2024	24/06/2024	26/06/2024
Romania	25/06/2024	25/06/2024	-	-	-	-	25/06/2024	25/06/2024	25/06/2024	21/06/2024	-
Slovenia	31/05/2024	31/05/2024	-	-	-	-	31/05/2024	31/05/2024	31/05/2024	31/05/2024	-
Spain	20/06/2024	25/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024	-
Sweden	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024	-

Source: Member States submissions to FDI data call 2024.

As shown in Figure 2.2.2, some Member States re-uploaded data before the operational deadline and some Member States re-uploaded data also during the EWG.

Figure 2.2.2. Uploading progress: the graph shows the number of datasets (i.e. files Excel) uploaded over the time during the FDI data call and the EWG 24-11.



Source: Member States submissions to FDI data call 2024.

The coverage of discards data in table A is generally low for all the years present in the FDI dataset. Considering the landings for 2023: from a total of 3,449,163 tonnes landed, for 360,290 tonnes (10%) of landings the corresponding discards was reported greater than 0; discards was reported equal to 0 for 376,204 tonnes (11%) of landings; and discards is not known or sampled for 2,712,669 tonnes (79%) of landings. In Table 2.2.1 the coverage of discards is reported also for the other years; it can be noted that in 2020, due to COVID pandemic, the coverage of discards deteriorated and that improved in 2021 and 2022.

Table 2.2.1. Discards coverage in table A (the comma is used as thousands separator).

Year	Landings with discards>0		Landings with discards=0		Landings with discards=NK		Total Landings
	tonnes	% of total Landings	tonnes	% of total Landings	tonnes	% of total Landings	tonnes
2013	629,678	15.78	323,313	8.10	3,037,094	76.12	3,990,085
2014	771,131	14.87	300,355	5.79	4,112,791	79.33	5,184,277
2015	702,943	13.63	425,964	8.26	4,028,703	78.11	5,157,610
2016	724,227	14.22	466,269	9.15	3,903,092	76.63	5,093588
2017	558,565	10.29	625,243	11.52	4,245,585	78.20	5,429,393
2018	637,085	11.96	620,039	11.64	4,071,551	76.41	5,328,675
2019	567,537	11.91	540,517	11.34	3,656,585	76.74	4,764,639
2020	373,086	8.17	373,022	8.17	3,821,220	83.66	4,567,328
2021*	386,693	10.68	343,335	9.48	2,892,212	79.85	3,622,239
2022	405,969	11.44	373,336	10.52	2,768,104	78.03	3,547,408
2023	360,290	10.45	376,204	10.91	2,712,669	78.65	3,449,163

* No UK data provided starting 2021 reference year.
Source: Member States submissions to FDI data call 2024.

The comparison of the coverage of table A (catch summary) against table H (landings by rectangle) provided consistent results for most of the countries (except for Denmark, Estonia, France, Greece, Croatia, Ireland, Italy, Nederland, Portugal and Romania). Table 2.2.2 shows the comparison of the total weight of landings provided for 2023 in tables A and H.

Table 2.2.2. Coverage comparison of weight of landings provided by Member States for table A (catch summary) and for table H (landings by rectangle) for the year 2023 (the comma is used as thousands separator).

Country code	Landings from table A (tonnes)	Landings from table H (tonnes)	Difference between the tables (tonnes)	Difference %	Year
BEL	17,349	17,349	0	0	2023
BGR	6,665	6,665	0	0	2023
CYP	1,191	1,191	0	0	2023
DEU	165,439	165,441	2	0	2023
DNK	500,168	494,424	5,745	1.16	2023
ESP	765,208	765,184	24	0	2023
EST	71,345	57,491	13,854	24.1	2023
FIN	89,587	89,587	0	0	2023
FRA	477,295	471807	5488	1.16	2023
GRC	58,419	39,344	19,076	48.48	2023

Country code	Landings from table A (tonnes)	Landings from table H (tonnes)	Difference between the tables (tonnes)	Difference %	Year
HRV	56,099	56,061	38	0.07	2023
IRL	180,647	180,227	420	0.23	2023
ITA	120,728	211,188	90,460	-42,83	2023
LTU	100,297	100,297	0	0	2023
LVA	105,036	105,036	0	0	2023
MLT	2,266	2,266	0	0	2023
NLD	265,213	261,659	3,555	1.36	2023
POL	166,323	166,323	0	0	2023
PRT	155,332	146,329	9,002	1.36	2023
ROU	3,295	2,185	1,111	50.84	2023
SVN	104	104	0	0	2023
SWE	141,154	141,154	0	0	2023

Source: Member States submissions to FDI data call 2024.

Regarding effort, comparison of the coverage of table G (effort summary) against table I (effort by rectangle) provided consistent results for most of the countries (except Greece, Ireland, Italy and Romania); in Table 2.2.3 the comparison of the totfishdays variable provided for 2023 in the two tables is shown.

Table 2.2.3. Coverage comparison of fishing days provided by Member States for table G (effort summary) and for table I (effort by rectangle) for the year 2023 (the comma is used as thousands separator).

Country code	Fish days from table G	Fish days from table I	Difference between the tables (fish days)	Difference %	Year
BEL	13,170	12,750	420	3.30	2023
BGR	15,304	15,304	0	0	2023
CYP	53,510	53,508	2	0	2023
DEU	73,466	73,680	-214	-0.29	2023
DNK	58,171	57,808	363	0.63	2023
ESP	766,874	764,190	2,683	0.35	2023
EST	59,494	60,430	-936	-1.55	2023
FIN	86,154	86,154	0	0	2023
FRA	497,418	494,734	2,684	0.54	2023
GRC	1,540,344	104,812	1,435,532	1,369.63	2023
HRV	296,587	302,348	-5,761	-1.91	2023
IRL	66,419	35,449	30,970	87.37	2023
ITA	1,092,088	198,235	893,853	-450.90	2023
LTU	4056	4051	5	0.12	2023
LVA	12,934	12,934	0	0	2023
MLT	21,773	21,778	-5	-0.02	2023

Country code	Fish days from table G	Fish days from table I	Difference between the tables (fish days)	Difference %	Year
NLD	36,337	36,343	-6	-0.02	2023
POL	55,118	55,118	0	0	2023
PRT	132,780	127,148	5,632	4.43	2023
ROU	4,142	987	3,155	319.66	2023
SVN	6,887	6,887	0	0	2023
SWE	45,417	45,354	63	0.14	2023

Source: Member States submissions to FDI data call 2024.

Checks during the upload of the data

The majority of the checks performed during the upload of the data concerned the use of valid codes referred to the various appendixes of the data call and the type of the data entered (numeric or text).

In particular, the upload tool verified the format of the provided files and checked the codes used to specify the following information: country, fishing technique, vessel length, gear type, target assemblage, mesh size range, metier, species, supra-region, sub-region, sub-region, geographical indicator, EEZ indicator, deep fisheries, specific conditions related to technical measures (variable name: specon tech).

In addition, in tables A, G, H and I, the consistency between sub-region codes and EEZ indicator codes were verified; in tables C and D, the age value was validated against the min-max age range provided; in tables D and F, the length value was validated against the min-max length range provided; in tables H and I, the format of the the geographical coordinates (latitude and longitude) and of the c-square was checked, and the consistency of the spatial information was verified.

In the upload tool, the following checks among different tables was provided: during the upload of tables C, D, E, F and K, a control was performed on the presence of domain landings and domain discards codes in table A for the same country, year and species.

Post-upload data checks

After the upload of the data by Member States, JRC carried out some quality checks:

- To verify the consistency between the data submitted and the specification of the data call
- To verify the consistency between the data submitted in the different tables of the FDI data call
- To compare data consistency among years
- To cross checks data with another data source (EUROSTAT data)

In more detail, the following checks were performed and visualized with Qlik.

General checks:

- Average length vessels compatibility with the vessel length category (table J).
- Comparison of number of vessels from table J and table G: totves>0 in table G and totves in table J is not present or NK.

- Comparison between weight landings and effort: totwghtlandg>0 in table A and effort (totfishdays and totseadays) not present or NK in table G.
- Comparison between total weight landings and total value landings: totwghtlandg>0 and totvallandg=0 in table A.
- Comparison of total weight landings and discards values in Table A. Cases where discards > totwghtlandg is flagged.
- Comparison of Nephrops sub-region values from tables A, C, D, E and F with identification of the cases where the Nephrops sub-region values are different among the tables are shown.
- Comparison of discard values reported between Tables A, C and D.
- Comparison of total weight landings values reported between Tables A, E and F.
- Comparison of total weight landings values reported between Tables A, C and D.
- Comparison between discards [tonnes] and the sum of products [tonnes] = no_age [number in thousand]*mean_weight [kg] (Table C).
- Comparison between totwghtlandg [tonnes] and the sum of products [tonnes] = no_age [number in thousand]*mean_weight [kg] (Table E).
- Where domain discards codes match between tables A, C and D, the sum of total weight landings values in table A for the given domain name was checked against the total weight landings value in tables C and D.
- Where domain landings codes match between tables A, E and F, the sum of total weight landings values in table A for the given domain name was checked against the total weight landings value in tables E and F.
- Comparison of any given metric over the time series (2014-2020).
- Refusal rate table B. Rows with no information, accept for year and sampling frame provided, were identified.
- Using the total weight landings and total value landings fields from table A, an average price per species and year were calculated and compared to the average price calculated per country.

Spatial checks:

- Comparison between spatial weight landings in table H and weight landings in table A: totwghtlandg>0 in table H and totwghtlandg not present in table A.
- Comparison between spatial effort in table I and effort in table G: totfishdays>0 in table I and totfishdays not present or NK in table G.
- Comparison between spatial weight landings in table H and spatial effort in table I: totwghtlandg>0 in table H and totfishdays not present in tabel I.
- In tables H and I, identification of incorrect combination of NA values in the spatial columns and identification of data without any sub-region assigned.
- In table H and I, verification of the compatibility of the geographical coordinates (latitude and longitude) with the value provided for the rectangle type.
- In table H and I, verification of the compatibility of the geographical coordinates (latitude and longitude) and C-square.

Among the issues highlighted by the data checks implemented at JRC, the most relevant were the following:

- Data provided with different unit of measures (in tables A, C, D, E, F, G, H and I).
- Row data provided instead of data raised to the total production (in tables C, D, E and F).
- For the same domain landings, different values of total weight landings (in tables E and F).
- For the same domain discards, different values of discards (in tables C and D).
- For the same domain discards, different values of total weight landings (in tables C and D).
- In tables H and I, incompatibility of the geographical coordinates (latitude and longitude) with the value provided for the rectangle type.

Cross check with EUROSTAT data

The purpose of the cross check with an external data source was to verify the completeness of the submitted data sets. EUROSTAT datasets have been downloaded from: https:////ec.europa.eu/eurostat/data/database

Results of all checks were made available to national correspondents (with access credentials that restricted them to seeing information about their own country only) and the EWG 24-11 experts (with access credentials that allowed them to see information about all countries).

3. RESPONSES TO THE TERMS OF REFERENCE

3.1 Review and document completeness of the data set and feedback from Member States on approaches used and problems encountered in responding to the data call

3.1.1 As a matter of priority, the EWG is requested to ensure that all unresolved data transmission issues encountered prior to and during the EWG meeting are reported online via the Data Transmission Monitoring Tool

The 2024 FDI data call requested the Member States to provide data for 2023. Member States were also encouraged to resubmit data for the years 2013-2022 specifically to fix the data issues that were raised in the data transmission monitoring tool regarding the previous data request.

As in the previous years, the data provided by Member States in response to the FDI data call has been incorporated into the DCF FDI database hosted by the JRC. This database represents the most comprehensive fishery-dependent dataset currently available for the EU fishing fleet for the years 2013-2023. A quality control process is applied to the dataset. To conduct the data checks during the EWG 24-11, FDI experts accessed the FDI dashboards via personal EU Login accounts. All the identified quality issues were reviewed by the EWG and documented in the national chapters of this report (Annex 1). In accordance with the DTMT guidance, unresolved Member State specific issues were entered into the DTMT.

EWG 24-11 subgroups checked the data using various criteria for the quality of data. Of 22 Member States, 15 have reported errors. These errors are related to almost all submitted data tables. EWG observed some improvement in data quality as Member States resubmitted data for the years 2013-2022.

The most significant issues have been reported on the DTMT platform. 34 quality or coverage issues with low or medium severity were identified and registered in the DTMT; 15

issues were indicated as recurrent. Issues with a very low impact on the outcome of the working group report were not added to DTMT.

15 issues registered to DTMT by EWG 24-11 were related to spatial data. These issues mostly involved expanded checks where rectangles, c-squares, and points on land were reviewed. Following the practices proposed during the EWG 23-10 meeting, minor issues were highlighted directly with the relevant Member States and will be shared with national correspondents by the JRC data collection team after the meeting. The practice to send the data issues directly to Member States, has led to a better understanding of the issues, resulting in most data being corrected and resubmitted in 2024.

The EWG experts identified a significant amount of data for certain species over the last two years where landings value have not been provided by some Member States. While value indication is not compulsory, this variable is valuable to end users. The EWG highlighted the need for Spain to consider providing landing value data for Atlantic chub mackerel (VMA); France for Skipjack tuna (SKJ), Bigeye tuna (BET), and Yellowfin tuna (YFT); Portugal for Scomber mackerels (MAZ) and Atlantic chub mackerel (VMA); Poland for Blue whiting (WHB), Atlantic mackerel (MAC), Atlantic horse mackerel (HOM), Chub mackerel (MAS), and Chilean jack mackerel (CJM); and the Netherlands for Chub mackerel (MAS) and Round sardinella (SAA).

The EWG noted imprecise reporting of fishing days and/or days at sea by some Member States, where values were rounded to whole numbers and figures less than one were converted to zero. The data call format allows fishing days and days at sea to be reported with decimal precision, without restriction on the number of digits after the decimal. Three Member States were noted for reporting zero values for fishing days and/or days at sea, even when other effort variables based on days exceeded zero. These issues were reported via DTMT to improve data quality.

The EWG raised concerns over inconsistencies in vessel length classification for vessels operating both in the North Sea and Baltic Sea regions. While vessel length classification varies by region, Member States encountered difficulties in assigning the same vessel to different segments. This challenge arose because the definition of a fleet segment requires vessels to belong to the same length class (LOA, length overall) and to use predominant fishing gear during a given calendar year. In the case of Germany, different segmentation rules were applied to Table A and Table G, as different officials interpreted the segmentation for catch/landings data and effort data submission differently. In Table A, vessels were segmented by length, predominant fishing gear, and fishing region (either the Baltic Sea or the North Sea), whereas in Table G, segmentation was based on length, predominant fishing gear, and region of the vessel's port of administration. This kind of inconsistencies concerns vessels with length<12 m.

Data transmission issues detected and entered in the DTMT in 2023 were reviewed by the EWG 24-11. Experts defined the current status of these issues: 17 of the 33 issues were identified as resolved (checked ok) through resubmission to the 2024 FDI data call, while 16 issues were classified as pending (checked not ok). UK data issues were not considered.

The issues checked by EWG 23-10, related to the consistency between data reported to the Annual Economic Report (AER) and FDI, were discussed. Inconsistencies in the Geo Indicator codes between the two data calls were noted. Member States faced difficulties using the Geo Indicator relevant to fleet segments and often selected ‘NK’ (unknown) in response to the FDI data call when such a code was unavailable in the AER data call. The EWG request Member States to clarify the reasons for not choosing codes other than 'NK'. Based on Member States detailed explanations, the EWG agreed to consider the definition update in the future data call.

The EWG welcomes the procedure to review and evaluate Member States to follow-up on data transmission issues on the DTMT platform, from previous EWG reports. The EWG believes this step will effectively help improve data quality and resolve outstanding issues. The EWG stresses the need for Member States to address and resolve the issues identified during the meeting to enhance data quality and accuracy.

3.1.2 Review outputs of the ad hoc contract that provides the catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in the EU relevant delegated regulations specifying the details of implementation of the landing obligation for 2025

The EWG reviewed the outputs of the ad hoc contract (#2452) awarded to provide catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in each anticipated exemptions of each discard plan for 2025. The EWG was asked to assess and if possible, provide percentages of discards estimates below and above MCRS at a level of aggregation corresponding to the fleet, area and gear type as specified in each exemption of each of the discard plans for 2025.

The EWG observes that the methodology used is appropriate although in a number of cases, the estimates from exemptions were based on a small number of discard samples only, or in the absence of any appropriate samples, the estimates were derived using extrapolation (so-called 'fill-ins').

Therefore, EWG reiterates also the observation by EWG 23-10, 22-10, 21-12, 20-10 and 19-11 that the discards are estimated from sampling plans that are not designed to answer these specific exemption questions, or to provide estimates at such a detailed level. Discards estimates provided in table A are of major essential for the calculation of exemptions. However, the EWG also reiterates the conclusion of earlier EWGs, emphasizing the limited meaningfulness of any partitioned estimates ('estimates will likely not be statistically sound and may be biased, because for example of the need to assume equal discard rates among the disaggregated levels contained within the retained strata'). In order to 'fill-in' estimates for fleets with no discard samples, the available sample data are aggregated across strata, requiring many untested assumptions to be made, such as Member State-specific variation in species naming (i.e., HOM/JAX), and spatial aggregations (i.e. Nephrons Functional Units). Consequently, the estimated discards cannot be considered robust.

Nevertheless, the EWG considers that the discard information provided under the FDI data call should be the best information available and stresses the need for Member States to provide data that are representative of the level of discarding and are statistically sound.

Recognising that DG MARE require estimates for different catch fractions for exemptions to the Landing obligation for planning purposes, the EWG has attempted to provide such estimates. However, EWG was not able to provide catch fractions for exemptions containing operation-specific conditions such as engine power (kW), tow duration (≤90 mins) and proximity to the shore (within 12 nautical miles), as such information is not available in the FDI database.

Member State-specific catch fractions were provided for the majority of anticipated 2023 exemptions. Two sets of estimates were computed; i) estimates for exempted fleets for which discard sample data were provided and ii) estimates for exempted fleets for which no sample data were available, so-called 'fill-ins'. A rudimentary, but much-needed measure of quality and coverage was computed for the discard estimates ('% of total landings'). The value for 'coverage % of total landings' represents the weight of landings for which the discard estimates were available, divided by the total landings from the fleet operating under each exemption.

The results of the data extract are presented in section 3.2 and Annexes 2 and 3. Although the table of results provides the requested descriptions of discarding by exemption, in some cases, such estimates may at best be imprecise or may not be representative of the true level of discarding by fleets fishing under each particular exemption.

3.1.3 Review data quality checks and produce National methodological chapters

While the EWG recognizes that it is the responsibility of Member States to provide checked and validated data, issues are inevitable (e.g., misinterpretation of the data call, coding misspecification between different databases in Member States and simple human error). To counter these issues, the JRC have implemented a number of automatic checks, which were made available to experts after the legal deadline. The combination of this tool and extended period allowed for corrected data uploads (29th August, operational deadline), reduced time required to correct data during the STECF EWG 24-11 meeting.

Quality assurance of the data held in the FDI database is provided by the experts who attend the meeting. Experts attending the meeting conduct these essential additional checks.

Member States sections on Methodology, Data availability, Coverage, Problems encountered, and other comments related to data submitted to FDI data calls are included in Annex 1.

3.1.4 Discuss the development of quality checks relevant to FDI EWG under QualiTrain project

During the EWG the QualiTrain project has been presented. The presentation focused on the checks relevant to the FDI dataset.

The R package released by QualiTrain includes functions relative to the relevant tables for Mediterranean and Black Sea. These functions aimed at verifying the consistency of transversal variables (effort and landing), the spatial coverage and the temporal coverage. Following the checks described in the STECF FDI EWG 21-12 report, cross-checks among FDI tables have been also implemented.

EWG 24-11 commented that, from the presentation of the QualiTrain project, data checks seem to be in line with the checks performed by JRC on the FDI dataset and are useful addition allowing Member States to verify their data prior to data submission.

3.2 Provide landings and discards data for exemptions in discard plans

3.2.1 STECF is asked to provide figures for landings and discards in 2023, at a level of aggregation corresponding to the fleet, area and gear type as specified in Delegated Commission Regulations (EU) 2023/2459, 2023/2623, 2023/2918, 2023/2462 and 2023/2460 specifying details of implementation of the landing obligation for 2025

General Conclusions

While the EWG attempted to provide discard estimates for each anticipated exemption for 2025 discard plans, it was not feasible to produce such estimates for exemptions that require information that does not currently exist in the FDI database e.g., detailed trip and vessel level information (i.e., distance fished from shore and vessels engine power). Therefore, exemptions were characterised into four groups; yes, yes/partial, partial or no, based on the feasibility of the EWG to extract the relevant data (see Annex 2). All the data extracted is presented in the Tables 1-17 of the Annex 3. In the case of exemptions with yes/partial

grouping, the data extraction did not fully take into account the MCRS, however available MCRS data is presented separately in Table 12 (Annex 3). This year the EWG implemented a change publishing exemptions coding tables (Annex 2) that are now based on coding database used to extract the data and presented in Excel pivot tables. All results under this ToR must be interpreted with caution, taking into account the shortcomings listed below.

Methodology and Shortcomings

The EWG based the calculation of the discards by exemption on estimates available in Table A. These estimates are the result of the partitioning *(done by Member State, following the conclusion of the STECF EWG 17-12 and considering methodology identified by STECF EWG 21-10)* discard estimates available in Tables C and D into the detailed disaggregated levels specified in the Table A of the FDI data call.

The variable “Domain discards” is used to link the discard estimates in tables C&D to Table A. The domain is defined by the Member State, and its structure describes the raising procedure and sampling design used by Member States to estimate discards. The EWG stresses that the partitioned estimates may not be reliable estimates of the true discards, since differences in discard rates may occur within a domain.

The EWG has attempted to provide an estimate of different catch fractions for fleets that are likely to take advantage of anticipated exemptions from the landing obligation in 2025, based on data provided for 2023. The following shortcomings have to be taken into account to avoid misinterpretation of results:

1. The EWG notes that the data call asked for scientific estimates of discards. The estimated values based on scientific sampling programs are uncertain (and potentially biased) and do not constitute an official estimate like landings reported in logbooks. Therefore, any estimate provided under ToR 2 for discards of species under the landing obligation cannot be interpreted as discards for control purposes of the de-minimis exemptions.

2. The EWG further notes that providing reliable and robust estimates of catches, i.e., landings and discards, for fleets that are granted exemptions from the landing obligation is problematic. For many of these fleets, estimates are unavailable, because Member States are not obliged to sample these metiers according to the national DCF sampling plans. For those fleets where discards have been sampled, the achieved sampling coverage is often much lower than required to provide a robust estimate of the true discard fractions at the level of disaggregation requested by FDI. In general, the sampling programs under the DCF are designed to inform assessments of stocks and not provide discard information in the highly disaggregated format requested in the FDI data call. Alternatively, official logbook information could be used. However, for most Member States and fisheries, the records of unwanted catch fractions (discards + BMS landings) in logbooks are believed to be an unreliable source of information. To improve the situation, Member States may have to find ways to improve compliance and may have to adapt their national sampling programs especially in cases where they have a larger amount of landings under a certain exemption, but no discard information.

To provide estimated catch fractions for fleets that have not been sampled requires extrapolation of discard rates (also known as fill-ins) from other fleets which may not be representative of the catch composition of the unsampled fleets, due to differences in fishing patterns (where, when and how the fleets fish), target species, catch quota and differences in species and size selectivity etc. The fill-in procedure can result in highly unrealistic discard estimates, especially when discard rates from fleets with very low landings of bycatch species are used to fill-in discard rates for fleets where the same species is targeted and landed in larger amounts. The issue becomes especially relevant when the sampled catch fractions of a particular fleet or fleets relate to only a small proportion of the total catch of the

same species by all fleets involved in a fishery. A specific problem arises if landings are zero. In such cases standard raising routines applied by Member States may not deliver reliable discard estimates (see also Table 3.1.1.1 of STECF EWG 21-10 and 21-12 report for Summary table with methods used by MS to provide discard estimates). In principle, there is scope for the EWG to use its expert judgement to determine whether the catch fraction estimates from sampled fleets are likely to be representative of the catches for other fleets. However, in practice, such an assumption may be erroneous because factors such as differences between the fleets in fishing pattern, timing of fishing and quota availability are not always known by the EWG. Hence the EWG considers that extrapolating catch fraction estimates for one fleet or fleets to other fleets simply to generate fleet-specific estimates needs to be carefully considered.

Therefore, the EWG has adopted the following selection criteria:

<u>For all areas apart from the Mediterranean Sea (outside area 37):</u>

year, quarter, species, sub_region, gear_type, mesh_size_range, target_assemblage, specon_tech

<u>For the Mediterranean Sea (area 37):</u>

year, quarter, species, sub_region, metier, specon_tech

In more detail, the following procedure and equations were used:

Let the following notation be: D=discards, L= landings, *snf* = national fishery with a discard estimate from 0 to X, *unf* = non-sampled fishery without discard information.

The available landings and discards are aggregated (summed) over fisheries

- for all areas apart from the Mediterranean Sea, by year, quarter, species, sub_region, gear_type, mesh_size_range, target_assemblage, specon_tech
- for the Mediterranean Sea, by year, quarter, species, sub_region, metier, specon_tech

and mean discard rates DRare calculated:

$DR = \frac{\sum_{snf} D_{snf}}{\sum_{snf}(L_{snf}+D_{snf})}$ if $D_{snf} \geq 0$ and with $L_{snf} + D_{snf} > 0$

Fisheries specific discard amounts are then calculated if no discard information is available by

$D_{unf} = \frac{L_{unf}.DR}{(1-DR)}$ where D_{unf} is null (empty)

Fisheries without any quantitative discard information, i.e., no average discard rate DR could be estimated, remain without any discard estimation.

For 2023, the data submitted in response to the data call amounted to 3,449,163 tonnes of landings, of which 21.4% (736,494 tonnes) had associated discard estimates. 376,204 tonnes (10.9%) had a discard estimate of zero. Despite the substantial issues mentioned above and the relatively low proportion of landings with associated discard estimates, the EWG took the decision to provide the discard information for each exemption in 2 separate formats: with and without fill-ins. In most cases, the fill-ins do not add a substantial amount of discard information or increase the coverage substantially. This again highlights the general issue that for several fisheries under exemptions, data from sampling was not sufficient to provide discard estimates, largely because observer programs undertaken under DCF national sampling programs are not designed to specifically sample fisheries under exemption or are anticipated to avail of a proposed exemption. To provide information about

the accuracy of the discard's estimates reported and fill-ins, the coverage as percentage of landings with discards is provided in the data Tables (Annex 3).

3. The EWG notes that given the aggregation level of the data in the FDI database, it was not possible to filter the database to the exact fishing tactic specified for all the exemptions. For example, the mesh size categories specified in the FDI database do not always match those defined in certain exemptions. Also, area definitions in exemptions were sometimes too detailed (e.g., areas up to a certain longitude or latitude, or specific bay) to match with the aggregation level of the FDI database.

4. The EWG notes that it was sometimes unclear which gear types are under a certain exemption. Especially gear codes not allowed in the FDI data call, or very generic codes, are open for interpretation. Exemptions not mentioning specific gear codes are also problematic in this respect. The EWG further notes that the legal text defining the exemptions in the discard plans was difficult to interpret for some exemptions.

5. In 2022 additional separation of the EEZ indicator to EU/UK waters was requested during the FDI data call. However, it was not always clear if exemptions were covering EU waters, or EU fleets operating in ICES areas. As in previous year the EWG agreed to extract the data for EU fleets operating in ICES Areas creating possibility to narrow down extraction to the EU waters in the database extract. The Annex 3 includes only information for EU fleets operating in both EU/UK waters and extraction of the data for EU waters was made available for DGMARE only.

Extraction procedure

Information, related to certain exemptions was extracted in following steps:

1. All exemptions and their definitions were translated to FDI database codes (see Annex 2 for the list of FDI codes associated with exemptions);
2. Exceptions and their parts which contained information that could not be found in the FDI data call (i.e. distance fished from shore, vessel engine power) were either not estimated or estimated using partial data while ignoring missing information.
3. The data for each exemption were extracted from both the FDI database and the database with fill-ins using codes described in the Annex 2;
4. The information was summarised in two main formats:
    a. Tables with landings and discards reported by MS and estimated for the fleets under exemptions (Annex 3, Tables 1-11)
    b. Tables with FDI data reported and filled in aggregated by species and subregions (Annex 3, Tables 13-17)

In both sets of tables there are following columns:

- 'Total weight of landings, tonnes' – total landings recorded in FDI database for particular exemption and species;
- Discards (with or without fill-inns) – weight of discards reported to FDI and estimated using fill-ins;
- Landings with discards reported/estimated – weight of landings associated with discards provided/estimated;
- 'Coverage % of total landings reported' - percentage of total weight of landings for which associated discard estimates data were reported under the FDI data call and estimated using fill-ins.

- Discard rate, % - calculated as discards divided by catch as %.

In all Annex 3 Tables the following abbreviations are used:

- c – data reported as confidential during the data call, if there are more than 4 records which are reported by a Member State as confidential, the data are considered not to be confidential after aggregation, as there would be no possibility to attribute the aggregated catches and identify individual vessels;
- n.a. – not available.

Discard estimates by exemption

The estimated discards for fleets likely to make use of anticipated exemptions to the landing obligation in 2025, the details of the anticipated exemptions and associated data available are given for each region in table of Annex 2 and in Annex 3 Tables 1-13.

3.2.2 STECF is asked to assess and if possible, provide percentages of discards estimates below and above MCRS at a level of aggregation corresponding to the fleet, area and gear type as specified in in Delegated Commission Regulations (EU) 2023/2459 and 2023/2623 specifying details of implementation of the landing obligation for 2025

Estimation of the percentage of fish above and below MCRS

Estimation method and assumptions

As for the previous reports, estimation of the proportion of fish above and below the MCRS by species, country, métier, and year was done by merging tables A, D and F using the fields *domain_discards* and *domain_landings*.

In Table A, if a métier has been sampled for landings it has a *domain_landings* associated and the length structure of the landings is displayed in table F, respectively. If discards have been sampled, a *domain_discards* has been assigned and the corresponding length structure of the discards is displayed in table D.

Discard and landings length structure are then provided by domain and the spatial/temporal resolution of these domains are country/fishery dependent and relate to the national sampling programs. Domains were created to reflect the sampling programs of the countries and to provide the best scientific information about the length structure of the landings/discards. In most of the cases a domain will then aggregate métier and/or areas and/or quarter and/or mesh sizes from tables A. The values in column *totwghtlandg* and *discards* in table A are then expected to be lower than *totwghtlandg* and *discards* in table D and *totwghtlandg* in table F as they can encompass several lines in table A.

The main, and strong assumption, made in the following calculations is that the length structure of landings and discards for each métier in table A will be the length structure of the landings of the associated domain in table F and the length structure of the discards of the associated domain in table D.

The landings and discard tonnage reported in table A are the reference figures from which the percentage above and below MCRS should be computed.

The computation of the numbers above and below MCRS by COUNTRY, YEAR, AREA, and MÉTIER can be divided in the following steps:

1. Compute the proportion of fish [in number and weight] at length for a standardized unit of landings in table F and a unit of discard in table D by COUNTRY, YEAR, DOMAIN, NEP_SUB_REGION and SPECIES
2. Merge the table A and D and F based on COUNTRY, YEAR, DOMAIN, NEP_SUB_REGION and SPECIES
3. Compute weights at length discarded/landed: multiply the *totwghtlandg* by these proportions at length of landings for each corresponding strata in table A [and respectively *discards* by the proportions at length of discards]
4. Define if the length is under or above the MCRS using the reference tables [by species/area]
5. sum the weight/numbers of fishes under and above MCRS and the fraction for which no length structure is available over "country_code", "year","Area","metier","species", "testMCRS"

As not all métiers in Table A are associated to a domain, the total length structure of the catches cannot be computed and conclusions depend upon the number of domains provided and the number of samples in each domain and their representativeness. A **"quality"** column is added to the export files computing the percentage of landings and discards in table A covered by landings length samples in table D and discards length samples in table F. In fact, the merge of country, year, area, and métier might cover several lines in table A for which some might have domains [landings and discards] associated and other might not have domains associated. A full sampling landing coverage [100%] will then mean that all lines in table A for a given country, year, area, and métier strata had domain associated in table F [i.e., table D for discards]. Conversely, a value under 100% in landing [i.e., discard coverage] means that some lines aggregated had no domain associated in table F [i.e., table D].

Step 1: compute the proportion of fish [in number and weight] at length for a standardized unit of landings in table F and a unit of discard in table D

Table F:

$$WeightLandings_{country,year,domain,species,l} = \frac{meanweight_{country,year,domain,species,l} * Number_{country,year,domain,species,l}}{\sum_l meanweight_{country,year,domain,species,l} * Number_{country,year,domain,species,l}}$$

$$NumberLandings_{country,year,domain,species,l} = \frac{Number_{country,year,domain,species,l}}{\sum_l Number_{country,year,domain,species,l}}$$

Table D:

$$WeightDiscards_{country,year,domain,species,l} = \frac{meanweight_{country,year,domain,species,l} * Number_{country,year,domain,species,l}}{\sum_l meanweight_{country,year,domain,species,l} * Number_{country,year,domain,species,l}}$$

$$NumberDiscards_{country,year,domain,species,l} = \frac{Number_{country,year,domain,species,l}}{\sum_l Number_{country,year,domain,species,l}}$$

Step 2: Compute weights at length discarded/landed

Merge Table A and D by Country, year and domain_discard [table AD]:

$$DistribLengthbyWeightLandings_{country,year,domain,species,l} = WeightLandings_{country,year,domain,species,l} * totwghtlang_{country,year,domain,species}$$

$$DistribLengthbyNumberLandings_{country,year,domain,species,l} = NumberLandings_{country,year,domain,species,l} * totwghtlang_{country,year,domain,species}$$

Merge Table A and F by Country, year and domain landings [table AF]:

$$DistribLengthbyWeightDiscardss_{country,year,domain,species,l} = WeightDiscardss_{country,year,domain,species,l} * discards_{country,year,domain,species}$$

$$DistribLengthbyNumberDiscardss_{country,year,domain,species,l} = WeightDiscardss_{country,year,domain,species,l} * discards_{country,year,domain,species}$$

Step 3: Define if the length is under or above the MCRS

Merge tables AD and AF and MCRS reference table and define if lengths are under or above MCRS

Step 4: Compute the proportion above and under MCRS

$$PercentageLandings \in weightAboveMCRS_{country,year,met,species} = \frac{\sum_{l>MCRS} DistribLengthbyWeightLandings_{country,year,met,specie,l}}{\sum_l DistribLengthbyWeightLandings_{country,year,met,specie,l} + \sum_l DistribLengthbyWeightdiscards_{country,year,met,specie,l}}$$

$$PercentageLandings \in weightUnderMCRS_{country,year,met,species} = \frac{\sum_{l<MCRS} DistribLengthbyWeightLandings_{country,year,met,specie,l}}{\sum_l DistribLengthbyWeightLandings_{country,year,met,specie,l} + \sum_l DistribLengthbyWeightdiscards_{country,year,met,specie,l}}$$

$$PercentageDiscards \in weightAboveMCRS_{country,year,met,species} = \frac{\sum_{l>MCRS} DistribLengthbyWeightDiscards_{country,year,met,specie,l}}{\sum_l DistribLengthbyWeightLandings_{country,year,met,specie,l} + \sum_l DistribLengthbyWeightdiscards_{country,year,met,specie,l}}$$

$$PercentageDiscards \in weightUnderMCRS_{country,year,met,species} = \frac{\sum_{l<MCRS} DistribLengthbyWeightDiscards_{country,year,met,specie,l}}{\sum_l DistribLengthbyWeightLandings_{country,year,met,specie,l} + \sum_l DistribLengthbyWeightdiscards_{country,year,met,specie,l}}$$

Estimation of the percentage of fish above and below MCRS by exemption

The calculation of the percentage of fish caught above or below the MCRS was first applied to exemptions in 2021 and has continued since. The same methodology as developed in 2021 was used to estimate percentage of fish above and below MCRS by exemption. The methodology is based on shares of discards < and > MCRS calculated using biological Table D and applied to the discards provided in Table A.

Only rows with sampled biological data for both discards (Table D) and landings (Table F) were used in the calculations. That ensured the same coverage of landings and discards per record.

MCRS data is presented in Table 12 of Annex 3 by exemptions, species and countries, showing the time series of data for 2019-2023 where possible.

The discards < MCRS % per exemption was calculated as sum of estimated discards < MCRS within the exemption divided by sum of corresponding catch per exemption and Table A records.

Results

The exemptions could only be calculated where biological data was available. Corresponding total discards and % of discards below MCRS per exemption and country in 2019-2023 are provided in Table 12 of Annex 3.

Note that, where exemptions relate to multiple species, the percentages for each species above and below MCRS relate to the catch of that species only and not to the total catch of all species concerned in the exemption.

The results of calculations for landings and discards < and > MCRS per Member States and exemption are presented in Annex 3 of this report.

3.2.3 Where there is insufficient discard data for the above task, the STECF is asked to provide estimated catches (landings + discards) for 2023

The above ToR is addressed as part of ToR 2.1 and results are presented in the Annex 3 columns related to discards with fill-ins using the methodology outlined in the paragraph 3.2.1.

3.3 Review dissemination formats and produce dissemination tables and maps of spatial effort and landings by c-squares

3.3.1 Discuss current dissemination formats and check if it is still relevant. Update script produced to support the dissemination of the data if needed. Discuss the possibility of disseminating the spatial data at national level and feasibility to aggregate it to level that would not compromise confidentiality of the data provided by Member States.

The data uploaded for the FDI data call are currently disseminated at the STECF website: https://stecf.ec.europa.eu/data-dissemination/fdi_en.

The disseminated information includes some description of data and variables in a metadata file. Zip-files with the following information are available for download (regions 71, 77, 81, 87 and 88 are grouped and named Pacific Ocean, and regions 51 and 57 are grouped and named Indian Ocean):

- Effort
    - Effort data at EU level of aggregation: data as submitted but aggregated over countries to EU level.
    - Effort data at country level of aggregation: data as submitted by country, but where MS has marked information as confidential the effort value is replaced with a ‘C’.
- Landings
    - Landings data at EU level of aggregation: weight and value of landings as submitted but aggregated over countries to EU level.
    - Catches data at country level of aggregation: data as submitted by country, but where MS has marked information as confidential the effort value is replaced with a ‘C’.
- Capacity
    - Capacity data at country level of aggregation

– Biological data: Biological data with domains marked as confidential in table A has not been published on the data dissemination site

  - Discards by age at country level of aggregation
  - Discards by length at country level of aggregation
  - Landings by age at country level of aggregation
  - Landings by length at country level of aggregation

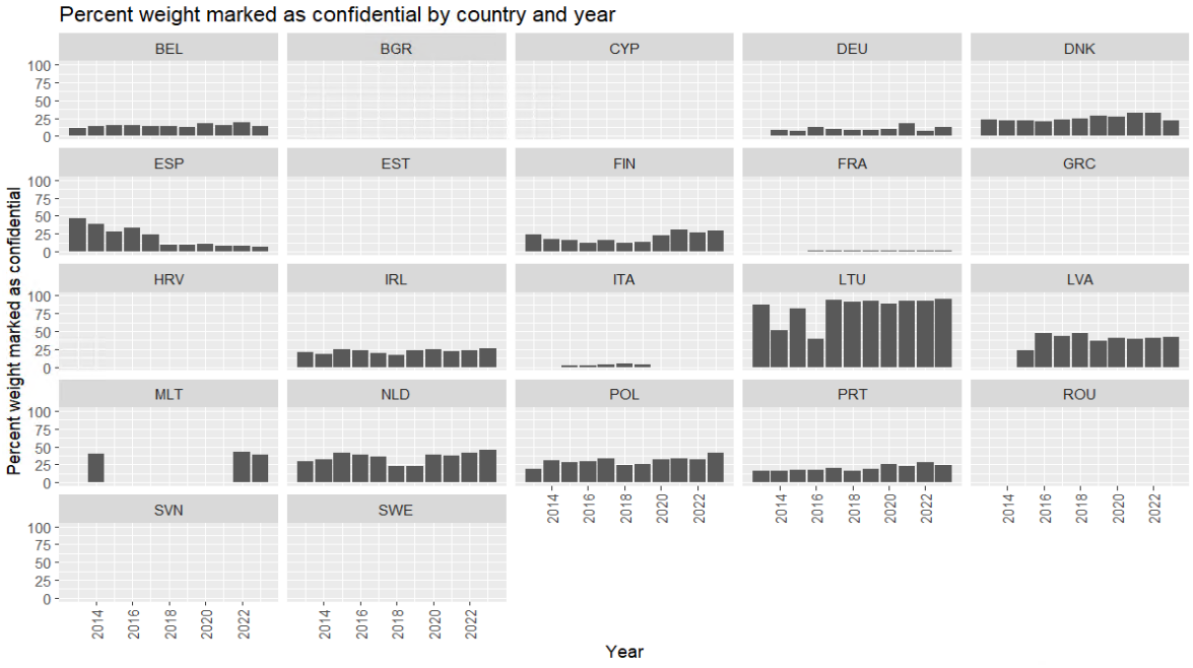
The EWG 24-11 was not aware of any requests to alter the current level of data dissemination but considered that it would be useful to publish a summary table together with the tables at country level giving an overview of the proportion of landings weight and effort that is marked as confidential. This table could include:

- COUNTRY
- YEAR
- SUB_REGION
- Landings weight non-confidential
- Landings weight confidential
- fishing days non-confidential
- fishing days confidential
- days at sea non-confidential
- days at sea confidential
- % of fishing days reported as confidential
- % of landings weight reported as confidential
- % of days at sea reported as confidential

Confidential data

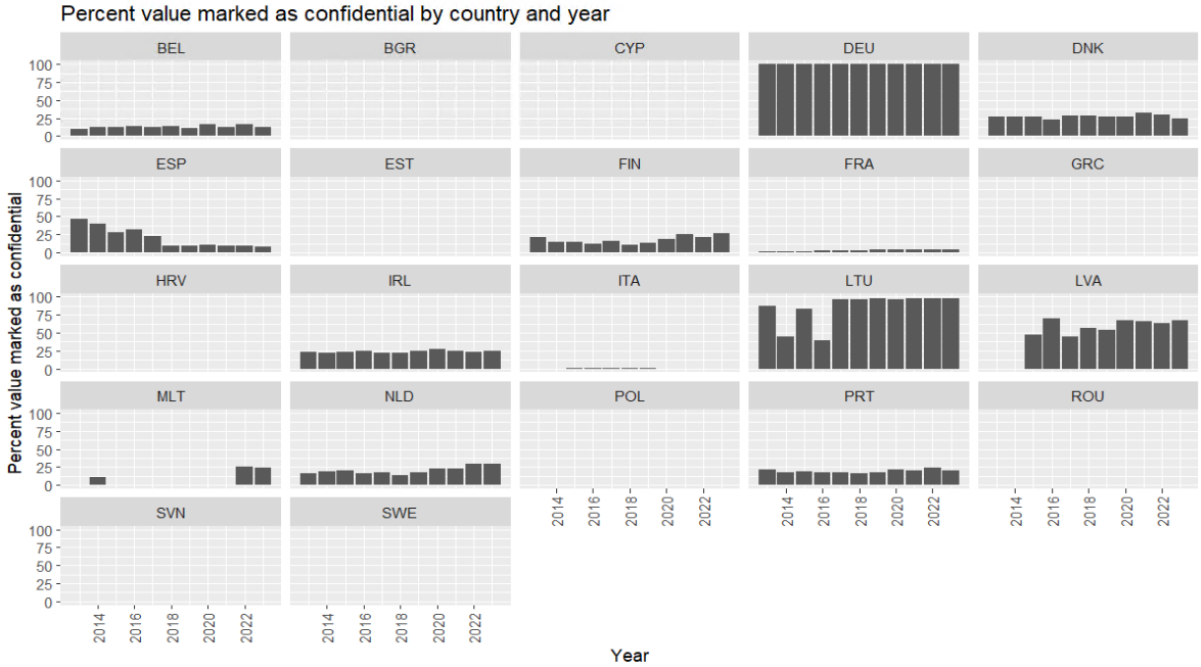
The figures below show the percentage of weight and value of landings in table A and percentage of fishing days and days at sea in table G that is marked as confidential by country and year. The figures show a difference in the use of the confidential field between the MS and the variation over the years 2013-2023.

Figure 3.3.1.1. Based on Table A percent weight of landings marked as confidential by country and year.



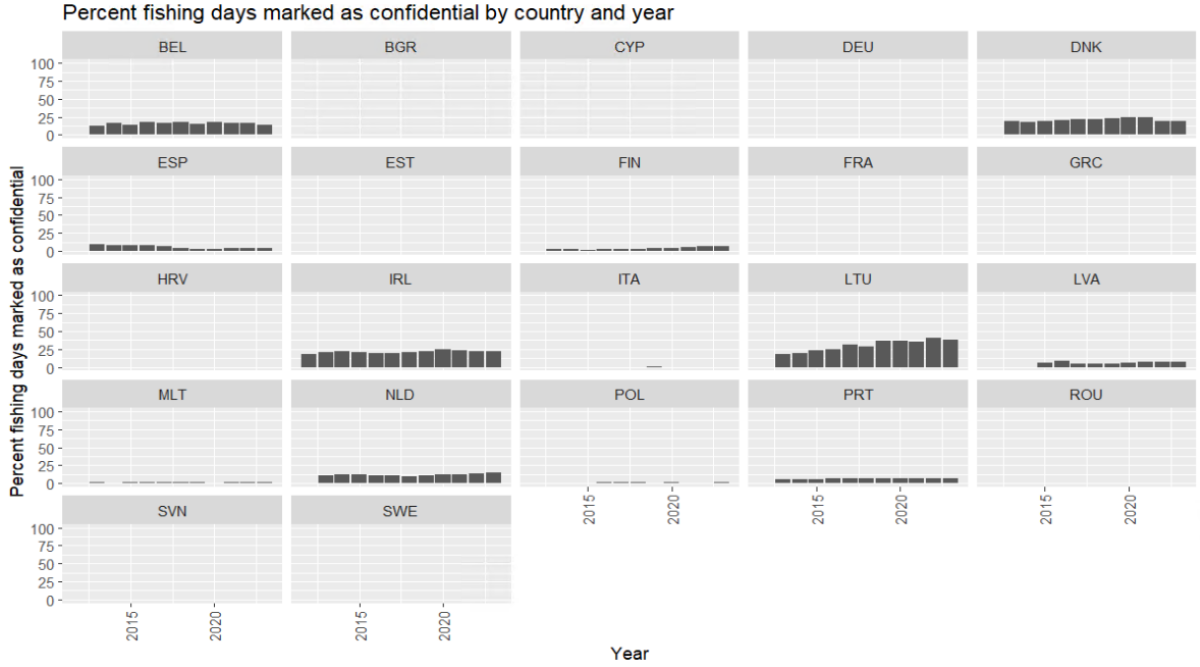
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.2. Based on Table A percent value of landings marked as confidential by country and year.



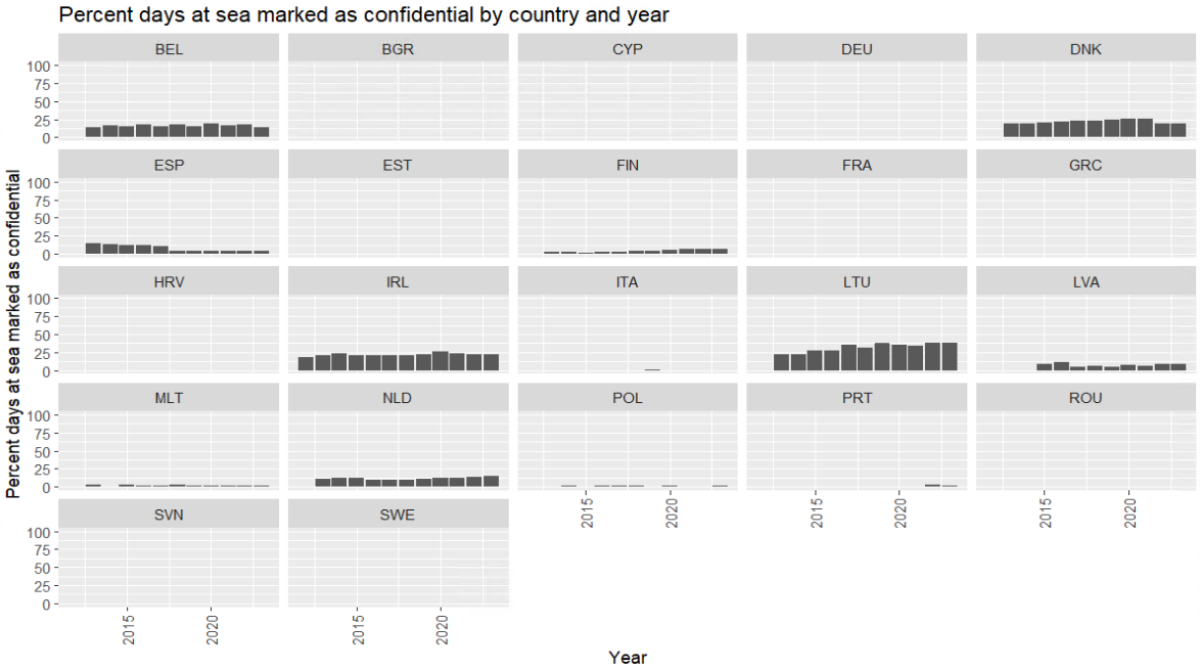
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.3. Based on Table G percent fishing days marked as confidential by country and year.



Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.4. Based on Table G percent days at sea marked as confidential by country and year.



Source: Member States submissions to FDI data call 2024.

Data at country level

The EWG 24-11 also considered if it would be possible to publish some tables at country level but in a more aggregated form not including all the detailed variables. The EWG understands that it would be very helpful for end-users to have some data available on a country level, not marked as confidential. There have been several requests from research institutes and other scientific groups to get access to the non-confidential data submitted to FDI (see the paragraph “FDI data requests”).

In order to suggest a data format on a more aggregated level that could be disseminated, the EWG 24-11 made an analysis of Table G regarding the confidential rows available. The objective was to find the most disaggregated level by country for which there would be no rows with only confidential data available i.e. a level where all the confidential rows available in the table G have been at least aggregated with minimum one non-confidential row.

Table 3.3.1.1. Total number of rows, days at sea and fishing days marked as confidential in Table G.

confidential	nb rows	%	totseadays	%	totfishdays	%
Y	128 297	30%	1 629 907	3%	1 366 021	2%
N	304 612	70%	60 684 441	97%	61 691 556	98%
	432 909		**62 314 349**		**63 057 577**	

Source: Member States submissions to FDI data call 2024.

30% of the rows provided by MS into the Table G (2013-2023) are marked as confidential and should not be disseminated, unless they are aggregated with minimum one non-confidential row. In total, these confidential rows represented only 3% of the total days at sea and 2% of the total fishing days provided.

Table 3.3.1.2. Total number of rows, days at sea and fishing days marked as confidential in Table G for the years 2013, 2018 and 2023.

year	confidential	nb rows	%	totseadays		totfishdays	
2013	Y	14 047	36%	243 420	5%	158 374	3%
2013	N	25 006	64%	4 323 856	95%	4 393 963	97%
		39 053		**4 567 276**		**4 552 338**	

year	confidential	nb rows	%	totseadays		totfishdays	
2018	Y	10 852	27%	95 388	1%	105 994	2%
2018	N	30 050	73%	6 413 983	99%	6 585 167	98%
		40 902		**6 509 370**		**6 691 161**	

year	confidential	nb rows	%	totseadays		totfishdays	
2023	Y	8 676	28%	87 608	2%	97 684	2%
2023	N	22 501	72%	4 820 201	98%	5 003 449	98%
		31 177		**4 907 809**		**5 101 133**	

Source: Member States submissions to FDI data call 2024.

Year by year, the picture is quite similar regarding the data provided from 2013 to 2023 *(some data have been provided for 2012 but remain quite incomplete as only few countries answered the data call with 2012 data)*. Each year, around 30% *(26% to 36%)* of the rows provided in Table G are marked as confidential which represented 1% to 5% of the total days at sea and fishing days provided.

Therefore, considering that there is no major evolution in the time series provided, all the following analysis have been made on the data available in Table G for 2023 only.

Table 3.3.1.3: Number of rows marked as confidential in Table G 2023 data, by country.

	Number of rows				
country_code	total	N	Y	N%	Y%
NA	31177	22501	8676	72%	28%
BEL	296	113	183	38%	62%
BGR	308	308	NA	100%	NA
CYP	90	90	NA	100%	NA
DEU	729	729	NA	100%	NA
DNK	1550	422	1128	27%	73%
ESP	6002	2591	3411	43%	57%
EST	134	134	NA	100%	NA
FIN	453	164	289	36%	64%
FRA	10657	10647	10	100%	0%
GRC	307	241	66	79%	21%
HRV	777	777	NA	100%	NA
IRL	2109	575	1534	27%	73%
ITA	2310	2310	NA	100%	NA
LTU	127	38	89	30%	70%
LVA	166	146	20	88%	12%
MLT	419	396	23	95%	5%
NLD	715	171	544	24%	76%
POL	487	462	25	95%	5%
PRT	2181	827	1354	38%	62%
ROU	103	103	NA	100%	NA
SVN	97	97	NA	100%	NA
SWE	1160	1160	NA	100%	NA

N	Not confidential rows
Y	Confidential rows

Source: Member States submissions to FDI data call 2024.

By country, the picture is quite different from one country to another. In the first instance, none of the countries have provided only confidential rows. Furthermore, nine countries do not mark any row as confidential which means that, for them, no issue exists to disseminate their data. For the other thirteen countries, a maximum of 76% of the rows are marked as confidential for the Netherlands and a minimum of <1% is observed for France.

Table 3.3.1.4. Number of days at sea marked as confidential in Table G 2023 data, by country.

	Days at Sea				
country_code	total	N	Y	N%	Y%
NA	4 907 809	4 820 201	87 608	98%	2%
BEL	12 860	11 081	1 779	86%	14%
BGR	15 304	15 304	NA	100%	NA
CYP	53 703	53 703	NA	100%	NA
DEU	70 684	70 684	NA	100%	NA
DNK	61 644	49 453	12 191	80%	20%
ESP	792 449	757 707	34 741	96%	4%
EST	59 671	59 671	NA	100%	NA
FIN	86 922	80 633	6 289	93%	7%
FRA	514 876	514 626	250	100%	0%
GRC	1 540 344	1 537 236	3 108	100%	0%
HRV	348 232	348 232	NA	100%	NA
IRL	74 541	57 779	16 763	78%	22%
ITA	1 018 122	1 018 122	NA	100%	NA
LTU	5 465	3 399	2 066	62%	38%
LVA	12 466	11 422	1 044	92%	8%
MLT	24 090	23 659	431	98%	2%
NLD	44 245	37 382	6 863	84%	16%
POL	55 768	55 059	709	99%	1%
PRT	60 882	59 509	1 374	98%	2%
ROU	4 380	4 380	NA	100%	NA
SVN	5 285	5 285	NA	100%	NA
SWE	45 876	45 876	NA	100%	NA

N	Not confidential rows
Y	Confidential rows

Source: Member States submissions to FDI data call 2024.

In term of days at sea, a maximum of 38% of the total days at sea provided are issued from rows marked as confidential for Lithuania whereas rows marked as confidential for France and Greece represented less than 1% of the total days at sea provided.

Table 3.3.1.5. Number of rows and days at sea marked as confidential in Table G 2023 data, by country and supra-region, cases where a MS only has confidential effort in a supra-region.

		nb rows		totseadays	
country_code	supra_region	N	Y	N	Y
LTU	OFR	NA	40	NA	1 313
LVA	OFR	NA	8	NA	606
POL	OFR	NA	20	NA	392
PRT	MBS	NA	29	NA	-
			97		**2 311**
total 2023			**31 177**		**4 907 809**
			0.31%		0.05%

Source: Member States submissions to FDI data call 2024.

When adding the “supra_region” in the analysis, the picture is more challenging as the above combination ”country*supra_region” presented solely rows marked as confidential meaning that these data (97 rows for 2311 days at sea) could not be disseminated at this level of disaggregation (i.e. country*supra_region).

This is the case for the long-distance fleets evolving in other regions (supra_region = OFR) from Lithuania, Latvia and Poland and also for some vessels of Portugal evolving mainly in the Mediterranean Sea (supra_region = MBS). These confidential rows represented less than 1% of the total rows uploaded and less than 0.1% of the total days at sea provided. Nevertheless, it means that this information could not be disseminated by country at any level of disaggregation.

Table 3.3.1.6. Number of rows and days at sea marked as confidential in Table G 2023 data, by country and vessel length range, cases where a MS only has confidential effort in a supra-region + vessel length range.

			nb rows		totseadays	
country_code	supra_region	vessel_length	N	Y	N	Y
BEL	NAO	VL1218	NA	4	NA	173
ESP	MBS	VL40XX	NA	2	NA	25
ESP	OFR	VL1824	NA	9	NA	194
FIN	NAO	VL40XX	NA	8	NA	447
LTU	NAO	VL0812	NA	13	NA	309
LTU	NAO	VL1824	NA	8	NA	110
LTU	NAO	VL40XX	NA	5	NA	186
LTU	OFR	VL40XX	NA	40	NA	1 313
LVA	NAO	VL40XX	NA	12	NA	438
LVA	OFR	VL40XX	NA	8	NA	606
NLD	NAO	VL0010	NA	57	NA	996
NLD	NAO	VL1012	NA	7	NA	261
POL	OFR	VL40XX	NA	20	NA	392
PRT	MBS	VL2440	NA	29	NA	-
PRT	NAO	VL40XX	NA	50	NA	-
PRT	OFR	VL40XX	NA	25	NA	-
				297		**5 450**
total 2023				**31 177**		**4 907 809**
				0.95%		0.11%

Source: Member States submissions to FDI data call 2024.

The picture became even more challenging when adding the “vessel length range” in the analysis as more combinations “country*supra_region*vessel length range” present only rows marked as confidential (297 rows for 5450 days at sea corresponding to the combinations listed in the table above).

These rows are related especially to the fishing fleets of the few European vessels more than 40 meters length. As an example, this is the case for the long-distance fleet from Portugal of more than 40m length vessels operating in ‘Other’ regions or the few more than 40m length vessels from Finland operating in the North Atlantic supra-region.

These rows concern also some other vessel length ranges as, for example, vessels less than 12m length in the Netherlands which have all their rows marked as confidential. Around 1% of the total rows provided for around 0.1% of the total days at sea provided could therefore never been disseminated at this level of disaggregation (i.e. country*supra_region*vessel length range).

Nevertheless, EWG 24-11 considers that “supra-region*vessel length ranges” forms the minimum variables to consider distinguishing fleets and proposes to keep this level of

disaggregation as a minimum to disseminate the data by country. The rows described above will be then all informed with “C” value in the dataset disseminated. Nevertheless, EWG 24-11 considered that it remains an interest to disseminate data by country at this level of disaggregation also as the total confidential rows observed, at this level of disaggregation, will represent in total, only around 0.1% of the total days at sea provided.

Furthermore, EWG 24-11 evaluated the possibility to further disaggregate the data by “sub-region” and “gear” considering that these two variables are essential relative to the vessels fishing activity to disseminate the dataset by country. EWG 24-11 investigate this possibility and concluded that it could constitute a good compromise between providing all the data at the EU level and providing data by country with all the rows marked as confidential in the initial dataset informed with “C” value.

The following tables assessed the importance of the rows which could not be disseminated at the following level of disaggregation: “country*supra_region*vessel length range*gear*sub_region”. Following that, EWG 24-11 concluded that this level of aggregation is acceptable and constitutes a good first compromise to disseminate the data by country regarding also the extra information that it would be provided to the end-users.

Table 3.3.1.7. Number of rows and days at sea marked as confidential in Table G 2023 data, by country in the data submission format and at the suggested aggregation level for dissemination (“country * supra_region * vessel length range * gear * sub_region”).

Country	Nb rows (total)	Total rows confidential in the initial dataset	Nb rows confidential at the suggested aggregation level for dissemination	%total	%confidential
BEL	296	183	102	34%	56%
BGR	308	0	0	0%	NA
CYP	90	0	0	0%	NA
DEU	729	0	0	0%	NA
DNK	1550	1128	372	24%	33%
ESP	6002	3411	942	16%	28%
EST	134	0	0	0%	NA
FIN	453	289	108	24%	37%
FRA	10657	10	10	0%	100%
GRC	307	66	66	21%	100%
HRV	777	0	0	0%	NA
IRL	2109	1534	461	22%	30%
ITA	2310	0	0	0%	NA
LTU	127	89	68	54%	76%
LVA	166	20	20	12%	100%
MLT	419	23	7	2%	30%
NLD	715	544	243	34%	45%
POL	487	25	25	5%	100%
PRT	2181	1354	297	14%	22%
ROU	103	0	0	0%	NA
SVN	97	0	0	0%	NA
SWE	1160	0	0	0%	NA
	31177	**8676**	**2721**	**9%**	**31%**

Country	Days At Sea (total)	Days At Sea confidential in the initial dataset	Days At Sea confidential at the suggested aggregation level for dissemination	%total	%confidential
BEL	12 860	1 779	1 061	8%	60%
BGR	15 304	-	-	0%	NA
CYP	53 703	-	-	0%	NA
DEU	70 684	-	-	0%	NA
DNK	61 644	12 191	4 005	6%	33%
ESP	792 449	34 741	12 942	2%	37%
EST	59 671	-	-	0%	NA
FIN	86 922	6 289	2 009	2%	32%
FRA	514 876	250	250	0%	100%
GRC	1 540 344	3 108	3 108	0%	100%
HRV	348 232	-	-	0%	NA
IRL	74 541	16 763	5 752	8%	34%
ITA	1 018 122	-	-	0%	NA
LTU	5 465	2 066	1 925	35%	93%
LVA	12 466	1 044	1 044	8%	100%
MLT	24 090	431	281	1%	65%
NLD	44 245	6 863	3 929	9%	57%
POL	55 768	709	709	1%	100%
PRT	60 882	1 374	523	1%	38%
ROU	4 380	-	-	0%	NA
SVN	5 285	-	-	0%	NA
SWE	45 876	-	-	0%	NA
	4 907 809	**87 608**	**37 537**	**1%**	**43%**

Source: Member States submissions to FDI data call 2024.

At this level of aggregation *(i.e. "country*supra_region*vessel length range*gear*sub_region")*, 31% of the total 8676 rows marked as confidential in the initial dataset would not be disseminated as they will integrate only rows marked as confidential *(i.e. a total of 2721 rows will not be disseminated as they aggregate only confidential information at this level of aggregation)*. They represent 9% of the total rows provided and only 1% of the total days at sea provided *(37 537 days at sea for a total of 4 907 809 days at sea provided)*.

By country, the least complete dataset will be for Lithuania with 54% of the total rows not informed for 35% of the total days at sea. The Netherlands, Latvia, Ireland, Denmark and Belgium are the other countries heavily impacted but for less than 10% of the total days at sea provided. For the other countries, data not provided represented less than 3% of the total days at sea provided.

Table 3.3.1.8. Number of rows and days at sea marked as confidential in Table G 2023 data, by supra region in the data submission format and at the suggested aggregation level for dissemination ("country * supra_region * vessel length range * gear * sub_region").

Supra region	Nb rows (total)	Total rows confidential in the initial dataset	Nb rows confidential at the suggested aggregation level for dissemination	%total	%confidential
MBS	7 527	1 214	406	5%	33%
NAO	22 253	7 077	2 011	9%	28%
OFR	1 397	385	304	22%	79%
	31 177	**8 676**	**2 721**	**9%**	**31%**
Supra region	**Days At Sea (total)**	**Days At Sea confidential in the initial dataset**	**Days At Sea confidential at the suggested aggregation level for dissemination**	**%total**	**%confidential**
MBS	3 339 792	12 088	6 115	0%	51%
NAO	1 409 902	66 832	24 896	2%	37%
OFR	158 115	8 688	6 525	4%	75%
	4 907 809	**87 608**	**37 537**	**1%**	**43%**

Source: Member States submissions to FDI data call 2024.

By supra region, as expected, the most impacted will be the supra region Other Region (= OFR) with 22% of the rows impacted for around 4% of the total days at sea provided. The supra regions North Atlantic (=NAO) and Mediterranean (=MBS) are less impacted in total.

Table 3.3.1.9. Number of rows and days at sea marked as confidential in Table G 2023 data, by vessel length range in the data submission format and at the suggested aggregation level for dissemination ("country * supra_region * vessel length range * gear * sub_region").

Vessel length ranges	Nb rows (total)	Total rows confidential in the initial dataset	Nb rows confidential at the suggested aggregation level for dissemination	%total	%confidential
NK	31	15	15	48%	100%
VL0006	1 170	91	54	5%	59%
VL0008	1 023	262	54	5%	21%
VL0010	4 991	585	141	3%	24%
VL0612	3 070	514	116	4%	23%
VL0812	968	278	111	11%	40%
VL1012	4 345	1 289	326	8%	25%
VL1218	5 669	1 929	542	10%	28%
VL1824	4 096	1 306	350	9%	27%
VL2440	4 688	1 862	609	13%	33%
VL40XX	1 126	545	403	36%	74%
	31 177	**8 676**	**2 721**	**9%**	**31%**

Vessel length ranges	Days At Sea (total)	Days At Sea confidential in the initial dataset	Days At Sea confidential at the suggested aggregation level for dissemination	%total	%confidential
NK	7 620	169	169	2%	100%
VL0006	695 223	799	543	0%	68%
VL0008	214 807	4 255	653	0%	15%
VL0010	548 827	3 448	1 302	0%	38%
VL0612	2 041 496	4 206	1 102	0%	26%
VL0812	49 991	2 962	1 064	2%	36%
VL1012	168 370	8 837	2 589	2%	29%
VL1218	488 944	16 582	7 569	2%	46%
VL1824	339 908	14 893	6 443	2%	43%
VL2440	295 565	22 200	8 497	3%	38%
VL40XX	57 059	9 257	7 607	13%	82%
	4 907 809	**87 608**	**37 537**	**1%**	**43%**

Source: Member States submissions to FDI data call 2024.

By vessel length range, the more than 40m length vessels are, also as expected, the most impacted with 36% of the total rows provided being confidential at this level of aggregation, representing 13% of the total days at sea provided. For the other vessel length ranges, the days at sea impacted represented less than 3% of the total days at sea provided.

Table 3.3.1.10. Number of rows and days at sea marked as confidential in Table G 2023 data, by gear code in the data submission format and at the suggested aggregation level for dissemination ("country * supra_region * vessel length range * gear * sub_region").

Gear	Nb rows (total)	Total rows confidential in the initial dataset	Nb rows confidential at the suggested aggregation level for dissemination	%total	%confidential
DRB	719	231	60	8%	26%
DRH	13	-	0	0%	NA
FPN	234	92	39	17%	42%
FPO	2 560	783	205	8%	26%
FYK	426	84	36	8%	43%
GEF	113	-	0	0%	NA
GNC	182	9	9	5%	100%
GND	276	12	11	4%	92%
GNS	4 639	1 071	181	4%	17%
GTN	362	87	46	13%	53%
GTR	2 914	623	118	4%	19%
HMD	93	32	19	20%	59%
LA	87	23	4	5%	17%
LHM	372	211	94	25%	45%
LHP	1 518	409	93	6%	23%
LLD	1 373	413	282	21%	68%
LLS	1 741	591	206	12%	35%
LNB	40	6	4	10%	67%
LNS	11	-	0	0%	NA
LTL	516	117	20	4%	17%
NK	542	140	77	14%	55%
NO	244	23	12	5%	52%
OTB	6 054	1 763	488	8%	28%
OTM	1 294	342	208	16%	61%
OTT	1 043	299	75	7%	25%
PS	1 421	492	66	5%	13%
PTB	124	43	15	12%	35%
PTM	658	173	82	12%	47%
SB	75	1	0	0%	0%
SDN	279	57	37	13%	65%
SPR	5	2	2	40%	100%
SSC	381	228	121	32%	53%
SV	93	32	7	8%	22%
TBB	775	287	104	13%	36%
	31 177	**8 676**	**2 721**	**9%**	**31%**

Gear	Days At Sea (total)	Days At Sea confidential in the initial dataset	Days At Sea confidential at the suggested aggregation level for dissemination	%total	%confidential
DRB	216 270	3 026	1 007	0%	33%
DRH	133	NA	-	0%	NA
FPN	9 141	452	260	3%	58%
FPO	465 838	7 082	3 175	1%	45%
FYK	90 250	1 335	272	0%	20%
GEF	11 766	NA	-	0%	NA
GNC	13 436	17	17	0%	100%
GND	18 527	135	130	1%	96%
GNS	976 099	9 345	2 447	0%	26%
GTN	86 513	786	457	1%	58%
GTR	1 150 284	3 862	1 240	0%	32%
HMD	9 853	793	611	6%	77%
LA	2 529	211	27	1%	13%
LHM	12 878	1 477	782	6%	53%
LHP	157 268	2 967	1 099	1%	37%
LLD	110 422	5 893	3 643	3%	62%
LLS	416 281	5 600	3 390	1%	61%
LNB	504	7	2	0%	26%
LNS	162	NA	-	0%	NA
LTL	44 652	768	197	0%	26%
NK	157 382	1 416	693	0%	49%
NO	15 322	440	290	2%	66%
OTB	569 675	19 589	6 086	1%	31%
OTM	37 010	4 646	3 208	9%	69%
OTT	52 441	3 480	1 353	3%	39%
PS	143 507	3 870	1 311	1%	34%
PTB	6 532	631	239	4%	38%
PTM	21 699	1 880	1 160	5%	62%
SB	3 340	-		0%	0%
SDN	6 051	581	284	5%	49%
SPR	28	24	24	86%	100%
SSC	10 440	2 077	1 353	13%	65%
SV	10 469	398	33	0%	8%
TBB	81 108	4 819	2 746	3%	57%
	4 907 809	**87 608**	**37 537**	**1%**	**43%**

Source: Member States submissions to FDI data call 2024.

The gears impacted for more than 5% of their total days at sea provided are the following: SPR, SSC, OTM, HMD, LHM, SDN and PTM.

Table 3.3.1.11. Number of rows and days at sea marked as confidential in Table G 2023 data, by sub-region in the data submission format and at the suggested aggregation level for dissemination ("country * supra_region * vessel length range * gear * sub_region").

Zone FAO	Nb rows (total)	Total rows confidential in the initial dataset	Nb rows confidential at the suggested aggregation level for dissemination	%total	%confidential
21	148	92	85	57%	92%
27.1	44	26	25	57%	96%
27.10	305	134	41	13%	31%
27.12	14	4	4	29%	100%
27.14	17	3	3	18%	100%
27.2	67	20	18	27%	90%
27.3	3 687	1 064	400	11%	38%
27.4	1 987	911	322	16%	35%
27.5	39	9	9	23%	100%
27.6	380	222	110	29%	50%
27.7	6 632	1 352	441	7%	33%
27.8	5 290	1 039	236	4%	23%
27.9	2 642	1 615	194	7%	12%
37	7 467	1 188	397	5%	33%
31	591	8	6	1%	75%
34	895	477	219	24%	46%
41	68	37	26	38%	70%
47	61	27	8	13%	30%
48	4	4	4	100%	100%
51	245	38	35	14%	92%
57	6	6	6	100%	100%
71	2	2	2	100%	100%
77	18	6	6	33%	100%
81	8	3	0	0%	0%
87	46	22	14	30%	64%
88	6	6	6	100%	100%
NK	78	51	41	53%	80%
BSA	430	310	63	15%	20%
	31 177	**8 676**	**2 721**	**9%**	**31%**

Zone FAO	Days At Sea (total)	Days At Sea confidential in the initial dataset	Days At Sea confidential at the suggested aggregation level for dissemination	%total	%confidential
21	4 028	562	503	12%	89%
27.1	2 004	982	981	49%	100%
27.10	47 556	1 730	811	2%	47%
27.12	73	23	23	31%	100%
27.14	936	146	146	16%	100%
27.2	978	147	146	15%	99%
27.3	347 695	14 712	5 257	2%	36%
27.4	92 394	12 072	5 808	6%	48%
27.5	198	52	52	26%	100%
27.6	11 156	1 984	1 104	10%	56%
27.7	226 535	13 816	4 753	2%	34%
27.8	282 044	9 567	2 975	1%	31%
27.9	308 877	6 278	1 170	0%	19%
37	3 338 987	11 917	6 081	0%	51%
31	64 975	119	103	0%	86%
34	85 085	6 854	4 984	6%	73%
41	11 967	683	87	1%	13%
47	7 444	537	180	2%	34%
48	68	68	68	100%	100%
51	35 929	801	788	2%	98%
57	46	46	46	100%	100%
71	16	16	16	100%	100%
77	2 202	-	-	0%	0%
81	2 270	295	-	0%	0%
87	10 624	473	418	4%	88%
88	71	71	71	100%	100%
NK	4 374	147	81	2%	55%
BSA	19 279	3 512	886	5%	25%
	4 907 809	**87 608**	**37 537**	**1%**	**43%**

Source: Member States submissions to FDI data call 2024.

Finally, by sub-region and as expected, the sub-regions where the long-distance fleet or the largest vessels *(>=40meters)* are active, are the most impacted sometimes for 100% of the total days at sea initially provided as: the FAO area 88, 71, 57 or 48 or to a lesser extent FAO area 21 or the FAO subareas 27.1, 27.12, 27.5, 27.14, 27.2 or 27.6. For the other sub regions, the confidential rows represented less than 6% of the total days at sea provided.

Following this analysis, EWG 24-11 made the following suggestion for a data format on a more aggregated level that could be disseminated by country, except for the confidential rows that are not aggregated with minimum one non-confidential row. For these rows the parameters TOTWGHTLANDG, TOTVALLANDG, TOTSEADAYS, TOTKWDAYSATSEA, TOTGTDAYSATSEA, TOTFISHDAYS, TOTKWFISHDAYS, TOTGTFISHDAYS, HRSEA, KWHRSEA and GTHRSEA will be informed with the “C” value for confidential information.

The EWG 24-11 recognizes that this proposal needs to be approved by National Correspondents.

Table A:
COUNTRY, YEAR, SUPRA_REGION, VESSEL_LENGTH, GEAR_TYPE, SUB_REGION SPECIES, TOTWGHTLANDG, TOTVALLANDG

Table G:

COUNTRY, YEAR, SUPRA_REGION, VESSEL_LENGTH, GEAR_TYPE, SUB_REGION, TOTSEADAYS**,** TOTKWDAYSATSEA**,** TOTGTDAYSATSEA**,** TOTFISHDAYS, TOTKWFISHDAYS, TOTGTFISHDAYS, HRSEA, KWHRSEA, GTHRSEA

The EWG 24-11 is aware of a recommendation from RCG NANSEA & Baltic 2024 for the Commission to set up a workshop for NCs to clarify data confidentiality concepts and find the best solution for the RDBES Data License. Since the FDI EWG experts do not have a mandate to disseminate data marked as confidential, it would be very helpful if such a workshop could also look into the suggestion for data dissemination from FDI and invite JRC/FDI representatives for this discussion.

Regarding the script produced to support the dissemination of biological data, the EWG 24-11 was not aware of any updates requested. The script is available in the STECF FDI 23-05 report Annex zip-file.

Spatial data dissemination

The possibility of disseminating the spatial data at national level and feasibility to aggregate it to a level that would not compromise confidentiality of the data provided by Member States was discussed by the EWG. In tables H (spatial landings) and I (spatial effort), there is a confidentiality field where data can be marked as confidential. An option could be to publish spatial data at national level excluding the data marked as confidential, but the EWG considers that a substantial proportion of the data would be removed, and the product would not be useful.

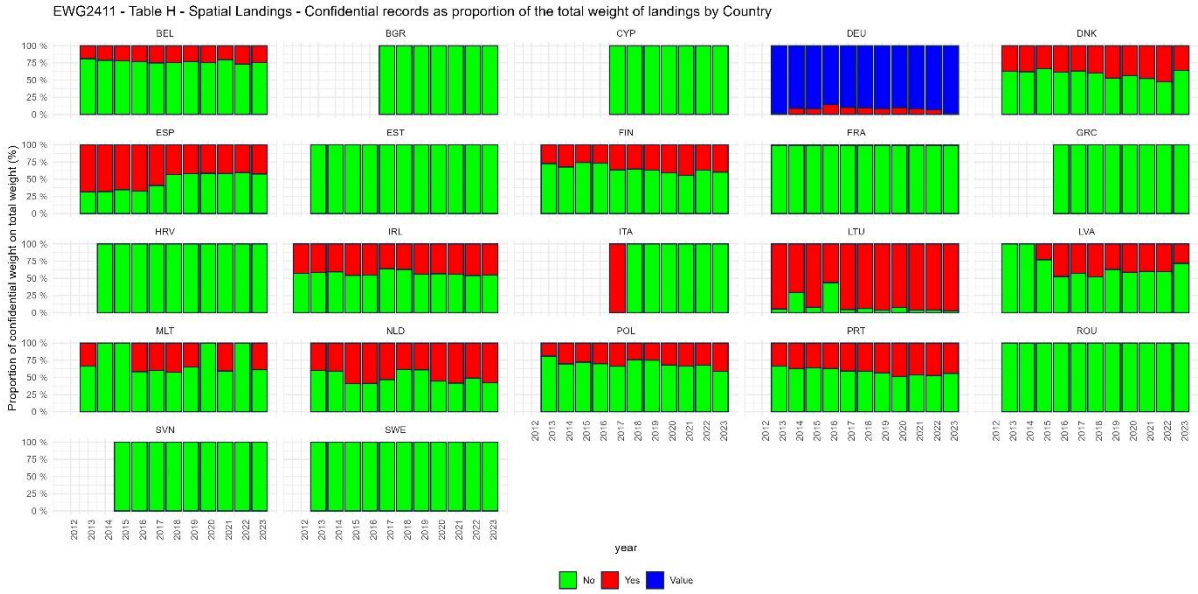
Another option would be to publish data on a more aggregated level by MS, including the data marked as confidential. This would also need to be accepted by NCs and could also be presented as a suggestion at the workshop on data confidentiality concepts mentioned above.

Suggestion for aggregated landings by rectangle and MS format: COUNTRY, YEAR, SUB_REGION, C _SQUARE /rectangle, GEAR_TYPE, SPECIES, TOTWGHTLANDG

Suggestion for aggregated effort by rectangle and MS format: COUNTRY, YEAR, SUB_REGION, C_SQUARE/rectangle, GEAR_TYPE, TOTFISHDAYS

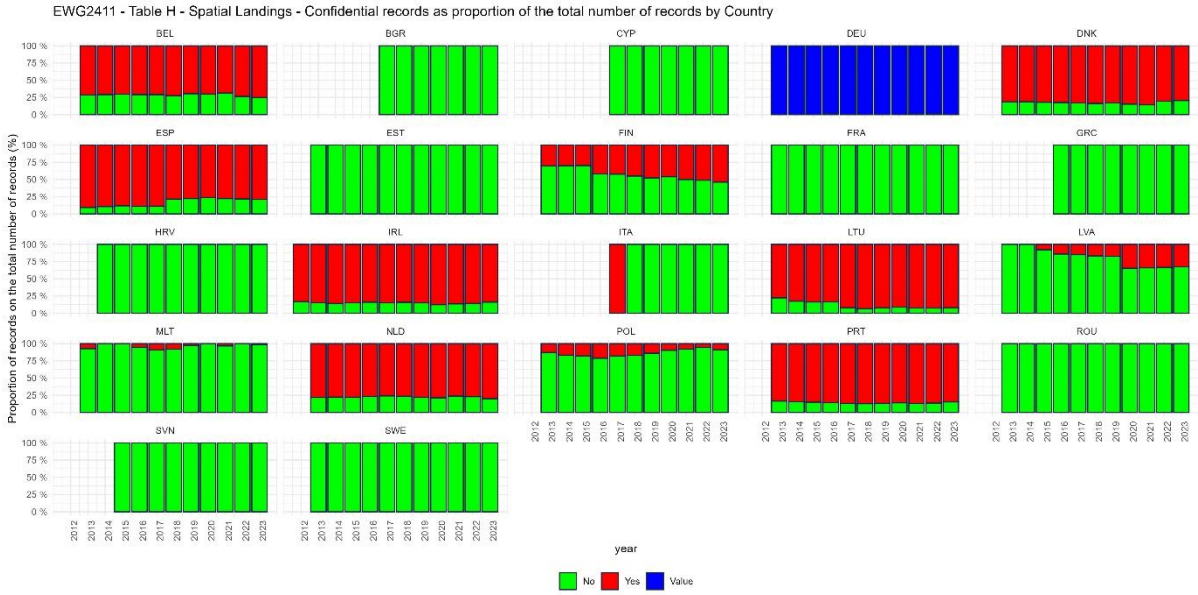
The figures below show for the spatial tables H and I the proportion of landings weight and effort (fishing days) as well as number of submitted records that have been marked as confidential by MS. The figures show a difference between the use of the confidential field between MS, and the variation over the years 2012-2023.

Figure 3.3.1.5. Proportion of spatial landings weight marked as confidential by country and year in Table H.



Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.6. Proportion number of records submitted by country that have been marked as confidential by country and year in Table H.



Source: Member States submissions to FDI data call 2024.

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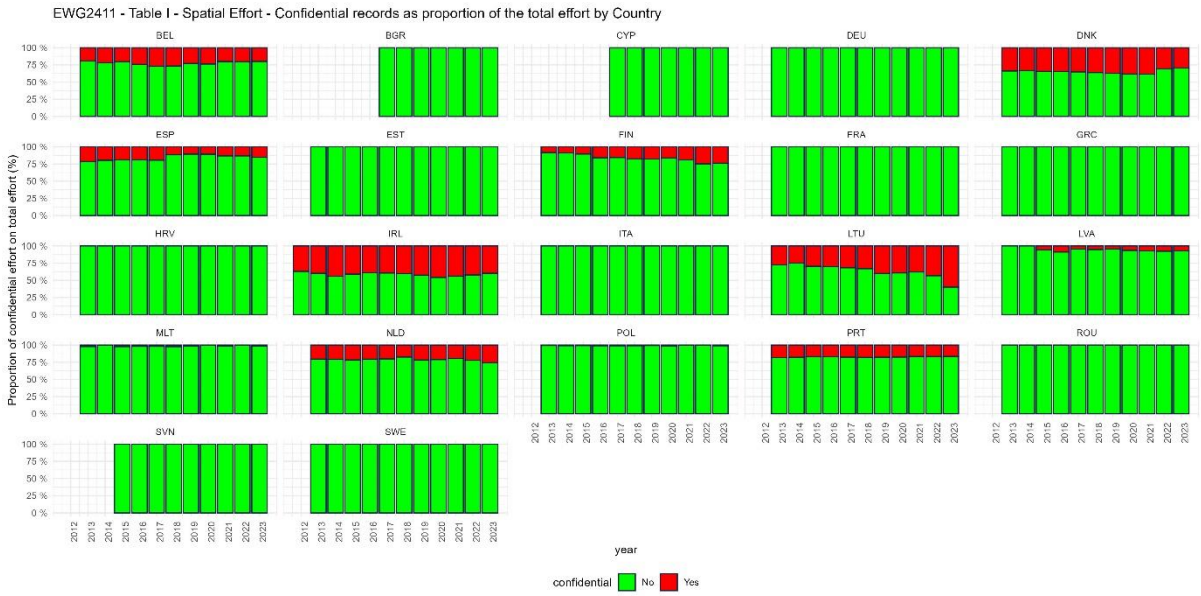
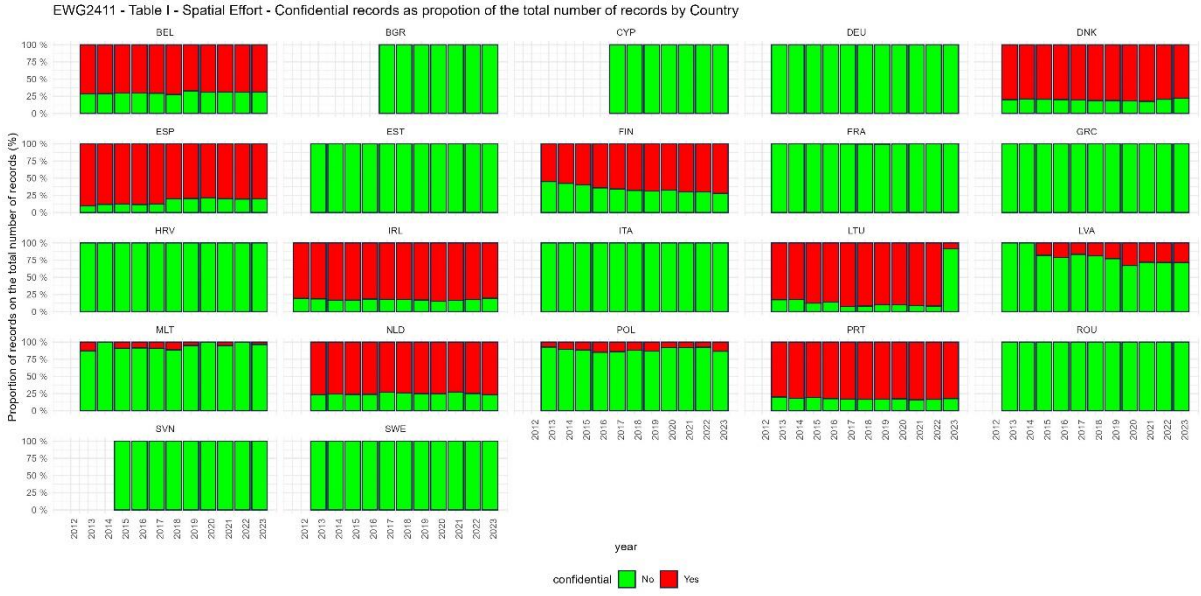
Figure 3.3.1.7. Proportion of effort (fishing days) marked as confidential by country and year in Table I.



Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.8. Proportion of records submitted by country that have been marked as confidential by country and year in Table I.



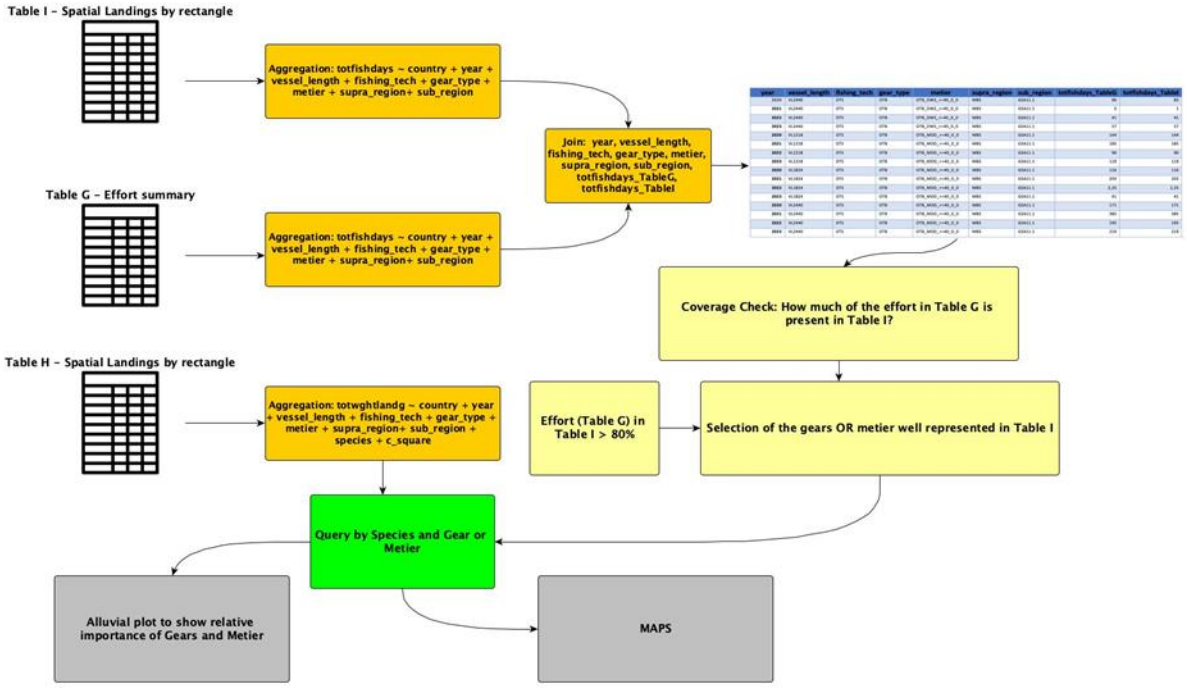
Source: Member States submissions to FDI data call 2024.

Alternative country-based dissemination of spatial tables: a preliminary exercise

During EWG 24-11, an alternative way of disseminating the data contained in the spatial tables at the individual country level was explored. The level of disaggregation that the data is disseminated is important for various Expert Working Groups and research projects to make sure the data is used in the best possible way.'. For example, to predict the possible socio-bio-economic consequences of management scenarios based on spatial and/or temporal closures, the availability of spatially explicit data on fishing effort and landings by

fleet segment and country is critical. Spatial data allow the reconstruction of the exploitation patterns and provide information on the biological and economic value of different fishing grounds. Sthe FDI data are currently disseminated at an aggregated level where it is not possible to disentangle the fishing activity and the related catch and landings of fleet segments belonging to different countries. The purpose of this exercise, however, is not to suggest a management decision but only to explore the potential products that could be disseminated, at country level, from the FDI data. Hence the rationale displayed in the figure below was designed and applied.

Figure 3.3.1.9. Workflow representing the rationale applied to combine Table I, Table G and Table H to check and disseminate species and country-specific spatial data about landings.



Source: Member States submissions to FDI data call 2024.

The spatial FDI tables (I and H) are generated from Logbook and in some cases VMS data, therefore it was necessary first to define a process to assess which segments are represented comprehensively. To this end, data in Table I (spatial effort) were aggregated by country, year, vessel_length, fishing_tech, gear_type, metier, supra_region, and sub_region. Data in Table G were aggregated with the same approach. To this extent, it was possible to compare the values of effort (as Total Fishing Days) between Table I (Logbook or VMS-based effort) with Table G (assumed as a reference). Specifically, the data aggregated from Tables I and G were merged to obtain a table with the structure shown in Figure 3.3.1.10.

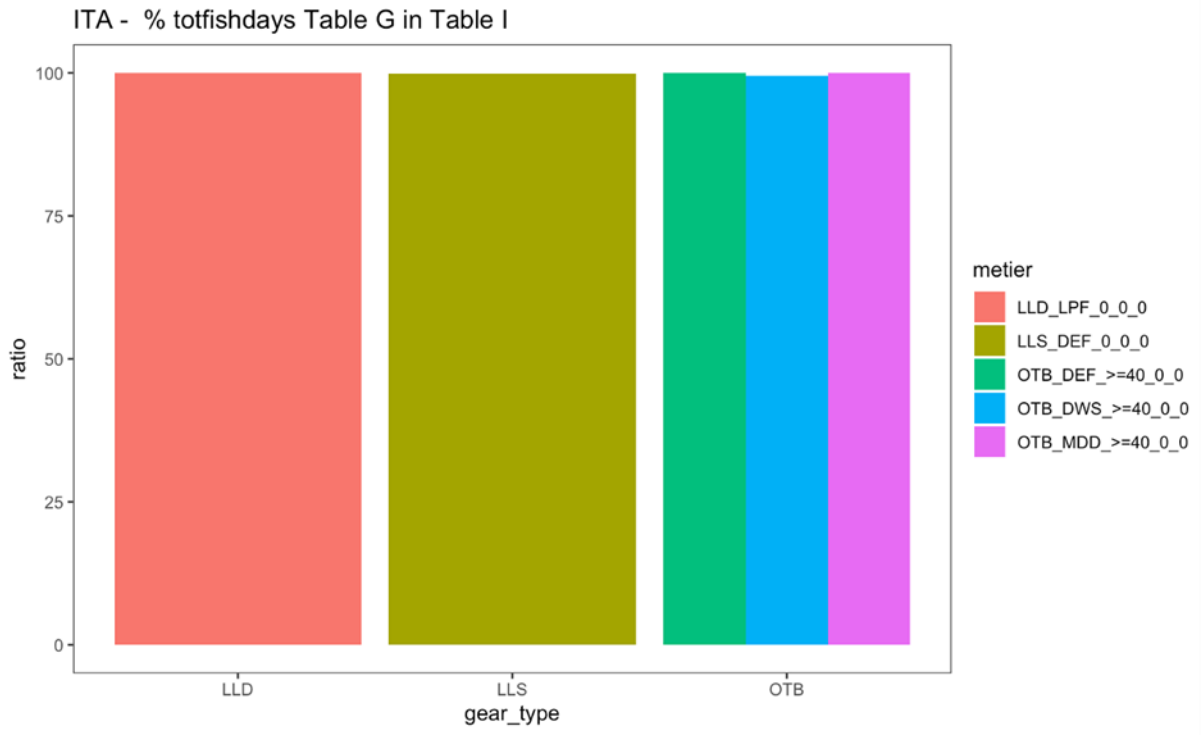
Figure 3.3.1.10. Layout of the Table obtained combining Table I and Table G in which the values of Total Fishing Days from these two FDI tables are joined.

year	vessel_length	fishing_tech	gear_type	metier	supra_region	sub_region	totfishdays_TableG	totfishdays_TableI
2020	VL2440	DTS	OTB	OTB_DWS_>=40_0_0	MBS	GSA11.1	96	83
2021	VL2440	DTS	OTB	OTB_DWS_>=40_0_0	MBS	GSA11.1	3	1
2022	VL2440	DTS	OTB	OTB_DWS_>=40_0_0	MBS	GSA11.1	41	41
2023	VL2440	DTS	OTB	OTB_DWS_>=40_0_0	MBS	GSA11.1	57	57
2020	VL1218	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	144	144
2021	VL1218	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	185	185
2022	VL1218	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	90	90
2023	VL1218	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	119	119
2020	VL1824	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	116	116
2021	VL1824	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	203	203
2022	VL1824	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	2,25	2,25
2023	VL1824	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	41	41
2020	VL2440	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	171	171
2021	VL2440	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	385	385
2022	VL2440	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	195	195
2023	VL2440	DTS	OTB	OTB_MDD_>=40_0_0	MBS	GSA11.1	219	219

Source: Member States submissions to FDI data call 2024.

From this table, it was possible to calculate the percentage of effort in Table G represented in Table I. A representation of the coverage values obtained from this comparison is shown in Figure 3.3.1.11. This check is considered valuable to assure that the spatial distribution of effort and catches are representative of the subset of the total values (shown in Table I). In case there are differences, reasons should be explored (e.g., are there differences in methods used to calculate effort for table G and table I). If differences are found, which are not explained, it is not reasonable to assume that the spatial pattern obtained is realistic and may even be misleading.

Figure 3.3.1.11. Bar plot representing, for a given year, country, and gear type the percentage of effort (in Total Fishing Days) present in Table I with respect to the corresponding value in Table G**.**

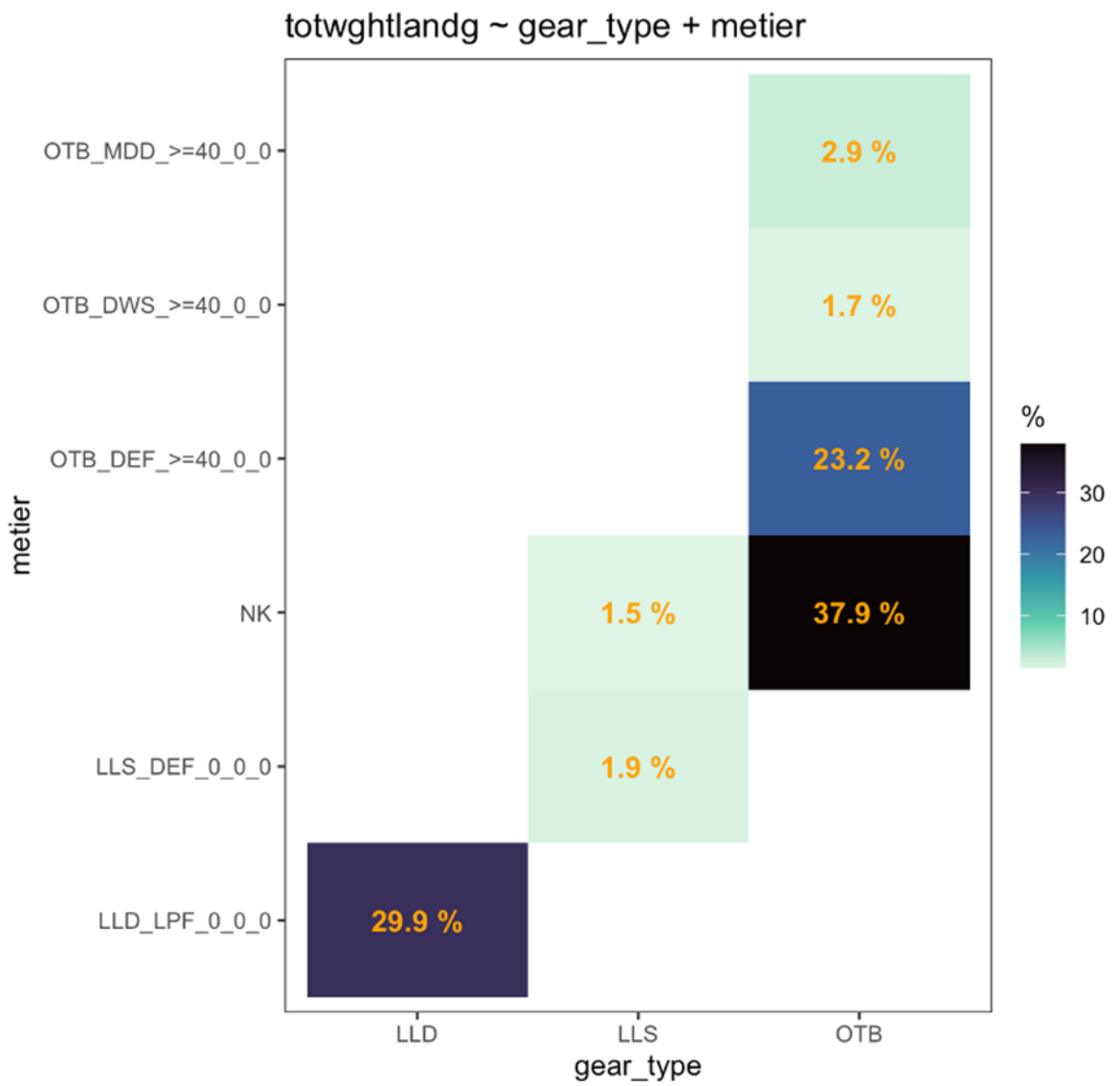


Source: Member States submissions to FDI data call 2024.

Based on these percentage values and on a preliminarily defined threshold of 80%, the gears were selected to be processed in the subsequent analyses.

At the same time, the data in Table H (spatial landings) were aggregated by country, year, vessel_length, fishing_tech, gear_type, metier, supra_region, sub_region, species, and c_square. The Total Weight Landings (Tonnes) values thus obtained were filtered and exported for only those segments (gears) validated by the above comparison of Tables I and G. Then, the resulting data were preliminarily explored and filtered to obtain a set of representative products. For each species/country combination, Total Weight Landings values were represented against the gear types and métiers matches. The result, exemplified in the figure below, provides insight into the relative importance of the different fisheries that generated the corresponding landings.

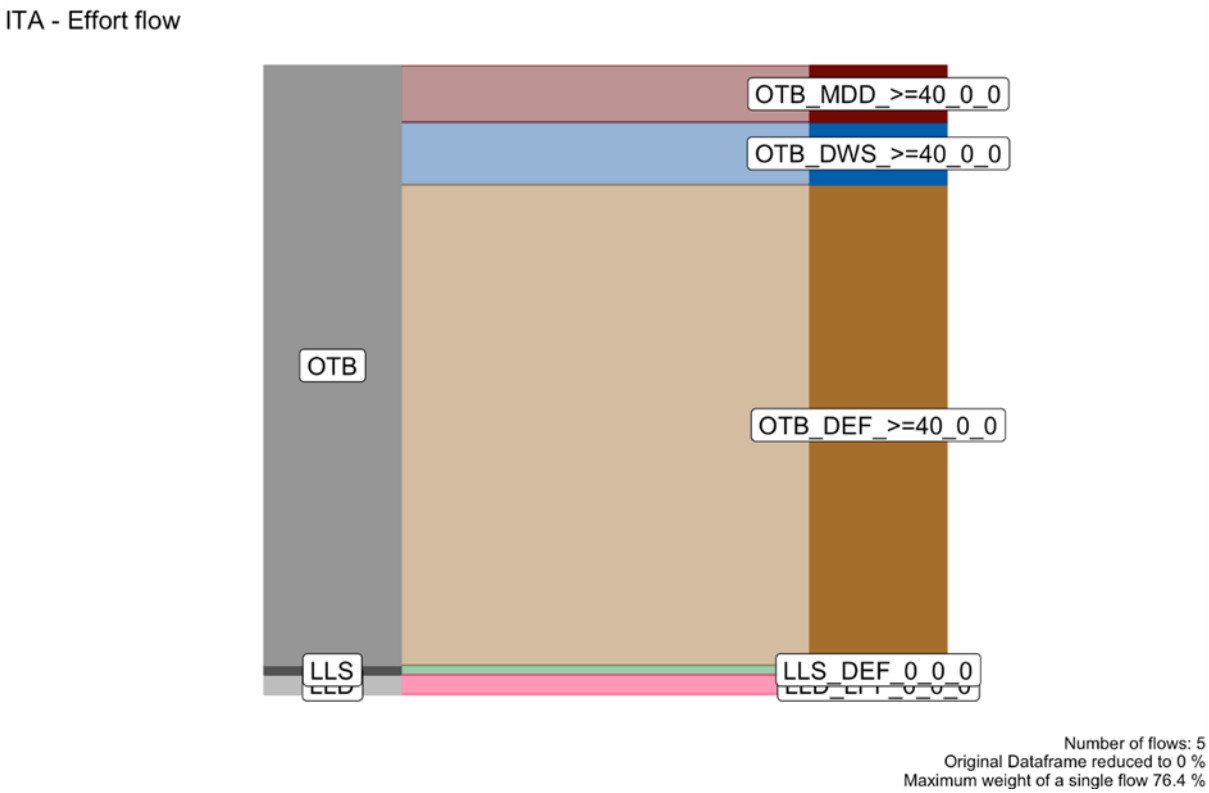
Figure 3.3.1.12. In the plot, for each species/country combination, the Total Weight Landings are represented against the gear types and métiers matches.



Source: Member States submissions to FDI data call 2024.

Another graphical approach was used to show how the fishing effort is distributed, for the gear types with a level of coverage higher than the above-mentioned 80% threshold, by metier of level 6 (Figure 3.3.1.13).

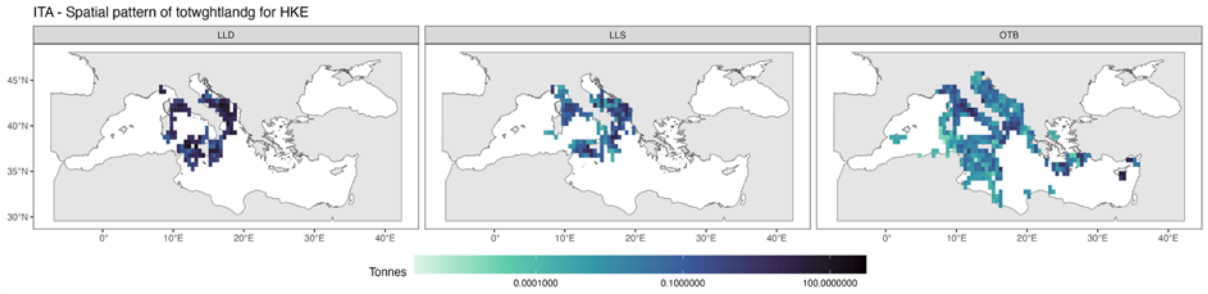
Figure 3.3.1.13. Alluvial plot representing, for each gear type, how the total amount of fishing effort is distributed by metier of level 6.



Source: Member States submissions to FDI data call 2024.

As a final step, these three plots were combined with the maps representing, for each gear type, the spatial distribution of landings by c-square.

Figure 3.3.1.14. Examples of the spatial distribution of landing, for a given species, by gear type.

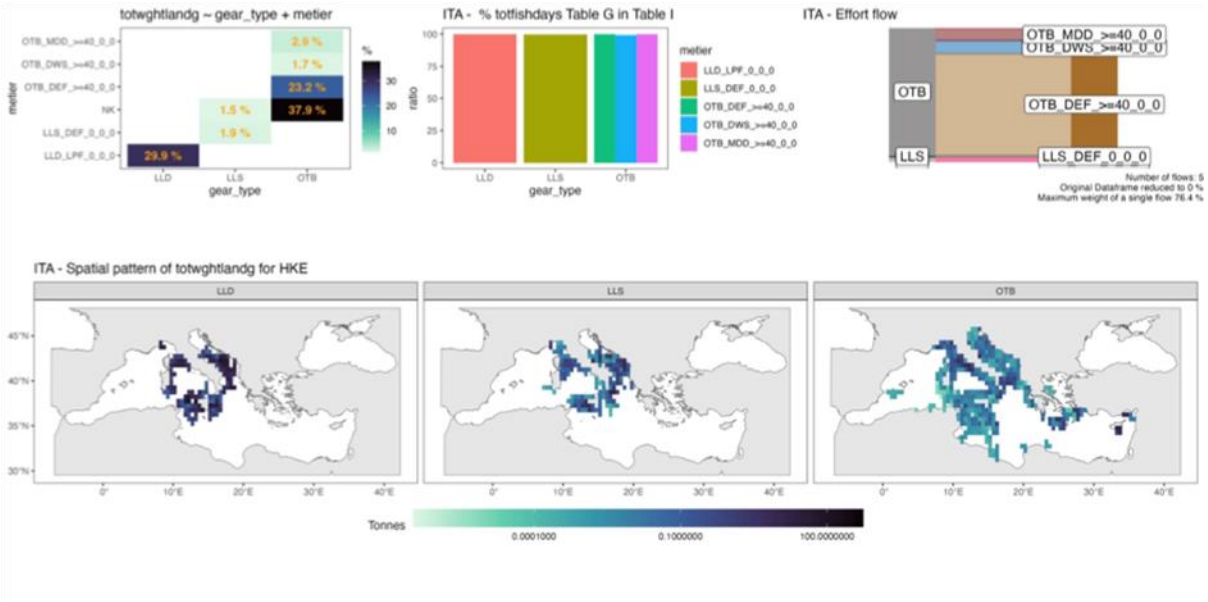


Source: Member States submissions to FDI data call 2024.

For the sake of conciseness and considering that for some countries the information in the Table I and H are confidential, this exercise was carried out only for the Italian data in the

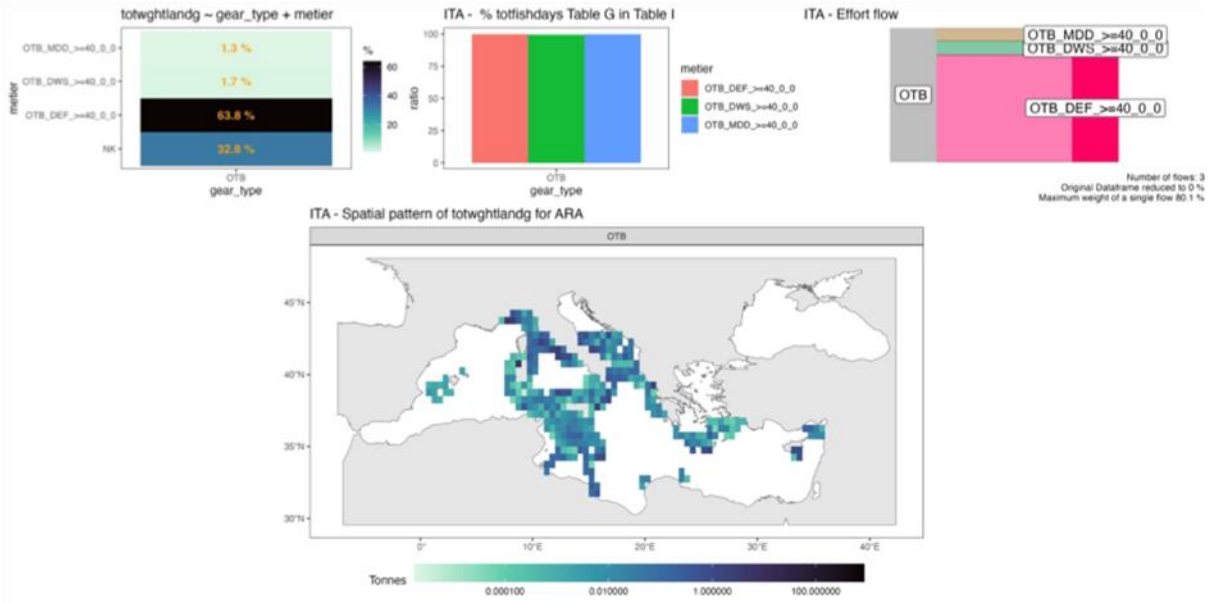
year 2023. In the next pages, a series of examples are provided for some of the main species exploited by the Italian fleet.

Figure 3.3.1.15. Combined plot representing the Total Weight Landings of the Italian fleet for the European hake Merluccius merluccius (HKE) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



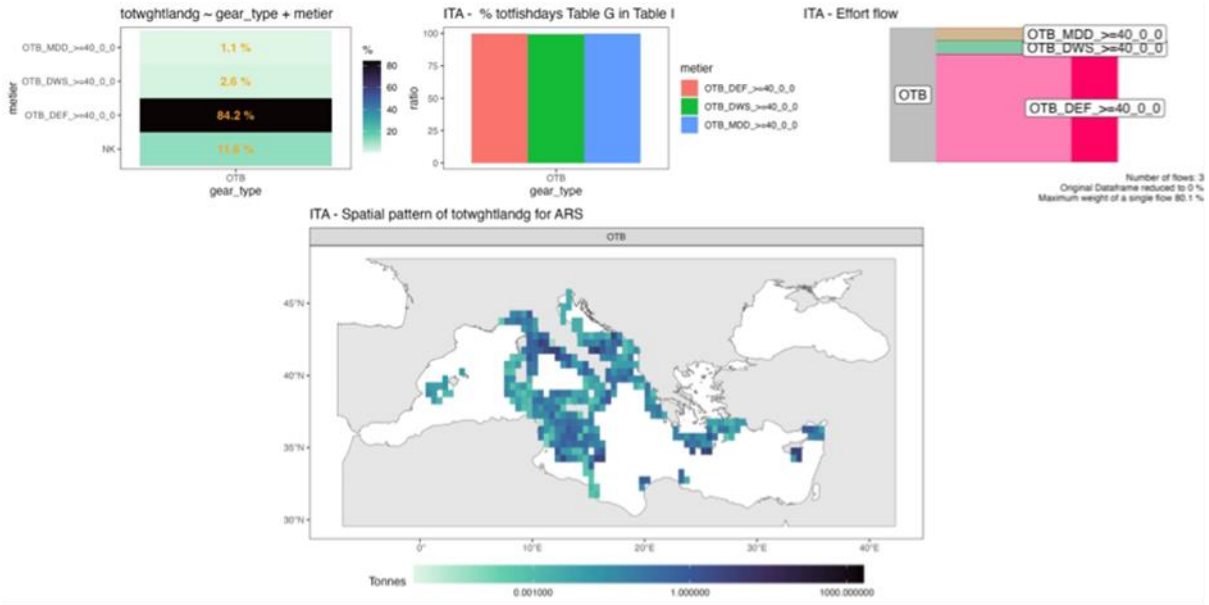
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.16. Combined plot representing the Total Weight Landings of the Italian fleet for the Blue and red shrimp Aristeus antennatus (ARA) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear_types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



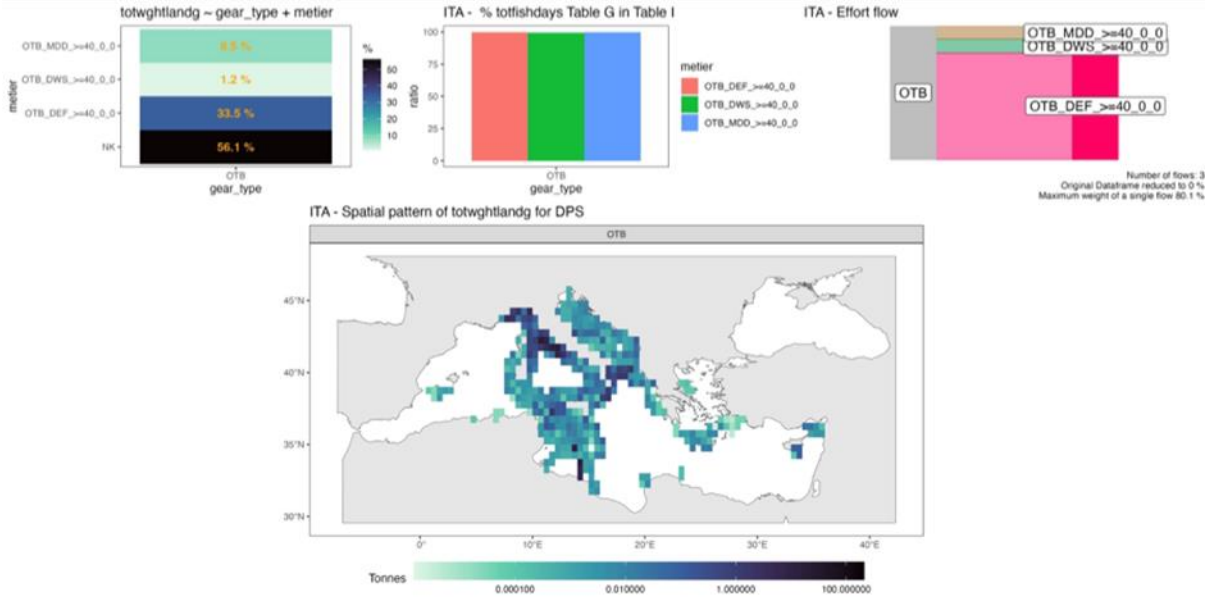
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.17. Combined plot representing the Total Weight Landings of the Italian fleet for the Giant red shrimp Aristaeomorpha foliacea (ARS) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



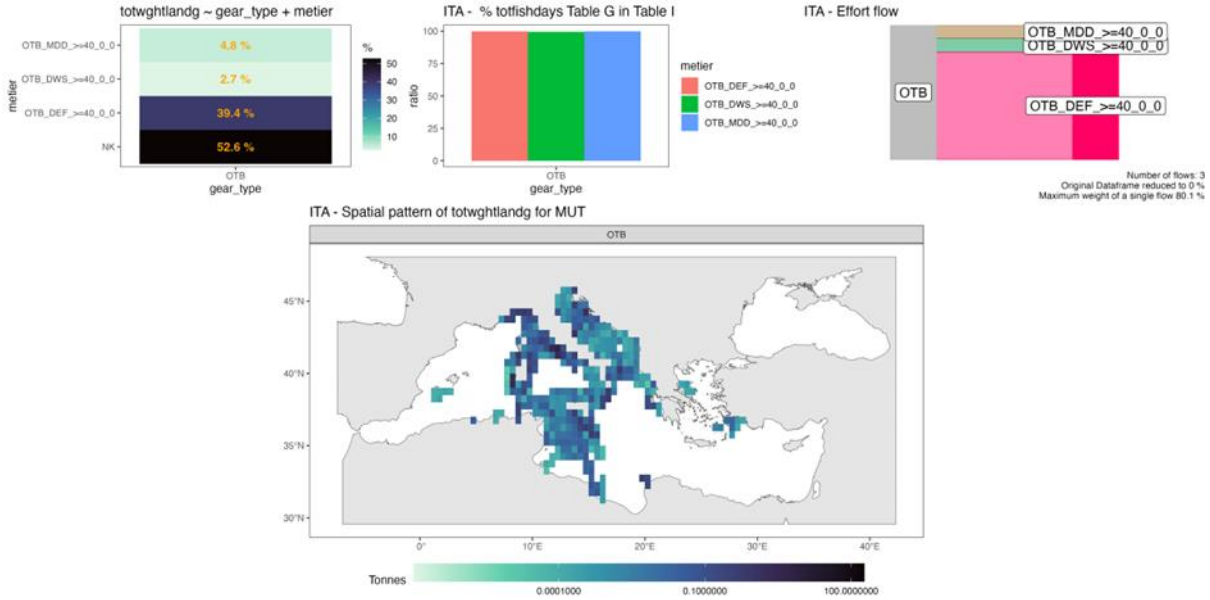
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.18 – Combined plot representing the Total Weight Landings of the Italian fleet for the deep-water rose shrimp *Parapenaeus longirostris* (DPS) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



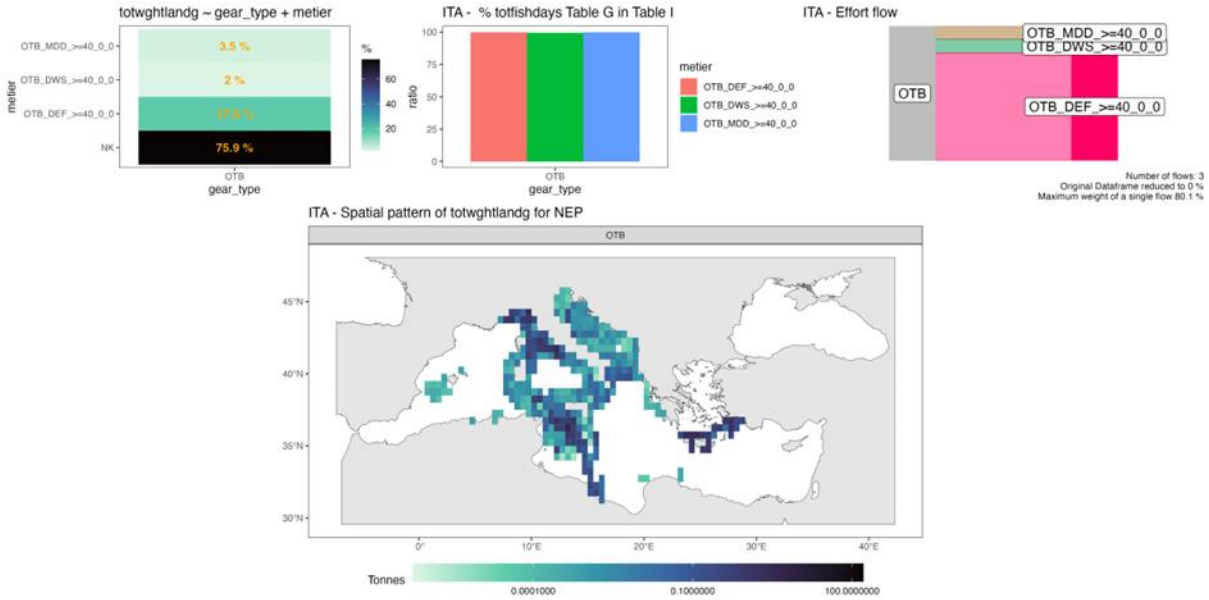
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.19. Combined plot representing the Total Weight Landings of the Italian fleet for the red mullet Mullus barbatus (MUT) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



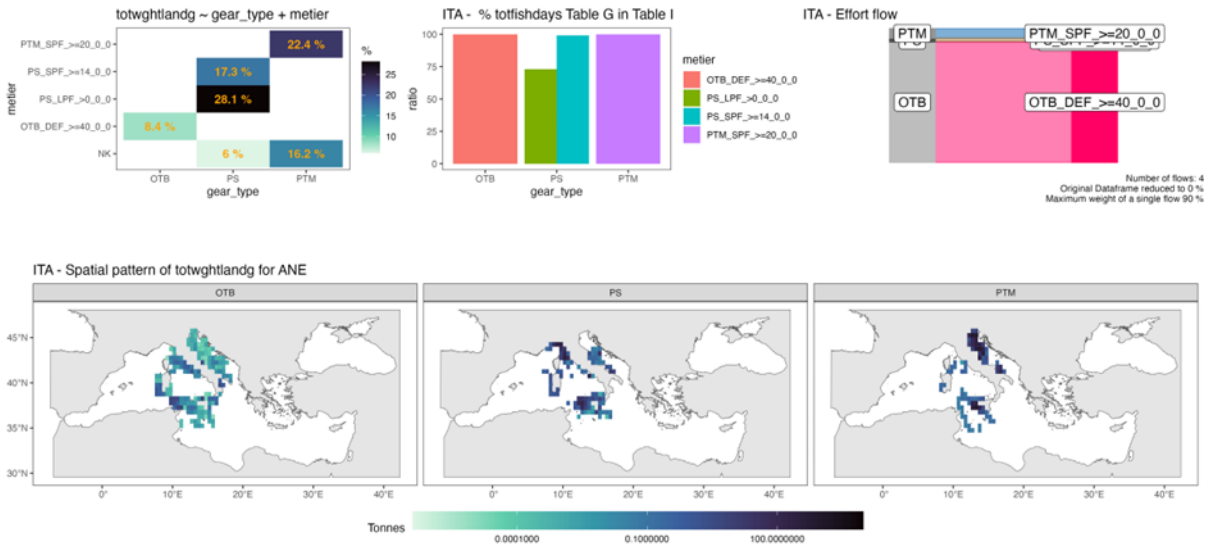
Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.20. Combined plot representing the Total Weight Landings of the Italian fleet for the Norway lobster Nephrops norvegicus (NEP) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



Source: Member States submissions to FDI data call 2024.

Figure 3.3.1.21. Combined plot representing the Total Weight Landings of the Italian fleet for the European anchovy Engraulis encrasicolus (ANE) in the year 2023. The relative contribution of the different gear types and metier of level 7 is represented in the top-left panel. The coverage of Table I with respect to the reference values in Table G is represented in the top-center panel. The maps at the bottom represent, for the main gear types, the spatial origin of landings. A colorscale is used to illustrate the absolute values by spatial units (c-square).



Source: Member States submissions to FDI data call 2024.

Conclusion on dissemination: during EWG 24-11, different possibilities of disseminating data at national level have been suggested and explored; however, which data can be disseminated and at which level of aggregation it is a decision to be taken by National Correspondents.

FDI data requests

Although aggregated FDI data are disseminated on the STECF website and publicly available, FDI data are sometimes requested on a more disaggregated level. MS need to grant access for this data to be used for a certain purpose. The following data requests were received in the period from May 2023 to May 2024:

- FDI data (years 2013-2022) was requested by DG ENV for the ICES workshop WKTRADE4 to produce scientific advice for fisheries management purposes. The data was used to analyse landings and economic performance indicators of each fishery by linking available ICES VMS/Logbook, STECF FDI and AER economic data. Although aggregated FDI data (fisheries landings and effort by c-square) are publicly available, FDI data at a country and fleet level were needed to apply the appropriate disaggregation methodologies and analyse the spatial structure of costs.
- FDI data (years 2020-2021) was requested to be used to update the published study 'Synthesis of the landing obligation measures and discard rates' carried out by two consortia led by Wageningen Marine Research and MRAG Europe Limited, contracted by the European Commission's Executive Agency for European climate infrastructure and environment (CINEA). This study used an analytical approach to quantify and measure the success of the landing obligation. The contractors of the study developed tools and methods for cleaning, filtering and displaying discard information in the FDI database.
- FDI data (years 2013-2021) was requested to conduct a study to assess the robustness of mixed fisheries scenario assumptions (EASME/EMFF/2018/011 Specific Contract Lot 1 No. 13 and Lot 2 No. 12), each of which are led by Wageningen Marine Research and MRAG Ltd respectively. FDI data will be used to evaluate the sensitivity of catch projections in mixed fisheries models to definitions and structure of fleet and métier including accounting for spatial differences in fishing activity.
- FDI data (years 2013-2022) was requested to be used within the European project NECCTON (New Copernicus Capability for Trophic Ocean Networks). NECCTON aims at enabling the European Copernicus Marine Service to deliver new models and products to conserve the biodiversity and manage the food resources of regional and global marine ecosystems. The project partners will use the requested data with a range of models (ecosystem biomass models and species distribution and population models) implemented in the Mediterranean, Baltic and Black Seas, the North-West European Shelf-Seas, the Arctic Ocean and the global ocean. The ultimate goal is to develop modelling tools and products that can serve a range of stakeholders from policy makers to fisheries and marine protected area managers.
- FDI data (years 2013-2023) was requested for the FRAMEWORK CONTRACT – CINEA/2023/OP/0002. The Single Framework Contract for the Provision of Scientific Advice in Support of the Common Fisheries Policy in EU Waters, for the European Union's fishing fleet: evolution, challenges and future project. The consortium will use the FDI data to conduct a fishing capacity analysis downscaled to the individual fisheries and per country. The analysis will couple FDI and RDBES datasets with the EU Fleet Register. The extende version of the EU Vessel Fleet Register (VED) will be used to investigate possibilities to redefine fishing capacity metrics from the extra variables of the VED not available in the publicly available register.

- FDI data (year 2013-2022) was requested for the DecarbonyT project granted within the EASME/EMFF/2020/OP/0021 call for proposals under the “Framework contract for the provision of scientific advice for the Mediterranean and the Black Seas”. The main objective of DecarbonyT is to assess to what extent the use of optimized trawling gears in the Mediterranean and Black Sea can lead to lower fuel consumption and a more decarbonized fishing fleet.
- FDI data is used annually from DGMARE to run the TAC deduction calculations required in preparation of annual Fishing Opportunities Regulation and are revised jointly with MS.
- FDI data was also provided to the following STECF experts working groups: EWG 23-12 Stock Assessment in the Adriatic, Ionian and Aegean Sea; PLEN 23-02; EWG 24-02 Methodologies for Mediterranean stock assessments and the estimation of reference points; EWG 24-04 Evaluation of joint recommendations on the Landing Obligation and Technical Measures; EWG 24-10 Stock assessments in the Western Mediterranean Sea 2024; EWG 24-12 Fishing effort regime for demersal fisheries in West Med.

3.3.2 Discuss interpretation of the Table B and agree on format of dissemination of refusal rate data

EWG 24-11 discussed the potential issues connected with the dissemination of refusal information contained in Table B. This table contains refusal rates estimated by Member States from statistically sound sampling frames and mainly relates to at-sea sampling programmes.
The EWG was aware that EWG 21-10 recommended to disseminate information in Table B as submitted by Member States.
EWG 22-10 further suggested that Table B should be disseminated together with some guidance on its content, i.e. references to the definitions in the data call, to the Report of the Study Group on the Practical Implementation of Discard sampling plans (SGPIDS 3, ICES CM 2013/ACOM:56) and to the methodologies used to derive data which can be found in the national chapters of this report. It is important that the qualitative nature of this data is highlighted.
EWG 23-05 dedicated part of the work to analyzing the contents of Table B submitted by MS, and summarizing the information related to the quality indicators present therein. The quality indicators considered were the following: COVERAGE RATE, NONRESPONSE RATE, VESSELS FLEET, TRIPS FLEET, TRIPS SAMPLED ONBOARD, UNIQUE VESSELS SAMPLED, UNIQUE VESSELS CONTACTED. It was highlighted that Table B is only for probabilistic sampling, otherwise it can be misinterpreted and that, in the absence of a probability-based vessel selection design, ‘NK’ should be submitted as an acknowledgement that they have no such plan. One of the improvements also proposed by EWG 23-05 for the data call description was that “Member States should report the same SAMPLING_FRAME name as what is reported in the DCF sampling frame name (DCF National Annual Report Table 2.5). If a new sampling frame arises, this should be named following the guidance provided by the DCF Annual Report. This description was not included yet in the SAMPLING_FRAME definition of the 2024 data call.”
EWG 24-11 was aware that EWG 23-10 was not able to agree and prepare a guidance for the interpretation of the data provided in Table B.
EWG 24-11 agrees with the suggestion of EWG 22-10 and suggests to refer to SGPIDS3 when preparing the guidance for the interpretation of data in Table B. Regarding the importance and relevance of the information reported in Table B for probability-based vessel selection design, SGPIDS3 refers that: *”Due to the concern over non-response calculation and the issue of the unavailable vessels the study group felt that these rates, at present, do not allow objective com-parison of the performance of different sampling schemes of different countries. For example, if taken out of context, the non-response rate from a scheme using a*

reference fleet would always be 0 (the coverage rate 100%) and likewise a scheme that had an ad-hoc selection process could generate a low non-response rate and a low refusal rate. In contrast schemes where were using a randomized vessel list would be expected to have a noticeably higher non-response rates and refusal rates. Therefore it was considered that these rates should not be compared without knowledge of how the sampling scheme was designed and worked, how the "not available" category was defined, and what analyses for bias had been carried out." The same group outlines that *"As a quality indicator these data can be useful measures for: 1) The rate may be indicative of potential sample bias and can be used by the programme manager as a signal to investigate whether there is any bias. 2) These rates provide the programme manager with a measure of the performance of the scheme and a target to, if possible, improve on. For example these results have been used by Denmark in negotiations with the industry. 3) They provides auditors and expert groups with the indication that these schemes are being monitored and, with reference to attached comments by the programme manager, should provide assurance that the country is maintaining as good a rate as they can."*

During the EWG 24-11 meeting, the data submitted to Table B was briefly analysed:

- All MS with data reported to the FDI data call submitted this table, except for Greece;
- Not all combinations of MS/year have information submitted in this table - It is not clear if the reason for not submitting the complete information is related or not to their vessel selection design not being probability-based in some years. (see Table 3.3.1.12);
- The names of the SAMPLING_FRAME do not seem to be in accordance with the ones reported in the DCF national sampling plans. For example, Italy and Romania, that are only reporting 'NK', have put '0' and '1' in the name of the sampling frame; Slovenia included all the sampling frames in the same record; and there are some that seem to have aggregations of the sampling frames different from the DCF. These inconsistencies mean that it may not be straightforward the link between the DCF and the Table B information;
- Two different types of coverage rates can be found in the table: some MS report coverage based on trips (sampled vs fleet) and other MS report coverage based on number of vessels (sampled vs fleet). Also, some MS presented coverage rates that do not fit in those two types of calculation methods. This may not be a problem and is probably related to the primary sampling unit of each sampling program, however, very different rates can be obtained for each case and this should also be taken into account if an evaluation of the sampling design performance based on this parameter is aimed;
- It seems that some quality checks are missing, when uploading this table, because there are several records with rates (e.g. coverage and refusal) presenting values more than '1', when there is a clear indication in the data call that the rate fields should be reported between '0' and '1';
- There are few records with the number of sampled vessels higher than the number of fleet vessels – maybe this could also be included in the data checks for this table.

Therefore EWG 24-11 recommends for this year not to disseminate the refusal information contained in Table B and to dedicate time during the next FDI methodological meeting for further analysis regarding what has been submitted in the table and to prepare the guidance to be used in the future to disseminate Table B.

Table 3.3.1.12. Summary information on the quality indicators reported in Table B, by Member State and year. Notes: the zeros in the table mean that "NK" was reported and not a value; every time the number of records of a quality indicator is less than the number of sample frames, means that no information was provided for that indicator.

Country code	year	Nr sample frames	Refusal rate	Coverage rate	Nonresponse rate	Vessels fleet	Trips fleet	Trips sampled onboard	Unique vessels sampled	Unique vessels contacted
BEL	2013	2	0	0	0	0	0	0	0	0
	2014	2	0	0	0	0	0	0	0	0
	2015	2	1	0	1	1	1	1	1	1
	2016	2	1	0	1	1	1	1	1	1
	2017	2	1	0	1	1	1	1	1	1
	2018	2	0	0	0	0	0	0	0	0
	2019	2	0	0	0	0	0	0	0	0
	2020	2	0	0	0	0	0	0	0	0
	2021	2	0	0	0	0	0	0	0	0
	2022	2	0	0	0	0	0	0	0	0
	2023	2	0	0	0	0	0	0	0	0
BGR	2018	4	4	4	4	4	4	4	4	4
	2019	4	4	4	4	4	4	4	4	4
	2020	4	4	4	4	4	4	4	4	4
	2021	4	4	4	4	4	4	4	4	4
	2022	4	4	4	4	4	4	4	4	4
	2023	4	4	4	4	4	4	4	4	4
CYP	2013	1	0	0	0	1	1	1	1	0
	2014	1	0	0	0	1	1	1	1	0
	2015	2	1	2	1	2	2	2	2	1
	2016	2	1	2	1	2	2	2	2	1
	2017	2	2	2	2	2	2	2	2	1
	2018	2	2	2	2	2	2	2	2	1
	2019	1	1	1	1	1	1	1	1	1
	2020	1	1	1	1	1	1	1	1	1
	2021	1	1	1	1	1	1	1	1	1
	2022	3	3	3	3	3	3	3	3	3
	2023	3	3	3	3	3	3	3	3	3
DEU	2013	9	9	9	8	9	9	9	9	9
	2014	9	9	9	8	9	9	9	9	9
	2015	9	9	9	8	9	9	9	9	9
	2016	9	9	9	8	9	9	9	9	9
	2017	9	9	9	8	9	9	9	9	9
	2018	9	9	9	8	9	9	9	9	9
	2019	9	9	9	8	9	9	9	9	9
	2020	9	9	9	8	9	9	9	9	9
	2021	9	9	9	8	9	9	9	9	9
	2022	9	9	9	9	9	9	9	9	9
	2023	9	9	9	9	9	9	9	9	9
DNK	2013	6	6	6	6	6	6	6	6	5
	2014	7	7	7	7	7	7	7	7	7
	2015	7	7	7	7	7	7	7	7	7
	2016	7	7	7	7	7	7	7	7	7
	2017	6	6	6	6	6	6	6	6	6
	2018	6	6	6	6	6	6	6	6	6
	2019	6	6	6	6	6	6	6	6	6
	2020	6	0	6	0	6	6	6	6	3
	2021	6	0	6	0	6	6	6	6	0
	2022	5	5	5	5	5	5	5	5	5
	2023	5	5	5	5	5	5	5	5	5
ESP	2015	5	2	3	2	5	5	5	5	5
	2016	9	4	6	4	7	7	7	9	9
	2017	9	7	9	7	9	9	9	9	9
	2018	9	7	9	7	9	9	9	9	9
	2019	9	7	9	7	9	9	9	9	9
	2020	9	7	9	7	9	9	9	9	9
	2021	9	7	9	7	9	9	9	9	9
	2022	9	7	9	7	9	9	9	9	9
	2023	9	7	7	7	9	9	9	9	9

Country code	year	Nr sample frames	Refusal rate	Coverage rate	Nonresponse rate	Vessels fleet	Trips fleet	Trips sampled	Unique vessels sample	Unique vessels contact
EST	2013	3	0	0	0	0	0	0	0	0
	2014	3	0	0	0	0	0	0	0	0
	2015	3	0	0	0	0	0	0	0	0
	2016	3	0	0	0	0	0	0	0	0
	2017	3	0	0	0	0	0	0	0	0
	2018	3	0	0	0	0	0	0	0	0
	2019	3	0	0	0	0	0	0	0	0
	2020	2	0	0	0	0	0	0	0	0
	2021	2	0	0	0	0	0	0	0	0
	2022	2	0	0	0	0	0	0	0	0
	2023	2	0	0	0	0	0	0	0	0
FIN	2018	1	1	1	1	1	0	1	1	1
	2019	14	14	14	14	14	0	14	14	14
	2020	17	17	17	17	17	0	17	17	17
	2021	17	17	17	17	17	0	17	17	17
	2022	17	17	17	17	17	0	17	17	17
	2023	16	16	16	16	16	0	16	16	16
FRA	2020	20	20	20	20	20	20	20	20	20
	2021	20	20	20	20	20	20	20	20	20
	2022	20	19	19	19	19	20	20	20	20
	2023	20	20	20	20	20	20	20	20	20
HRV	2013	19	0	0	0	0	0	0	0	0
	2014	19	0	0	0	0	0	0	0	0
	2015	20	0	0	0	0	0	0	0	0
	2016	19	0	0	0	0	0	0	0	0
	2017	20	0	0	0	0	0	0	0	0
	2018	20	0	0	0	0	0	0	0	0
	2019	18	0	0	0	0	0	0	0	0
	2020	18	0	0	0	0	0	0	0	0
	2021	17	0	0	0	0	0	0	0	0
	2022	19	0	0	0	0	0	0	0	0
	2023	18	0	0	0	0	0	0	0	0
IRL	2017	3	0	0	0	0	0	0	0	0
	2018	3	3	3	3	3	3	3	3	3
	2019	4	4	4	4	4	4	4	4	4
	2020	3	3	3	3	3	3	3	3	3
	2021	3	3	3	3	3	3	3	3	3
	2022	3	3	3	3	3	3	3	3	3
	2023	3	3	3	3	3	3	3	3	3
ITA	2013	1	0	0	0	0	0	0	0	0
	2014	1	0	0	0	0	0	0	0	0
	2020	1	0	0	0	0	0	0	0	0
	2021	1	0	0	0	0	0	0	0	0
	2022	1	0	0	0	0	0	0	0	0
	2023	1	0	0	0	0	0	0	0	0
LTU	2013	5	0	0	0	5	5	5	5	2
	2014	6	0	0	0	6	5	4	2	2
	2015	5	0	0	0	5	5	5	5	0
	2016	5	0	0	0	5	5	5	4	0
	2017	5	0	0	0	5	5	5	5	0
	2018	5	0	0	0	5	5	5	5	0
	2019	15	0	0	0	15	15	14	14	14
	2020	20	0	0	0	20	20	19	19	19
	2021	28	0	0	0	28	28	15	15	0
	2022	2	0	2	0	2	2	2	2	2
	2023	2	2	2	2	2	2	2	2	2
LVA	2013	4	4	4	4	4	4	4	4	4
	2014	4	4	4	4	4	4	4	4	4
	2015	4	4	4	4	4	4	4	4	4
	2016	4	4	4	4	4	4	4	4	4
	2017	4	4	4	4	4	4	4	4	4
	2018	4	4	4	4	4	4	4	4	4
	2019	4	4	4	4	4	4	4	4	4
	2020	4	4	4	4	4	4	4	4	4
	2021	3	3	3	3	3	3	3	3	3
	2022	3	3	3	3	3	3	3	3	3
	2023	3	3	3	3	3	3	3	3	3

Country code	year	Nr sample frames	Refusal rate	Coverage rate	Nonresponse rate	Vessels fleet	Trips fleet	Trips sampled	Unique vessels sample	Unique vessels contact
MLT	2013	3	0	0	0	3	1	3	3	0
	2014	5	0	0	0	5	5	5	5	0
	2015	5	0	5	0	5	5	5	5	0
	2016	5	5	5	0	5	5	5	5	5
	2017	3	3	3	0	3	3	3	3	3
	2018	4	4	4	0	4	4	4	4	4
	2019	5	5	5	0	5	5	5	5	5
	2020	4	4	4	0	4	4	4	4	4
	2021	5	5	5	0	5	5	5	5	5
	2022	7	5	5	5	7	7	7	5	5
	2023	7	5	5	5	7	7	7	5	5
NLD	2021	3	2	3	2	3	3	3	3	3
	2022	3	2	3	2	3	3	3	3	3
	2023	3	2	3	2	3	3	3	3	3
POL	2017	15	11	15	15	15	15	15	15	15
	2018	15	14	15	15	15	15	15	15	15
	2019	15	14	15	15	15	15	15	15	15
	2020	6	6	6	6	6	6	6	6	6
	2021	6	6	6	6	6	6	6	6	6
	2022	6	6	6	6	6	6	6	6	6
	2023	6	6	6	6	6	6	6	6	6
PRT	2013	6	0	0	0	0	0	0	0	0
	2014	6	0	0	0	0	0	0	0	0
	2015	6	0	0	0	0	0	0	0	0
	2016	6	0	0	0	0	0	0	0	0
	2017	6	6	6	0	6	6	6	6	0
	2018	6	6	6	5	6	6	6	6	5
	2019	6	6	6	5	6	6	6	6	5
	2020	6	0	6	0	6	6	6	6	0
	2021	6	0	6	0	6	6	6	6	0
	2022	6	0	6	0	6	6	6	6	0
	2023	6	0	6	0	6	6	6	6	0
ROU	2015	1	0	0	0	0	0	0	0	0
SCO	2015	5	0	0	0	5	5	5	5	0
	2016	5	5	5	5	5	5	5	5	5
	2017	5	5	5	5	5	5	5	5	5
	2018	5	5	5	5	5	5	5	5	5
	2019	8	8	8	8	8	8	8	8	8
	2020	7	7	7	7	7	7	7	7	7
SVN	2013	1	0	1	0	1	1	1	1	0
	2014	1	0	1	0	1	1	1	1	0
	2015	1	0	1	0	1	1	1	1	0
	2016	1	0	1	0	1	1	1	1	0
	2017	1	0	1	0	1	1	1	1	0
	2018	1	0	1	0	1	1	1	1	0
	2019	1	0	1	0	1	1	1	1	0
	2020	1	0	1	0	1	1	1	1	0
	2021	1	0	1	0	1	1	1	1	0
	2022	1	0	1	0	1	1	1	1	0
	2023	1	0	1	0	1	1	1	1	0
SWE	2013	44	0	44	0	44	44	44	44	0
	2014	44	0	32	0	44	44	44	32	0
	2015	44	0	43	0	44	44	44	43	0
	2016	43	27	41	27	43	43	41	41	27
	2017	42	26	42	26	42	42	42	42	26
	2018	48	28	48	28	48	48	48	48	28
	2019	51	22	39	22	51	51	39	39	24
	2020	47	5	19	5	47	47	19	19	23
	2021	50	0	50	0	50	50	50	50	0
	2022	32	24	32	24	32	32	32	32	24
	2023	36	24	35	24	36	36	35	35	24

Source: Member States submissions to FDI data call 2024.

3.3.3 If GIS technical skills are available in the EWG, produce maps of effort and landings by c-square

Data and methods

The first step of the spatial data checks was to ensure that data are in the correct format and information provided is consistent across variables.

According to the FDI data call specification, spatial data on landings and effort (Tables H and I) must be submitted using one of the following notations:

- C-square code at 0.5x0.5 degree resolution, or:
- Latitude and longitude of the center of the rectangle together and its dimensions in decimal degrees:
  - *0.5*0.5,* corresponding to a c-square,
  - *0.5*1,* corresponding to an ICES rectangle,
  - *1*1* for ICCAT squares,
  - *5*5* for IOTC squares.

In order to account for the different geographical formats allowed, the geographical data validation process adopted last year was implemented and documented in a series of scripts made available to the experts during and after the working group. The geographical data validation process includes three basic checks:

a. Some countries provided records containing both the **c-square code and coordinates**, the validation routine checked the compliance of c-squares notation with the geographical coordinates submitted.
b. Other countries reported **only c-square notation**; these records were verified against a list of all valid 0.5x0.5 c-square codes.
c. A third type of check was applied on records that contained **only coordinates and the type of rectangle.** The validation routine for these records calculated the remainder of the division and verified that the coordinates indicated were the geographical center of the rectangle/square indicated in the rectangle type field.

The expert working group noticed that some of spatial checks developed over the last few years by EWG were included in the new data monitoring platform based on QLIK. Additional checks identified erroneous records that were misspecified (not global coordinates) or were land-based coordinates. To perform the point in polygon operation needed to identify points on land, the expert working group used the c-square data set indicating the type of c-square (sea, land, and coast) produced during EWG 21-12. The c-square dataset was enriched with information about the subregion level: area, sub area, division, subdivision and subunit and the corresponding label (e.g. 27.5.b.1.b).

Considering the volume and confidentiality of the data coupled with different level of aggregations needed for visual inspection, the expert working group recommends that the new data monitoring platform includes not only the spatial checks but also maps for on the spatial effort and spatial landings data. Visual inspection through mapping will facilitate EWG experts in identifying less evident spatial issues like swapped coordinates, points on land, sub regions and supra-region mismatch.

One c-square located on land for France was accepted after a clarification from the expert:

“France provides information in answer to FDI data call for the reference fleet population following the definition acted by the Commission decision 2016/1251 (any vessel registered on 31 December or which has fished at least one day in the year up to 31

*December) in order to have a comprehensive view of the fishing activity applied during the year. Among the vessels registered in the EU fishing fleet, some Mediterranean small-scale vessels have a partial fishing activity in lakes which consequently leads to provide fishing activity data located on land (at 0.5*0.5 degree resolution related to GFCM squares according to GFCM statistical grid) in table H & I. In agreement during the STECF working group, it was decided to keep such information in the data."*

Similarly, a c-square located on land for Croatia was accepted after a clarification from the expert:

*"Concerning spatial data, in previous years STECF recognized that Croatia provided records appearing as centroid of square M26E7, located on land (at 0.5*0.5-degree resolution related to GFCM squares according to GFCM statistical grid). This is not a case of misspecified geo-coordinates, but a special case according to the Croatian Marine Fisheries Act which defines the Delta of River Neretva as marine area, while this square is not recognized by GFCM and Annex 1 (Appendix 14) of the FDI data call. In agreement during the STECF working group, Croatia did not correct this data since it is in line with the national legal framework."*

The geographical data validation process highlighted an overall improved quality of the spatial data submitted with only 0.07% of invalid records for Table I and 0.04% invalid records for Table H. After the invalid records were omitted, the spatial data sets were created by aggregating the individual records of Table I and Table H at the following level:

Country, Year, Quarter, Major Gear types, Confidentiality, Specon, Sub region, Fishing zone, ICES Rectangle, value (effort/landings) and c-square code

The aggregated spatial landings and spatial effort data sets were utterly cleaned of all records where there was no indication of the sub-region, where the unit of measurement for landings was incorrect and when the combination of gear and mesh size range was not allocated to the gear classes described in ToR 3.4.b.

The expert working group recommends including additional checks on the correct combination of gear and mesh size range according to Appendix 6 of the data call.

Given that the spatial data submitted to the FDI database may have varying spatial resolutions (0.5x0.5, 0.5x1, 1x1, or 5x5 degrees), the methodology employed to visualize and disseminate the results standardizes all the data using a c-squares global grid with a resolution of 0.5x0.5 degrees. Coarser geographies, such as the 5x5 grid from IOTC, 1x1 from ICCAT, and 0.5x1 from ICES, are subdivided into their constituent c-squares at 0.5x0.5 degrees. The corresponding landings weight, landings value, and fishing effort are also allocated proportionally. The allocation of effort and landings follows a proportional apportionment approach, where the total values are distributed equally among the constituent 0.5x0.5 c-squares.

During the EWG 24-11, experts explored ways to improve the algorithm for allocating landings and effort to c-squares. The proposed improvements will consider cases where rectangles are on the borders of subregions or exclusive economic zones (EEZs), as well as those partially overlapping with land. Experts recommended continuing work on these refinements at the next methodology meeting.

Results

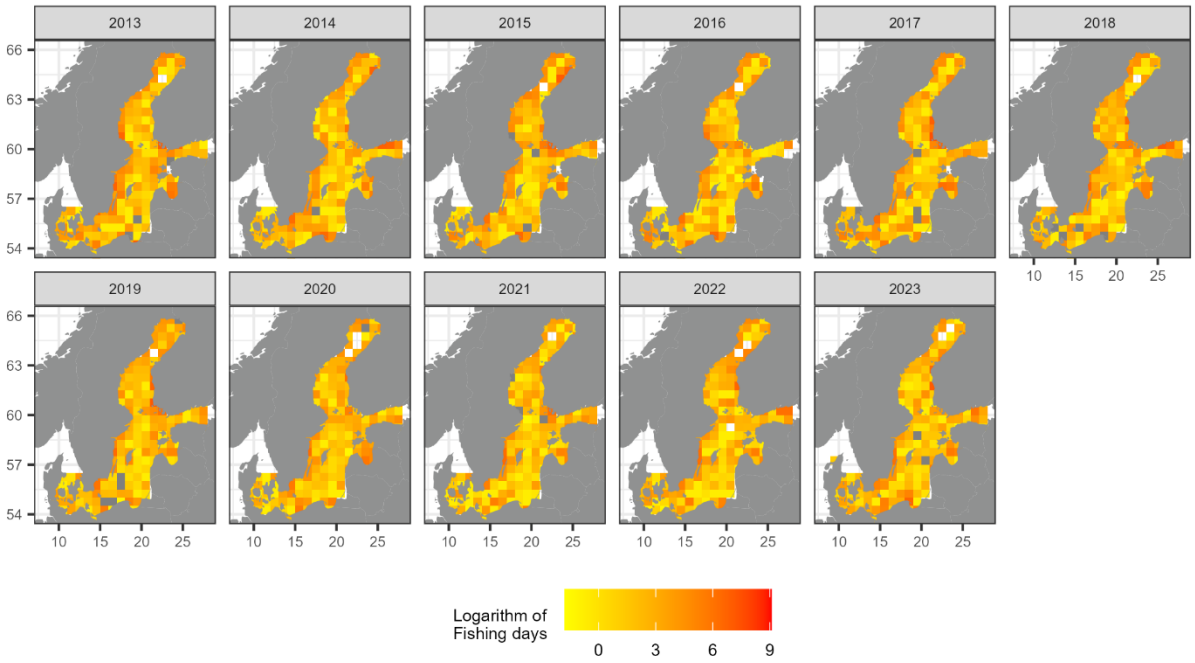
When viewing the results of spatial analysis, it is important to note that data submissions for the Mediterranean and Black Sea was mandatory for the years 2017-2023 but voluntary for 2013-2016. And UK data was provided for 2014-2020 only.

A comprehensive catalogue of maps depicting fishery-dependent spatial data is given in the Annex 4.

A selection of maps depicting effort by main Fishing Region are given in Figures 3.3.3.1 and 3.3.3.2 and by major gear type are given in Figures 3.3.3.3 and 3.3.3.4.

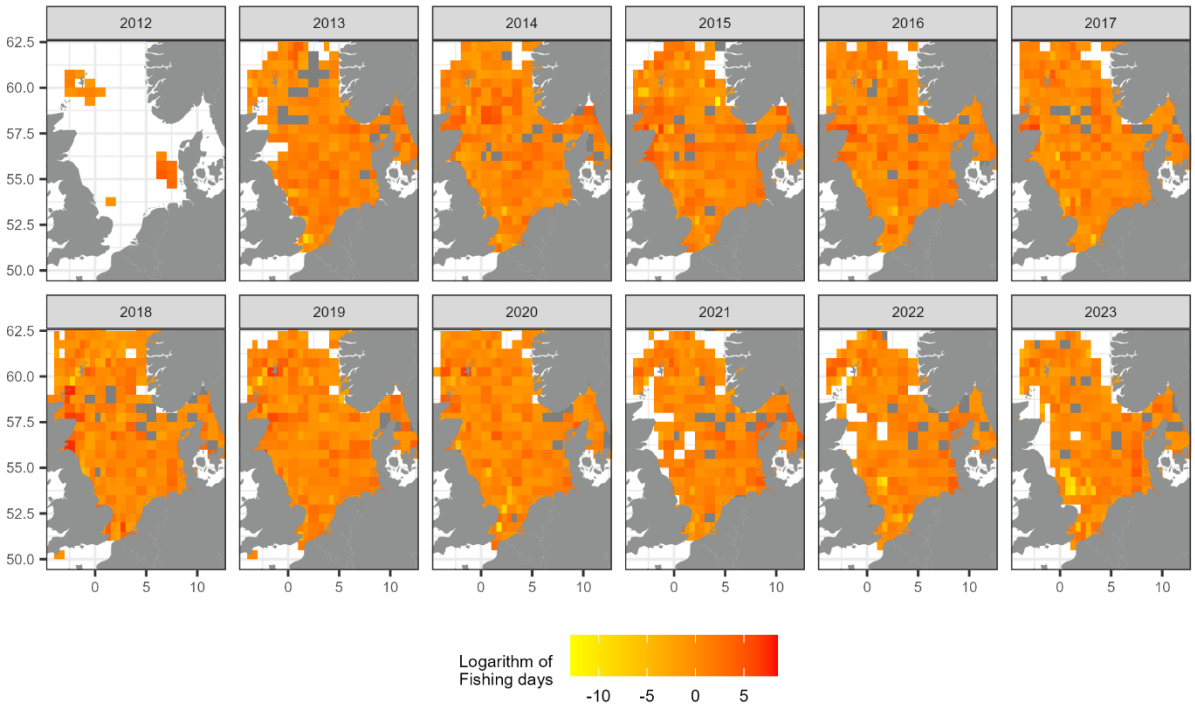
Figure 3.3.3.1. Spatial effort maps by main fishing region.

a) *Baltic Sea*



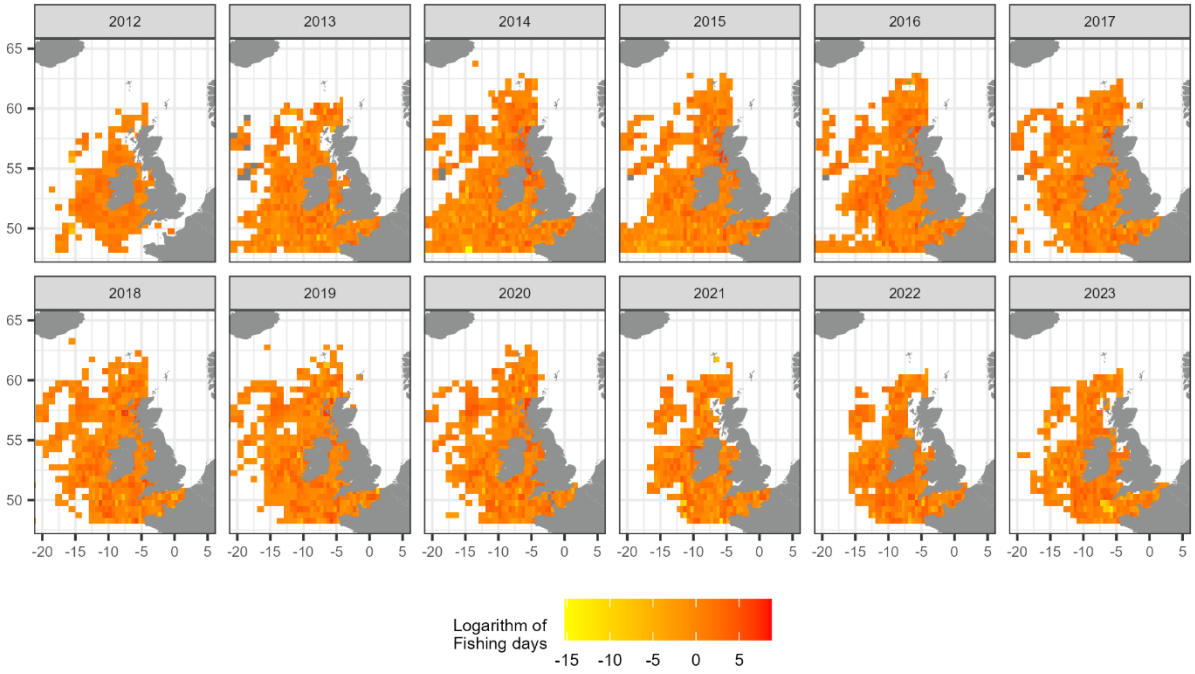
Source: Member States submissions to FDI data call 2024.

b) North Sea



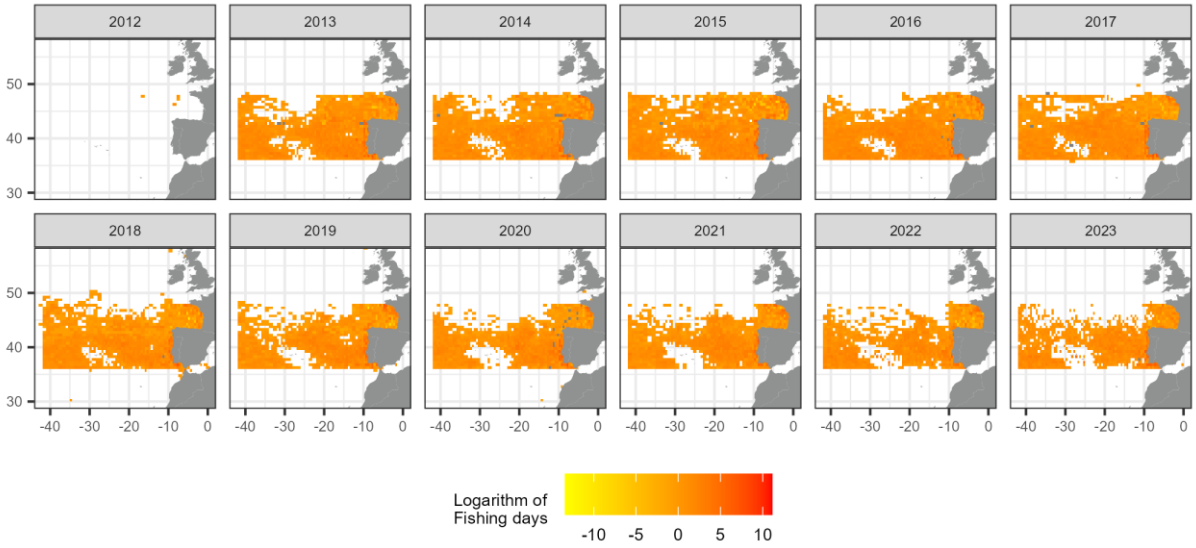
Source: Member States submissions to FDI data call 2024.

c) *North Western Waters*



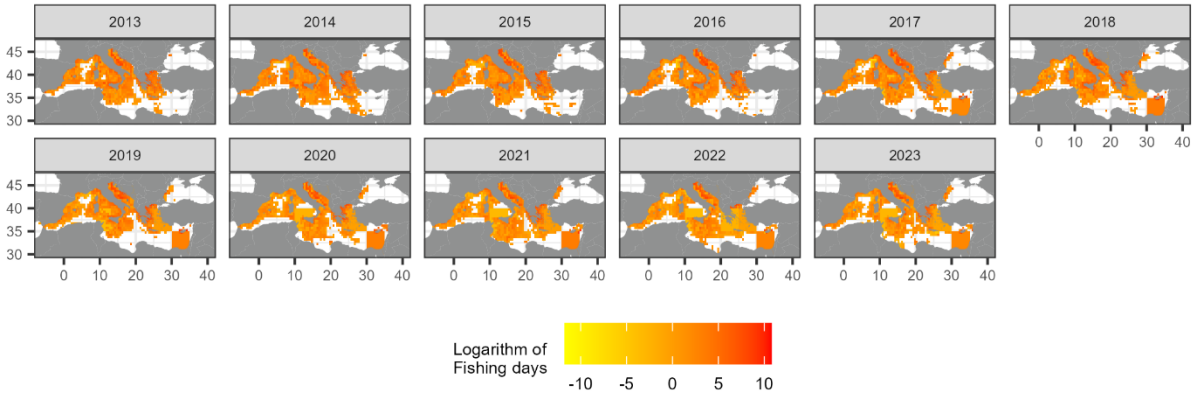
Source: Member States submissions to FDI data call 2024.

d) *South Western Waters*

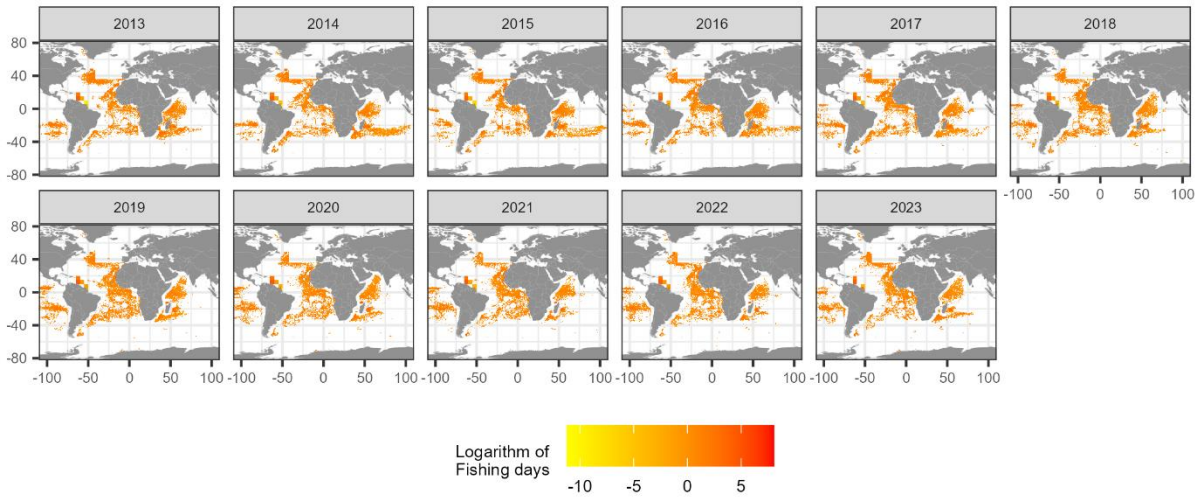


Source: Member States submissions to FDI data call 2024.

e) *Mediterranean and Black Sea*



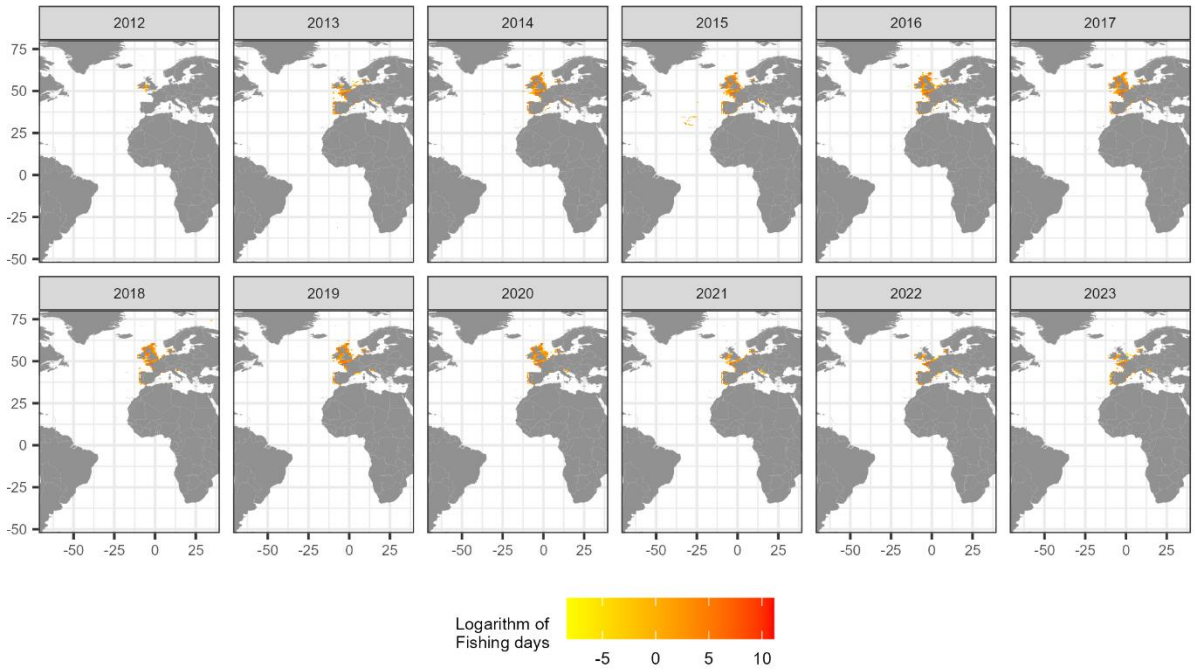
f) *Distant Waters*



Source: Member States submissions to FDI data call 2024.

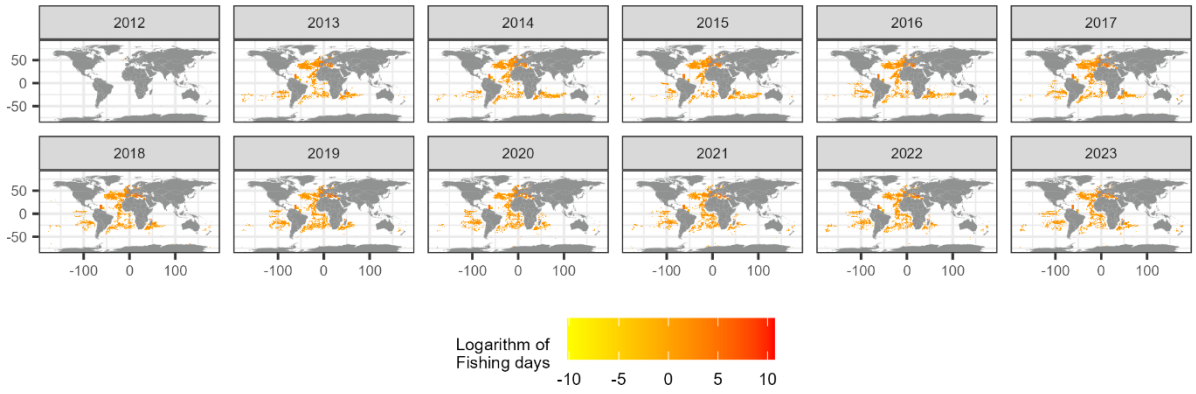
Figure 3.3.3.2. Spatial effort maps by major gear types.

a) Dredges



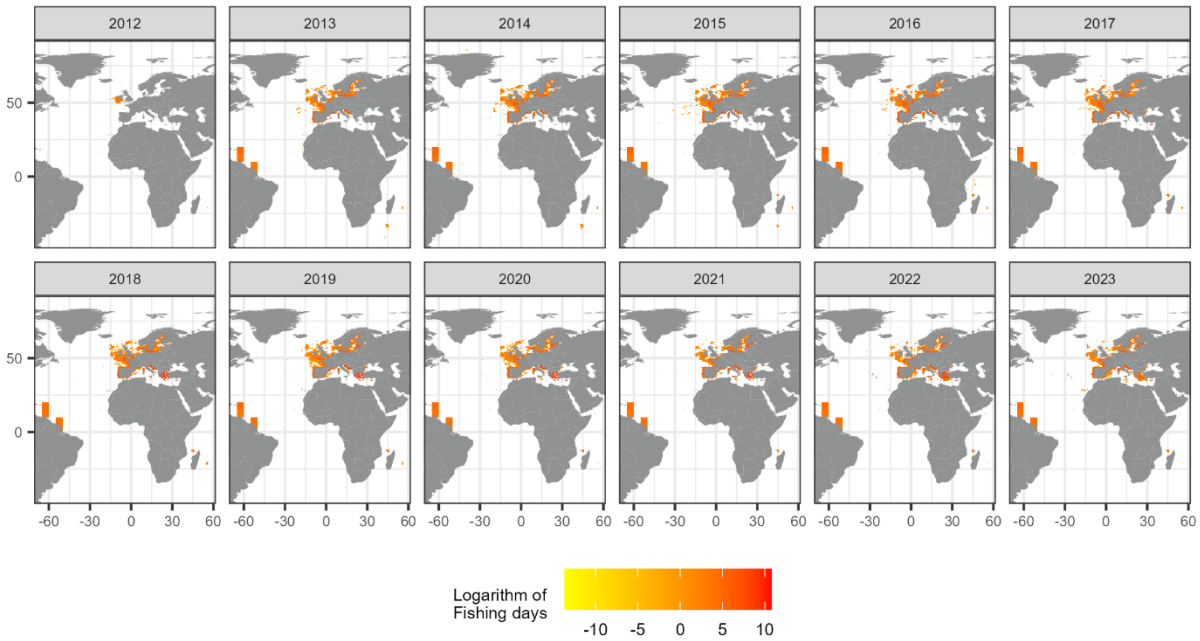
Source: Member States submissions to FDI data call 2024.

b) Hooks



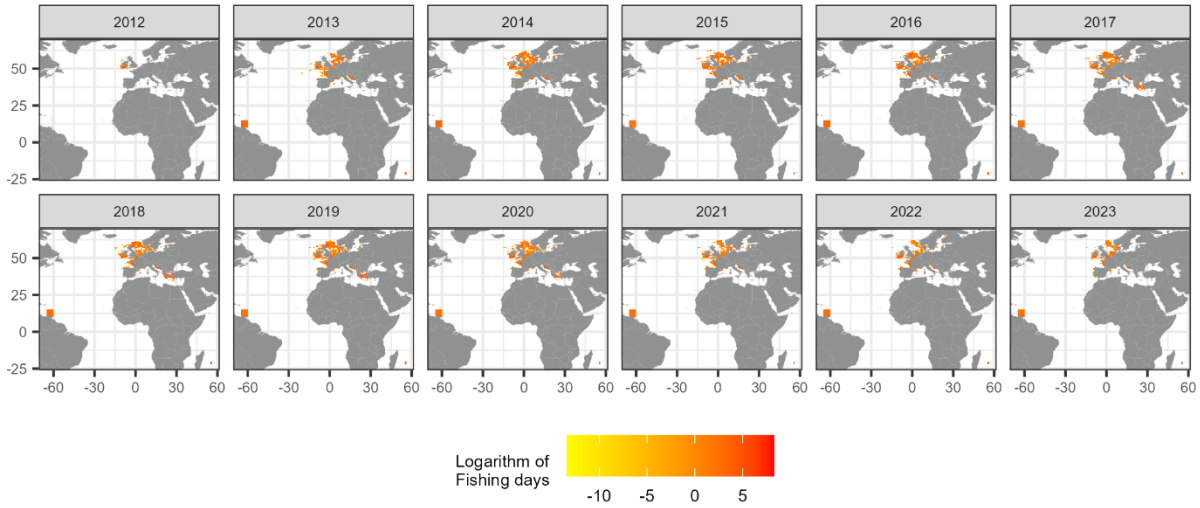
Source: Member States submissions to FDI data call 2024.

c) Nets



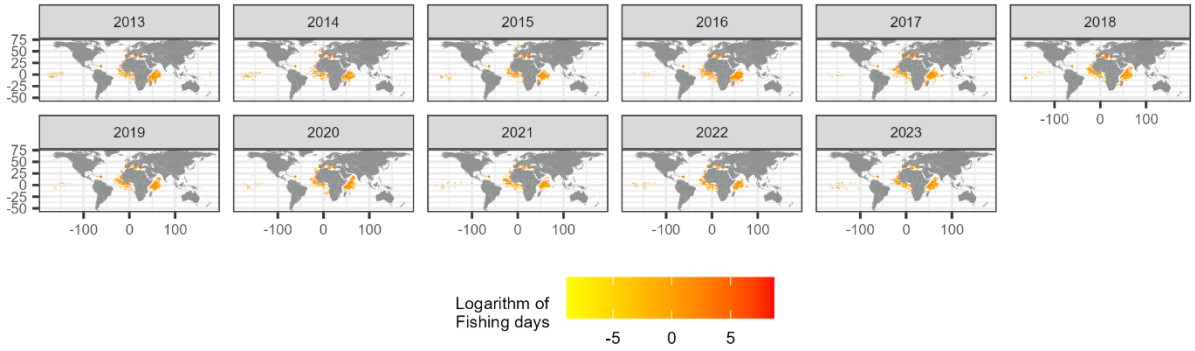
Source: Member States submissions to FDI data call 2024.

d) Seines



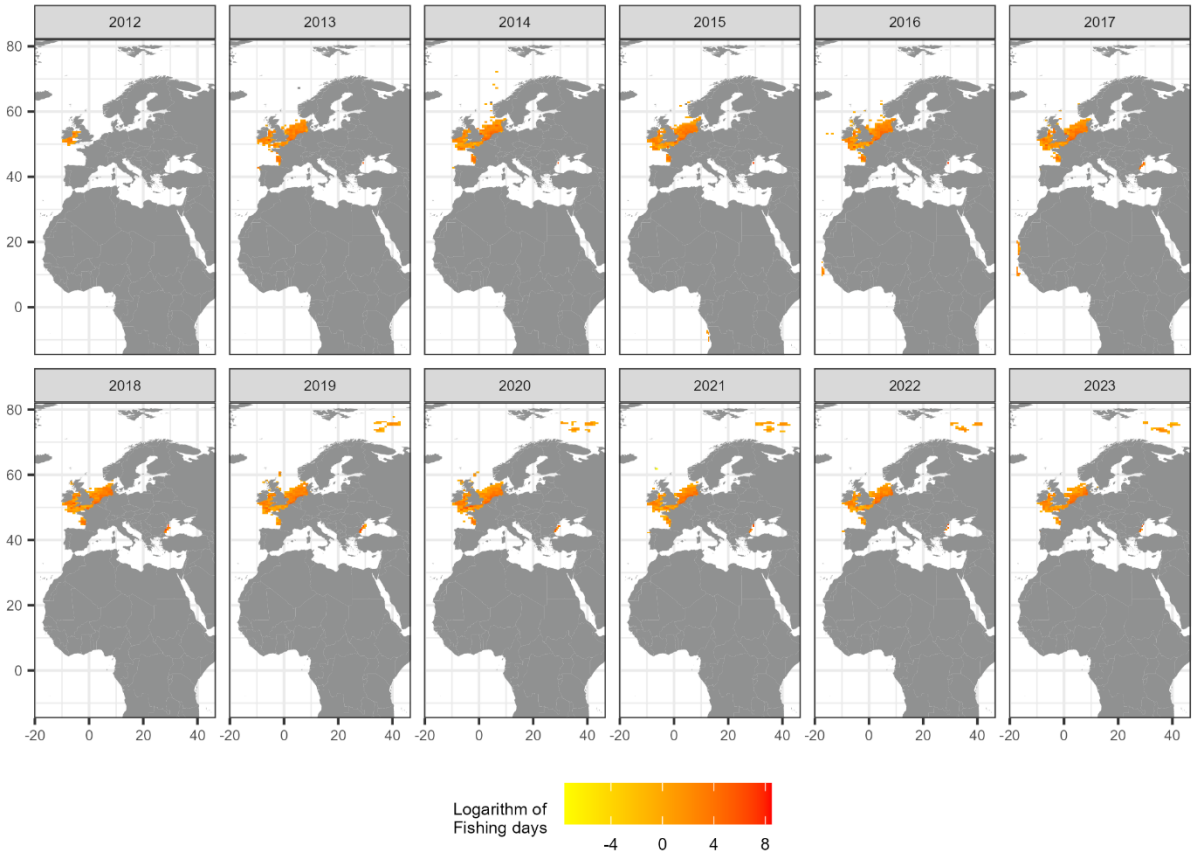
Source: Member States submissions to FDI data call 2024.

e) Surrounding nets



Source: Member States submissions to FDI data call 2024.

f) Beam trawlers with less than 120mm mesh size

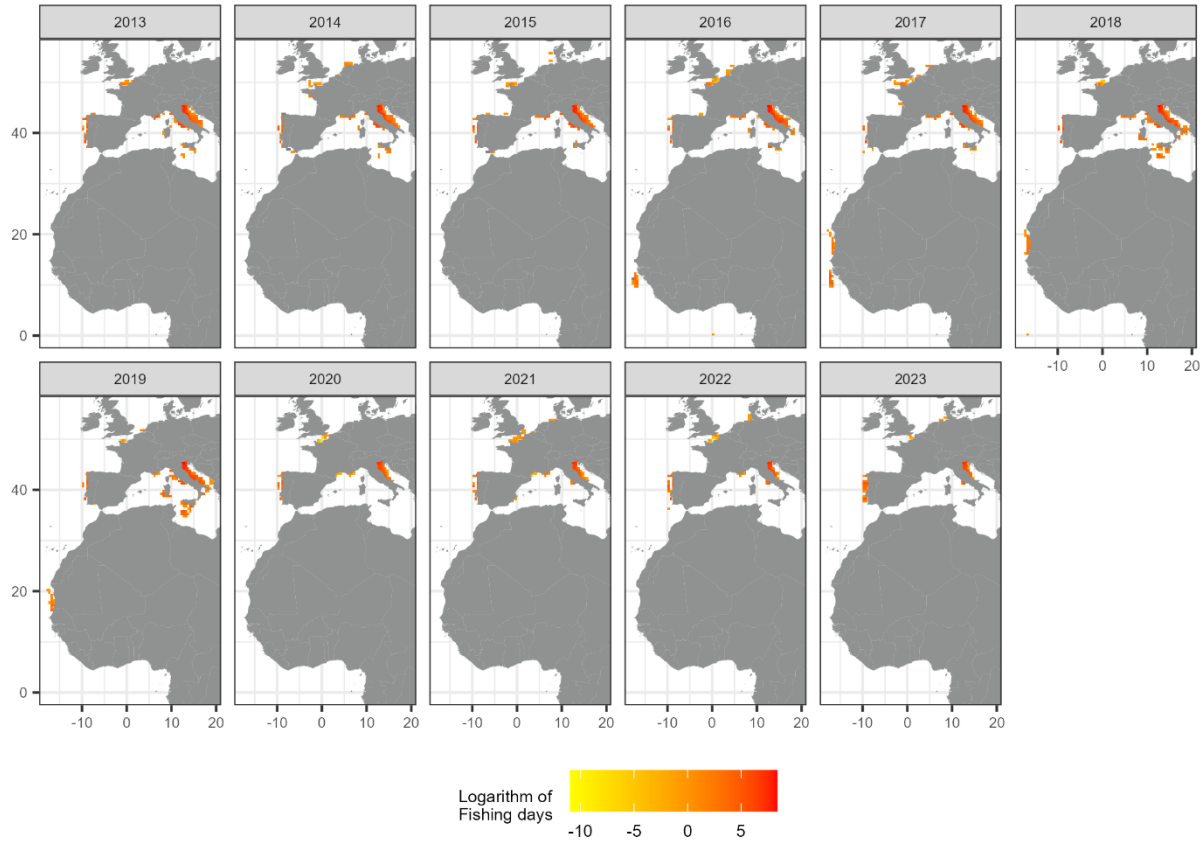


Source: Member States submissions to FDI data call 2024.

g) Beam trawlers with more than 120mm mesh size

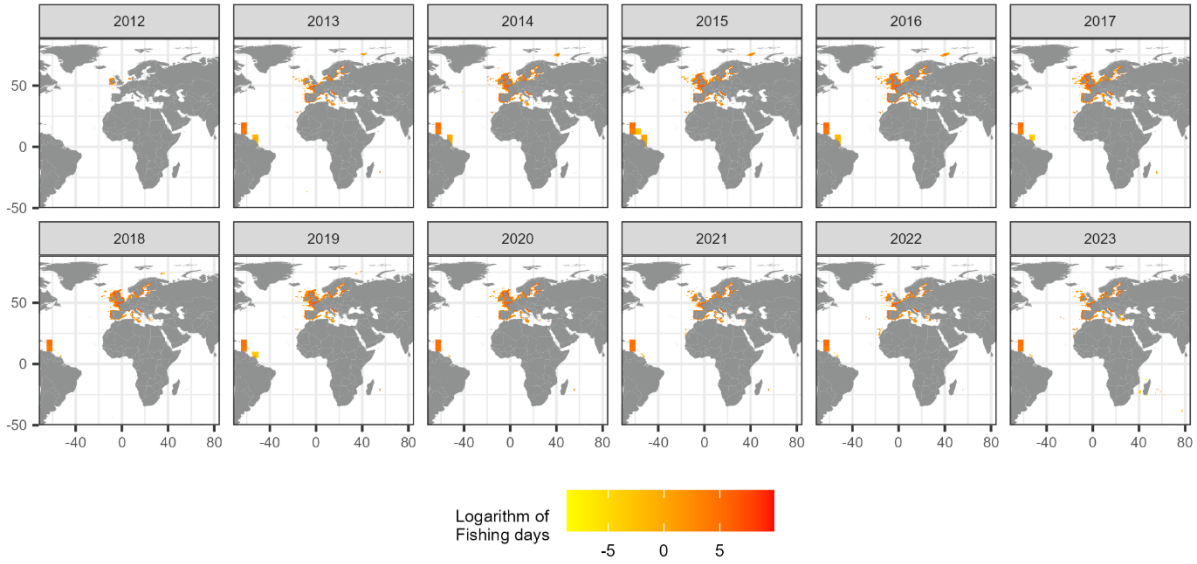
Source: Member States submissions to FDI data call 2024.

h) Beam trawlers with unknown mesh size



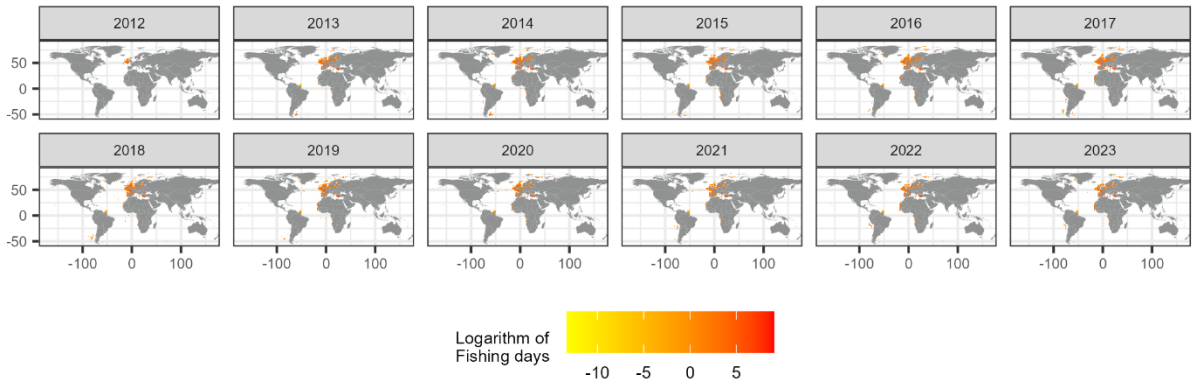
Source: Member States submissions to FDI data call 2024.

i) Traps



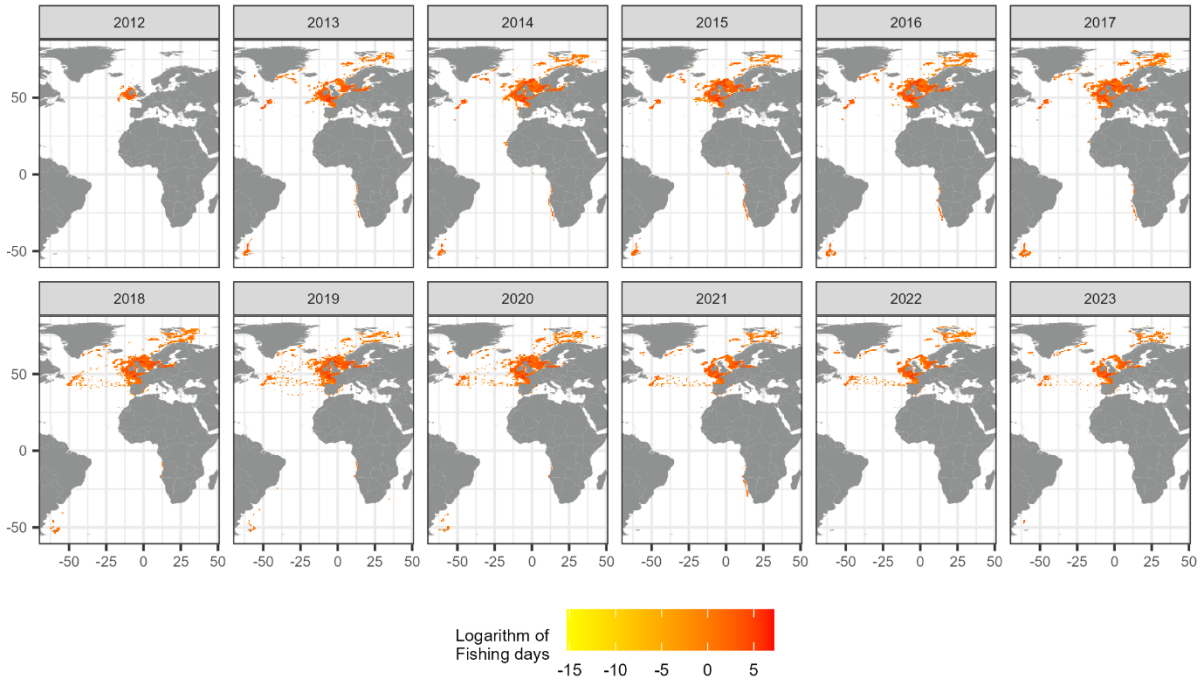
Source: Member States submissions to FDI data call 2024.

j) Trawlers with less than 100mm mesh size



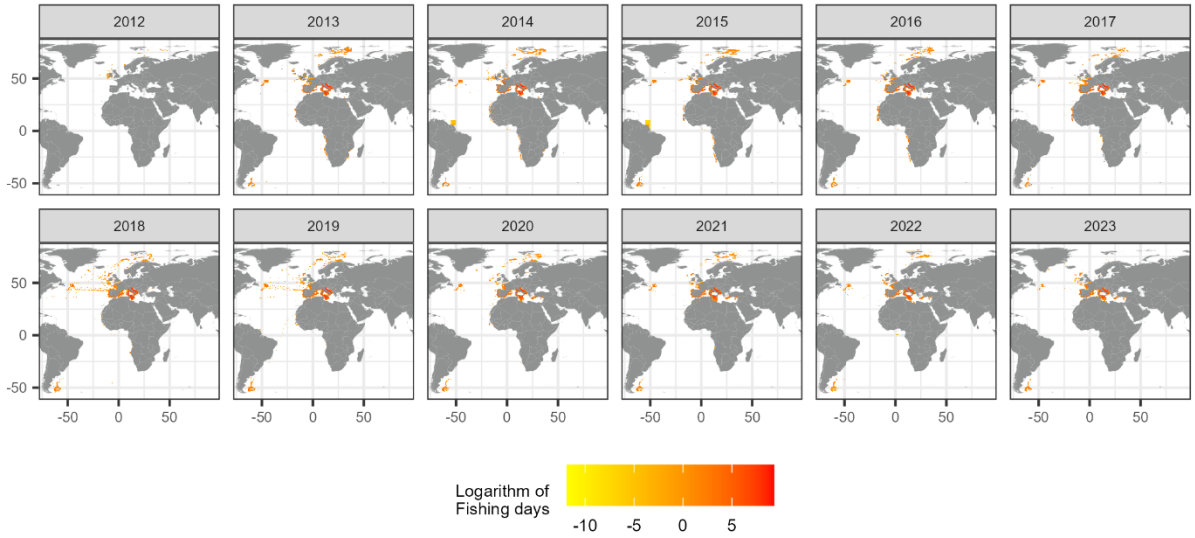
Source: Member States submissions to FDI data call 2024.

k) Trawlers with more than 100mm mesh size



Source: Member States submissions to FDI data call 2024.

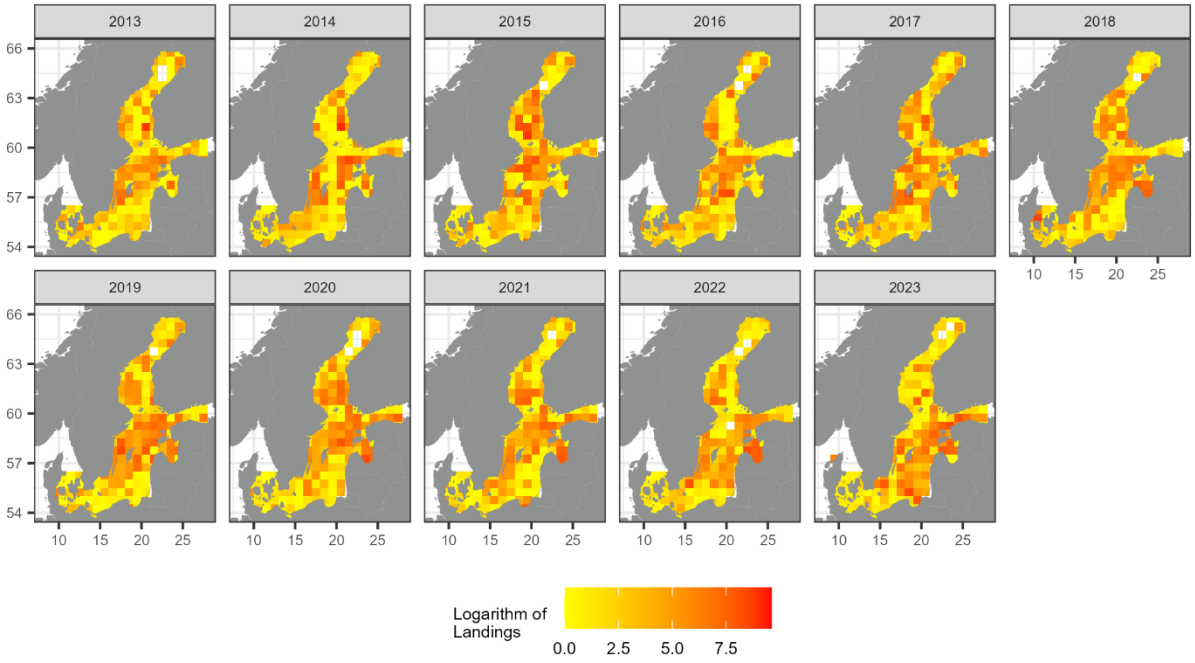
l) *Trawlers with unknown mesh size*



Source: Member States submissions to FDI data call 2024.

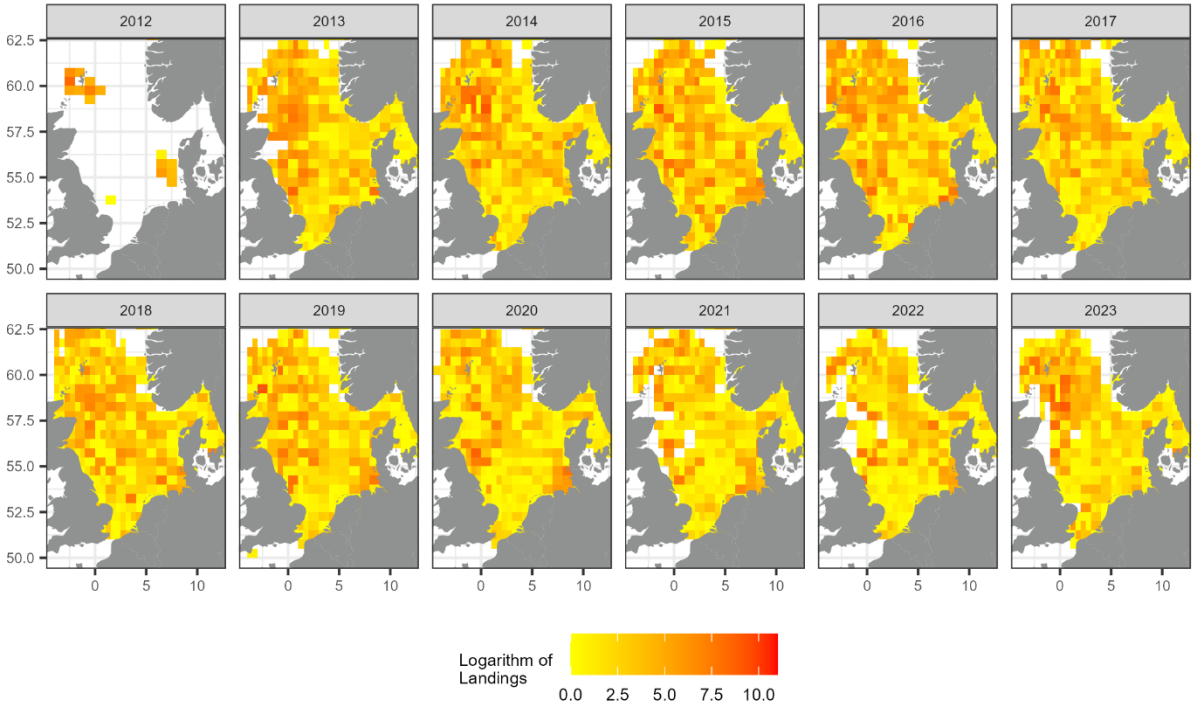
Figure 3.3.3.3. *Spatial landings maps by main fishing region.*

a) *Baltic Sea*



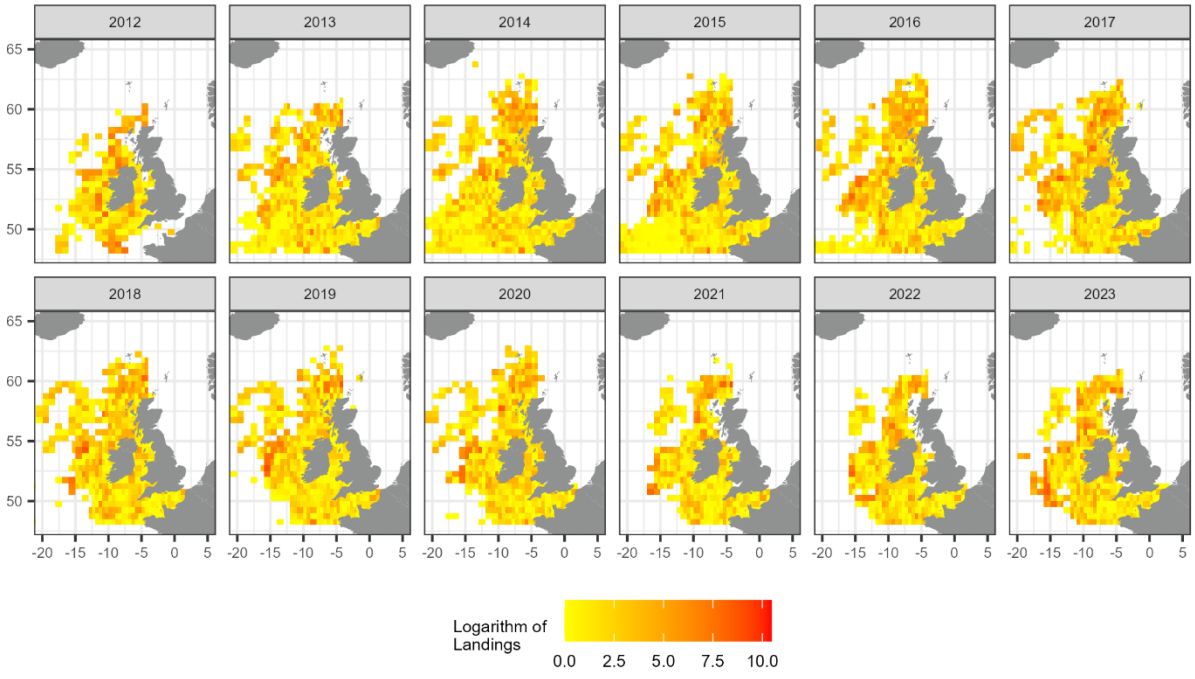
Source: Member States submissions to FDI data call 2024.

b) *North Sea*



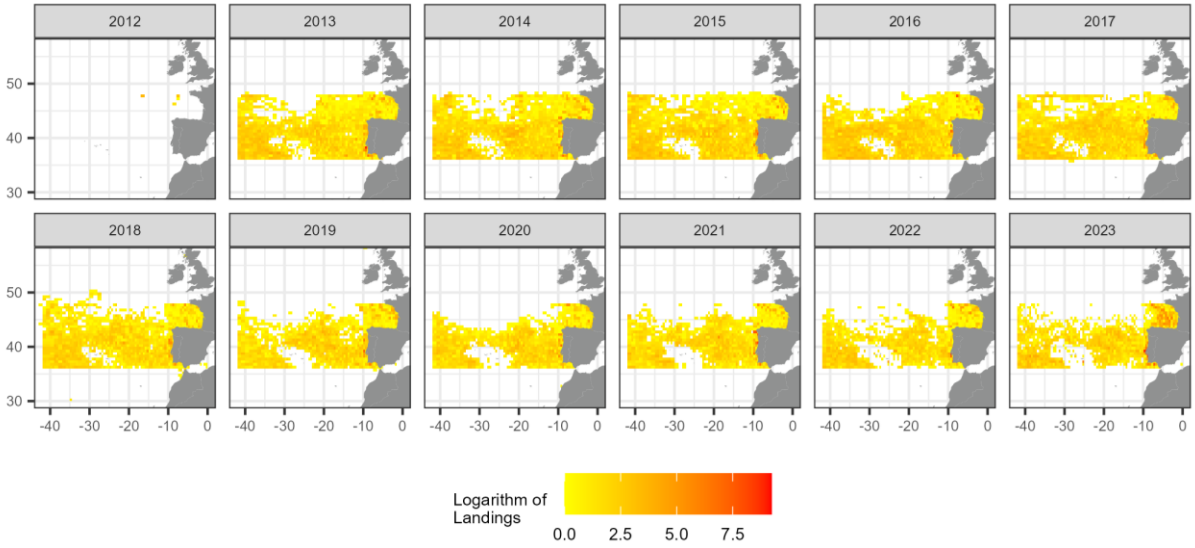
Source: Member States submissions to FDI data call 2024.

c) *North Western Waters*



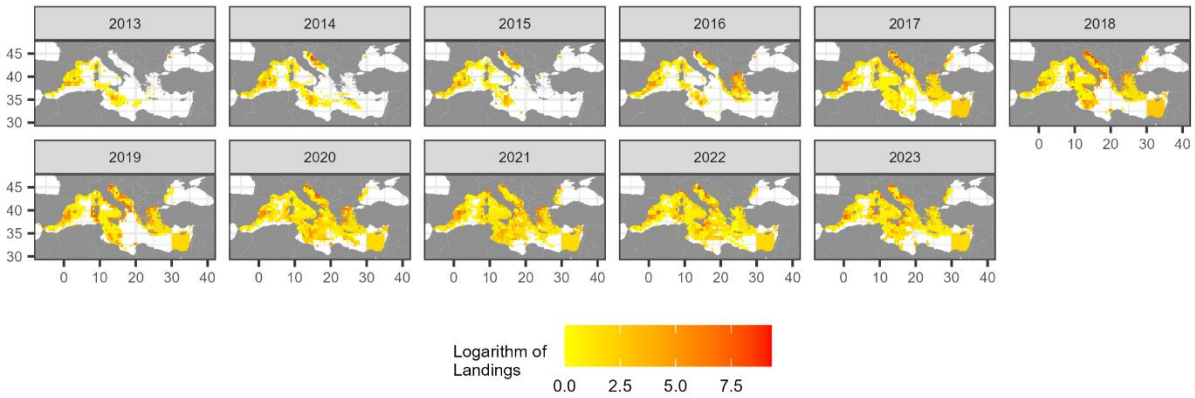
Source: Member States submissions to FDI data call 2024.

d) *South Western Waters*



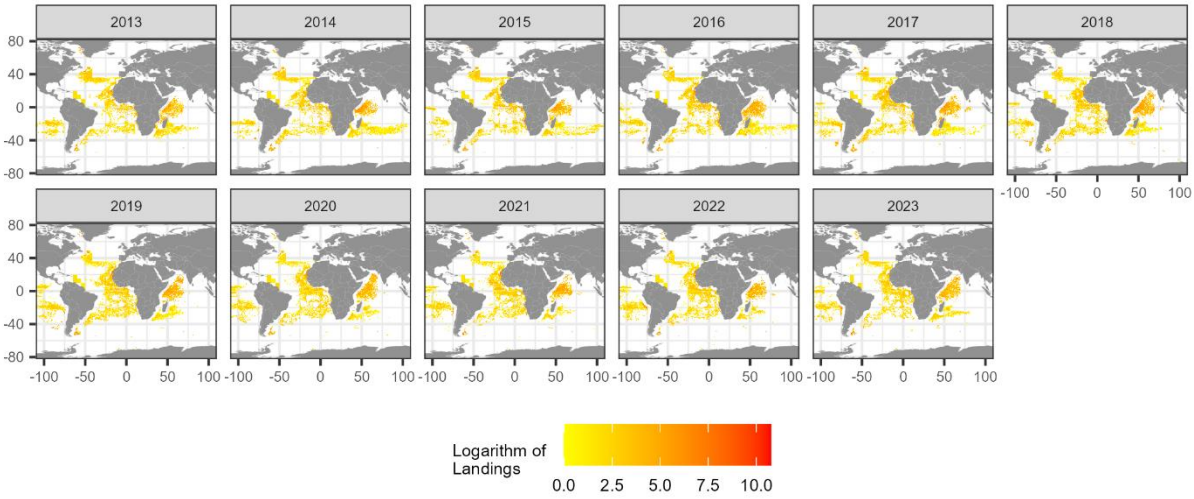
Source: Member States submissions to FDI data call 2024.

e) *Mediterranean and Black Sea*



Source: Member States submissions to FDI data call 2024.

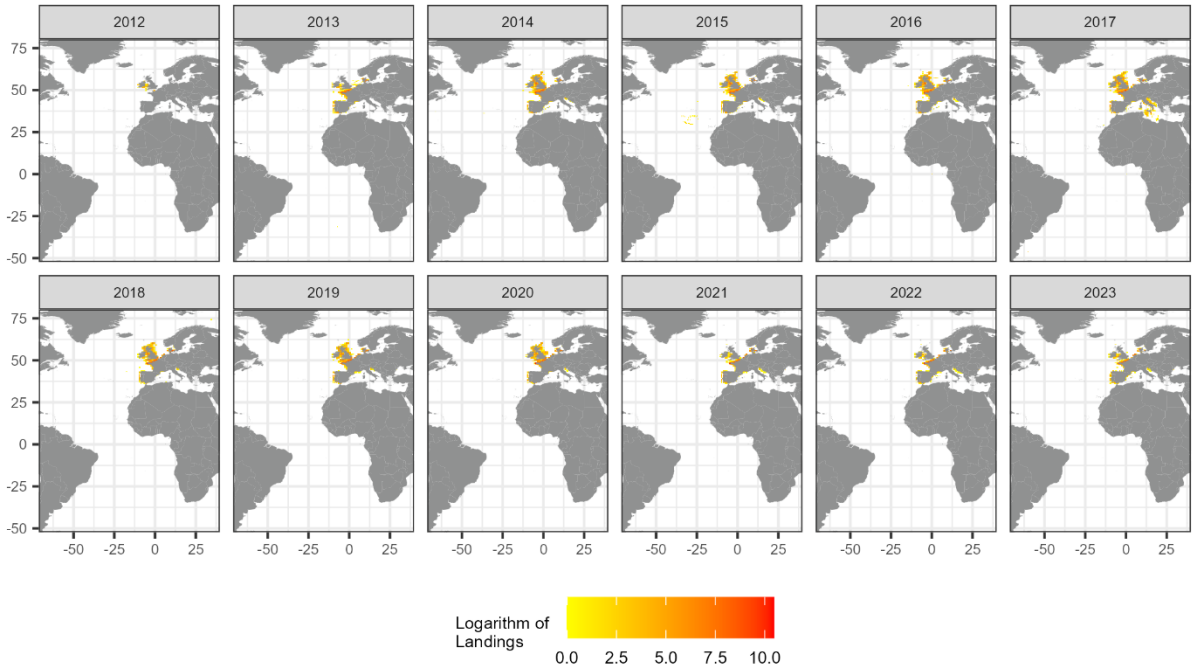
f) *Distant Waters*



Source: Member States submissions to FDI data call 2024.

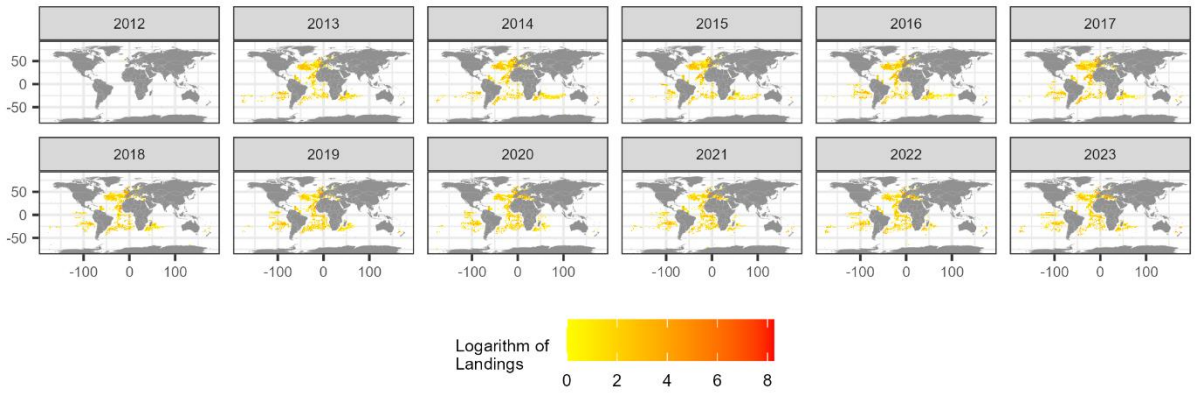
Figure 3.3.3.4. Spatial landings maps by main gear types.

a) Dredges



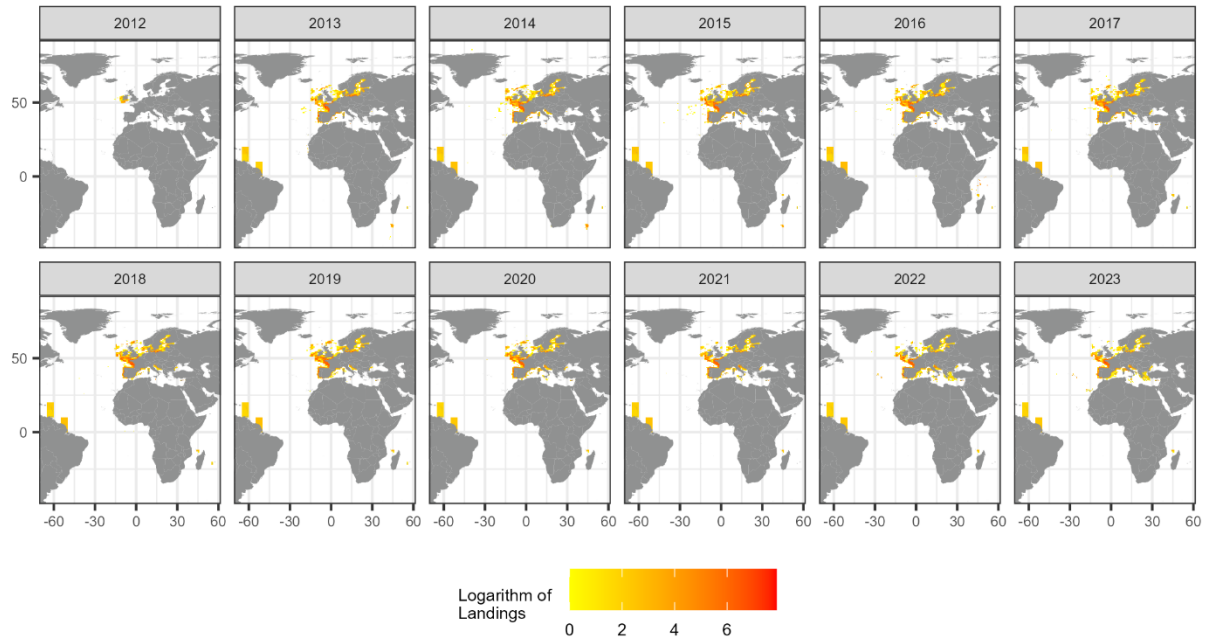
Source: Member States submissions to FDI data call 2024.

b) Hooks



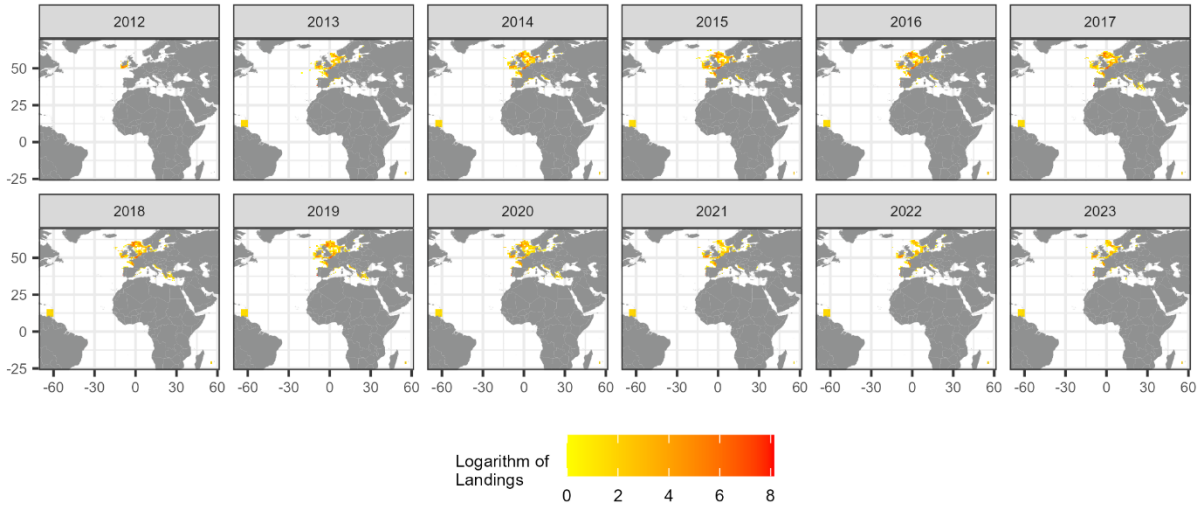
Source: Member States submissions to FDI data call 2024.

c) *Nets*



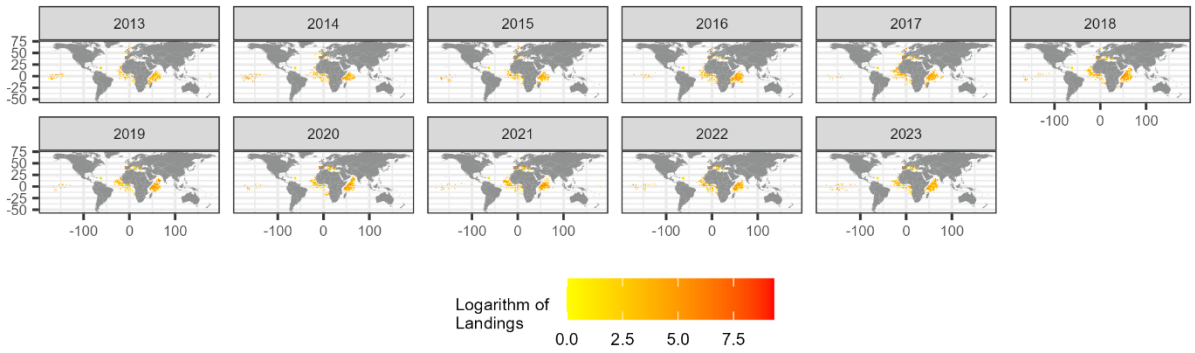
Source: Member States submissions to FDI data call 2024.

d) *Seines*



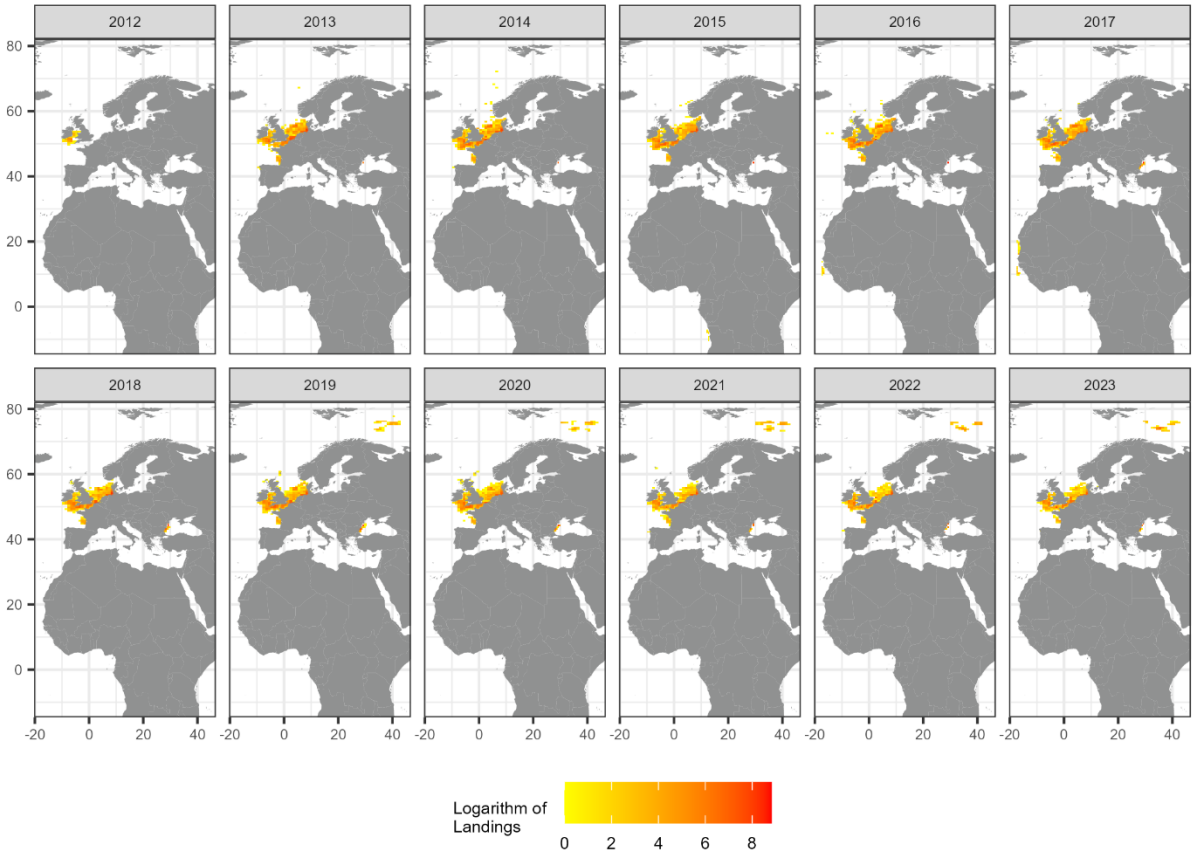
Source: Member States submissions to FDI data call 2024.

e) Surrounding nets



Source: Member States submissions to FDI data call 2024.

f) Beam trawlers with less than 120mm mesh size

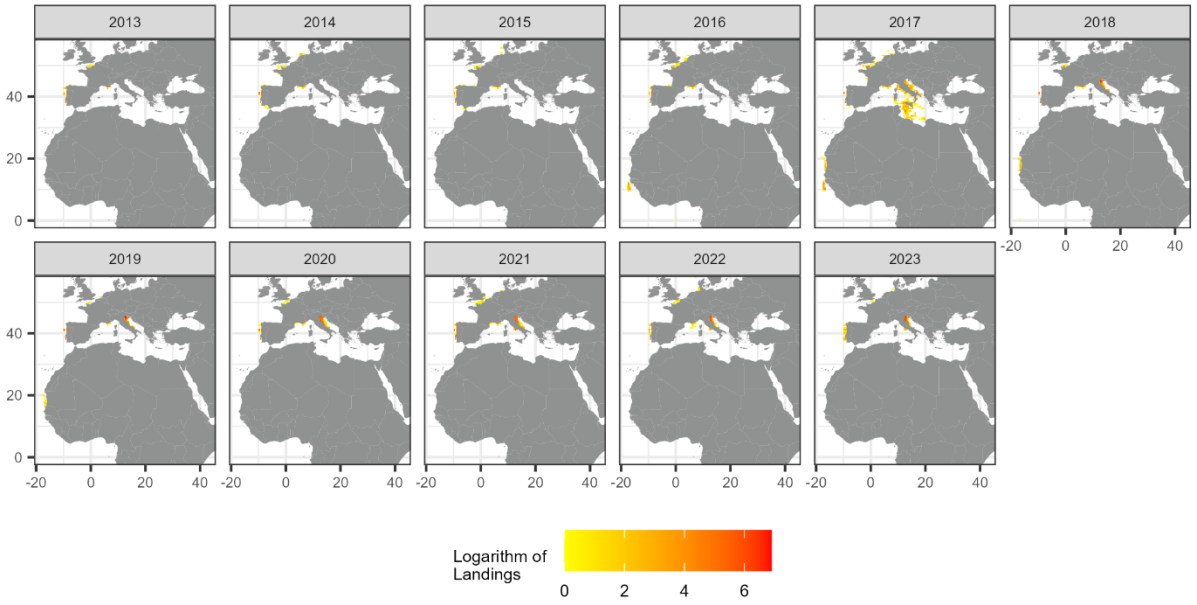


Source: Member States submissions to FDI data call 2024.

g) Beam trawlers with more than 120mm mesh size

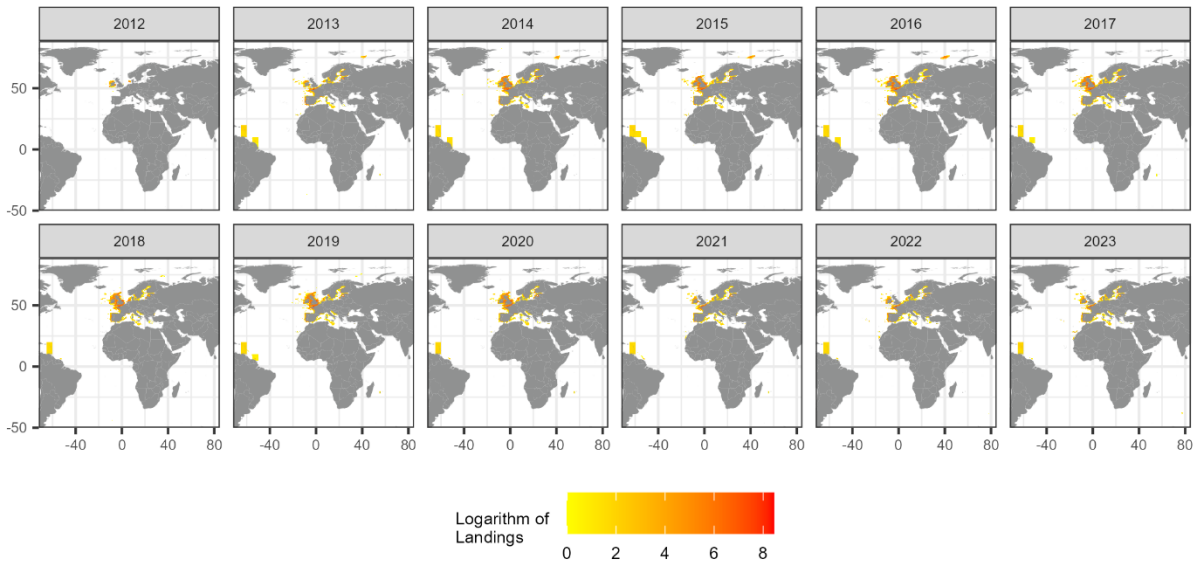
Source: Member States submissions to FDI data call 2024.

h) Beam trawlers with unknown mesh size



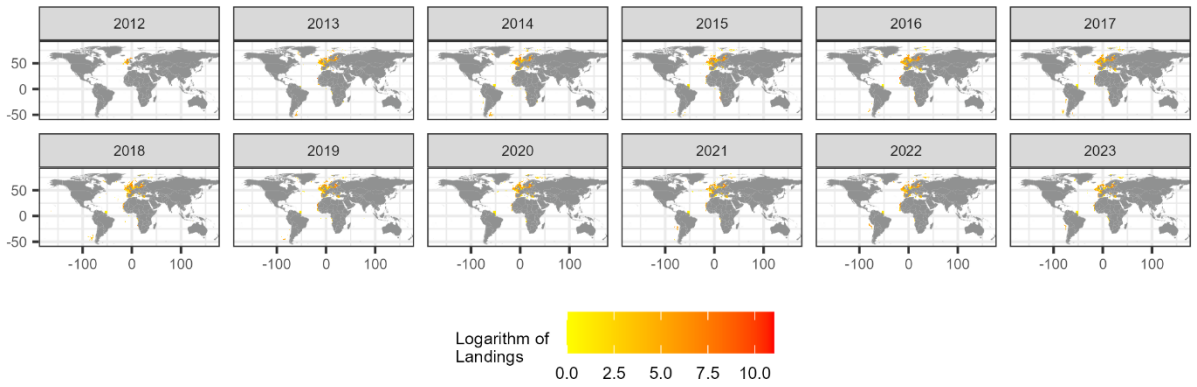
Source: Member States submissions to FDI data call 2024.

i) Traps



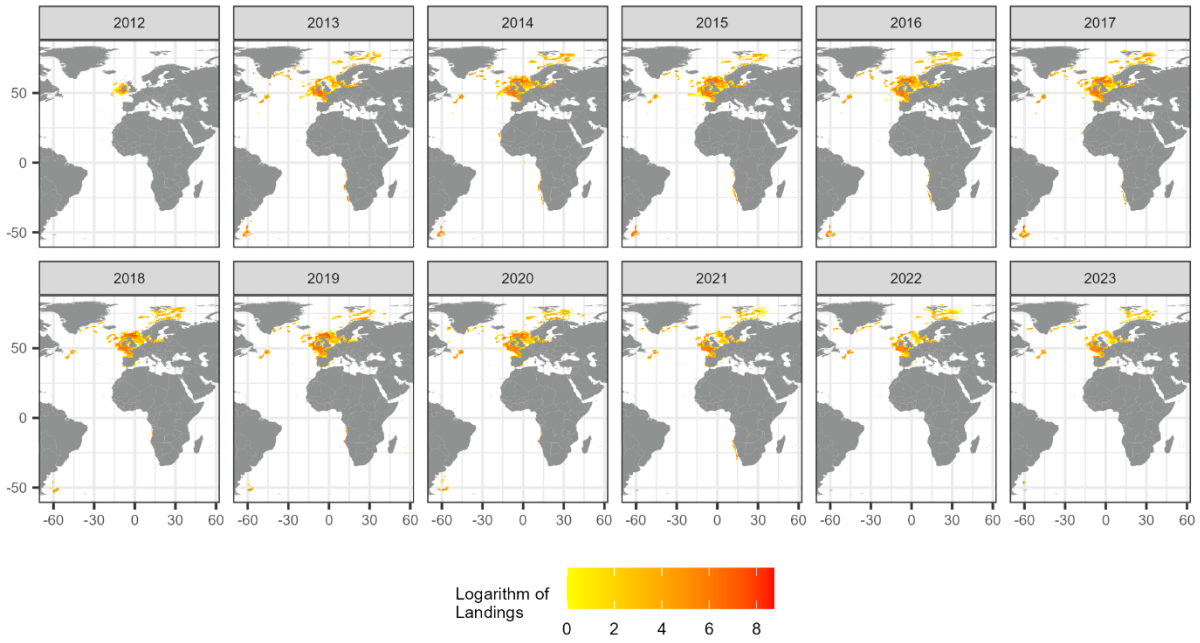
Source: Member States submissions to FDI data call 2024.

j) Trawlers with less than 100mm mesh size



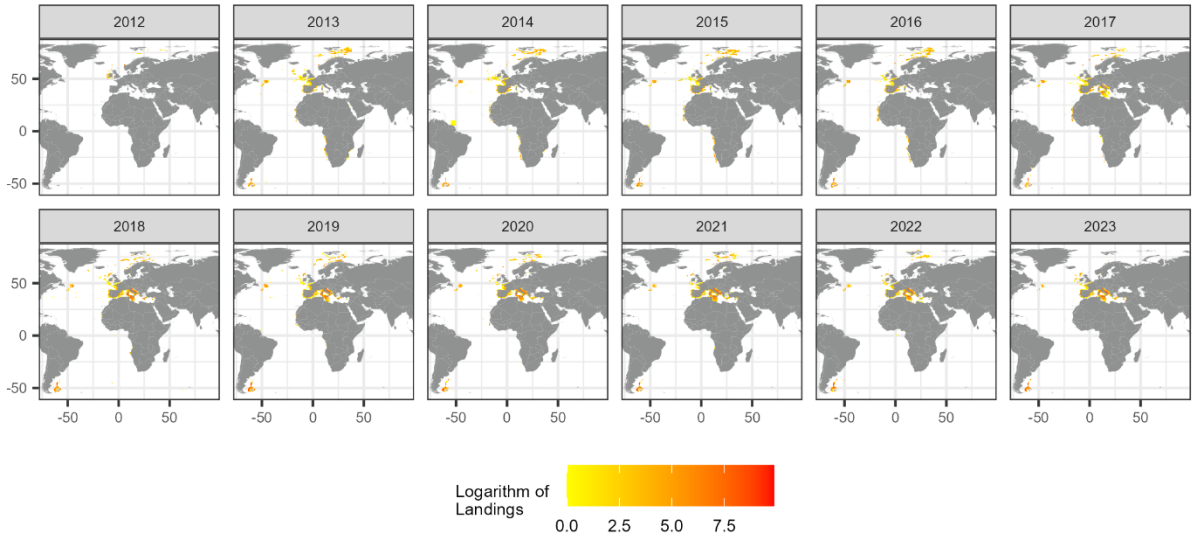
Source: Member States submissions to FDI data call 2024.

k) Trawlers with more than 100mm mesh size



Source: Member States submissions to FDI data call 2024.

l) Trawlers with unknown mesh size



Source: Member States submissions to FDI data call 2024.

Confidential data in spatial tables

Figures 3.3.3.5 and 3.3.3.6 below show the percentage of the data submitted in tables I and H that have been marked as confidential by region, gear type and year.

Figure 3.3.3.5. Percentage of effort (fishing days) from Table I (effort by rectangle) marked as confidential (red bars) and not confidential (green bars) by region, gear type and year for the period 2012-2023.

Source: Member States submissions to FDI data call 2024.

Figure 3.3.3.6. Percentage of landings weight from Table H (landings by rectangle) marked as confidential (red bars) and not confidential (green bars) by region, gear type and year for the period 2012-2023.

Source: Member States submissions to FDI data call 2024.

3.4 Discuss data submission results following recent changes in the data call and definitions, discuss further feasibility of other changes

3.4.1 Discuss changes in the AER fleet definitions and feasibility to add new fields to the FDI data call

The Workshop on harmonizing the AER and FDI data suggested by STECF EWG 23-10 was held on 11th and 14th of December 2023. The biologist, and economist data scientists who deal with national data collection and are responsible for the data submission for the AER and FDI data call were involved. The harmonisation of different approaches for data preparation in accordance with the EU MAP requirements, definitions and variables have been discussed.
The inconsistency between AER and FDI capacity templates were observed mainly in fields which are not mandatory for the submission but requested in the frame of AER data call:

- ACTIVITY: Activity level indicator: L = Low active; A = Active (normal and high). The purpose of this additional descriptor / level of fleet identification is to obtain more detailed economic performance estimates of heterogeneous fleet segments with respect to their annual activity levels (i.e., for fleet segments that have a significant part of the vessels operating with low activity levels).
- FISHERY: The Supra-region (NAO, MBS and OFR) which defines the predominant fishing area where a vessel/fleet segment operates can also be very broad in some cases. In fact, 'OFR' covers all the oceans, and it may be useful to distinguish/identify a group of vessels that operate under a specific fishery, RFMO or SFPA.
- GEAR: In some cases, the Fishing Technique is very broad, and it may be useful to distinguish a group of vessels that predominately or exclusively use a specific gear type.

These parameters are part of the clustered segments definitions reported by some MS (two MS applied activity indicator to allocate vessel to the segment in 2024 AER data call). The approach used by specific MSs for clustering in AER where activity level is used to differentiate between fleets and cluster names would be difficult for FDI to implement due to the need to change the data call format and provide two new codes associated with activity in the capacity template. The addition of any of the above indicators to the fleet/cluster definitions would require further disaggregation of data provided to FDI data call and will lead to increase of number of confidential records reported. Furthermore, any changes would require resubmission of FDI time series. And it would negatively impact the links with the other source of information used to provide data for FDI data call. To prevent the inconsistencies the workshop proposes MS to harmonize the preparation of data for data calls at national level. It implies the use of the same original basic fishery data for both data calls and handling missing value with a standardized calculation procedure.

Based on the outcomes of the Workshop on harmonizing the AER and FDI, EWG 24-11 observes that the recent changes in the AER data call format imply the inclusion of "activity level", "fishery" and "gear" dimensions, which serve to subdivide fleet segments into smaller units. While "activity" is primarily implemented for economic purposes within the AER, the "fishery" and "gear" dimensions are more connected to management purposes. However, all the mentioned changes affect the FS (fleet segment) name definition in the AER analysis, enabling economic analysis and calculation of balance indicators by smaller fleet units. The mentioned AER changes are not mandatory but optional and have only been used by a few MS (DEU, FRA, ESP) in the 2024 AER reporting. In fact only activity indicator was used so far, while gear and fishery indicators were not used at all.

EWG 24-11 considered the pros and cons as well as options applied to the FDI data call.

Table 3.4.1.1. Pros and cons of including additional AER fleet segment definitions in the FDI data call structure.

Options	Pros	Cons
Additions of new dimensions in the FDI data call.	Harmonization of fleet segmentation in both data calls, given that data is provided consistently by MS for the AER and FDI data call.	Significant effort is required by MS, JRC, RDBES and RDBFIS to change the FDI data call and databases formats. Further disaggregation of FDI data and increasing number of confidential cells. Potential inconsistencies between data calls and countries as level of activity can be defined differently at country level (e.g. using different thresholds of value of landings or effort).
Submission of historical FDI data according to new dimensions.	Harmonization of fleet segmentation in both data calls, given that data is provided consistently by MS for the AER and FDI data call.	Med&BS MS would be required to resubmit historical FDI data to the RDB FIS. Further disaggregation of FDI data and increasing number of confidential cells. Potential inconsistencies between data calls and countries as level of activity can be defined differently at country level (e.g. using different thresholds of value of landings or effort).
For the (optional) activity variable, MS can add *_L or *_A in the existing fishing techniques (e.g. DFN_L and DFN_A).	Less effort required, as there is no need to add more columns but only additional codes for fishing technique. Only few MS that use additional indicators could include it to FDI data aggregation, so no impact on other countries. Consistency between FDI and AER definitions	Activity is not actually related to the fishing technique, so it will probably be confusing for end users. Further disaggregation of FDI data and increasing number of confidential cells. Lack of communication and coordination at national level and not clearly defined activity indicator might introduce additional

Options	Pros	Cons
		inconsistencies in FDI and AER data reported.
Following the EU regulation by not allowing AER clustering to involve the activity variables for all MS. Therefore, exclusion of activity level from the name of cluster in all MSs and reporting it in separate column in AER capacity template.	No changes in FDI data call templates. MS which uses activity level to allocate vessel to a segment can keep historical data series for AER data call.	Changes in the capacity template for AER data call.

Source: Member States submissions to FDI data call 2024.

EWG 24-11 recalled that the RCG MED&BS recommended in 2024 that FDI data call format should not be changed, as this would require editing of data quality checking tools developed within QualiTrain project and the RDBFIS database. In case historical FDI data was changed, MS would be required to reupload all historical data to the RDBFIS and RDBES database as well, significantly increasing the reporting burden for MS. Both databases are under development now and included fleet segmentation definitions needed for FDI data call (supra region, fishing technique, vessel lenght and geo indicator). Any changes in the fleet segment definition would require MS to resubmit data to regional databases incorporating new additions.
EWG 24-11 considered that RCG ECON recommended in 2024 (Recommendation RCG_2024_R04) that MS continue the discussion at the national level to resolve the inconsistencies they face with FDI and AER data. In 2025, after AER and FDI data submissions, the STECF should check if there have been improvements in the consistency of data submitted to both data calls.
EWG 24-11 concluded that AER and FDI reporting depends on the definition of fleet segment implemented by each MS. According to the FDI data call specifications, MS should have the same approach and consistent reporting on fleet segments, including clusters.
EWG 24-11 considered that as there are only two MS currently implementing activity level approach, changing the FDI data call structure is not justified taking into account that the changes would affect all MS, JRC and regional databases.
Nevertheless, in order to improve the MS performance and minimise the discrepancies for the submitted data and decrease the number of the DT issues, the task of combining FDI and AER calls should be continued. The information submited in the capacity templates columns: VESSEL_LENGTH, FISHING_TECH, SUPRA_REGION, GEO_INDICATOR should be equal when reporting to both data calls. Effort and landings data for further economic analysis after MS national data submission should be extrapolated from the submitted information under FDI data call.
The current capacity templates for economic data call and related tables should be clarified and adjusted according to rules for clustering provided in Table 5.1 and Table 5.2 COM (EU) 2022/39 and clarification with clustering examples suggested by STECF for the economic data call:
https://datacollection.jrc.ec.europa.eu/documents/d/dcf/2024_fleeteco_important_notes

EWG 24-11 also notes that the MS WPs clustered segments do not include activity indicator in the names (WP table 5.1.; 5.2 'Segment or cluster name') and the activity indicator provided in a separate column in the WP. The same approach should be applied for the requested information in the frame of the Annual Economic Data call. If activity level will be separated from cluster (CLUSTER_NAME), it also allows to keep the time series.

EWG 24-11 concluded that the AER capacity template (map_capacity) could include separate column for activity indicator but this indicator should not be used to define cluster name. This will allow to combine FDI with AER costs and earnings data for bio-economic modelling and won't create more confidential lines in the FDI data sets.

The additional Terms of Reference could be addressed by future STECF EWG on FDI Methodology and RCG ECON where the following issue could be clarified:

- The use of information to be provided in the AER templates under the columns GEAR and FISHERY and how this information corresponds to the DCF definitions.
- Definition for the variable Value of Landings in FDI and AER data calls:

Data call	**Code**	**Variable group**	**Variable**	**Definition**
FDI	TOTVALLANDG			**Estimated** total value of the landings in euro
AER	*totlandginc*	Income	Gross Value of Landings	Value of landings **sold** during the year
AER	*totvallandg*	Production value per species	Value of landings per species	Value of landings per species

EWG 24-11 proposes to develop a protocol for any changes made in the data call templates where information about the new codes, variables, definitions and reason for introduction would be described. The protocol and the inclusion of new parameters to the data call template should be agreed at MS level and in cases it has a knock on effect on other data calls, the other groups that impacted should be consulted prior to implementation of the changes.

The EWG 24-11 notes that codes and definitions for requested information should be harmonised between FDI and AER data calls. The comparison between FDI and AER data effort and landing information can be checked when the data for AER are checked and analysed during the next meeing of EWG FDI Methodology in 2025.

3.4.2 Discuss changes requested by ICES RDBES

Currently, several FDI tables use the FAO 3-alpha code recorded in the SPECIES field, while the RDBES format requires AphiaID as a mandatory field and the corresponding FAO species code as an optional field. While aligning the two datasets is crucial, particularly with the aim of exporting FDI tables directly from RDBES in the future, RDBES is still in a transitional phase. Full implementation is expected by 2027, and exporting complete data from RDBES to FDI, including DOMAINS, will not be fully operational until then. Additionally, many AphiaIDs lack associated FAO codes, e.g. because of the taxonomic level does not match an FAO code or multiple AphiaIDs could potentially match an FAO code, which could pose challenges for countries in populating these new fields.

At the EWG 23-05 methodology meeting the feasibility of including the AphiaID from the WoRMS database and scientific names as two new fields in the FDI tables was discussed and the group agreed that it might be useful to include those columns as optional. During EWG 24-11, it was decided to delay the inclusion of these fields in the FDI tables. However, countries are encouraged to begin addressing this subject and identify any potential issues. EWG 24-11 recommends that this topic is discussed again during the FDI methodology meeting in 2027.

3.5 Access results of pilot IDs / Domain names submission to Med&Black Sea data call and discuss MS experience with the Med and Black Sea region data submission in 2024. Discuss development of RDBFIS – Integrated Fisheries Information System for the Mediterranean and Black Sea.

3.5.1 Access results of pilot IDs / Domain names submission to Med&Black Sea data call and discuss MS experience with the Med and Black Sea region data submission in 2024

Motivation for the work

It has been a long-standing goal to complete the coverage of the FDI database to include all European regions, and consequently reduce the number of data calls being requested. In 2020 the requirement for Mediterranean and Black Sea Member States to report age and length data (Table C, D, E and F) was dropped from the Fisheries Dependent Information (FDI)[1], on the basis that it is reported to the Mediterranean and Black Sea (MED & BS) data call[2].

As a result, this biological information (length and age) is no longer available in FDI for the Mediterranean and Black Sea Member States and the two data calls have diverged in development, with variations in the variables called by the two data calls. In particular, the Domain, which is the primary key used to link the biological data with the catch data in the FDI data call, does not currently exist in the MED & BS data call.

The objective of this ToR is to review the

1) Summary of DOMAIN purpose and value of the implementation.
2) Review the progress made on introducing the DOMAIN to the MED & BS data call in 2024.
3) Review the current structure of the MED & BS data call to identify possible structural differences with FDI that may create obstacles for aligning the data calls.
4) Explore use of RDBFIS to support this process.
5) Possible future pathways.

DOMAIN – summary of purpose and value of the implementation

Biological tables were introduced after the 'New FDI' data call in 2017 (Tables C, D, E, F). After the first attempt in 2017 during the new FDI data call to provide biological information (catch at age and length) as part of Table A, the new STECF EWG FDI agreed to separate Table A from biological data (C-F). It was also agreed in the following years to create consistent methodology that can be applied within FDI to partition biological data to catch data reported in Table A. These tables (C-F) provide scientific estimates of length and age

[1] https://dcf.ec.europa.eu/data-calls/fdi_en
[2] https://datacollection.jrc.ec.europa.eu/documents/d/dcf/mbs_annex-1-data-call-2024

structure, and discards patterns, of strata by Member States. To enable partitioning these biological tables, along with the catch table (Table A), are designed as a relational database, which are linked via a primary key called the 'Domain'. This primary key provides a tool by which Member States can define the most appropriate methodology to partition raised estimates across the fleet. When applied correctly the typology of the 'Domain' provides insight for the reader as to the aggregation level of the raising procedure, improving the accessibility of the data when disseminated, and ultimately increasing the utility for the end users.

The history of the development of the 'New FDI' data call structure and methodology for partitioning has been continuously discussed and refined since 2017, in both the main FDI meeting and methodology meetings (STECF 2017-2023). EWG 21-12 (STECF 2021) extensively reviewed Member States methods of partitioning discards and provides the basis for the method currently used and published as part of FDI methodology report in 2023 (EWG 23-05).

This development has been driven by concerns raised by EWGs dealing with the 'Old FDI' on the potential risk of automatic and black-box discards raising procedures providing unrealistic estimates. These concerns were well founded and documented. For example, in 2013 a summary of the reasons and magnitude for the discrepancies in discard estimates between the FDI database and ICES assessments (which involve more manual raising procedures for unsampled countries and métiers) was investigated (STECF 2013). This investigation found that although in some cases these discrepancies were limited, in situations where sampling was low these discrepancies could be more substantial resulting in a biased discard rate, either very high or very low.

Review the progress made on introducing the Domain to the MED & BS data call in 2024

Over the last 4 years several steps have been taken to increase the coverage of the FDI data set to include the biological data from the MED & BS. Initially the Compatibility between the FDI and MED & BS data sets was explored by EWG 21-10 who concluded that it was not technically feasible to transfer the biological data from the MED & BS data call directly into the FDI format/database (STECF 2021). This conclusion was then tested in 2023 when an ad-hoc contract was used to document the obstacles met when transferring the MED & BS data call to the FDI data format. On reviewing this ad-hoc, EWG 23-05 (STECF 2023) proposed the utilisation of the ID column in the MED & BS data call as a temporary location to test the submission of Domains by Member States.

EWG 24-11 reviewed the utilisation of the ID column in the submission of data to the MED & BS data call in 2024 to the Catch, Landing and Discard tables. This review found that in 2024 some MS supplied information ID's. Comparison the Domains submitted to FDI and MED & BS data calls indicates that the application and typology of Domain has not been applied consistently within or between the data calls, with MS providing varying numbers of unique Domains to each data call (Table 3.5.1.1), with those submitted to MED & BS frequently not following recommended typology (Table 3.5.1.2).

EWG 24-11 concluded that the quality of the data submitted to the ID column in 2024 was not suitable for linking the two data calls. Although the ID column was utilised, it is likely that data submitters did not fully understand what was being requested. Therefore EWG 24-11 have proposed text improvements to the FDI (Annex 1) and MED & BS (Annex 2) data calls to provide harmonisation and improve understanding. This would include the requirement to make Domain mandatory in MED & BS data call.

Table 3.5.1.1. Summary per country of unique Domains reported to MED & BS and FDI data call for catch, landings and discard records.

MS	MED & BS data call			FDI data call (Table A)	
	Catch	Landing	Discards	Discards	Landings
BGR	1	1	0	12	12
CYP	413	413	413	82	82
ESP	871	871	871	NK	NK
FRA	472	472	52	357	354
GRC	656	5,114	1,033	139	139
HRV	1,086	1,085	1,074	NK	NK
ITA	2,221	3,250	155	NK	NK
MLT	139	146	0	2,582	2,582
ROU	76	76	76	278	278
SVN	619	608	619	625	625

Source: Member States submissions to FDI data call 2024.

Table 3.5.1.2. Examples of Domains reported to the ID column in MED & BS as data call for some.

id	country	year	quarter	vessel_lengt	gear	mesh_size_r	fishery	area	specon	species
CYP20234GNSGSA 25BOG	CYP	2023	4	NA	GNS	40D50	DEF	GSA 25	NA	BOG
ESP20234VL1218GNSNADEFGSA1	ESP	2023	4	VL1218	GNS	NA	DEF	GSA 1	DISNOTARG	CTC
FRA_2023_4_VL1824_OTB_40D50_DEF_GSA 7_NA	FRA	2023	4	VL1824	OTB	40D50	DEF	GSA 7	NA	HKE
GRC20234GNSVL0006DEFGSA 22PAC	GRC	2023	4	VL0006	GNS	NA	DEF	GSA 22	-1	PAC
ITA20234OTB50D100MDDGSA 9	ITA	2023	4	NA	OTB	50D100	MDD	GSA 9	NA	GFB
HRV_2023_4_OTB_0_0_0_DPS	HRV	2023	4	NA	OTB	40SXX	DEF	GSA 17	-1	DPS
MLT20234LLSNADEFGSA 15	MLT	2023	4	VL0006	LLS	NA	DEF	GSA 15	-1	RPG
ROU20234VL2440OTM14D16MPDGSA29	ROU	2023	4	VL2440	OTM	14D16	MPD	GSA 29	NA	WHG
SVN20234GNSVL000616D20DEFGSA17ANN	SVN	2023	4	VL0006	GNS	16D20	DEF	GSA 17	NA	ANN

Source: Member States submissions to FDI data call 2024.

Review the current structure of the MED & BS data call to identify possible structural differences with FDI that may create obstacles for aligning the data call

The variables used to build the Domain in the FDI data call are available in the MED & BS data call. However, the data reported to these variables may differ slightly and may require some minor harmonisation in the future to provide complete consistency. Such harmonisation may eventually require a workshop to share understanding and propose changes to:

- **Target assemblage:** The 'Fishery Codes' reported to MED & BS is considered the equivalent of the 'Target Assemblage' in FDI are more varied than what is currently provided to answer the FDI data call. This may just require harmonisation and expansion of the available code list in FDI.
- **Specon-Tech:** Stands for 'Specific condition Landings Obligation', and is reported to each FDI so that it would be possible to record separately effort and catch fractions of vessels-species combinations enjoying exemptions (de-minimis, high survivability). Although this variable appears in both data calls it is not treated the same way. In FDI this variable has a restricted list from which the data submitter can submit. However, for the MED & BS data call this is a free text column, resulting in inconsistent information. To harmonise and increase utility of this variable a defined list of Specon-Tech would have to be created for the MED & BS.

- **Area specification:** The Area and Supra Region list in FDI will have to be expanded to accommodate the MED & BS areas, and the MED & BS will have to report area without space between GSA and number (i.e. “GSA 7”), as this can lead to quality issues for database management in the future.
- **List of species: FDI requests all species landed by a MS to be reported, this would increase the number of species being reported by** MED & BS which currently work off a limited list. The move to FDI would also facilitate the MED & BS to submit data on tuna, which they can only currently submit to ICCAT.
- **Domain landings and Domain discards:** Alignment of the two data calls would require the addition of 2 columns for Domain in the MED & BS data call, the Domain_Landings and Domain_Discards. These domains can differ as they may be sampled and/or raised differently.

Proposed changes to data calls

Proposed changes to the FDI data call

Old text:

"Appendix 8: Domain definition

A domain refers to the group of vessels used to calculate estimates (discards, numbers at age, and numbers at length). The domain may or may not be equivalent to a métier.

Domain definitions are likely to be very country specific, but the following format for their presentation to this data call is requested in the interest of obtaining the maximum information possible (on the constitution of the domain) from the name itself."

Proposed new text:

"Appendix 8: Domain definition

A domain refers to the auxiliary variables used describe the raising procedure used to calculate estimates (discards, numbers at age, and numbers at length). The domain may or may not be equivalent to a métier.

Domain definitions are likely to be very country specific, but the following format for their presentation to this data call is requested in the interest of obtaining the maximum information possible (on the constitution of the domain) from the name itself."

Proposals for MED & BS data call

To further progress the alignment of the data calls, the EWG proposes that the following is requested in the 2025 MED & BS data call:

- ID column be renamed as DOMAIN
- This DOMAIN column is mandatory for Member Sates supply a domain that reflects the raising procedure implemented by the MS. BUT should be flexible
- This is defined in data call appendix and in the letter
- An appendix matching FDI exactly, is provided to define DOMIAN, with refences to FDI data call
- FDI would review progress

3.5.2 Discuss development of RDBFIS – Integrated Fisheries Information System for the Mediterranean and Black Sea

During the EWG the Regional *Database for the Mediterranean and Black Seas* (RDBFIS) has been presented by the coordinator of RDBFIS project. Aim of the project is the development of a web-based fisheries information system for the Mediterranean and Black Seas. The key points of the presentation are summarized as follows:

- RDBFIS is a centralized database system that hosts aggregated DCR/DCF datasets including MEDITS, MEDIAS & BS surveys as well as detailed biological data;
- Common syntax and consistency subsystems ensure data quality;
- A “Processing” package supports the creation of datacalls;
- Additional components such as spatial effort & landings for SSF, fleet analysis, data entry forms for stomach contents, alien species, etc., are integrated into the system;
- Synergies with ICES/RDBES and QualiTrain have been established to ensure compatibility and facilitate updates;
- The activity “populate the system with historical data” is considering crucial for RDBFIS, the response of the Med&BS MSs was significantly high, with the majority of requested MEDITS datasets already inserted; detailed biological data are expected to be added before the end of 2024; the MEDIAS data call is ongoing;
- A straightforward process for uploading data to RDBFIS was presented, consisting of three steps: syntax check (based on a strict validation scheme), consistency check (quality control routines), uploading/updating the RDBFIS;
- The integration of MEDIAS database (including acoustics, pelagic trawl, CTD) within the RDBFIS considered a major achievement; the validation scheme is complete, while consistency checks and processing procedures are ongoing; the structure for the Eggs & Larvae database has been created, and an update by the MEDIAS experts is expected;
- For MEDITS, the BioIndex package has been integrated into the system, and updated versions of RoME and RoMEBS have replaced the old ones;
- The AER reported data is included and a validation scheme has been developed; synergies with the JRC aim to develop consistency checks, while processing routines to estimate various economic indicators are currently in development;
- Fleet Analysis: an open access dynamic tool has been developed to illustrate the evolution of the fleet dynamics in Europe; potential links with data on the landings, discards and value information (FDI Table A) are being explored;
- FDI: quality checks on FDI spatial data (Table H & Table I) have been integrated, thanks to Maurizio Gibin, Maciej Adamowicz and Maksims Kovsars;
- Stomach contents data entry form is available adopting the structures of Med&BS and ICES;
- The investigation into “how the RDBFIS can contribute to MSFD” has been completed; discussions with the Med&BS MSs regarding the raising procedures are ongoing.

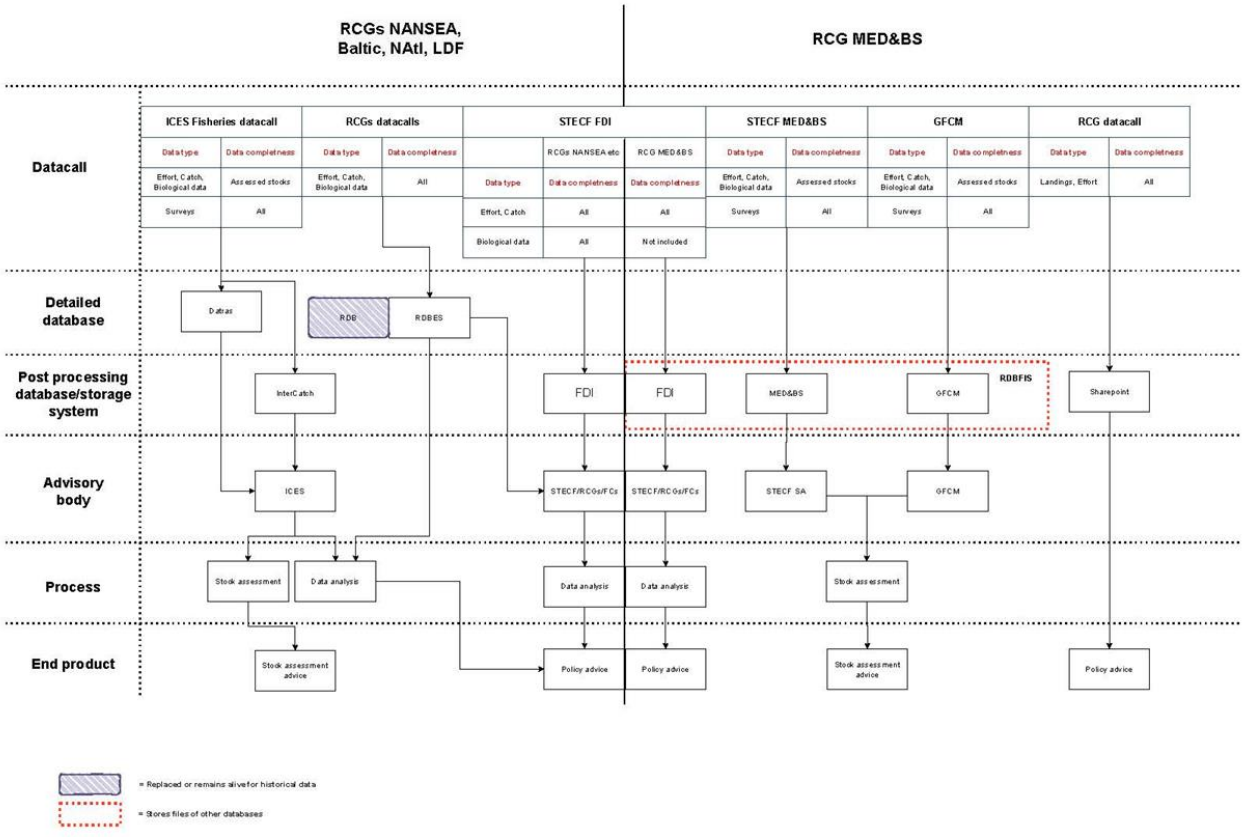
An R package for the estimation of spatial effort, weight, and value of landings for small-scale fisheries in data-limited cases (i.e., vessels with a length overall < 12 meters) was also presented. This package utilizes a Multi-Criteria Decision Analysis (MCDA) approach and includes scripts/demos that can be run locally to facilitate the main procedures, such as preparing environmental and anthropogenic data, and data from the EU fleet register that are

used to estimate a proxy for fishing effort. A component of this tool will be integrated with RDBFIS. This integration supports the estimation of fishing effort and landings in the format of tables H and I. The package will enable users to use the MCDA-generated proxy of fishing effort, combine it with tables A and G (as submitted in the data call), integrate outcomes from species distribution modeling, estimate spatial effort, landings, and value by fishing rectangle as well as in finer resolution and produce maps.

EWG 24-11 concluded that as a database and raising platform there is no reason why RDBFIS could not be used to raise data to report to FDI. However, the RDBFIS model presented has only one sampling hierarchy, which could limit the raising procedures when answering complex data calls such as FDI.

EWG 24-11 noted that RDBFIS and RDBES are developing in parallel and in the future may both be used to respond to FDI data call, and reduce the workload on MS's and data submitters. Figure 3.5.2.1 provides a summary overview of where this process currently stands and how the RDBES and RDBFIS may ultimately filter into this process. The only limitation identified by EWG 24-11 participants was that of the limited sampling hierarchies available in RDBFIS. RDBES has multiple sampling hierarchies to support the multiple forms of sampling.

Figure 3.5.2.1. Overview of workflow currently followed in EU linking the data calls with databases, expert working groups and end products.



Source: Member States submissions to FDI data call 2024.

3.5.3 Conclusions

EWG 24-11 reviewed the feasibility of using the MED & BS data call to populate the FDI, and concluded that in its current format it was not possible to achieve this goal.

EWG 24-11 proposed some to the FDI and MED & BS data call to provide harmonisation and a better understanding of what a Domain is.

EWG 24-11 recognise the importance of RDBES and RDBFIS as a tool to feed into FDI, improving quality of data and transparency of raising procedures, ultimately reducing workloads on data submitters.

EWG 24-11 produced a summary table of possible options to incorporating MED & BS biological data in the FDI and achieve full coverage (Table 3.5.3.1). This table outline some of the perceived benefits and challenges associated with each option, and the longer-term implications.

EWG 24-11 would like to emphasise that to achieve complete coverage in FDI database requires outreach to RCG's, data submitters and data users understand the importance and uses of a complete FDI database. But more importantly that they understand what and how to use the Domain variable as a primary key.

Table 3.5.3.1. Potential options discussed by EWG 24-11 for gaining full coverage in FDI database through inclusion of MED & BS data call.

Option	No. of data calls	Structural Change Required	Pro	Con	Timeframe	Long term Impacts
Crude Domain Match (where we are)	2 data calls	One column to change (not add) in MED & BS data call: turning ID to mandatory DOMAIN	- Easily achieved - Provide crude match	- Labour intensive - Will never be complete - Incomplete coverage in FDI database - Will never follow standards of FDI database	2025 MED & BS data call	Will never provide total complete FDI database and will limit future work and research
Domain Match	2 data calls	At minimum 2 new columns needed in MED & BS	- Medium effort - Provide crude match	- Will require structural change to MED&BS data call - Will never be complete (missing quality indicators that provided to FDI)	2025 MED & BS data call	Will never provide total complete FDI database and will limit future work and research
Complete data call merge	1 data call (1 year overlap with 2 data calls, & workshops)	4 new bespoke biological tables in FDI to support MED & BS	- Complete database - Quality control meeting (specific for data only) - Full dissemination for all regions and all sampling results - Only 1 data call	- Will require commitment in time and effort - Workshop will be required - Changing stock assessment process is never an easy process (potentially change of data format) - FDI timing would have to be earlier (would need to be reviewed in August at here – 1 week earlier)	After RDBFIS is established in 2+ years	Only one data call Complete coverage in FDI database
Submit to FDI and export to MED & BS	1 data call with output for second (1 year overlap with 2 data call, &	- 4 new bespoke biological tables in FDI to support MED & BS - JRC would produce aggregated product - FDI EWG could develop scripts to transfer biological data	- Complete database - Quality control meeting (specific for data only) - Full dissemination for all regions and sampling results - Only 1 data call	- Will require commitment in time and effort - Workshop will be required - FDI timing would have to be earlier (would need to be reviewed in August at here – 1 week earlier)	After RDBFIS is established in 2+ years	Only one data call Complete coverage in FDI database with data formats created and extracted for stock

Option	No. of data calls	Structural Change Required	Pro	Con	Timeframe	Long term Impacts
	workshops)	from FDI to MED&BS data call format, using scripts already developed by FDI.				assessment purpose
MED & BS countries to just submit all tables to FDI (where we were in 2018)	2 data call	- 4 new bespoke biological tables in FDI to support MED & BS	- Complete database - Quality control meeting (specific for data ONLY) - Currently only done by stock assessment for stock specific - Full dissemination for all regions	- Wil require commitment in time and effort - Methodology workshop will be required plan - There will be 2 data calls	2025 FDI data call or after RDBFIS is established in 2+ years	Complete coverage in FDI database

Source: Member States submissions to FDI data call 2024.

3.6 Provide recommendations on protocol for the work done under the annual ad hoc contract that provides the catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in each exemption of each delegated regulation specifying the details of implementation of the landing obligation with the aim to incorporate work done to the STECF EWG procedures, as this is one of the major deliverables of the FDI database for DG MARE as end user

3.6.1 Workflow presented in the ad hoc contract

The main steps executed during the ad hoc contract providing catches, landings and discards as specified in the exemptions of each delegated regulation are the following:

Step 1: Generation of FDI specific codes

The first step of the procedure is to translate the legislation to FDI codes (or update the translation in case of changes in the legislation).

Exemptions are defined within the categories: *survivability exemptions* and *de minimis exemptions*, for 4 regions (Baltic Sea, North Sea, Western Waters (North and South) and Mediterranean & Black Sea) and for the fisheries *Pelagic fisheries* and *Demersal fisheries*.

Categories were created and assigned to each of the exemption using combination of different sets of definitions for the R script to enable data extract at a later stage. All exemption descriptions from the legal acts are unified and translated into a simple list of FDI codes. The translation is made for the following columns: gear code, vessel length code, mesh size, area, species, target assemblage, SPECON, MCRS.

This step is so far the most time consuming task as it requires full review of the text of legal documents and its translation to the codes used in the FDI data call.

After the manual definitions are updated, the exemptions coding tables are translated to Excel database (Exemptions_combined_table.xls). At this stage all coding tables created and published in the report are translated to one list with one or multiple lines per exemption. An individual ID and category is allocated to each exemption to be able to sum all data in the final data extract for each individual exemption and to be able to extract the data using different categories defined in the exemptions.

Step 2: Data extraction

Update and run the R script; the script is performing a data extraction procedure consisting of the following main steps:

- Reading the FDI data provided by MS and uploaded to the database
- Reading coding table and all categories splitted by sheet
- Merge of Exemptions with all splitting categories (creation of a very long coding table with unique code per record)
- Data extraction for each exemption category
- Binding all categories and exemptions data
- Clean the data extract if needed, e.g. drop UK data, list the columns for the extraction
- Data export to .xls file for MS provided data and filled in data.

Step 3: Update of the Excel files

The Excel file for EWG and DGMARE (Exemptions_database_Confidential.xls) includes the following information:

- FDI database as provided by MS and filled in extract for all exemptions extracted at step 2 – to enable tracking the data submission (sheets 'ExemptionsFDI' and 'ExemptionsFDI_fill')
- FDI database with Table A and fill-in's
- Data checks for individual MS ('Pivot_MS') – used by individual experts during the first days of the meeting for crosschecking the data and also checking the fill-ins produced by JRC
- Data with exemptions at MS level published by FDI EWG in the report ('Tables MS Data)
- Data with exemptions summarised at species level for DGMARE ('TablesSpExemptions)
- All data reported to FDI summarised by species ('Tables FDItotals')

3.6.2 Proposal for the future

EWG 24-11 considered the steps executed by the ad hoc contract and concluded that it is not feasible to execute all the steps during the FDI EWG. There are some preparatory tasks (legal information extraction and translation to FDI codes) that are time consuming and that must be completed before the FDI EWG meeting in September.

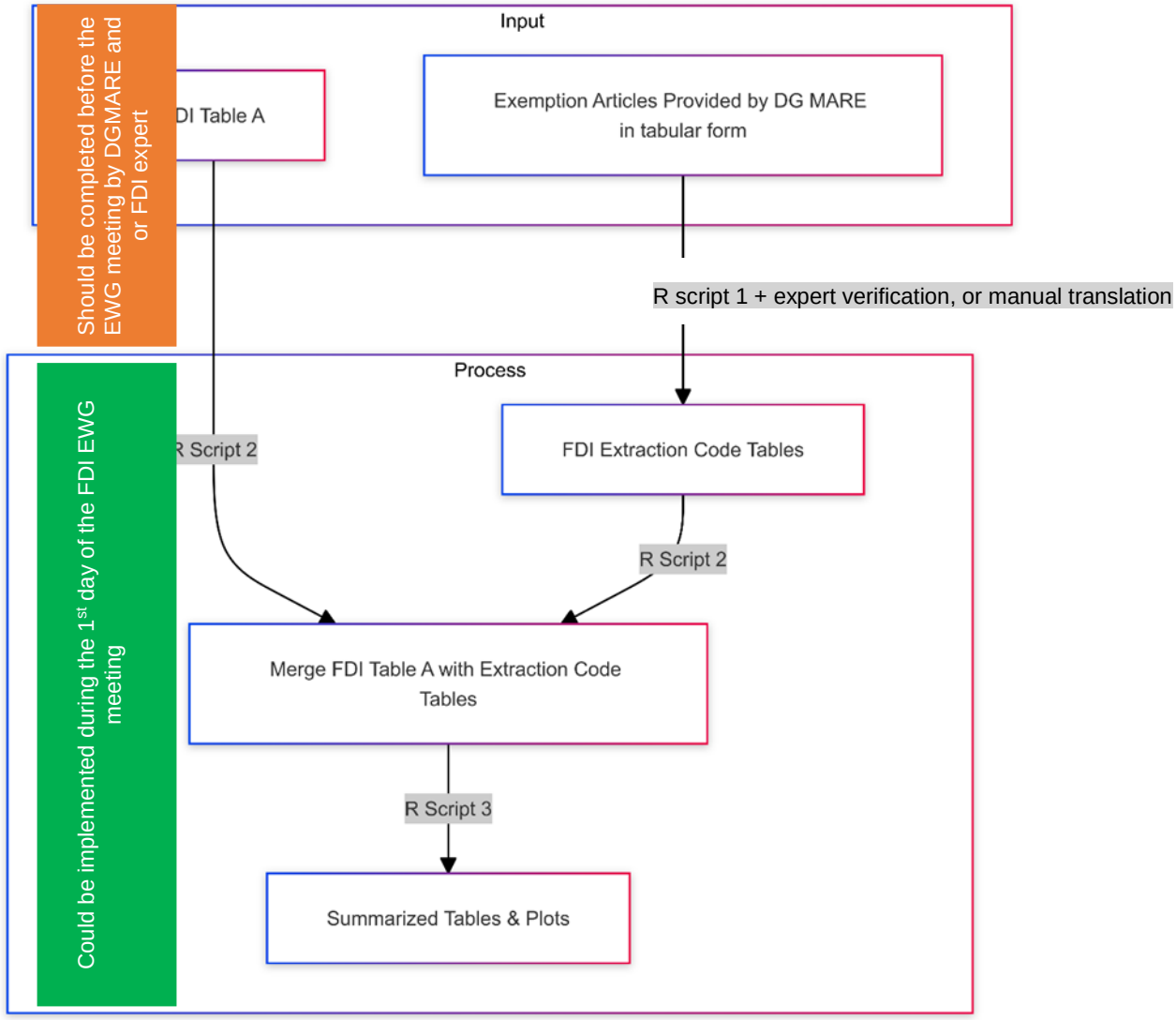
The EWG suggests verifying if it is feasible to share the necessary tasks among the FDI EWG, DGMARE and JRC (or other experts well familiar with the procedure and FDI coding).

The process would initiate with DGMARE filling in the information from relevant delegated acts that are published in the format of pdf text to a template in an Excel format that could be prepared by the EWG based on existing coding tables developed previously and provide to DGMARE. Once the delegated acts are translated from the text format to this table by DGMARE, JRC or other experts well familiar with the procedure and FDI coding would translate the legal acts to the FDI codes in the same table. JRC, or other experts well familiar with the procedure would also need to assign categories and IDs to new exemptions and/or update existing list. This would complete step 1 of the process required prior the FDI meeting in September.

Then during the September meeting, the EWG implements Step 2 and 3 of the procedure described above.

During the EWG an R script has been developed to provide various visualizations (including tables and plots) for the estimates of landings and discards related to the exemptions to the landing obligation through an interactive HTML file. This script and the outputs created during the EWG 24-11 meeting could potentially replace Excel files with confidential databases used in Step 3 of the ad hoc contract. A detailed description of the functionalities available in this script is presented in Annex 5.

Figure 3.6.2.1. Flowchart showing the data processing workflow*.



Source: Member States submissions to FDI data call 2024.

* R Scripts 1, 2 and 3 would support data processing during Step 1-3 processes of the existing routine. See detailed flow chart description in Annex 5.

The proposed approach would require the following:

1. Creation of the legal text summary table to be filled in by DGMARE when changes in exemptions legal text are introduced, or new exemptions introduced in the EU law.
2. To complete Step 1 automation of legal text translation from DGMARE table to FDI codes needs to be created and verified by FDI experts, or this translation should be conducted manually.

3. Further elaboration of initial script produced during the EWG 24-11 that currently covers Step 3 (data visualisation and summary tables extraction) and its integration with Step 2 that is implemented for the data extraction.
4. When 1-3 are finalised whole process needs to be tested and reviewed.

The above tasks potentially could be addressed by FDI Methodology EWG next year, however prior to that the new approach and visualisation produced by EWG 24-11 should be tested by DGMARE relevant unit to confirm usability and technical compatibility to run outputs on DGMARE systems.

4. FUTURE DATA CALLS

4.1 Suggestions for changes in the data call

Tables C and D

For future FDI data calls, EWG 24-11 recommends in tables C and D to allow entries in the CV column to take values greater than 1.

Geo Indicator

During EWG 24-11 inconsistencies were noted between the information reported to the FDI and to the Fleet Economic data calls.

The Commission Implementing Decision (EU) 2022/39 of 12 January 2022 established that the 'NGI' code is to be used where the Geo Indicator is not relevant for a fleet segment: “The ‘Geo Indicator’ distinguishes fleet segments operating in outermost regions and fleet segments operating exclusively in non-EU waters (international waters + third- country fisheries partnership agreements). If a Geo Indicator is not relevant for a fleet segment, use the ‘NGI’ code”. However, the definition of the 'NGI' code in the FDI and Fleet Economic data calls states that the fishing activity takes place in European waters.

Considering that the Geo Indicator codes are also present in the MasterCodeList used to prepare the National Work Plan tables, EWG 24-11 suggests to verify with DG MARE if it is feasible to modify the definition of the 'NGI' code to align it with the description reported in the Commission Implementing Decision (EU) 2022/39 of 12 January 2022.

4.2 Suggested data checks for next year

EWG 24-11 suggests adding the following additional data checks:

- A check on the correct combination of gear and mesh size range according to Appendix 6 of the FDI data call.
- A check to verify that data on discards not entered in biological tables are present in Table K.
- A check for ‘Weight vs Value Landings Table A – Comparison between total weight landings and total value landings: where Totwghtlandg>0 and Totvallandg=0 or empty in Table A is displayed’ already exists. The suggestion is to add in this check the DOMAIN_LANDINGS column so the BMS landings, where there is a weight and no value, that are marked as BMS in the DOMAIN_LANDINGS could be identified.
- A comparison of data in FDI Table J Capacity with AER data, by fleet segment and transversal variables.

The EWG suggests also to verify the number of downloads of FDI datasets from the data dissemination website.

5. CONTACT DETAILS OF EWG-24-11 PARTICIPANTS

[1] - Information on EWG participant's 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: How to get involved - European Commission

STECF members		
Name	**Affiliation[1]**	**Email**
Moore, Claire	Marine Institute, Ireland	claire.moore@marine.ie
Motova-Surmava, Arina (EWG co-chair)	Sea Fish Industry Authority, 18 Logie Mill, Logie Green Road, Edinburgh EH7 4HS, U.K.	arina.motova@seafish.co.uk
Nimmegeers, Sofie	Flanders research institute for agriculture, fisheries and food, Belgium	sofie.nimmegeers@ilvo.vlaanderen.be
Raid, Tiit	Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallin, EE-126, Estonia	tiit.raid@gmail.com

Invited experts		
Name	**Affiliation[1]**	**Email**
Adamowicz, Maciej	National Marine Fisheries Research Institute, Poland	madamowicz@mir.gdynia.pl
Avdic Mravlje, Edvard	Fisheries research institute of Slovenia, Slovenia	edoavdic@gmail.com
Cano, Suzana	Direção Geral de Recursos Naturais, Segurança e Serviços Marítimos, Portugal	sfcano@dgrm.mm.gov.pt

Cañas, Lucia	Instituto Español de Oceanografía, Spain	lucia.canas@ieo.csic.es
Carlshamre, Sofia	Swedish University of Agricultural Sciences, Sweden	sofia.carlshamre@slu.se
Ciorciaro, Domenico	Mably scarl, Italy	ciorciaro@mably.it
Davidjuka, Irina	Independent expert, Latvia	irina.davidiuk@inbox.lv
Demaneche, Sebastien	IFREMER, France	sdemanec@ifremer.fr
Egekvist, Josefine	Technical University of Denmark, Institute of Aquatic Resources, Denmark	jsv@aqua.dtu.dk
Fernandes, Ana CláUdia	Instituto Português do Mar e da Atmosfera, I. P. (IPMA, I. P.), Portugal	acfernandes@ipma.pt
Gibin, Maurizio	Consumer Data Research Centre, University College London (UCL), London, UK	maurizio.gibin@gmail.com 1
Ioannou, Myrto	Department of Fisheries and Marine Research, Cyprus	mioannou@dfmr.moa.gov.cy
Isajlovic, Igor	Institut za Oceanografiju i Ribarstvo, Croatia	igor@izor.hr
Jakovleva, Irina	Fisheries Service under MoA, Lithuania	irina.jakovleva@zuv.lt
Kavadas, Stefanos	Hellenic Centre for Marine Research (HCMR), Greece	stefanos@hcmr.gr
Kovsars, Maksims	Institute of Food safety, Animal Health and Environment "BIOR", Fish resources research department, Latvia	maksims.kovsars@bior.lv

Liontakis, Angelos	Agricultural University of Athens, Greece	aliontakis@agreri.gr
Maina, Irida	Hellenic Centre for Marine Research, Greece	imaina@hcmr.gr
Mantzouni, Irene	Hellenic Ministry of Rural Development and Food, Greece	emantzo@hotmail.com
Molla Gazi, Karolina	Wagenignen Marine Research; Netherland	karolina.mollagazi@wur.nl
Nicheva, Simona	Executive agency for fisheries and aquaculture, Bulgaria	simona.nicheva@iara.government.bg
Rantanen, Perttu	Natural Research Institute (LUKE), Finland	perttu.rantanen@gmail.com
Russo, Tommaso	University of Rome Tor Vergata, Italy	tommaso.russo@uniroma2.it
Vukov, Ivana	Ministry of Agriculture, Directorate of Fisheries, Unit for Data Collection Programme in Fisheries, Croatia	ivana.vukov@mps.hr
Wischnewski, Julia	Thünen Institute of Sea Fisheries, Germany	julia.wischnewski@thuenen.de
Zanzi, Antonella (EWG co-chair)	Independent expert, Varese, Italy	antonella.zanzi@gmail.com

JRC experts		
Name	**Affiliation[1]**	**Email**
Hekim, Zeynep	Joint Research Centre	hekim.zeynep@ec.europa.eu

European Commission		
Name	**Affiliation[1]**	**Email**
Hekim, Zeynep	JRC STECF secretariat	Jrc-stecf-secretariat@ec.europa.eu
Mortensen, Martin	DG MARE	martin.mortensen@ec.europa.eu
O'Dowd, Leonie	DG MARE	leonie.o'dowd@ec.europa.eu
Vielmini, Ilaria	DG MARE	ilaria.vielmini@ec.europa.eu

ANNEXES

ANNEX 1. MEMBER STATES SECTIONS ON METHODOLOGY, DATA AVAILABILITY, COVERAGE, PROBLEMS ENCOUNTERED AND OTHER COMMENTS

Countries are listed in the official protocol order: alphabetical order in Member States' own languages.

A1.1 BELGIUM

Methodology

QUARTER and YEAR are based on the trip return date.
For the VESSEL_LENGTH, the length overall is related to the fleet throughout the year and not to the fleet on the 1st of January.
FISHING_TECH of a vessel for a certain year was determined based on the highest fishing days recorded for a certain gear.
EEZ_INDICATOR was determined based on the midpoint of the rectangle information from the logbooks (shapefile used: https://www.marineregions.org).

Table B:
In 2015-2017 the Belgian catch sampling schemes moved from a 'métier-based' to a 'statistically sound' sampling scheme in order to apply at random sampling of the trips. Considering the importance of the Belgian beam trawl fleet targeting demersal species, Belgium focusses on the collection of fishery-dependent data for this fleet (both fleet segments). The two fleet segments (TBB_DEF_>221 kW and TBB_DEF_<=221 kW) are treated as two separate strata in the Belgian at sea sampling programme. Catch information (all catch fractions are covered) is obtained through on-board observation or 'at sea sampling'. The primary sampling unit (PSU) is vessel x trip (as a proxy for trip) and a haul (within a trip) is defined as the secondary sampling unit (SSU). Four ILVO observers assure a sampling coverage of on average 1% of all fishing hours (i.e. approximately 40 trips). The sampling effort targets for one year are set at 8 trips for the TBB_DEF_<=221 kW fleet segment and 32 trips for the TBB_DEF_>221 kW fleet segment. A vessel x trip (PSU) for the TBB_DEF_>221 kW fleet segment is selected by means of a random draw from a vessel list (with replacement). Only the vessels that are willing to take observers onboard and those that are suited, from a logistic point of view, to have an observer onboard are included in the vessel list (sampling frame): 19 vessels out of 28 vessels in total. A vessel x trip (PSU) for the TBB_DEF_<=221 kW fleet segment is selected ad hoc. The vessel list (sampling frame) has been steadily decreasing and proved too small to ensure random PSU selection.
The REFUSAL_RATE was calculated as the number of trips of which the vessel skippers (who had been successfully contacted) refused to take an observer on-board divided by the total number of trips of which the vessel skippers were successfully contacted (INDUSTRY_DECLINED/(TRIPS_SAMPLED_ONBOARD + INDUSTRY_DECLINED)).
The NONRESPONSE_RATE was calculated as the number of attempted vessel skipper contacts minus the sampled trips divided by the number of attempted vessel skipper contacts ((TOT_SELECTIONS – TRIPS_SAMPLED_ONBOARD)/ TOT_SELECTIONS).
Within the framework of the ongoing optimization of the at sea sampling design, at the end of 2017, Belgium decided to move away from the random based design and introduced a non-probability-based sampling programme (ad hoc and standard quota sampling) for the TBB_DEF_kW>221 fleet on the first of January 2018.

Table A (discards) and tables C-F:
The biological data on discards, length and age distributions (discards and landings) have been processed to answer the ICES data calls and is based on sampling data from the at-sea observer programme conducted under the DCF. The thresholds applied for submitting biological data (discard quantity and length distributions (discards and landings)) are listed in table A1.1.1 and were updated through time. For the 2018 data call, an additional criteria of at least 50 age measurements was applied for the submission of age distributions.
Domains have been defined, corresponding to the sampling programme. For species that have corresponding landings by quarter, vessel length group and/or metier within the same discards domain, the annual estimates of discard ratio (discards/catch) have been applied to those landings to calculate the DISCARDS by quarter, vessel length group and metier (table A). Discard data from the logbooks were not used.
The quality indicators related to the quality of the age/length allocation process (NO_AGE_MEASUREMENTS, AGE_MEASUREMENTS_PROP, NO_LENGTH_MEASUREMENTS) and related to the overall coverage and sample size of the estimate in relation the domain (TOTAL_TRIPS, TOTAL_SAMPLED_TRIPS) were provided in tables C-F. The indicators related to the quality of the estimated discard tonnage (DISCARD_CV, DISCARD_CI_UPPER and DISCARD_CI_LOWER) were not provided as its difficult to estimate without better defined guidelines.

Table A1.1.1. Thresholds for providing biological data.

Data	Variable	Sampled								
2018-2019	discard quantity	2	and	65						
		2			and	>=70 kg landings sampled weight or total weight				
		2					and	>= 20 kg discards sampled weight or total weight		
	discards length distribution	2	and	65						
		2			and	>=70 kg landings sampled weight				
		2			and	>= 20 kg discards sampled weight	and	discard ratio < 0.2		
		2			and	>= 20 kg discards sampled weight			and	>= 100 length measurements
	landings length distribution	2	and	65						
		2			and	>=70 kg landings sampled weight				
		2			and	>= 20 kg discards sampled weight	and	>= 100 length measurements		
		2			and	>= 20 kg discards sampled weight			and	discard ratio >=0.2
2020-2023	discard quantity	2	and	65						
		2			and	>=70 kg landings sampled weight or total weight				
		2					and	>= 20 kg discards sampled weight or total weight		
	discards length distribution	2	and	65	and	>=30 discard length measurements				
		2			and	>=70 kg landings sampled weight	and	>=30 length measurements		
		2			and	>= 20 kg discards sampled weight	and	discard ratio < 0.2		
		2			and	>= 20 kg discards sampled weight			and	>= 30 length measurements
	landings length distribution	2	and	65						
		2			and	>=70 kg landings sampled weight				
		2			and	>= 20 kg discards sampled weight	and	>= 100 length measurements		
		2			and	>= 20 kg discards sampled weight			and	discard ratio >=0.2

Source: Member States submissions to FDI data call 2024.

Table A (landings) and table H:
TOTWGHTLANDG and TOTVALLANDG are based on combined information of logbook data and sale slips. Before 2021, the actual landed weight and value are split according to the logbook information on hours fished in the respective rectangles. From 2021 onwards and the switch to a new database system, the actual landed weight was split according to the logbook information on catches. The value was calculated by multiplying the resulting landings with the average sale price.

Table G and table I:
TOTSEADAYS, TOTFISHDAYS (table G) and EFFECTIVE_EFFORT (table I) were calculated using the 'fecR' package. TOTKWDAYSATSEA and TOTKWFISHDAYS and calculated as respectively days at sea and fishing days multiplied by the power of the vessel in kilowatts. Same approach for calculating TOTGTDAYSATSEA and TOTGTFISHDAYS with the gross tonnage of the vessel. The engine power and gross tonnage are related to the fleet throughout the year and not to the fleet on the 1st of January.

For the calculation of HRSEA, the total hours at sea of a trip was split proportionally to the days at sea, over the areas where fishing activity was recorded for that trip.

Table J:
To determine TOTKW, TOTGT, AVGAGE and AVGLOA, the fleet was not considered on the 1st of January. The most recent vessel configuration throughout the year was selected. PRINCIPAL_SUB_REGION of a vessel for a certain year was determined based on the highest fishing days recorded for a certain fishing area. For the inactive vessels, the PRINCIPAL_SUB_REGION was assigned based on where the vessel is registered.

Table K:
The quality indicators related to the overall coverage and sample size of the estimate in relation the domain (TOTAL_TRIPS, TOTAL_SAMPLED_TRIPS) were provided. The indicators related to the quality of the estimated discard tonnage (DISCARD_CV, DISCARD_CI_UPPER and DISCARD_CI_LOWER) were not provided as its difficult to estimate without better defined guidelines.

Data availability

The data was finalised and available by the data call deadline.

Coverage

General comments

Belgium provided fleet specific landings data for the period 2013-2023 derived from official logbook databases for all vessels ≥10 meters. The data covers all areas in which the Belgian fleets are active and all species that are landed. Information on misreporting has been taken into account for sol.27.7d, sol.27.7a, sol.27.7fg and sol.27.7h-k in certain years. Gear types such as trammels and seine nets are missing mesh size information. The beam trawl fleet targeting demersal fish with an engine power smaller or equal to 221 kW was not randomly sampled and therefore no refusal rate was calculated. Since 2018 the sampling strategy changed and all the vessels were selected ad hoc, therefore no information on refusal rate was available. Belgium provided effort data for the period 2013-2023 for all relevant areas where the Belgian fleets are operational.

The Belgian government responsible for aggregating data from the Belgian commercial fishing fleet (logbook, sales and effort data) moved to a new database system from 2021 onwards. This new database system is operational, but currently lacks thorough data quality checks. Considering there is no overlap with the old database system we are unable to quantify the extend of this change regarding the data quality. Missing information was complemented as much as possible: an average price was calculated to allocate to missing prices; ship owners were contacted to fix mistakes in metier allocation; missing rectangle information was complemented based on VMS data (for the effort) and based on the highest fishing hours per rectangle from the same trip (for the landings) (we take into account the catch of the same species by rectangle if possible). Over the following time we aim to further improve the quality of the data together with our colleagues from the Belgian government.

Data were marked as CONFIDENTIAL if the data relate to less than 3 vessels. Values in the fields TOTWGHTLANDG and TOTVALLANDG in table A and table H were both considered as confidential when the criteria of < 3 vessels was met.

Comparison with EUROSTAT data

<u>Landings</u>
Overall the ‘total weight landed’ reported in the FDI data set is comparable with the landings uploaded to EUROSTAT. Some differences can be explained by the misreporting of sole in

area 7a, 7d, 7f, 7g, 7h and 7j that were taken into account in the FDI data set but not in the EUROSTAT data set. Furthermore for the period 2019-2022, no below minimum reference size landings or industrial bycatch was included in the FDI data set. The 2023 EUROSTAT data were not yet published.

Number of vessels

The number of vessels in table J of the FDI data set is comparable with number of vessels reported in the EUROSTAT data set. For the FDI capacity, although the regulation states that the population is the fleet on the 1st of January, the most recent vessel configuration throughout the year was selected and also includes the inactive vessels. This might explain the minor difference in the number of vessels.

Problems encountered

The Belgian at sea sampling programme was not hampered by the COVID-19 pandemic in 2020.

Other comments if relevant

No other comments.

A1.2 BULGARIA

Methodology

The methodology used for the data collection and data processing for all data calls, including FDI data call, is the same and it was not changed compared to previous years. The fleet registration, logbooks, landing declarations, and sales notes are all contained in the database managed by the Executive Agency for Fisheries and Aquaculture; so, the transversal variables are taken from it. Based on information from logbooks, the number of fishing trips, days at sea, fishing days, and hours at sea are computed.

The sampling strategy in Bulgaria is census and data is available for each vessel, so no estimation procedures were used. According to the Bulgarian legislation (Fisheries and aquaculture act), all fishermen in Bulgaria are obliged to use fishing logbook and there is no difference between small scale fleet and the large scale fleet.

There are no derogations, which are applicable to Bulgaria.

Refusal rate

The Bulgarian sampling design is considered a probability-based vessel selection design. The refusal rate is calculated as a proportion of vessel skippers who denied access to the observer to go on board of the vessel. If the skipper does not answer his phone, it is not marked as a refusal.

Data availability

All transversal variables, which are used for the preparation of capacity, landings, and effort tables, are available at the end of January for the previous year. All the tables for the data call were submitted before the deadline.

Coverage

The data provided in the data call covered all vessels that were fishing under the Bulgarian flag in the Black Sea during the reference period. There are no gaps in the data collection or data submission. The list of species that are reported in all tables concerning the landings represents all species that are caught by the Bulgarian fleet.

General comments

Bulgaria is using a census sampling strategy, and the provided data covers the whole Bulgarian fleet, which operates only in the Black Sea. The data by rectangle is derived from VMS data for large-scale fleet, vessels with active gears <12 m and vessels that owned turbot quotas because they are obliged to use VMS. For the vessels under 12 m with passive gears, the rectangle from the landing declaration was used, and only in case the rectangle was not filled by the owner of the vessel, the catch was allocated based on the landing port.

Comparison with Eurostat data

The number of vessels from the FDI data call is slightly higher than the Eurostat data because the data for Eurostat is from the 31st of December, while the data for FDI is for the vessels from the whole year (for example, if a vessel was active during the year, it is included in the number of vessels, even if it is out of the fishing register at the 31st of December due to a permanent cessation or other change in the status).

Publication of confidential data

The data provided in this data call is not considered confidential because the value of the sales is calculated as the landings are multiplied by the average price per species from the sales notes for the whole fleet.

Problems encountered

Problems related to data collection

No problems were encountered.

Problems related to data submission

There were no problems related to data submission and the main reason for this was the possibility to use the data validation tool, which facilitated the reporting process.

Other comments if relevant

The data provided for the discards is from the official data sources and from the scientific observations onboard of fishing vessels.

The de-minimis is not applicable for Bulgaria. The only survivability exemption is defined in the Commission Delegated Regulation (EU) 2022/2287 of 12 August 2022 amending Delegated Regulation (EU) 2021/2065 establishing a discard plan for turbot fisheries in the Black Sea as regards the extension of the high survivability exemption to the landing obligation for turbot in the Black Sea.

A1.3 DENMARK

Methodology

Denmark has a database for transversal data, where sales notes data are merged with logbook data by trip and species, and information from the fleet register and métier codes are added. Landings weight and value of landings are based on sales notes, while information on gear and ICES rectangle are from logbooks. For the FDI data call in 2024, the time series from 2019 to 2023 were uploaded for tables A, G, H, I and J with corrected fishing technique. 2023 data were uploaded for the tables containing biological data C, D, E, F and K. For industrial fisheries targeting e.g. sprat, sandeel and Norway pout, until April 2020, the main species have been reported in the logbooks but there might also be a small amount of other species in the landings. Samples have been taken to find the species composition of the landing by area, ICES rectangle, month and target species. This was done by the Danish Fisheries Agency, and the species composition was applied to official landings and reported

in the FDI data call. After April 2020, the species composition from industrial landings has to be declared in sales notes.

Information on fishing technique (FISHING_TECH) and vessel length classes allocated for each vessel has been coordinated with Statistics Denmark who reports to the AER data call. Up to 2021 the two variables have been defined by Statistics Denmark, who have provided a list with the definitions for DTU Aqua. For 2022 and 2023 they have been defined by DTU Aqua following EU-MAP definitions and the information is sent to Statistics Denmark who uses it for the AER data call.

A collaboration between the two institutes has been ongoing in 2022 and 2023 to harmonize the FDI and AER data with regards to fleet segments, number of vessels, landings and effort data. For the years 2022 and 2023, the vessel length classes VL0008 and VL0812 have been used in the fleet segmentation for the Baltic Sea.

Vessels less than 10 m oal (8 m oal in the Baltic) are not required to report logbooks. For these vessels, sales notes are reported for each landing. Using the species composition for these trips and the gear reported in the fleet register, a procedure has been developed to estimate métiers, gear and mesh size range. Similarly, a procedure has been developed to estimate the ICES rectangle for the vessels not reporting logbooks, where the main ICES rectangle is found by harbor, gear type and vessel length group. If there are no similar fisheries where the rectangle is reported from a harbor, the ICES rectangle closest to the harbor is used.

The SPECON codes “GRID35” and “SELTRA” are based on logbook registrations on selection panels in areas 27.3.a.20 and 27.3.a.21. In the Baltic, BACOMA and T90 are not registered in logbooks and therefore these codes are not reported in the FDI data call.

The biological data on unwanted catches, length and age distributions have been processed to output to both ICES data calls and the FDI data call and is based on sampling data from two sampling programs: the at-sea observer program and the at-market sampling program conducted under the DCF. Domains have been defined, corresponding to the sampling programs and are inserted in Table A. Discards are estimated based on the at-sea sampling data, except for the métiers with CCTV (_FDF), where the logbooks are used. In table A, the unwanted catches are partitioned by total landings of all species within the same year, quarter, vessel length group, métier, discards domain and sub region. If there is no samples of unwanted catches within that aggregation, the code “NK” is inserted. The quality indicators CV, CI upper and lower has not been provided, work is ongoing in relation to the RDBES.

There can be lines with discards but no landings, this is often species that have a very low commercial value. In some cases there are length measurements for species (table D and F) where there is no age reading (table C and E).

Landings below minimum conservation reference size (BMS landings) are found from sales notes and landing declarations and added to the total landings. There can be BMS landings with zero landings value if they are not sold. In the landings domain, the BMS landings have been marked with _BMS at the end of the domain name.

Effort calculations are based on the principles agreed at the 2nd workshop on transversal variables in Nicosia 2016, but implemented in SAS. For vessels without logbooks, the effort calculation is based on sales notes where a trip (vessel-id + landing date) is assigned one day at sea and one fishing day.

To specify if the fishery is within UK EEZ in the EEZ indicator, the following hierarchical approach has been used to assign the EEZ for 2013-2022:

1. From ICES rectangle where completely inside an EEZ. This is for correspondence with the ICES rectangle reported
2. Based on VMS data, after applying a speed filter
3. Based on haul positions reported in logbooks
4. Economic zone reported in sales notes

For 2023 data, it is indicated directly in the logbooks if fishery took place in UK EEZ; this information is used for the data call.

Table B

In Denmark, the sampling design of the commercial sampling has since 2011 had a gradual change from an ad-hoc sampling program to a statistically sound sampling (4S) in the observer program where trips/vessel are the primary sampling unit within some pre-defined fleet lists. The vessel list have been selected according to the home harbour and the main gear type (fleet group) and each list accounts of unique vessels based on the fishery from the previous year, meaning that the same vessel cannot be present in more than one list. If a vessel is selected from one list and is conducting another fishery that is still part of the observer program, the trip is still conducted. If the vessel is conducting a fishery presently not included in the observer program the trip is not selected. Presently Denmark has applied six fleet lists (sampling frames) for the at sea observer program with a similar selection design however, with different target species. The vessel list are presently covering:

- Bornholm, Trawler/Seiner (OTB-SDN: SD 25-32)
- Lyngby, trawler/Seiner (OTB-SDN: SD 21-24)
- Hirtshals, Trawler/Seiner Skagerrak/ Kattegat (OTB-SDN: SD 20-21)
- Hirtshals, Trawler/Seiner North Sea (OTB-SDN: SD IV)
- Beam trawler, North Sea brown shrimp (TBB: IV)

Effort allocation (observer trips) between the vessel lists are based on the total effort available allocated according to the numbers of trips in each vessel list group. A minimum number of 2 trips have been incorporated by each stratum. Each vessel list is stratified by quarter. Each vessel on a given list has equal chance of being selected.

As the vessels are randomly selected in a database based on last year's fishery, large changes in fishing pattern between years can affect the sampling in a given year. When a vessel is selected for an observer trip the vessel has to be contacted by the observer and asked for participation on the next conducted fishing trip. The fishermen answers are recorded according to recommendations in the ICES SGPIDS3 report and refusal rates calculated for each vessel list.

The 15 of March 2020 Denmark closed down in response to the covid pandemic. As a consequence the observer at sea program was closed down from mid-March to late June and again from late November and the rest of the year. In 2021, the observer program was closed down January to March 2021 and again from November to December. In some of the periods in 2020 and 2021 where the observer program was in function, the random selection of vessels was put on a break and each observer got a restricted vessel list with a number of vessels where we normally had a positive fisherman response, and refusal rates are therefore not obtainable in 2020 and 2021. For 2022, the refusal rates are reported again.

Data availability

Transversal data (logbooks, sales notes, fleet register) are transferred from the Danish Fisheries Agency to DTU Aqua every night. Some errors may be corrected in the data from a previous year, but that is mainly done during the first quarter, so the data were available by the data call deadline. The processing of the biological data needs to be finalized before the

ICES data call and stock assessments, during the spring. The fishing technique definitions are received by vessel from Statistics Denmark who defines them for the AER data call.

Coverage

All landings and effort data from the Danish fleet during the period 2013-2023 have been submitted.

Comparison with Eurostat data

The number of vessels reported in FDI is larger than what is reported in the Eurostat data. In Eurostat the data refer to the situation of the Danish fleet on 31 December of the reference year. In FDI data, all the vessels that have been present during a year (active or inactive) are counted.

Data checks

The data have been checked using the FDI data checking tools provided by JRC. In some cases, there are minor inconsistencies in the numbers between tables, but this is normally due to rounding issues.

In some cases, the weight of landings by species is larger than zero, but the value of landings equals zero. Zero values are often connected to bycatches, and often in fishery for industrial use. Here it cannot be used in the main fishmeal production (e.g. because the size does not fit into the production), and the storage results in a very poor quality making it unfit for most other uses. It can lower the price if the entire landing if the bycatch rate is too high. Therefore, the buyer does the vessel a favor by taking the by-catch at a price=0. 0-values also occur in connection to foreign buyers where the sales-note lacks a price. The Danish authorities try to obtain it from the buyer, but the rate of success is fluctuating. The cases with zero value of landings, but a landed weight can also be caused by BMS landings (landings below minimum reference size) that is not sold.

The total weight of all landings changes by year, and is related to both changes in landings from the industrial fishery, and to a general decline of the fisheries in the Baltic Sea since 2020. These changes correspond with the total weight of landings reported at the Danish Fisheries Agency website. In 2016 and 2021 the sandeel quota was low, which is reflected in the total weight of landings.

Confidentiality

If there are less than three vessels in the aggregation level in tables A, G, H and I, they are marked as confidential with A (all values are confidential), otherwise the confidential field is marked with N.

Problems encountered

Covid-impacts on the biological sampling

The scientific sampling of landings and discards of the commercial fishery was canceled in the time period March 13 to 1.6 2020. Hereafter, DTU Aqua resumed the observer activity. When the observer activity was resumed it was not with the random selection method (as was the former setup) but with a list where every observer had a separate list of vessels to contact to avoid to many different contacts. Also, the control activity was canceled in a time period from the March 13 to April 28. Further, the Fishery control agency has been used for other work in connection to Covid and has therefore been at a lower level than planned. Again, in late November Denmark closed down and the scientific observer programs at sea was canceled the rest of the year.

In 2021 due to the covid-19 situation the Danish at sea observer program and partly the harbour sampling program was closed down in longer periods. The first close down was from

January to March 2021 and the second from November to December. This had an effect on the quality as well as on the number of samples.

Other comments if relevant

No other comments.

A1.4 GERMANY

Methodology

The German data submission for this data call is based on the following sources of information:

1. Logbook and Landings data (landings, value, effort, spatial effort and spatial landings, BMS)

2. German fleet register (Number of vessels, Fleet determination etc.)

3. Scientific observer data (Discards, length and age distributions)

Effort has been estimated by using the generic R script provided for this data call. The corresponding procedure follows the concepts of the Report of the 2nd Workshop on Transversal Variables. Nicosia, Cyprus. Castro Ribeiro, C. et al., 22-26 February 2016. Germany provides information for all vessels with all necessary information reported in logbooks. Vessels <10m in the North Sea and vessels < 8m in the Baltic do not have an obligation to fill in logbooks. However, for these vessels so called “Monatsmeldungen” (monthly announcements) were used to provide information on catch and effort where possible.

Discards were estimated based on observer data and not from logbook information. Based on observer data the unwanted catch (BMS + Discards) was raised to discard domain level. From these values the BMS reported in logbooks (and already accounted under landings) was then subtracted. In cases where this resulted in a negative value because of the inherent uncertainties in the raised unwanted catch estimates, a zero discards amount was assumed. Similarly, because of the often-large uncertainties in the unwanted catch estimates, positive discards amounts do not always mean that discards occurred in reality, especially, if the values are small. For metiers that were not sampled, a NK for “not known” was provided to allow for JRC raising routines to be used to fill gaps. Cases where there are discards only in the sampling and zero landings in logbooks, only discards reported in logbooks were taken into account. Germany is working on a methodology that best suits these specific cases also utilizing non-DCF data sources from ongoing research projects or fishery-independent surveys to derive useful and realistic discard estimates. Any discard estimate with 100% discard rate is extremely uncertain and great care is needed to avoid unrealistic and misleading numbers.

Germany started to highlight information on the value of landings as confidential due to only few companies left in most metiers. Also, all information from areas where only very few German vessels fish (i.e. CECAF, South pacific, NAFO) were marked as confidential. There are further issues related to the data on effort and landings where certain lines hold information for less than 3 vessels. However, the current level of aggregation in the dissemination tool (i.e. not by country for spatial data) seems to be appropriate. Germany reserves the right to adapt the cases marked as confidential in case the aggregation levels change in the dissemination tool.

The discard and biological data sampled in a certain domain are used in Table A in a finer disaggregation level. The distribution of total discards at the domain level to the more

detailed disaggregation level in table A is done by using the landings information in Table A. More precisely, if $L_{s,m}(i)$ is a landing weight of species s in the line i from the domain m in the table A, then the corresponding discard weight, $D_{s,m}(i)$, is determined as $D_{s,m}(i) = L_{s,m}(i) \cdot \frac{r}{1-r}$, where a partition ratio $r = \frac{D_{s,m}}{D_{s,m}+L_{s,m}}$, and $D_{s,m} = \sum_{i \in m} D_{s,m}(i)$, $L_{s,m} = \sum_{i \in m} L_{s,m}(i)$. For the case of zero landing $L_{s,m}(i) = 0$, the landing of all species in the domain.

Because of this, it is necessary to have in mind that discard rates, age and length distributions are assumed to be the same inside a sampling domain although differences may exist in reality.

The length frequency data have been used to calculate the percentage of undersized fish in the landings and discards. Similar to the overall discard rates it needs to be highlighted that this is based on observer data and a limited number of sampled trips. The length frequencies may have been used as being representative in a much wider context for the FDI analyses. E.g., when a sampled length frequency was only available for quarter three, maybe it needs to be assumed that it is representative for the whole year. This can introduce bias as fish grow over the year and recruits are often entering the fishery in the third quarter. Therefore, the results have to be interpreted carefully and always in conjunction with information on the sampling coverage.

Currently it is not mandatory to include information on selectivity devices in logbooks. Therefore, it cannot be concluded from the data whether certain fleets and metiers use a certain selectivity device or not.

For the years from 2017, the UK economic zone is explicitly indicated in logbooks. For the previous years, we distribute catch proportionally for rectangles bordering UK and non-UK waters (a table containing the spatial factors for proportion per rectangle is available). The same concerns rectangles corresponding to landing locations for vessels without logbook information.

Table B

In Germany the sampling program is in between an ad-hoc and a statistically sound sampling program. Vessels or in many cases companies are contacted randomly within a given sampling frame (as example, see table 1 for 2023 uploaded this year).

Table A1.4.1.: Sampling frame.

Year	Sampling frame
2023	OTB/OTT_DEF / OTB/OTT_DWS (27.2)
2023	OTB_DEF (27.4)
2023	OTB_DEF/OTB_DWS (27.14)
2023	TBB_DEF (27.4)
2023	TBB_CRU (27.4)
2023	OTM_SPF (27.2, 27.4, 27.6, 27.7)
2023	Demersal active fisheries, Western Baltic (27.3.c.22, 27.3.d.24)
2023	Demersal passive fisheries, Western Baltic (27.3.c.22, 27.3.d.24)

2023	Western Baltic herring active (27.3.c.22, 27.3.d.24)
2023	Western Baltic herring passive (27.3.c.22, 27.3.d.24)
2023	Baltic sprat

Source: Member States submissions to FDI data call 2024.

Vessels are then selected based on who leaves the port next and is available to take observers onboard. Within a sampling frame, the observer program focuses on fisheries that are most important in terms of catches.

For table B the refusal rate was calculated as: industry declined/(industry declined + trips sampled onboard). Similar to the refusal rate, the non-response rate was calculated as: (no contact details + no answers + observer declined + industry declined)/ (no contact details + no answers + observer declined + industry declined + trips sampled onboard). The column "industry declined" includes cases where industry declined because of valid and invalid reasons.

Data availability

All requested data were finalized and available by the data call deadline. They were checked by the JRC routines as well. Where necessary and possible inconsistencies were corrected before the operational deadline. The current data can be regarded as final given current knowledge.

Coverage

For the requested year 2023 all data were provided for all tables before the deadline. Also, the data for years 2021 and 2022 were re-uploaded. For some metiers (e.g., trips with mussels as target species) or vessels without logbooks catches were reported but no effort. In a few cases with minor importance slightly different allowed codes were used as different people work on different tables (i.e. landing vs. effort and spatial landings and spatial effort). On a courser aggregation level, however, effort and landings match. Note, that for the years 2021-2023 the trips from mussel's aquaculture were excluded from Table A, to reduce the uncertainty in catch-effort relationship in data.

Comparison with Eurostat data.

Minor difference (<<10% for EU waters) occurred between FDI and Eurostat landings data for 2013, 2014, 2016, 2019, 2020. 10% difference occurred between FDI data and Eurostat for 2021. More differences in landings weight can be seen for 2017 and 2018. As the German administration introduced its new database during 2017-2018, logbooks were corrected and updated during the next years. Therefore, the FDI data are likely more representative than the Eurostat data. For the years 2015 and 2022 no difference was indicated.

Problems encountered

Vessels without logbook data (small vessels u8m in the Baltic and u10m elsewhere) are problematic. A common approach to answer the data call for these vessels where data by fishing trip is not available would be beneficial. An extra table with less details for these vessels could also be an option.

For few vessels operating in both North and Baltic seas, some mismatch between tables A and H caused by different vessel length class assigning to those vessels. A person working on table A determined a vessel length class from real vessel length, and a person producing

tables H and G proceeds from port of registry of vessel. This issue will be fixed by the next data upload.

The metier codes the corresponding field are defined according to the rules applied in the metier definition script developed by RCG ISSG on metier and transversal variables. Note that we didn't implement the script directly this time. The reason is that after check of output produced by the script, we concluded that the script in the current state can be sensitive to input data and therefore produce sometimes doubtful metiers (e.g., gear type and/or mesh size range don't match to real ones). We have modified the script slightly for German cases, to avoid any inaccurate metier assigning in future. Still, in year 2024, an adjusted to the new metier codes SQL-script was implemented for the FDI datacall. This script is usually used by the colleague responsible for the AER datacall, so we decided to implement the results produced by her script.

The column "industry declined" currently includes cases where industry declined because of valid and invalid reasons. The column could be separated into industry declined and other reasons to make table B more meaningful.

For both FDI and AER datacalls 2024, we used a date of the catch from logbook to determine a quarter, and for vessels without logbook information a landing date. Still, as we have already mentioned, a clear guidance on what date to use for FDI would be beneficial to ensure full consistency. Some discrepancies might be caused by uncertainties in original data, e.g. if logbook contains some entries with incorrect allocation of ICES rectangles. Besides, zero effort in some cases may be a result of an effort re-distribution between domains where integer values of effort were rounded to "0".

The largest discrepancies between tables A and G (landings but no effort) for the years 2013-2020 are created by the lines containing gear type DRB/target assemblage MOL (that is mussel's aquaculture and makes no sense for effort) and BSA regions (that will not be extra included in the effort table G). Zero value Totvalland=0 in 2013-2020 was identified mostly by shagreen ray (RJF), Raja rays nei (SKA) and Aesop shrimp (AES). This issue is going to be resolved during the next FDI/AER datacalls, by applying the same estimation routines in the case of missing value of landings (according to the Workshop on harmonizing the AER and FDI data, 2023).

Impact of Covid on DCF sampling programme in 2020/2021

Germany was able to sample its most important fisheries also during the Covid Pandemic in 2020 and 2021 although sometimes at a lower frequency. Sampling of less important fisheries (e.g., TR2 fisheries) had to be skipped completely. Some trips were also sampled via self-sampling (e.g., some BT2 trips). Before the Pandemic all data were generated by scientific observers on board.

A1.5 ESTONIA

Methodology

Data collected and derogations

Official Information on landings/catches and effort by species, areas, gear types and mesh size were obtained from the Estonian Fisheries Information System (EFIS). EFIS compiles all logbook information as well as information on prices, sales etc. Fisheries data collection takes place according to EU-MAP methodology and no derogations have been applied. Estonian fishing fleet is operating mainly in the Baltic Sea and to a limited extent also in the Northern Atlantic (mostly in NAFO and NEAFC areas).

Estonian fishing fleet in the Baltic Sea consists of around 25 active pelagic trawlers targeting sprat and herring. Several hundreds of small boats are operating in coastal fishery for herring (with fixed pound nets and trap nets) and for other fish, incl. a number of freshwater species taken with various trap-nets and gillnets. Discarding is prohibited in Estonia by law and may only occur in very limited scale (if any) e.g. in case of catches of below MCRS fish in coastal fishery (flounder, salmon and perch) or damaged by seals fish from gillnet and trap net/pound net fishery. No discarding takes place in mixed herring and sprat fishery with trawls. The official discard information from logbooks are provided in the national dataset.

In case of collection of biological data, the minimum threshold of 100 fish for length measurements and 50 specimens for age measurements are applied in sampling of pelagic fleets and in sampling of herring in coastal fishery with fixed gears. In the Baltic Sea, biological harbour sampling takes place on monthly and sub-division basis in 10 (max 17) landing points. All fleet is covered with sampling.

No minimum threshold is applied in sampling of coastal small - scale fishery.

Biological information from collected samples presented in the tables E and F is calculated according to catch figures expressed by vessel length class, metier and domain defined in table A.

All effort calculations are performed using the logbook information and landing declarations. No R- script has been applied in the effort calculations.

In order to present the **spatial distribution of landings and effort data** the coordinates of the centre of the rectangle registered in the logbooks were applied (RECTANGLE_TYPE: ‘05*1’).

The quality indicators of discard estimates suggested by the STECF EWG 23-05, CV, CI upper and CI lower have been applied to the part of the present data set.

Value of landings by fleet segments were estimated based on price information derived from sales slips multiplying by weight from landing declarations.

Data availability

All information requested in the FDI data call was provided by the deadline specified in the data call.

Coverage and General comments

Provided data covers all activities of the Estonian commercial fishing fleet operating in the Baltic Sea (ICES Sub-divisions 28.1, 28.2, 29 and 32, and in the Northern Atlantic.

Information on recreational fishery primarily targeting perch, pikeperch, pike, flounder, whitefish, salmon and sea trout in Baltic Sea has not been provided.

No refusals in obtaining biological samples and other relevant information from the selected fishing vessels were reported in 2013-2023.

General comments on issues revealed in provided national FDI data set

Discrepancies described in the table “Wghtland vs. Valland in Table A” of JRC Data checking facility, were mostly caused by the lack of information on first sale prices of some fresh water species in the coastal small-scale fishery (using small boats under 10 m). The same applies for the information on landings from the North-western Atlantic (vessels over 40 m).

Discrepancies between Spatial effort vs Effort (Tables I and G)- may be caused by the fact that in some cases the vessel is fishing in several statistical rectangles during the same trip, causing thus differences in effort values between the tables of different level of resolution: in case of Spatial effort (Table I) the number of fishing days is calculated by statistical

rectangles visited during the fishing trip, while in case of nominal effort the fishing days are summed by Sub-region. This cause higher figures in case of Spatial effort.

Discrepancies between TotWghtLand vs Discards in Tab A: This issue is with long-distance fleet in cases when all catch has been discarded.

Discrepancies between TotWghtland in Tab A, C, D: MS checked the respective uploaded figures in Tables A, C and D and found the that they all match. MS is not in the position to comment the mismatch in data check results.

Discrepancies between TotWghtland in Tab A, E, F: MS checked the respective uploaded figures in Tables A, E and F and found the that they all match. MS is not in the position to comment the mismatch in data check results.

Discrepancies between Spatial Landings vs. Landings (Tables H and A): The differences are mostly less than 1 kg and probably stem from rounding.

Discrepancies between Spatial Landings vs. Spatial effort (Tables H and I): This problem concerns the coastal small-scale fishery in 2013-2018 when the respective information on effort was not available.

Differences in Length and Weight units in tables C, D, E and F: are caused by the following of the guidelines where both cm/mm and kg/g are accepted as units (LENGTH UNIT: The unit of length classes [‘mm’=millimetre, ‘cm’=centimetre; WEIGHT_UNIT: The unit of measure used for the column MEAN_WEIGHT_AT_LENGTH [kg = kilogram, g = gram].

For different species different length and weight units were applied.

DTMT issue ID 4989: No inactive vessels have been included in 2021-2022 in Table J. (Capacity and fleet segment effort): MS was not aware about the need to report also on the inactive vessels. MS has included the inactive vessels in uploaded data set for 2023 and will upload the missing information for 2021-2022 during the next (2025) FDI data call.

Comparison with Eurostat data

Landings data provided for the FDI database for 2013-2023 were very close to the information reported to Eurostat (differences were less than 0,5%).

The observed minor differences in vessel numbers can be explained with the counting of inactive vessels in Eurostat dataset.

Data confidentiality

All information provided by the Member State as a response to the FDI data call is regarded as **not confidential.**

Problems encountered

Member State encounters persistent problems in obtaining effort information from the small, under 10 m boats operating with passive gears like gillnets and fyke nets in small scale coastal fisheries. In case of the small boats only information of Sub-region level is available. The scarcity of respective information prevents presenting the reliable effort estimates by the statistical rectangles.

Previously, Member State encountered difficulties in obtaining of the value estimates from the long - distant fleet, that landed outside of Estonia. From 2023 MS does not encounter such a problem anymore.

COVID issues in 2020-2023

Estonia did not experience any serious issues in performing fish sampling at sea or harbours according to NWP or in access to the requested fisheries economical information due to the COVID pandemic in 2020-2023.

Other comments if relevant

No other comments.

References

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A1.6 IRELAND

Methodology

The Irish data submission is based on the following sources:

- Logbook (vessels >10m) and Sales Notes (vessels <=10m) data (wanted catch, value, spatial effort and landings etc.)
- Fleet register (Number of vessels, Fleet determination etc.)
- Scientific observer data (discards, length and age distributions)

QUARTER and YEAR defined on the trip return date. FISHING_TECH of a vessel for a certain year was determined based on the highest fishing days recorded for a certain gear. Estimates of discards were raised from the national sampling scheme, for which the strata are defined within the variable DOMAIN_DISCARDS. No estimates of discards were provided for unsampled strata, and were marked as “NK”. Only estimated values of discards were provided in table A. Estimates of discards were raised to the fleet level for each year, quarter, gear, area, and species. Fishing effort (hours fished) was used for all species as the auxiliary variable. The discard rate (kg/h) and age composition (where applicable) were then applied across the remaining strata (vessel_length; mesh, fishery; specon_tech) based on the effort (fishing hours) in each of these strata. Discards that were observed to be zero are included. Age and length distributions for landings were estimated from market sampling and at sea sampling programme.

Irish market sampling information is not recorded with mesh size information; where possible this was re-constructed by linking to the logbooks database to the sampled data. The age composition of the landings was estimated for each quarter by gear, area and species (any further disaggregation would violate the sampling design). The age compositions were then assigned to each of the remaining strata (vessel_length; mesh, fishery; specon_tech) based on the reported landings in each of these strata.

Effort was calculated using the fecR package.

Ireland provided refusal rates for two separate sampling programs; demersal (DEM) and pelagic (PEL). These refusal rates were calculated using the guidelines set out in SGPIDS 3 (ICES CM 2013/ACOM:56). In 2017, Irelands demersal at-sea catch sampling programme was changed to a 4S programme (statistically sound sampling scheme). This demersal sampling frame consists of Irish registered vessels >10m length using the gear types OTB, SSC, GNS and TBB and with target assemblages DEF and CRU. The sampling frame is

stratified temporally (year and quarter) and spatially (based on which ICES areas the majority of their fishing activity occurred in the same quarter in the previous year). This results in 3 vessel lists per quarter (vessels mostly fishing in areas 27.6, 27.7.a and 27.7.bk). Random selections are then made from these lists and sampling coordinators then try and contact the selected vessels to arrange trips for at -sea observers to sample. Vessels are selected with unequal probability, based on their length and the number of t rips they have previously made. No clustering or sub-sampling is used. Refusal rates for the pelagic fleet could only be calculated for the pelagic fleet as this was the first year of a 4s scheme.

Coverage

General comments:

Data was provided for all years requested (2012 – 2024) for all tables before the operational deadlines. The data covers all areas in which the Irish fleets are active and conform to the requested aggregation. There is no information on misreporting. Data were marked as CONFIDENTIAL if the data relate to less than 3 vessels operating within a fishery. Values in the fields TOTWGHTLANDG and TOTVALLANDG in table A and table H were both considered as confidential when the criteria of < 3 vessels was met. No biological data was provided for 2012 as it was not possible this year. It is hoped to supply in future years.

Specific comments:

- **Domian name consistency:** Overall, there was complete consistency between table A and tables containing biological samples (Tables C, D, E & F). There were no domain names in the biological tables that could not be matched to metiers in Table A. There are a number of domains in Table A, which have discards for TAC species but no associated landings. These are correct. RCG metier labelling script developed by an RCG subgroup (https://github.com/ices-eg/RCGs/tree/master/Metiers)
- **Eurostat data comparison:** Due to national confidentiality laws, landings data are no longer available through Eurostat for 2018-2022 and are likely to not be made available going forward. This historical data (<2018) shows generally good consistency between Irelands FDI submission and the Eurostat extraction. The only major difference is in the vessel numbers, which is because the Eurostat list contains inactive vessels.
- **Confidentiality:** Ireland considers that any aggregated operation that contains less than three vessels should be marked as confidential. There is a need for the Commission to clarify the legal requirements and methodology, which should be applied in this section. The provision of different levels of confidentiality in this year's data call (all, none, weight and value) helped to improve data availability.
- **Discard estimates:** Discard estimates in Table A are currently higher in table A then in the biological tables C and D, as the methodology currently used "tops up" the estimates in table A to bring them in line with ICES estimates. It is planned to make improvements to this methodology over the coming year.
- **Effort data:** There are landings reported in Table A which do not have a corresponding effort in TABLE G. The majority of these missing effort records are related to the small scale fleet (<12 meters) for which there is currently no method to estimate from sales notes data, which contain no gear or fishing time information. Table A, I and H contain mesh size Gear mesh size codes were incorrectly used, with passive gear range codes being applied to active gears.

- **Economic value data:** In some cases, there is no value information for non-TAC species, or landed unwanted catch. This is considered normal practice and cannot be improved.
- **Biological data:** The 2022 data was submitted using two data sources. The first source used raised data submitted to ICES, which was collected in a new database, and formatted for FDI purposes before being submitted. This new process provided a tool to increase the number of age, length and discard estimates submitted to FDI and ensured alignment with sampling plans and estimated processes. This database has enabled Ireland to increase the number of assessed species and samples included in our response to the FDI data call. For stocks which are not assessed, at sea samples, where possible, were raised to provide age, length and discard estimates. These estimates have less certainty around them and have in some case resulted in higher SOP's.
- F**ishing Technique:** During the working group it was found that Ireland were not accounting for "Inactive" vessels within the FISHING_TECH definition. Therefore, there were a larger number of vessels reported in Table J then in the Annual economic report. There is currently no method available to provide this information as the Institute which provides data for FDI only have access to active vessels.
- **EEZ indicator:** Where VMS data was available it was used to determine the proportion of VMS effort in EU27 and UK waters – this was then used to allocate landings to the relevant EEZ. VMS effort is based on the time interval between pings and vessel speed thresholds. Where VMS data was not available landings were allocated to EEZ based on fixed ratios for each statistical rectangle. Consistent VMS data is only available from 2012 onwards. If EEZ information is required for earlier years then it could be explored to split the data by EEZ using the fixed ratios for shared ICES rectangles. But the validity of the methodology and quality of the results would need to be tested.
- **Quality indicators:** Quality indicators reported in the biological tables (CV and CI) were estimated where possible this year. These indicators are not considered robust at this time as they are estimated in a way that may not be scientifically meaningful. Ireland will continue to work with the RDBES governance group in developing methods to estimate indicators in a robust manner.

Problems encountered

No problems were encountered.

A1.7 GREECE

Methodology

A National Centralized Database (NCD) has been established in Greece to store data collected under the Data Collection Framework (DCF). Confidential Vessel Monitoring System (VMS) and Electronic Reporting System (ERS) data are provided by the Ministry of Shipping and Island Policy, and the Ministry of Rural Development and Food, respectively. The professional fishing fleet, which is required to be equipped with a positioning control system and maintain ERS data sets, contributes to this data collection effort.

VMS data is used to estimate spatially explicit fishing effort for vessels with a total length of ≥12 meters, including all trawlers, purse seiners, and vessels with specific fishing licenses (e.g., large pelagic fishing, small-scale fishing vessels (SSF) operating in international

waters). The spatial fishing effort is estimated using predefined 2x2 km cells and aggregated by GFCM statistical rectangles with a 0.5x0.5 degree resolution, based on methodologies proposed by Kavadas et al. (2014) and Maina et al. (2016). Spatially explicit landing estimates are also available for vessels ≥12 meters and those with special fishing licenses, derived from ERS data provided by the Ministry of Rural Development and Food and aggregated by GFCM statistical rectangles.

For small-scale fishing vessels under 12 meters in length (which represent 96% of the Greek fishing fleet), effort and landings are estimated through an Effort-Landings assessment survey using a spatially and technically stratified random sampling scheme. Data is collected monthly at ports from a representative sample of vessels. The total landings and effort per month, fishing gear, and GSA (Geographical Subareas) are estimated according to methodologies described by Kavadas et al. (2021), accounting for fleet inactivity. Specific R routines have been developed to support the analysis, estimation, and reporting of SSF vessel effort by major areas (Greece is divided into 12 major areas under the DCF sampling scheme) and by GSA.

Fleet capacity information comes from the National Fleet Registry (NFR) and is provided by the Ministry of Rural Development and Food. Discard data is collected through the biological data sampling scheme, specifically from onboard sampling trips (detailed in Touloumis et al. 2021). Sales data is gathered monthly through questionnaires at ports from SSF vessels, while for the rest of the fishing fleet, sales data is recorded in the NCD via the ERS.

All data used, as well as analyses and data transformations performed to prepare the FDI templates, are rigorously tested for quality using dedicated R scripts. Length and age distributions are processed to support Med&BS, FDI, and GFCM/DCRF data calls, based on at-sea observer data and biological sampling data collected under the DCF. Domains corresponding to the DCF are defined and included in Table A. Discard ratios and quantities are estimated from at-sea sampling data. Landings below the minimum conservation reference size are not adequately reported in the ERS, so this information is gathered from at-sea observers, and the discard ratio is used to fulfill specific data call requirements related to landing obligations and scientific research.

Data availability

All the data was submitted by the FDI data call deadline.

Coverage

After almost 5-year gap in the implementation of DCF (2009-2013), in the last quarter of 2013 the actions of the program started to be implemented. Effort by rectangle for trawlers, purse seiners and SSF vessels with LOA>=12m from VMS as well as limited information from SSF are provided. For 2014, the DCF was executed from April to December. Spatial landings data are not available because the ERS had not been established. Effort by rectangle for trawlers, purse seiners and SSF vessels with LOA>=12m are available from VMS. Due to abnormal execution of DCF in 2015 (was executed only in the last quarter of the year), only effort data related to the operation of trawlers, purse seiners and SSF vessels with LOA>=12 m can be used for analysis purposes. The ERS started operating the last quarter of the year. FDI data for the year 2016 is provided for the period March to December, except landings and effort information for trawlers, purse seiners and SSF with LOA>=12m are provided for all months. Due to abnormal execution of the DCF in 2017 (partial spatial and temporal coverage), landings, discards and value data are missing in Table A. Only spatial landings for trawlers, purse seiners and SSF with LOA>=12m are provided in Table H. Under these conditions, no comparisons between FDI and AER can be made. Related to years 2018-2023, complete data sets are provided. VMS, logbooks, sales notes, and fleet register data are provided by the Ministry of Shipping and Island Policy and the Ministry of Rural Development and Food

Agency. Related to small scale fisheries, data are collected in the framework of DCF. For years 2016-2023 and for the case where effort not covered by landings, should be noted that the effort is estimated by 2x2Km cell size and then is aggregated to ERS (GFCM) rectangle. In some cases, fishers report wrong rectangle (often a neighbouring one), leading to these discrepancies. In general, such cases are not numerous and the estimated landing and effort values are very small. Spatial effort from SSF (VESSEL_LENGTH: VL0006 & VL0612) are estimated for years 2018-2022 according to methodology proposed by Kavadas et al. (2015) and Maina et al. (2024). Concerning differences in the number of vessels between FDI and AER should be noted that the number of vessels provided in the FDI (Table J) comes from the National Fleet Register. In AER, the inactive vessels are estimated by sampling survey and are deducted from the professional fishing fleet. This leads to minor discrepancies between FDI and AER, however, data harmonization procedures between the two calls ensures that these discrepancies remain insignificant.

The comparison between Table A and Table G reveals missing values for Totfishdays and Totseadays, despite the presence of Totwghtlandg values in Table A. Most of these cases are related to abnormal DCF execution.

Confidentiality

If there are less than three vessels in the aggregation level in tables A and for field TOTVALLANDG, they are marked as confidential.

General comments

The Covid-19 pandemic did not have a serious impact on the coverage of Greek sampling at sea.

Comparison with Eurostat data

In term of the fishing fleet, no significant differences exist between EUROSTAT and FDI data call except 2021 where the number of fishing vessels in EUROSTAT data set is 16% higher. In terms of landings, no comparison can be performed for years 2013, 2015 and 2017, due to the partial implementation of the DCF. It will be noted that in the landings reported by EUROSTAT, shellfish quantities are included. In 2019, 2020, 2021 and 2022 the EUROSTAT landings data are 15%, 13%, 16% and 15% respectively higher than the FDI data.

Problems encountered

No problems were encountered during the data collection or submission process.

Other comments if relevant

Refusal rates from the at-sea observers have not been reported.

For the 2024 FDI and Med&BS data calls, RDBFIS has been utilized to perform syntax and consistency checks on data, as well as to update the Regional Database for the Med&BS (via uploading).

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A1.8 SPAIN

Spain provides data for all the fisheries of the Spanish vessels around the world:

- ICES area: Northeast Atlantic (FAO 27.6-27.9)
- Mediterranean Sea: FAO 37
- CECAF area: Atlantic Eastern Central (FAO 34)
- Tuna fisheries: Atlantic Ocean, Pacific Ocean and Indian Ocean
- Long distance fisheries:

  • Northwest Atlantic (FAO 21)

  • Eastern Arctic (FAO 27.1, 27.2)

  • Northeast Atlantic (27.5, 27.6, 27.12, 27.14)

  • Southwest Atlantic (ATSW-Malvinas), and areas management by next Regional Fisheries Management Organization: SEAFO, SPRFMO, SIOFA, CCAMLR. Spain provides fishing data (landing, effort, etc.) of the fisheries in these areas, but not biological data (métiers, discards, length and age distribution). As an exception, biological data are given for the trawl fleet targeting crustaceans (OTB_CRU_>=40_0_0) and demersal species (OTB_DEF_>=70_0_0) that operates in the FAO 47.1 area.

Methodology

Spain uses mainly two data sources to collect the fisheries information required by STECF to respond the FDI Data Call:

- Information from Spanish Administration: fleet register, licenses, results of inspections, logbooks, sale notes and data of geographic positioning (Vessel Monitoring System (VMS)).
- Scientific information collected on the basis of the National Programme for Data Collection, under the Data Collection Framework.

  Biological data (discards, length and age distributions) are obtained from scientific information. Data on the activity of Spanish fishing vessels (landings, effort, capacity, economic value, etc) are obtained from official statements (sales notes, logbooks, VMS, etc).

Métier definition

As landings and effort are requested at a métier level, Spain developed a procedure to categorize logbook and sales note records into métiers (level 6 which included gear type, target assemblage and mesh size and other selective devices). This procedure is split into different methodologies concerning the characteristics of each fishery:

- To the fishing data from ICES area, two successive concatenated methods are applied. In the first place, the metiers of direct assignment based on administrative criteria (census, license ...) and / or geographic. Next, the métiers that require the application of multivariate analysis on the capture profiles of their trips. For this, Clustering Large Application (CLARA) is used.
- In the case of Mediterranean Sea fisheries, rules and thresholds of allocations based on profile of capture are applied.
- In related to CECAF area, Tuna fisheries and long distance fisheries, the logbooks and sale note records are introduced into a métier taking into account: fleet, area, seasonality and target species. For long distance fisheries it is necessary to specify that the allocation is made for each haul, not trip. This is because, as they are, very long trips, they can change gear.

The data sources used for assigning métiers for large scale fisheries are logbook and sales notes and for small scale fisheries only sales notes are used. The metrics used for assigning target species assemblage group is weight.

Discards

Discard information comes by default from scientific observers on board programme by métier. This programme provides discard ratios by stratum (combination of area, quarter, métier and species). Discard ratios (discards/landings) are multiplied by their corresponding landing weights of each row of Table A in order to obtain each row discard weight.

The raising variable in discard estimation is effort (number of trips). However, the partitioning of discards is calculated proportionally to the landings of the same species. The possibility of using effort as a partition variable continues to be explored, but it could not be applied this year.

Discards with landings 0 were distributed, using the landings of all the species landed in the domain as a partition variable. This new approach was applied throughout the historical series (2013-2022).

Length and age distribution

Landing length distribution and landing age data are obtained from biological sampling which are developed in:

- Fish auctions from all along the Spanish coast
- Biological sampling of marine organisms from commercial activity which are carried out in different laboratories of the marine research centres
- Scientific observers on board programme

Discard length distribution and samples to obtain the discard age distributions come from the scientific observer programme.

Length and age distribution are raised by weight to each stratum:

- length by area, métier, quarter and species

- age by stock, quarter and species

The number of individuals measured by each length/age class is multiplied by the weight of the catch (landings or discards) of each stratum and divided by the weight of the sample.

Domain definition

The link between Table A and Tables C, D and Tables E, F, is the domain discard and domain landing, respectively.

In previous years, Spain used the definition of domain following the example of the data call Annex. Firstly, the domains were allocated in Table A and later the biological data was adapted to these domains to complete Tables C, D and Tables E, F. Therefore, the domain landing and domain discard did not match with the sampling unit, and for this reason, some artefacts were produced like for example:

- wrong identification of duplicates in the data base,
- the split of one métier data into several groups,
- the aggregation of data of different métiers in the same group.

It caused problems in regard to coincidences of landing weights between Table A and Tables E and F, and the incorrect processing of the mean weight data.

To avoid these inconsistencies, in 2021 a review of the domain assignment was made. Firstly, the domains will be allocated in Tables C, D and E, F, adapting the domain definition to match stratum used to calculate the length distribution, taking into account the rules established in the data call annex (see appendix 8). The variables defining domain are: Year/quarter, area according to sampling unit and métier.

In the case of age distribution, since the stratum used to calculate them is relative to the stock and not to the métier and area, it is necessary to adapt the age data. If the stock includes several areas, and therefore several domains, the same age distribution will be used for each domain in this area.

The exposed domain definition was applied to the entire historical series (2013-2022) in 2023 and has been applied since then.

Refusal rate

Refusal rates of Table B come from the two at-sea sampling programmes developed in the Subareas ICES 8 and 9; one of them samples the non-Basque fleet, which is managed by the Instituto Español de Oceanografía (IEO), and the other samples the Basque fleet, which is managed by AZTI. Refusal rates collection has been implemented from 2016 in non-Basque fleet and 2015 in Basque fleet, therefore no data prior to these years, respectively, are available.

At-sea sampling programmes (non-Basque fleet)

The target population consists of fishing trips from trawlers and gill netters operating in the Atlantic Spanish fishing grounds. By operability, the sampling population has been stratified in three strata according to the official lists of licensed vessels:

- EO_P1_S_CN_GNS: set gillnets ("volanta" and "rasco") in Cantabrian-Northwest.
- IEO_P1_S_CN_TB: Bottom otter and pair trawl in Cantabrian-Northwest.
- IEO_P1_S_GC_OTB: Bottom otter trawl in Gulf of Cádiz.

From the year 2023, included, the purse seiners of the Gulf of Cadiz are sampled onshore.

In relation to the procedure for selecting sampling units, the vessel represents the Primary Sampling Unit (PSU), which is randomly selected from official lists of boats with fishing license. The PSU selection is done by Simple Random Sampling With Replacement (SRSWR).

The entire target population is included in the sampling frame. The sampling of gillnets is focused on those targeting hake and white anglerfish. Meanwhile, all vessels of the purse seine and trawl métiers are susceptible to be sampled.

Considering the vessel-trip combination as PSU, the Secondary Sampling Unit (SSU) is the fishing operation (haul). All of them are sampled in the métiers of the national fishing ground with daily trips.

All catch categories available on board, as well as the incidental catches of sensitive species are considered in the sampling scheme.

The call protocol for the vessel-trip selection of the SRSWR at-sea sampling scheme includes the recording of responses, which have been classified into the following 6 categories:

- Affirmative: sampled trip.
- Hard refusal: skipper declines collaboration.
- Soft refusal: temporary unavailability of the vessel/trip (repair, temporary lack of space, seasonally dedicated to other fishing activity...).
- Observer refusal (security reasons, etc.).
- No answer: unable to contact.
- No contact details.

More information about the ESP_IEO_P1_AtSea_documentation
http://www.ieo.es/documents/10640/7680600/P1-ICES-Sampling+Documents.rar/bbba5636-b922-4fd3-ae94-64890eecacd0

At-sea sampling programmes (Basque fleet)

The target population of this programme is trawler based in the Basque Country and it is divided in three strata:

- Bottom Otter Trawlers (OTB)
- Pair Bottom Trawlers in area 8abd (PTB_8abd)
- Pair Bottom Trawlers in area 8c (PTB_8c)

In relation to the procedure for selecting sampling units, the vessel*week represents the Primary Sampling Unit (PSU), which is selected using a matrix made of vessels and weeks. By quarter, each PSU (vessel*week) is coded with a number, and the PSU to be sampled are selected randomly from the list, in accordance with the planned sampling effort. If a vessel refuses to be sampled, the next vessel (same week) is selected. Refusals are recorded in an excel file with a short explanation of the issue.

The Secondary Sample Unit (SSU) is the trip. In the strata OTB and PTB_8abd, there is usually one trip per week. In the stratum PTB_8c, there are usually several trips in the week and the sampled trip is randomly selected.

In relation to the sampling of fishing operations a systematic sampling of hauls is made. More or less, four hauls out of 5 are sampled. Some hauls at early morning are not sampled.

All catch categories available on board, as well as the incidental catches of sensitive species are considered in the sampling scheme.

More information about the on board sampling protocol can be found

https://www.azti.es/en/servicios/fisheries-sampling-programme/

Spatial data

The spatial data notation used by Spain to provide the spatial data of landings and effort (Table H and I) is the rectangle.

The source of spatial information for the large scale fleet is a combination of logbook and VMS. When there is no congruent statement in the logbook, VMS is used to check this (in cases where vessels have VMS).

In the case of small scale information, it was included in the FDI data and the source is official declarative forms or approximation. The method used for the approximation is based on the landings port and sales port.

Coverage and methods used to estimate landings and effort data for vessels <10m

The main source of fishing activity data of small scale fleet is the sales notes, except for exceptions due to specific regulations that oblige vessels less than 10 meters to cover the logbook.

Metier/gear/mesh size are estimated on the basis of sales notes, landings species composition and declared gear or fleet register gear.

Fishing effort is calculated according to Nicosia 2016 (see next section).

As improvements, since 2018 sales notes information is collected by TRAZAPES, a tool that has information quality control systems. These systems allow verifying, prior to its acceptance and incorporation in the databases, the consistency of the information submitted. Thus, the information and quality obligations are met, greatly improving the quality of the data, although sometimes discrepancies are still found.

It should be highlighted this tool is under constant development, establishing new rules to guarantee the adequacy of the information.

Calculation of the effort and use of the FecR package

FecR package is not used. Instead an algorithm was developed to calculate the effort according to Nicosia 2016.

The basic principles are:

- Days at sea: 24 h period
- Fishing days: calendar days on which fishing activity takes place.
- Trip:
    - Vessel with logbook. A trip is the basic unit to calculate effort. Trips are registered in logbooks by fishermen.
    - Vessel without logbook. Sales notes are the reference. 24-hour period is not used, as there are no “Departure date”/”Return date” registers. 1 sales note = 1 trip = 1 day at sea = 1 fishing day.
- Gear:
    - Active gear are considered to be used sequentially.
    - Passive gear are considered to have been deployed in parallel which requires separate effort calculation. Each gear = 1 effort day.

- Allocation effort regarding gears and areas. Each combination of gear-area in each fishing day (GAFD) within a trip is taken into account as a conversion factor (= (1 / total Fishing days) / nº GAFD) for the allocation of effort.
- Effort calculation should never be duplicated. In this case, it is taken into account: gear, mesh size and area.

UK EEZ indicator

The UK EEZ indicator is assigned according to the country declared in logbook, that is, corresponding to United Kingdom. This criterion was applied to the entire historical series (2013-2022) in 2023 and has been applied since then.

Deep criterion

The criterion used for assigning the fishing trips as deep trip is the one proposed by the FDI, when the catch of deep species exceeds 100kg.

Data availability

2017 and 2023 tables were uploaded before the deadline. However, 2023 tables were re-uploaded again in the operational deadline, due to some errors in the original data.

Coverage

The data provided covers all areas in which the Spanish fleets are active and according to the requested aggregation.

In 2023, the historical series was updated to incorporate the new métiers codes agreed upon in the *ISSG on métiers and transversal issues* of RCG of NANSEA. To correctly report the biological-fishery data of the Spanish tuna fisheries, the FDI was requested to incorporate a new field in which the métier would be introduced at level 7, including the target species of the fishery. The required modifications were made without any major inconvenience.

Moreover, the UK as the new EEZ-indicator and the unification of deep criterion were carried out for all years.

The data in Tables C and D for 2013 could not be provided as they were not considered statistically robust.

In 2024, only 2017 and 2023 data relating to fishing activity have been uploaded. In the case of the 2017 data, they were re-uploaded to solve an inconsistency between the FDI data and the AER data, relating to the geoindicator values.

Comparison with Eurostat data

In general, the number of vessels and the total landings reported in the FDI are comparable with the EUROSTAT data.

Regarding the number of vessels, the difference ranges between 1% and 3%, being the data reported in FDI slightly higher than in Eurostat. The highest differences were found between 2013 to 2018.

Regarding total landings, the greatest discrepancies are located in the years 2013 and 2014, with a difference of 13% and 15%, respectively. For the other years, the percentage is less than 7%. Total landings are slightly higher in the FDI, except in 2013 and 2014.

Confidentiality

The recommended methodology in FDI annex was used: data that relates to less than 3 vessels are considered confidential.

Table A, H if less than 3 vessels at aggregation level then A, otherwise N. Table G, I if less than 3 vessels at aggregation level then Y, otherwise N.

Problems encountered

Problems related to the structure of the data call

The overstratified FDI data matrix does not match with the DCF data collection sampling strata, this produces artefacts as for example discard data must be disaggregated by vessel length range producing possibly non representative values.

Problems related to data submission

There have been no notable problems loading data this year.

Regarding the issues detected last year and this year during the compilation of spatial data, Spain considers that these errors are non-significant and, therefore, no action needs to be taken, as the data concerned are extremely low.

A1.9 FRANCE

Methodology

In accordance with the French DCMAP working plan 2022-2024, the French data submission for this data call is based on the following sources of information:

French fleet register (vessel characteristics (length overall, kilowatt, gross tonnage, age of the vessel), geographical indicator, total number of vessels).

Annual monthly fishing activity calendars survey[1] (active/inactive vessels, typological classification of vessels by fleet/fishing technique, fishing area, métiers, supra-region).

EU Logbooks *(over 10m'vessels)* and **national monthly declarative forms** *(coastal logbooks, less 10m' vessels, declarative forms adapted to the special features of the small-scale coastal fisheries)* (total weight of landings by species, fishing effort (number of trips, days at sea, fishing days and hours at sea), fishing area, gear and mesh size).

Sales note data (total weight and value of landings by species).

Geolocalisation data *(inc. VMS data)* (fishing effort estimates (number of trips, days at sea, fishing days and hours at sea), detailed fishing area).

Complementary on-site sampling of trips[2] *(catch assessment survey)* (total estimates of weight and value of landings by species, fishing effort estimates (number of trips, days at sea and fishing days), fishing area, métiers).

At-sea *(vessel' fishing trip sampling)* **and on-shore** *(port-sampling)* **scientific observer sampling data** (discards estimates, length and age distributions by species of landings and discards).

The definition of the **reference fleet population** follows the definition of Commission decision 2016/1251 *(any vessel registered on 31 december or which has been registered in the EU fishing fleet register at least one day in the year up to 31 december)* in order to have a comprehensive view of the fishing activity applied during the year.

Complementary on-site sampling of trips *(catch assessment survey)* are collected for the **French fishing fleet less than 12 meters length operating in the following regions: French Guiana (Geo Indicator: GF), Guadeloupe (GP), Martinique (MQ), La Réunion (RE), Mayotte (YT) and Mediterranean continental area until 2018** where the coverage

and precision of the available declarative control regulation data is (was) evaluated as insufficient/incomplete to meet the end-users data needs *(e.g. DCF requirements)* and are (were) judged insufficient and unreliable to estimate fishing activity data. Reference fishing activity' estimates for these fleets *(total estimates of weight and value of landings by species and fishing effort (number of trips, days at sea, fishing days), fishing area and metier)* are then calculated on this basis.

For the French fishing fleets less than 12 meters length operating in the supra-region Mediterranean *(for Corsica vessels and since 2019 for Mediterranean continental area)* for which the coverage and precision of their available declarative control regulation declarative data is evaluated as insufficient/incomplete to meet the end-users data needs *(e.g. DCF requirements)* but are judged sufficient and reliable to estimate their fishing activity data ; a **re-evaluation methodology on the basis of the annual monthly fishing activity calendars survey** is applied to calculate their reference fishing activity' estimates *(details about the re-evaluation methodology applied is described in the 9th IFOMC Vigo proceedings p°105-108, https://www.ifomc.aq/information/proceedings/past_proceedings).*

Some **specificities** applied for two particular fishing fleets: **"Mediterranean Bluefin Tuna Purse Seiners"** and **"Tropical Tuna Purse Seiners and Longliner"** but sources of information are very similar, differences being related to the database holding the information and the way to process the data.

Finally and for all the other French fleets, the definition of all the fishing trips with their associated features *(dates, fishing area, métier, gear and mesh size, total weight and value of landings by species)* is based on a **cross-validation tool: SACROIS**[3] **of the different available declarative data**.

Based on all these sources of information, fishing capacity and activity' estimates could be calculated for the whole of the reference population *(French fleet register vessels including overseas fisheries, long distance fisheries and small-scale fleets)*. They are conformed to the requested aggregation *(by year, quarter, vessel length classes, fishing technique, supra-region, gear and mesh size, métier and fishing area)* and cover all the areas where French vessels operates.

A specific process is included *(in the SACROIS algorithms but also in the re-evaluation methodology or when processing the complementary on-site sampling of trips)* **to estimate value of almost every landing** *(especially based on the sales note data but also on estimated average price or observed/surveyed prices)***.** Finally, **only few species/fleets do not have value assigned** *(regarding the result of the "Wghtlandg vs Vallandg" data check)***. The principal fleet without value assigned is the "French Tropical Tuna Purse Seiners and Longliner"** *(99.8% of the total landings provided without value assigned)*. From 2013 to 2015, also **"Guiana Shrimp Trawlers"** have not value assigned**.** Appart from these two fleets, **the principal specie without value assigned correspond to the landings reported under the OTH** *(Other species)* **codification** *(i.e the few landings not allocated to a specific specie).* Very few other landings are also not informed about their value associated *(e.g. landings of YFX/Symphodus wrasses nei, MUS/Blue mussel or GEQ/Giant gelidium)* but it remains very minor species/landings (<0.03% in total of the landings provided).

EEZ indicator *(particularly the more precise EEZ indicator, which includes UK waters)* has been derived especially from SACROIS data which integrate this information based on assumptions and cross-validation process of different data sources.

For geolocalized vessels *(inc. VMS'vessels and the few under-12m geolocalized vessels)*, EEZ is derived directly from their geolocalized data.

For non-geolocalized vessels, SACROIS algorithm allocate an EEZ by fishing trip for each landing based on the following information and assumptions:

1) Monthly fishing declarative forms or logbooks filled out by the fishers eventually refine/precise through the annual monthly fishing activity calendars where “precise” fishing areas could be informed *(as national statistical sub-rectangles and/or the range of operation (in or out the 12-mile coastal band))*
2) Pro-rata calculation application when the most precise spatial information available/calculated cover more than one EEZ.

Fishing effort estimates *(number of trips, days at sea, fishing days and hours at sea)* have not been calculated by using the generic R script provided for this data call as is not suitable for vessels without logbooks and for vessels outside FAO area 27 *(need to have ICES rectangle)*. Nevertheless, the common joint methodology developed during the 2nd transversal variables workshop was implemented on French data *(development of an adapted R script)* in order to calculate the estimates and answer the data call.

Regarding the results of the *data check comparison between Table A (landings) vs Table G (fishing effort)*, it could be noticed that “Totseadays” are not documented for the fleet “Mediterranean Bluefin Tuna Purse seiners” as this fishing effort metric is of very limited meaningfull for this very specific fleet. Nevertheless “Fishing days” have been provided for it and could be used for the analysis. Apart from that, all the other data provided in tables A (landings) have been informed with associated fishing effort estimates (Table G) apart the only exception of one line for “Tropical Tuna Purse Seiners” fleet which represents ~0.25 ton in 2019.

Spatial distribution asked in the tables H *(landings by rectangle)* & I *(effort by rectangle)* are derived from the SACROIS data which are spatialized at the most disaggregated spatial level available in the declarative data *(logbooks, monthly declarative forms)* and the vessel’ activity calendar survey *(e.g. ICES rectangles or sub-rectangles for FAO 27)*. They have been completed for geolocalised vessels *(inc. VMS’ vessels)* to provide spatial information at C-square level at 0.5*0.5-degree resolution. Spatial information is completed by the on-site sampling data for fishing fleets not covered by the SACROIS data. For the fleet “Mediterranean Bluefin Tuna Purse Seiners”, spatial information, as this fleet is under ICCAT management, has been provided at 1.0*1.0 degree resolution.

Discards and **length/age distribution estimates** have been calculated based on the scientific observer sampling data *(at-sea and on-shore sampling program)*. The declared unwanted catch data from logbooks were not used to calculate discards estimates.

At this stage, Discards’ **quality indicators** *(DISCARD_CV, DISCARD_CI_UPPER and DISCARD_CI_LOWER)* have not been provided in Tables C & D.

Discards estimates and length/age distribution estimates for discards and landings have been provided following the domain definition asked in the data call and giving the possibility to link the tables C-D-E-F with table A.

Discards estimates are also provided in table A broken up at the level of disaggregation requested according to the following methodology: *1)* aggregation of the discards estimates available in table C by “domain discards/year”, *2)* sum of landings provided in table A by “domain discards/year” and species and calculation of the landings percentage for each row and *3)* partitioning of the discards estimates by row proportionately to the landings using the values calculated in *1&2 (total discards * landings percentage)*. Discards estimates disaggregated have been as well provided for the Mediterranean fisheries *(for which*

biological data estimates are not requested in FDI datacall) in table A following the same methodology.

Estimates available in tables C-D-E-F are issued from the scientific estimates calculated following specific strata definition in space, time and metier in respect with the sampling design. Consequently, only approved biological data estimates are provided in these tables. They are estimated after a post-stratification process where metier, fishing area and quarter could be aggregated in order to maximize the number of samples per stratum and provide the most complete information possible for a given stock *(i.e. level of disaggregation available is determined by the number of samples).* Additionally, strata definitions are annually specific for each stock assessed *(based on expert' analysis)* following for example ICES WG practice in term of labelling[4]. According to this complex process, applied annually specifically by stock, a domain *(ensuing as far as possible the domain definition detailed in the data call Appendix)* has been associated to each of the validated biological estimates calculated by expert (*e.g. by ICES stock assessor)* and have been submitted in the tables C-D-E-F following the strata they retained to extrapolate the sample *(e.g. submitted ICES strata).* Based on that, a domain reference table has been developed in order to map the strata domain to FDI disaggregation level. Therefore, it is **now possible to use straight the domain definition available in tables C-D-E-F to link biological data estimates provided in these tables with information about fishing activity available in table A.**

Finally, the partitioning of discards estimates available in tables C-D-E-F *(according to strata used to calculate the estimates)* into detailed categories asked in table A was also requested by the FDI data call following the conclusion of the STECF Expert Working Group 17-12 which nevertheless, and in the same time, emphasizes the limited meaningfulness behind any partitioned estimates *('estimates will likely not be statistically sound and may be biased because for example of the need to assume equal discard rates among the disaggregated levels contained within the retained strata')*. **Regarding that discards information available in table A are of major importance for the EWG and nevertheless the issues raised above, discards estimates partitioned were provided in table A based on the methodology described above. Nevertheless, it is reemphasized here that approved scientific discards estimates could be only found in tables C-D.**

Age distribution estimates for discards and landings available in the tables C-D-E-F have been provided in **"mm" length unit** with the exception of the "Tropical Tuna Purse Seiners and Longliner" where information have been provided in "cm" length unit following the specific way used to process their specific data.

Table B *(refusal rate)* has been provided this year only for the year 2023 completing the data serie available since 2020 and taking advantages of the new variables added end of 2021 to the sampling reporting to better answer Table B needs. A specific data extraction and processing of the information available in the website dedicated to presenting and monitoring the sampling plan has been done. The results of the French on-board random sampling program *(i.e. ObsMER French statistical on-board sampling program)* are presented for the different strata retained in the national DCF workplan under the same codification *(see national DCF workplan available on the JRC website[5])*. For the different variables asked, the information provided are the following:

- REFUSAL_RATE: Number of vessels/fishermen contacted refusing on-board sampling/ (Total number of attempted contacts – number of unreachable vessels/fishermen)
- COVERAGE_RATE: Number of unique vessels sampled / Number of vessels in the stratum

- NONRESPONSE_RATE: Number of vessels/fishermen contacted not successful *(no fishing trip sampled after the contact)*/ Total number of attempted contacts
- VESSELS_FLEET: Number of total vessels in the stratum *(be aware that a vessel could be in different stratum, double counting)*
- TRIPS_FLEET: Number of total fishing trips recorded in the stratum
- TRIPS_SAMPLED_ONBOARD: Number of total fishing trips sampled in the stratum
- UNIQUE_VESSELS_SAMPLED: Number of unique vessels sampled in the stratum
- UNIQUE_VESSELS_CONTACTED: Number of unique vessels/fishermen contacted
- NOT_AVAILABLE: Number of unique vessels in the stratum with no possibility to go on-board *(administrative refusal)*
- NO_CONTACT_DETAILS: Information not available at this level of precision, information included in the next variable
- NO_ANSWER: Number of vessels with no contact information available or that have not answer to the contact
- OBSERVER_DECLINED: Information not available
- INDUSTRY_DECLINED: Number of vessels/fishermen contacted refusing on-board sampling
- TOT_SELECTIONS: Total number of fishermen/vessels with contact information available

Until now, very few data have been highlighted as being **confidential**. It concerned only long-distance fisheries (Tropical tuna purse seiners) and Mediterranean Bluefin tuna purse seiners as there are very specific and relate to very few vessels. However, there are many issues related to these data where certain lines *(especially the lines for the spatial information which are highly disaggregated)* hold information for less than 3 vessels which have to be legitimately marked as confidential but at this stage are not. In addition, often not all variables are regarded as being problematic. For example, information on the value of landings or discards is much more sensitive than landings.

Data availability

All French data have been uploaded before the legal deadline of the data call also considering the different checks done during the upload process.

No re-upload has been done during the EWG. One issue related to “nep_sub_region”; coding with “NK” in Table C, D, E and F when it should be coded in “NA” as it is in Table A; will be solved during the process to answer the next year data call.

The current data can be regarded as final given current knowledge. However, data could be improved/completed before next data call and in this case, they will be re-upload for the next year data call.

Coverage

French data are now available in the FDI database for 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022 and 2023 *(with exception of Table B where the data serie is only available since 2020)* and cover all the French fleets including overseas fisheries, long distance fisheries and small-scale fleets.

Considering the spatial distribution tables H&I *(landings and specific effort data by rectangle/c-squares)*, **spatial data have been submitted for all the fleets considering the finest spatial distribution available including C-square level for geolocalized vessels.**

Some assumptions have been considered to provide all the data at the level asked in the data call *(e.g. GFCM squares in FAO zone 37)* by proportionally distributing the available spatial data *(especially for non geolocalised vessels for which some of the data could be only available at a more aggregated spatial resolution)* but only as long as it was acceptable. For example, for fleets operating in FAO zone 27, some fishing activity data *(~1% in landings)* have only area information available at the sub-region level *(e.g. ices division, no ices rectangle available)* and could not be derived at the finer spatial resolution asked. As a consequence, spatial distribution tables are not fully consistent with data provided in the tables A and G *(total fishing effort and landings by species figures could differ)*, but it remains negligible.

Comparison with Eurostat data

Minor differences occurred between FDI data and Eurostat likely caused by differences in time and completion status of available data when the estimates were provided nevertheless it remains negligible.

Furthermore, the difference observed in terms of number of vessels between the two dataset seems to be linked with the reference fleet definition retained for them i.e. considering any vessel registered on 31 December or which has been registered in the EU fishing fleet register at least one day in the year up to 31 December in FDI data when Eurostat data seems to consider only any vessel registered on 31 December.

Problems encountered

Covid-impacts on the biological sampling

The scientific sampling of landings and discards of the commercial fishery has been impacted by the Covid-19 sanitary crisis. Sampling program was cancelled in the time period 15th March to 15th May 2020. Some alternative ways to collect nevertheless some data have been tested/implemented *(self-sampling, purchases of fishes …)* to minimize the gap but with more or less success. Finally, on-shore and on-board sampling data available for 2020 have been affected by this situation and some biological estimates could not be calculated for 2020. That's the reason why there is less estimates available in 2020. Furthermore, for some estimates combination of strata has to be done to balance this lack of data. Finally, it is the best scientific biological data estimates regarding this lack of data that have been provided in the tables CDEF in response to the FDI data call.

Other comments if relevant

No other comments.

[1] **Annual monthly fishing activity calendar survey covers the whole of the reference population** in all the supra-regions where French vessels operated *(French fishing fleet register' vessels (FPC) including overseas fisheries, small-scale coastal fleets also vessels not cover by available control regulation declarative data)*. The survey is conducted by fishing observers *(observers' network of the Ifremer Fisheries Information System)* yearly in France on the basis of preliminary documentation provided by available control regulation declarative data *(fleet register, logbooks, monthly declarative forms, sales note data, geolocalisation data)* and take place every year in the first month of the year on the previous year. It is particularly instructive for the small-scale coastal fisheries, where catches and effort data are often incomplete.

It aims at characterizing each year the inactivity or activity of all the vessels each month of the year and, in the latter case, the metiers practiced *(metier is defined as the use of a gear to target one or several species)* and the main fishing areas with the corresponding range of operation *(distance to the coast of the fishing operation)*. In addition, fishing activity calendar identified each month the main port of exploitation, the number of fishermen on board and the number of days at sea and fishing days. The aim of collecting data about the activity of each vessel is to have a minimum but exhaustive information on the vessels, to have a complete picture of the whole fleet in terms of gears used and fishing activity, at least at a monthly scale.

Such surveys provide information on the part of fishing activity not included in available declarative data *(completeness check)* and also the basis, if necessary, to re-evaluate available fishing activity data estimates (*in case of incomplete data)*. They constitute also an input each year for the typological classifications of vessels by fleet and a description of their metiers

which in return makes also possible the definition of sampling plans to structure the routine data collection actions. They are also used to allocate metiers to each fishing trip and constitute the exhaustive basis for doing estimation based on the complementary on-site sampling data. Finally, some passive gears characteristics information are also collected during the survey with a minimum of 5% of the French fleet surveyed.

Detailed information about the survey could be found in the following document: *ICES CM 2008/K:12 "From fleet census to sampling schemes: an original collection of data on fishing activity for the assessment of the French fisheries." - Patrick BERTHOU, Olivier GUYADER, Emilie LEBLOND, Sébastien DEMANECHE, Fabienne DAURES, Claude MERRIEN, Patrick LESPAGNOL - https://www.ices.dk/sites/pub/CM%20Doccuments/CM-2008/K/K1208.pdf.*

[2] The fishing trips landings observation programme is based on a sampling plan adapted to each monitored region and based on the frame survey *(Annual fishing activity calendar survey)* useful to optimise the strategy of the spatio-temporal on-site sampling plan. It aims also to cover at best and regarding the aimed estimates accuracies, the variability of catches and fishing effort between “metiers”, “fishing areas” or “seasonality” by optimising the expendable sampling effort. In order to optimise the accuracy of the ObsDEB estimates, a random stratified *(vessels are stratified into fleets)* telephone survey is also conducted in parallel *(when it is appropriate, i.e. in Martinique and Guadeloupe)* aimed at estimating the fishing activity calendar at a finer scale. This allows a better allocation of sampling effort and a better allocation of fishing vessels in the strata. In Guadeloupe, exhaustive fuel consumption per vessel is also used to consolidate total fishing effort estimation.

The sampling of fishing trips is conducted by fishing observers *(observers’ network of the Ifremer Fisheries Information System in the Outermost regions)* throughout the year following the sampling scheme. For each fishing trip sampled directly on-site *(when the fishers come back to the harbour)*, the observer reconstructs with the fishers the course of the trip *(fishing effort, gear used and fishing ground location, landings by species and associated costs)*, and the number of fishing trips per gear/metier for the past week *(weekly activity calendar to estimate fishing effort i.e. number of fishing trips operating during the year by metier)*. The monitoring of the statistical protocol applied guarantees the statistical representativeness of the samples of fishing trips obtained and allow the statistical theory of sampling to be applied to the calculation of effort and landings estimators and their associated accuracies. The sampling rate aim to cover 5% *(in order to guarantee the calculation of confidence interval estimates with an acceptable sampling error)* of all the fishing trips of the fleets monitored with the exception of the fleets operating in French Guiana *(regarding their specificities)* where the protocol is slightly different and globally almost 50% of the fishing trips are surveyed. The raising method is based on the statistical theory and a post-stratification of the fishing trips and weekly calendar sampled by group of metiers. Percentile bootstrap methodology is used to calculate the associated estimates accuracies. McCarthy and Snowden method is applied to define the size of the bootstrap samples in order to take into account the “finite population correction”.

Detailed information about the survey could be found in the following document: *Demanèche, S., Berthou, P., Blanchard, F., Cornou, A.S., Daures, F., Deporte, N., Guyader, O., Lespagnol, P., Reynal, L. 2013. Methodological issues to estimate catches and fishing effort of small-scale fisheries by sampling fishing trips on-site. Proceedings of the 7th International Fisheries Observer & Monitoring Conference, 8-12 April 2013, Viña del Mar, Chile (p°60–62). https://www.ifomc.aq/information/proceedings/past_proceedings*

[3] **SACROIS** *(https://archimer.ifremer.fr/doc/00774/88631/)* is a cross-validation tool for the fisheries statistics, aiming at providing the best possible fishing statistics data by cross-checking available data from the different declarative control regulation sources, as demanded in article 145 of the EU control Regulation (EC Reg. 404/2011). The application is crossing information, at the most disaggregated level, from the fishing fleet register, logbooks and coastal logbooks, sales notes data, geolocalisation data and the scientific census of annual fishing activity calendars, in order to build the most accurate and complete dataset compiling French fleet’ fishing trips with their associated features *(dates, fishing area, metier, gear and mesh size, total weight and value of landings by species)*. The application verifies and controls the different sources of data, with the aim of displaying validated and qualified landings per species and effort data series. The application provides also several quality indicators and evaluates the completeness of the data flows. A specific algorithm is included into SACROIS to estimate the value of landings based on sales note data available *(sometimes directly deducted from them)* or estimation of an average price. SACROIS include also the allocation of a single metier to a fishing trip *(see detailed methodology explained in ‘Anonymous, DCF metier workshop report, 2018’, Annex5 p°75 – 87 RCG (2018) DCF Métier Workshop, Lyngby, Denmark, 22-26 January 2018. A DCF ad-hoc workshop. Sub-group of the RCGs – North Sea and Eastern Arctic and North Atlantic. 87pp. https://github.com/ices-eg/RCGs/tree/master/Metiers/Reports)*.

Some more information about the SACROIS algorithms could be found here:

(2022) **Sacrois. A data cross-validation tool.** https://archimer.ifremer.fr/doc/00774/88631/99135.pdf

ISSG Métier and transversal variables issues – Report of 2023 ISSG Transversal and metiers issues - Annex 3 : Questionnaire Tasks 6&4 – **Annex 4 : Synthesis and answer by country to the questionnaire (FRA, p°103 – 113).**

https://github.com/ices-eg/RCGs/tree/master/Metiers/Reports

[4] As an example, for the sole stock in 27.7.d and for the ICES data call in 2018, the OTB_DEF_70-99_0_0 metier submitted in Intercatch encompass the following declared metier: OTB_CEP_70-99_0_0, OTB_DEF_70-99_0_0, OTB_MOL_70-99_0_0, OTB_SPF_70-99_0_0, OTT_CEP_70-99_0_0, OTT_CRU_70-99_0_0 and OTT_DEF_70-99_0_0.

[5] https://dcf.ec.europa.eu/wps-and-ars/work-plans_en

A1.10 CROATIA

Methodology

Data collected and derogations

No derogations are used for data on fishing activities (catch, landings, discard, effort) and capacity. Data for all fleet segments on transversal variables are derived from national database(FIS), maintained by the Croatian Ministry of Agriculture, Forestry and Fisheries - Directorate of Fisheries (MAFF-DoF), which contains the primary data according to the Commission Implementing Regulation (EU) 2017/218 on the Union fishing fleet register, Commission Implementing Regulation (EU) No 404/2011 and additionally, national legislation on catch reporting for vessels up to 10 meters' length overall.

Biological data is collected under the Croatian National Programme on Data Collection in Fisheries (DCF) according to the sampling strategy following the métier approach agreed at the level of Mediterranean and Black Sea Member State.

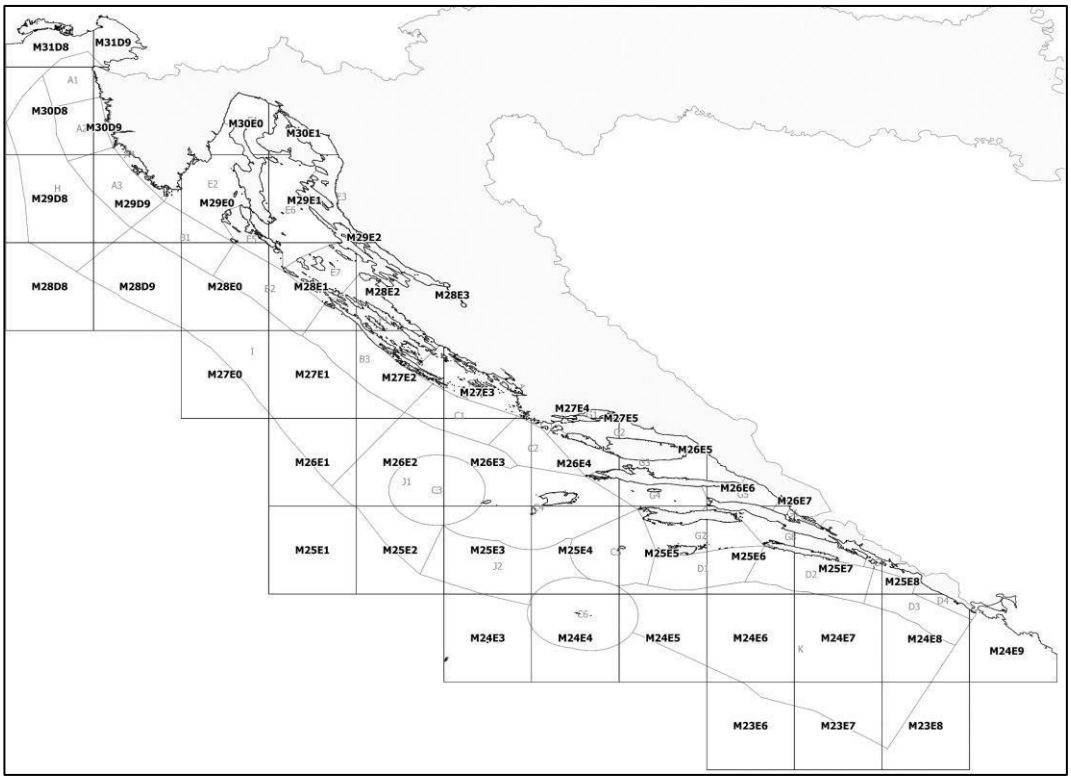
Estimation procedures

Data on landing, discard and effort data is collected on a census basis from the entire fishing fleet, therefore there are no estimation procedures for reporting on landing, discard and effort data. Fishers operating vessels below 10m length overall using passive gears report their activities for each fishing trip using a monthly fishing report (according to national legislation). Data for landing value is estimated using average prices from sales notes - for all species landing value is estimating based on average prices derived from sales notes multiplied by live weight reported in landing declarations.

For certain species fishers report landing data on genus level (*Eledone spp* and *Trachurus spp*), therefore landing data in the FDI data call is reported as such. However, biological data on species level is estimated based on commercial sampling data and detailed analysis of landing during scientific monitoring of métiers, including the following species: *Eledone cirrhosa*, *Trachurus trachurus*, *Eledone moschata* and *Trachurus mediterraneus*. Biological and discards data is reported on species level for the Med&BS data call.

Spatial data on landing and effort is estimated based on data by Croatian fishing zones reported in logbooks and fishing reports, including fishing operations carried out in the EEZ. For this purpose, specific mapping procedures are developed within the FIS database to extract data aggregated by GFCM statistical rectangles, as required for the FDI data call. On national level, the Croatian sea is divided into 11 fishing zones and 37 fishing subzones which represent management units - data reported by Croatian fishing subzones in the logbooks/fishing reports is partitioned to the GFCM statistical rectangles based on percentage of catch in each Croatian fishing subzone (Fig. A1.10.1).

Figure A1.10.1. Map of Croatian fishing zones overlaid by GFCM statistical grid.



Source: Member States submissions to FDI data call 2024.

Concerning spatial data, in previous years STECF recognized that Croatia provided records appearing as centroid of square M26E7, located on land (at 0.5*0.5-degree resolution related toGFCM squares according to GFCM statistical grid). This is not a case of misspecified geo-coordinates, but a special case according to the Croatian Marine Fisheries Act which defines the

Delta of River Neretva as marine area, while this square is not recognized by GFCM and Annex 1(Appendix 14) of the FDI data call. In agreement during the STECF working group, Croatia did not correct this data since it is in line with the national legal framework.

Discard calculation

Entire fleet is covered by catch reporting therefore discard data provided in response to the FDIdata call is according to the Control Regulation from logbooks/fishing reports. Croatia has a census-based data collection on catch reporting (the entire fishing fleet is obligated to report alldata). Discards data on scientific level is sampled by metiere and reported in the Mediterranean data call, given that it is not appropriate to estimate discards on the level of vessel length classes.

Calculation of effort

All effort calculation procedures are implemented in FIS database following the logic agreed withinthe WS on Transversal variables of Zagreb (2015) and Nicosia (2016) that proposed a harmonized approach to associate days at sea to the fishing gear. Although the same logic is used to calculateeffort for all data calls, depending on the data aggregation levels the results may differ slightly (economic fleet segment, FDI domain, métier levels 6 and 7; temporal and geographic stratification).

Quality indicators (e.g., refusal rate)

Currently refusal rate is not recorded in the national database.

Data availability

All the data was finalized and available by the data call legal deadline. Data was provided for 2013-2022 and preliminary data for 2023. As a Mediterranean MS, Croatia is not obliged to provide spatial data for 2013.

Coverage

The data provided in the FDI data call covered all Croatian fishing vessels during the reference period for all the landed species. There are no gaps in the data collection or data submission. Fill-ins are not appropriate in this case.

General comments

Landing and effort data according to vessel length categories, as is described in the Croatian National Programme on Data Collection in Fisheries, biological sampling and reporting of biological data is done on a métier level in line with regional agreement of the Mediterranean and Black Sea Member States (LM 2018 Recommendation 9). This agreement refers to merging of length classes and states that biological sampling should be statistically planned and designed, in order to avoid problems of under-sampled and non-sampled strata or domains requiring imputation of missing data. Following this Recommendation, Croatia is sampling according to métiers regardless of length classes. According to this agreement and data call specifications in 2024, data for the Med&BS data call in 2024 was provided on the level of métiers and for FDI on the level of fleet segments.

Comparison between total weight landings and total value landings: In the case of Bluefin tuna caught in purse seine fisheries, data is reported on the catch and effort, and the reported landing value is zero. Namely, all PS-BFT catch is transferred to cages for farming purposes, therefore landing value of catching vessels is not estimated. All income related to PS-BFT catch is realized by the BFT farms (BFT catching vessels are owned by the farms).

Comparison between landings and discards: Provided data is in accordance with data provided in the logbooks and fishing reports (Croatia applies a census-based data collection scheme for catch reporting). Some very small inconsistencies were marked in the data quality check mostly due to rounding and procedures for partitioning spatial data.

Comparison with Eurostat data: There are no significant differences between data reported according to FDI and Eurostat data. Number of vessels reported in the capacity table corresponds to the population of vessels according to the DCF and includes all vessels in the fleet register during the year, while Eurostat data refers to the number of vessels on the 31st of December. The biggest difference is in the number of vessels reported for Eurostat for 2013 and 2014 which included non-commercial small-scale artisanal fishing fleet which are not included in the DCF population of vessels.

Minor differences are observed in the provided landings weight and value. However, these differences are negligible and refer to species which are not so commercially important.

Publication of confidential data

No confidentiality issues. Confidentiality cells for the purpose of FDI reporting are marked N (low risk of identifying specific vessels).

Problems encountered

Problems related to data collection

No major issues.

Problems related to data submission

No major issues.

Other comments if relevant

Capacity and fishing activity data needs to be interpreted with caution considering the entry of the previously non-commercial small-scale fleet (around 3.500 vessels) into to commercial fleet which were transferred in 2015 and gradually activated during the lengthy administrative processof issuing licenses.

A1.11 ITALY

Methodology

Capacity, effort and landings data are produced considering all the available information at the most disaggregated level:

- Fishing fleet register. For vessels less than 10 m, the fishing technique used by each vessel is checked in field surveys through the data collectors network used in sample surveys. For vessels > 10 m, the prevalent fishing technique is obtained by the information reported in logbooks.
- Logbooks and landing declarations. Basic and regular checks are implemented on the gear used and, on the species, caught and landed. These declarative forms are the unique source of information for vessels > 10 m.
- Sales notes data. In addition to fundamental checks on the average price for the species at the highest level of geographical and technical detail, this source of information is also used to validate the data on the quantities landed by species.
- VMS data. The information on the geo localization covers the fleet => 15 meters. In addition to providing information about of the effort distribution, they are used as a control tool for the activity through crossing with the logbook declarations and the sample survey. They can also provide information on the gear used, therefore on the metier.
- Sample survey. It is the source of information for the fleet < 10 meters; sales notes data are also used to cross-checks sample data. The sample survey is also applied to the fleet > 10 m to integrate the information derived from the Control Regulation if needed. Specific procedures are applied to verify the information obtained from the different sources, relating to a same variable (gears, days, catch and price for species), with the goal of identifying and validating the actual figures and get an exhaustive picture of the fishery for scientific purposes.

Effort calculations are based on the definitions reported in the EUMAP, i.e.:

- day at sea: any continuous period of 24 hours (or part thereof) during which a vessel is present within a defined fishing area and absent from port.
- fishing day: any calendar day at sea in which a fishing activity takes places.

Therefore, based on these definitions, the day at sea is relative to the vessel and includes the time of navigation, while the fishing day is relative to the time of use of a fishing gear.

Data on discards are collected through the protocols and the statistical procedures reported in the Italian Work Plan. Since 2010, RCGMED&BS created a regional view of the discard

sampling programme to optimize the spatial, time and métiers coverage. The discard estimates presented in the FDI data call reflects this regional sampling agreement. It has also to be considered that the discard sampling program is aimed at providing basic data for stock assessment purpose and not for monitoring LO implementation. Several species under LO (annex III of RegMED) are caught by artisanal fleets for which there is no obligation to implement a discard monitoring program according to the Italian DCF WP.

In table A, the discards are partitioned by landings within the same year, quarter, vessel length group, métier, discards domain, sub region and species. An ad hoc routine in R-Studio has been developed.

This routine splits the discard volume available at the métier level according to the estimated proportions on production per quarter, métier and fleet segment as reported in table. The splitting is based on certain assumptions and was accomplished because the sampling scheme for discard estimations is not stratified by fleet segment, but only by métier and quarter, as reported in the Italian work plan for data collection.

Refusal rates

Selection of PSU at each sampling occasion was not fully probability based, because of the limited number of vessels by métier, quarter and geographical subarea (GSA level). There was thus no formal refusal procedure for accepting observers. Observers were accepted on board of vessels fishing in specific zones of a given GSA on ad hoc basis.

Data availability

All the data were finalized and available by the data call deadline.

Coverage

The Italian tables cover all the time series 2013-2023 and all the métiers. The quality checks displayed a little inconsistence in the number of vessels in the Vessel Length VL0006 between the table J and G in 2023 and in a very few case (related to the Vessel Lengths VL0006 and VL0612 and the fishing tech “PS”) the effort is not reported in the table G while there are landings in the table A. Finally, there are some commercial species for which the volume of discards has been reported as higher than landings. But this has not to be considered a data issue because it mainly refers to species with a very low commercial value and which catch is frequently discarded (horse mackerel and Mediterranean horse mackerel, bogue, common pandora, small spotted and black mouth catshark).

Quality check on spatial data displayed inconsistencies among the data provided in table H and table I (data with total landings in table H without corresponding fishing days in table I) for several records, but only related to the period 2017-2019. Another issue emerged concerning table H and I regarding records with invalid c-square encoding (respectively 0.17% and 0.56%of the total records. This issue is related to the c-square encoding generated using a standard function (the CSquare function of the R package vmstools) and it could not be determined why invalid c-squares were generated. This step of the procedure will be monitored in the forthcoming data calls in order to avoid a recurrence of this inconvenience.

Comparison with Eurostat data

Small differences in the two datasets are present but they are very low for all the years in the time series. The differences are explained by the fact that EUROSTAT tables include the catches of Bluefin Tuna by fixed traps that are not reported in the FDI dataset.

Confidentiality

No confidentiality issue.

Problems encountered

No problems encountered in data preparation and submission.

A1.12 CYPRUS

Methodology

No derogations are used for data on fishing activities (catch, landings, discard, effort) and capacity. Data for all fleet segments on transversal variables are derived from national database, maintained by the Department of Fisheries and Marine Research of Ministry of Agriculture, Rural Development and Environment.

Biological data is collected under the Cyprus National Programme on Data Collection in Fisheries (DCF) following the métier approach as agreed at regional level.

Landings weight data

Landings weight data are collected from bottom trawlers involved in demersal fishery in GSA25, from polyvalent vessels using passive gears only in different GSA regions in Mediterranean and for fleet segments that are not required to use logbooks. The aim is to compare data collected with data recorded under Control Regulation for the same trips. Discrepancies are recorded and relevant correction factors are performed (e.g. % of under-reporting, misidentified species). For vessels using passive gears only (0-6m, 6-12m), landings data are collected by métier, and estimation is made on the percentage of landings assigned to each métier. The percentage is then raised to the total landings, allowing the estimation of landings by species by métier.

Effort data

The collection of effort data concerns vessels using polyvalent passive gears only (0-6m, 6-12m), vessels using polyvalent passive gears only (12-18m) and demersal trawlers (24-40m). For polyvalent vessels using passive gears (12-18m) and demersal trawlers the information derives from electronic logbooks and sales notes. For vessels using polyvalent passive gears only (0-6m, 6-12m) the information derives from paper logbooks and sale notes. Paper logbooks are used as a proxy for fishing days, which are considered equivalent with days-at-sea, fishing trips and fishing operations for vessels (0-6m, 6-12m). With the collection of effort data by métier, estimation is made on the % of fishing days assigned to each métier. In case during a fishing day more than one métier is exercised, one fishing day is assigned to each of the métiers exercised by the vessel. The percentage is then raised to the total number of fishing days, allowing the estimation of fishing days by métiers.

Based on data collected on length of nets, number of hooks and number of pots, an average value of these variables is estimated by métier, and it is raised to the total number of fishing days by métier.

Value of landings

The value of landings is estimated by species, by fleet segment and by metier. For each fleet segment, the average price of species is estimated at metier level, by multiplying the average price with the landings assigned to each metier exercised by the fleet segment. In cases of landings at foreign ports, average prices are estimated separately. The total value of landings is estimated with aggregating the value of landings of each fleet segment.

Average price

For estimating average prices, data on prices are collected. For species landed in more than one commercial category, average prices correspond to each commercial category, and the

estimated average price is their weighted average. It is noted that there are no auction markets in Cyprus, and prices of fish sold to fishmongers are ‘fixed’ for all vessels.

Data availability

Cyprus data were provided on time and in accordance with the required formats.

Coverage

The data provided cover all Cyprus commercial fishing fleet, which operates in the Mediterranean Sea. The tables for Cyprus cover all the requested time series and all the métiers. Data were calculated and provided in the same way as for economic data call.

The quality checks provided in the tableau do not highlight any incorrect data and/or inconsistencies among the data provided in the different tables requested by the data call for the year 2023 besides the fact that no fishing effort is recorded for the Purse seiner despite the existence of production. It is noted though that only one purse seiner of BFT exists.

The few cases of average length of vessels not compatible with the vessel length code (table J) are not to be considered as an issue because they are due to clustering of some vessels for confidentiality and statistical reasons.

Comparison with Eurostat data

There is no difference between Eurostat data and FDI data call data for the year 2023 besides the number of the vessels. The number of vessels in Table J of the FDI data set is higher than the number of vessels reported in EUROSTAT data set. The reason for this difference though is that the number of vessels in FDI represents both the active and inactive vessels whereas in EUROSTAT it represents only the active vessels.

As for the landings data differences between the FDI data set and the one in EUROSTAT exist for year 2023 but also for some of the previous years than 2023 and specifically for 2014, 2016 and 2017. The difference in 2023 is that the production of the fleet segment Polyvalent “passive gears only” (category C licenses) (PGO) was not included in EUROSTAT data set.

Problems encountered

No major issues were encountered in the preparation of the files.

Other comments if relevant

No other comments.

A1.13 LATVIA

Methodology

All data on fishing operations, such as fishing gear, mesh size, area, etc., are obtained from official logbooks stored in the Integrated Control and Information System for Latvian fisheries (ICIS). The logbooks cover all the areas where the Latvian fishing fleet operates, including the small-scale fleet. Information on fleet capacity is synchronised with the Latvian Fleet Register and stored in ICIS. The Central Statistical Bureau of Latvia (CSB) provides annual average prices per species based on the "1-fishery" questionnaire, which all fishing enterprises are obliged to complete.

For the small-scale fleet, the more accurate method is used to calculate fishing effort. This approach does not allow to the values for fishing days to be higher than the values for days at sea. The algorithm is based on the following formulas:

Day at sea = 1/maxGears.

The days at sea are counted for each vessel (a day is divided proportionally between all the fishing gears used).

Fishing day = 1/maxVessels.

Fishing days are counted for each fishing gear (one day is shared proportionally between all vessels).

Information on discards is based on estimates from fishery observers. This category includes the part of the catch that is thrown overboard back into the sea.

While working at sea on board a fishing vessel or a small-scale fishing vessel, the observer collects information on each fishing operation by species and catch category (Landings, BMS and Discards).

All discards shall be measured and weighted by species unless the discard is very large. In such cases, the weight is taken for the sub-sample. All subsamples are weighted. The sorting of fish into catch categories is done by the fishermen.

All available discard data are calculated for each species, broken down by quarter, sub-division, gear and fleet segment.

Discard rates are calculated using the following formula:

$\text{Discard rate}_{trip,species} = \text{Discard (kg)}_{trip,species} / \text{Landing (kg)}_{trip,species}$

Once the discard rate is obtained, the discard rate is applied to the landings of species by quarter, SD, gear and fleet segment:

$\text{Discard (ton)}_{Time,SD,Fleet\ segment,Species} = \text{Discard rate}_{Time,SD,Fleet\ segment,Species} X$

$\text{Landing (ton)}_{Time,SD,Fleet\ segment,Species}$

No quality indicators were calculated for discard estimates. No thresholds were applied.

Due to the critical state of cod stocks in the eastern part of the Baltic Sea, directed cod fishery is not allowed since 2020. Cod may only be caught only if it is an unavoidable by-catch in other fisheries (Baltic herring, sprat, flounder).

One demersal trawl trip targeting flounder was conducted in the third quarter of 2023. The total catch of flounder was less than 1 tonne. The observer was not present on this trip. In 2023, information on flounder discards was only collected in the second and third quarters from the small-scale coastal fisheries in subdivision 27.3.d.28.1.

R script (*fecR* package) was used to calculate effort in the case of offshore fisheries.

In the period of 2013-2023, no refusals to take observers on board were recorded.

The full time series of landings and effort tables were successfully re-uploaded with new metier codes recommended by the RCGs.

The EEZ indicator was determined based on the fishing area reported in the logbooks according to Appendix 9 of Annex 1 of the FDI data call.

Data availability

Latvian data were provided on time and in the required format. Average prices per species for 2023 were used from 2022. The final data for the average prices for 2023 could be available by the end of November 2024.

Coverage

The data provided cover the entire Latvian commercial fishing fleet operating in the Baltic Sea, CECAF and NEAFC areas, with the exception of data for 2013 and 2014 for distant

water vessels (CECAF and NEAFC areas). Information on recreational fishery in the Baltic Sea was not provided. For confidentiality reasons, information on the distant-water fleet is provided as confidential, while all other information is provided as non-confidential. Data have been calculated and provided in a format consistent with that used for the economic data call.

The comparison with Eurostat data shows a small difference in the values of landings of freshwater species for 2015 and 2016, as information on recreational fisheries was not provided in the FDI data call. The large difference in landings is due to the lack of information on landings by the distant-water fleet in the FDI data call for 2013-2014. From 2017 onwards, no information on Latvian landings is available in the Eurostat dataset. The total number of total vessels presented in Eurostat represents the entire Latvian fishing fleet (including the recreational fishing vessels) registered in the Fleet Register, while the total number of vessels extracted from the FDI dataset represents only commercial fishing vessels.

Problems encountered

No problems were encountered in relation to data collection or data transmission.

Other comments if relevant

Each year Latvia submits data on herring in subdivisions 27.3.d.28.2 and 27.3.d.28.1 according to the FDI data call and formally combines biological data on two separate herring populations - the Gulf of Riga population and the open Baltic population. This approach is not only biologically incorrect, but it also cannot be used for herring stock assessment and is unacceptable for fisheries management. Any analysis using the data submitted for herring should be carefully considered before drawing any conclusions.

A1.14 LITHUANIA

Methodology

Data collected

For all fleet segments by regions the transversal variables are deriving from database system FDIS, which contains the primary data referred to Commission Regulation (EC) No 26/2004 of 30 December 2003 on the Community fishing fleet register in Annex I, Council Implementing Regulation (EC) No 404/2011 in Annex X and the national legislation contains information regarding the restrictions on national logbook completion for vessels up to 8 metres' length overall. Community fishing vessels up to 12 metres' length overall are obliged to keep a fishing logbook and submit information on efforts and landing declarations. Fishing vessels of 18 metres' length overall or more, the fishing logbook is in electronic form. The logbooks information and the landing declarations are submitting electronically. The Lithuanian fleet does not consist of any active vessels with the length class of 12 to 18 meters.

Biological data is collected under the Lithuanian National Programme according to the sampling strategy and adopted the Work Plan for 3 years period.

Estimation procedures

For estimating discarded catches have been used two data sources: data collected by observers on board and sampling of releases. The logbook data used for comparison. For flounder discards counted against total landings (by request of WGBFAS), for other species by number of voyages (metodology discrabed in WKSCMFD report). The ratio of discards is calculated for landings per trip and multiplied by the total landings per strata.

Data on landings for vessels less than 8 metres length overall was derived from the combination of the monthly declarative forms for the periods until 2018 and since 2019 from the national logbooks. All data has been cross-checked with sales notes. Combination of information from sale notes and declarative form or logbooks data provides the key details on the species, presentation, location of landings, weight and value of fish being landed. To approach reliable and accurate information on fishing activities Lithuania uses a “census” type of declarative form or logbook for Lithuanian fleet. Data derived from national logbook were completing by a companies engaged in the commercial fishing in the Baltic Sea coastal area. Small scale fleet has daily activity and collected data in the declarative form is up until 2018 inclusive, 1 Day at Sea assumed as equivalent to 1 Fishing Day, 1 Fishing trip and 24 hours. For the fishing technique (FISHING_TECH) defining has been applied the same rules as for the fleet economic data call.

For reporting of UK EEZ, the checked and validated logbooks records were derived. The cross-checks data between area and position records in logbooks were applied. In case of inconsistency the vessel monitoring position was accepted as correct. The “start of the activities coordinates” were prioritized as indication of EU EEZ.

The value of fleet segments is estimating based on average prices of species by regions (the Baltic Sea and other regions) derived from sales notes multiplying by weight from landing declarations.

Spatial data was prepared using “0.5*1” resolution for the Lithuanian fleet in all operating areas. In cases of occurring any missing or incorrect fishing positions recorded in the logbooks fishing activities shall be identified using the VMS data. For small scaled fleet the fishing area assumed as one statistical rectangle which cover all coastal area.

Methodology for partition of discards from tables C-D to table A.

The discard applied to the landings at each stratum, by species, for each year, quarter, gear, area within a domain_discards. No estimates of discarded catch were provided for unsampled strata and were marked as “NK”. If the species doesn’t have corresponding landings, the discards are distributed to the aggregation of table A based on the effort. This means that there can be lines with discards but no landings.

No thresholds for submitting biological data were applied.

R script following principles agreed on the 2nd Workshop on Transversal Variables was used for calculations of days at sea and fishing days.

In Table B the supplied information on sampling design, but it is not considered as a probability-based vessel selection design. The refusal rates were indicated as ‘NK’. All data quality indicators in Table C, D, I and F were calculated and provided. No Table K has been supplied. Discards in Table A with no corresponding biological information are reported.

Refusal rates

Sampling programe are contrebuted only on the Baltic Sea region. Sampling programme for the CECAF and SPRFMO regions is carried out according to multilateral agreement. Since 2018 Poland has coordinated the programme for CECAF and sinnce 2017 for SPRFMO. Selection of PSU was not fully probability based in the Baltic Sea region, because of small number of vessels and the limited landings in Lithuania. There were no formal refusals for accepting of observers. Observers were deployed on board of the vessels fishing in the outside of the Baltic Sea coastas area on ad hoc basis. As such, no specific data on the refusal rates was provided in table B.

Data availability

Transversal data by 1 February and biological data by 1 April are available for previous year.

Coverage

2013-2023 period submitted data covers all areas and species. In 2024 the resubmission of 2018 was with updates on some effort and landings to align with AER data. The 2023 data were successfully upload. New métier codes that correspond to the data call code list which were approved by the RCGs were used for all data sets. Submitted data conforms to the requested in the data call aggregation, by quarter, area, gear, metier and mesh sizes. Any meaningful data quality issues demanding correction and re-submission of data sets was raised during quality checks. Data set submissions complied with the required deadline dates. The final updated data of table A, G, H and I with insignificant updates were uploaded during EWG 24-11 meeting. In respect of data check reports, other tables of the 2023 period data were resubmitted due to observed inconsistency of coding or to update data sets. Any significant discrepancies have been noticed in the data checks of the Lithuanian data.

Comparison with Eurostat data.

Between Eurostat and FDI data calls, some discrepancy in value and landings data might mainly occur with regards to fishing trips which extended over two different years where the landing was presented in the final year. In that case, effort with catch and landed value were provided parcelling by two years for the FDI data call. As for the Eurostat data call, the submission is based on the landing or sales dates. Driver of the difference in vessels number is that for Eurostat the fleet is considered on a snapshot date, whereas FDI looks at the total fleet in a whole calendar year. Therefore, comparing Eurostat and FDI vessels number like-with-like some small differences were revealed.

Publication of confidential data

Data that considered subject to confidentiality and were flagged in “CONFEDINTIAL" column allows statistical unit vessel to be identified, either directly or indirectly, thereby disclosing individual information. Allocation of confidential indicator was set up using condition of less than 3 vessels’ rule. The confidential data can be used for EWG ToRs purposes. Aggregated and/or published data should be on the level, which does not allow any identification of the statistical unit of the Lithuanian fleet.

Problems encountered

Due to the established measures to alleviate a serious threat to the conservation of the eastern Baltic cod and salmon causing most fishing to be stopped, in the second part of 2019 and in 2020 the sampling plan was incomplete. No biological data on discards in the Baltic Sea region was planned and provided for 2021-2023 period. As such, the provision of biological data has not been satisfied. Information between vessels where observers are welcomed and vessels where observers are refused in the Baltic Sea region have not been improved due to limited number of vessels which are landing in Lithuania and suspend of demersal fisheries in eastern part of the Baltic Sea. In some cases, allocation of metier to small-scaled fleet with no catches was highlighted as issue. There was developed R script for applying metier. However, there is still a need to improve methodology of metier allocation for small scale fisheries. No problems with data submission were encountered.

Other comments if relevant

Quota and catch options for cod in the Baltic Sea were historically low in 2020-2023 period, so the possibility to obtain trips and samples information from the fishery was also reduced or

not occurred. Due to COVID-19-related restrictions, the fishery was shut down for a short period in 2020 and made low affect in 2021. When the fishing took place, observers very rear could enter the vessels. The Lithuanian fleet which operates in the Baltic Sea region, usually obtains small catches on board where the catch size can be adjusted more easily. Therefore, no difficulty of sales and fishing activities continued during the pandemic. Biological sampling was mostly affected by quota restriction than the restrictions for COVID-19. It is noticeable that due to restriction on cod and salmon fisheries in the Baltic Sea, as well as the marked demand on small pelagic species, the Lithuanian not small-scaled fleet landings occurred only outside of Lithuania. As result, no biological sampling on discards was caried out. Based on a multilateral agreement between DEU-LTU-LVA-NLD-POL from 2018 and a multilateral agreement between DEU-LTU-NLD-POL from 2017, Poland has been coordinating the joint sampling program for biological data collection on the board of EU fishing vessels engaged in the fishery for small pelagic fish in the CECAF area (Central-East Atlantic) and in the SPRFMO area (South-East Pacific) respectively. No sampling was conducted in either region in 2022-2023 period due complicated logistic procedure to approach vessel or not available observers on certain time.

A1.15 MALTA – NO INFORMATION PROVIDED

A1.16 NETHERLANDS

Methodology

The Dutch FDI data are compiled from multiple sources. The logbooks (preliminary and official catches), sales notes and VMS data are collected by the Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland, RVO) and provided to Wageningen Marine Research (WMR). WMR is responsible for the collection and provision of biological data for discards and landings under the Data Collection Framework (DCF). The fleet register from the EU Fleet Register database is also used.

Sampling description

Dutch pelagic fisheries are owned by 3 fishing companies. The on-board observer sampling scheme for catches, incidental bycatch and the self-sampling scheme for the landings run in close cooperation with these companies.

The passive gear (small scale) fisheries are monitored for discards with an observer program of which the sampling coverage is limited. For the on-board monitoring of passive gear/small scale fisheries, attempts of setting up a system to record refusals rates failed in previous years, and is still the situation. Main reasons were incomplete vessel lists and contact details of fishers.

The demersal fisheries are monitored for discards through a self-sampling scheme conducted by a reference fleet. The participating group of vessels is representative for the complete demersal Dutch fleet, on the aggregation level of metier, the combination of gear type, target assemblage and mesh size range.

The on shore sampling program of the demersal fisheries focuses on the biological data collection of demersal species from major Dutch auctions that represent 80% of the total landed weight.

Estimation and partitioning

The samples collected from the discard and market sampling schemes have been raised for the ICES datacalls and are subsequently transformed to the FDI datacall format.

Discards are routinely estimated based on the pelagic and demersal at-sea sampling schemes respectively. For species that have corresponding landings within the same quarter, vessel length group, metier, discards domain and sub region, the discards are distributed to the aggregation of table A depending on the factor used for raising to the population (effort). When discards were not observed but sampled, a zero value is added in table A as a distinct observation of a corresponding fleet. In the case when there is no sampling coverage, a “NK” (not known) is used.

The discard quality indicators were not provided at this data call. Further guidance is needed on the estimation of the coefficient of variation and the corresponding confidence intervals for the FDI domains.

Effort calculation

Effort, days at sea and fishing days, are calculated based on the period between leaving and entering the port (using arrival date to the port and not the catch date). For days at sea the time spent fishing is calculated as hours at sea and is rounded up to whole days. Number of fishing days are the number of unique days spend at sea within a fishing trip. For active fishing gears each day fishing counts as a unique day whereas for passive gears the number of gears is used to calculate the number of fishing days. For example, for a vessel that uses 3 different gillnets the same day the fishing days are calculated as 3 distinct fishing days.

Exclusive economic zone

The EEZ is assigned to table A using the VMS data, when it is possible to determine the fishing activity in the latter. First, the VMS data get assigned a fishing activity and then the EEZ shapefile is superimposed to the logbooks to determine which fall under which EEZ. When it’s not possible to use the VMS data, the surface area of each rectangle is used instead.

Data availability

The Netherlands has provided all the tables requested by the FDI data call for 2023. The data submitted to FDI typically cover both quota and non-quota species in all FAO areas the Dutch fleet is operating.

Coverage

The Netherlands provided fleet specific landing and effort data for 2023. The data covers all areas in which the Dutch fleets are active and conform to the requested aggregation. There is no information on misreporting, although the reliability of the official discard records in the official logbook registration is believed to be questionable and, therefore, not used. Discard estimates were provided for all species caught in fisheries sampled under the Dutch DCF monitoring programme.

Publication of confidential data

If there are less than three vessels in the aggregation level in tables A, G, H and I, they are marked as confidential (A).

Problems related to data call

A part of the small scale fleet is missing information on gear and fishing area due to data transmission issues from the Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland, RVO) for years 2018 to 2023. It is expected that these years are going to be re-submitted in the 2025 data call to include this information.

Other comments if relevant

No other comments.

A1.17 POLAND

Methodology

Official fisheries data of the Polish fleet from the period 2013-2023 were collected from the database administrated by the Ministry of Agriculture and Rural Development.

Polish fishery is located mainly in the Baltic Sea, therefore sampling effort is concentrated in this area, except one sampled trip per year in the Eastern Arctic conducted until 2019. Additionally, Poland is a member of the multilateral agreement to cooperate in the biological data collection on pelagic fisheries in CECAF and SPRMFO waters.

Discards were estimated from trips sampled at sea. Domains used to estimate discards result from the applied sampling plan. For the Baltic Sea the domains consist of quarter, FAO subdivision, gear type, target assemblage, mesh size range (one or more) and are used for all vessel length classes, species and commercial categories. For Eastern Arctic the domains consist of FAO division, gear type, target assemblage, mesh size range and are applied to whole year, all vessel length classes, species and commercial categories.

Fishing effort was calculated following the methodology agreed on the DCF Transversal Workshops. The fecR package was not used directly because the national input data has a higher level of spatial aggregation (national sub-polygons of the ICES rectangles in the Baltic Sea). Therefore, the logic of the fecR calculation algorithm was re-implemented in the R environment.

The activity of the small scale fleet is reported in a monthly catch reports for <10m vessels, and in paper logbooks for 10-12m vessels. For vessels with length of <10 m the information on the start and end of the trip is not registered. In that case, it is assumed that one fishing day is one fishing trip lasting 8 hours at sea.

Refusal rates were calculated as the number of refusals from vessel owners divided by the number of approaches where the contact was successfully made.

The total value of landings was calculated using an average annual price per species. An average annual exchange rate was used to provide the value in Euro.

Spatial data was prepared using either ‘0.5*1’ or ‘0.5*0.5’ resolution depending on the fishing area and data availability. For FAO area 27, information on ICES rectangle was used if available to identify the coordinates of the ‘0.5*1’ rectangle. If information on ICES rectangle in FAO area 27 was not available, then ‘0.5*0.5’ c-squares were determined from VMS data. In the case of distant waters, VMS data were used to identify coordinates of the fishing location, which were then converted to c-squares with a resolution of ‘0.5*0.5’. The EEZ indicator was determined based on the information from logbooks checked with the provided fishing area.

Segmentation of the fishing fleet in terms of vessel length classes and fishing technique was carried out in the same way as in the economic data call. Data is prepared using clustered fleet segments.

The entire time series of data are attributed with the revised metier codes recommended by RCGs.

Several approaches were tested to calculate quality indicators of discard estimates. As a trial, a simple calculation of CV was applied based on the weighted standard deviation and weighted mean. The method was presented and discussed at EWG 23-05 FDI. Following the suggestions from the group, a more robust method based on bootstrap is being tested and is planned to be further developed.

Data availability

All the data was finalised and available before the data call deadline.

Coverage

General comments

The data analysis allows to state that all variables seem to be consistent across years. Very few issues have been identified and are described below.

Information on the value of fish landed by the fleet operating outside the Baltic Sea is not available. Additionally, for some minor species in the Baltic Sea the value is not available. There are also records, in which the landing weight was so low that the value was rounded to zero.

In one of the records in the Capacity table the average length of vessels is not consistent with a fleet segment. It results from the clustering of fleet segments.

Comparison with Eurostat data

The comparison with Eurostat data did not show any significant differences in most of the years. There is a noticeable difference in 2013 data. The difference concerns data from CECAF areas. Part of this data were not available in the extraction from the official fisheries administration database. The issue will be further investigated. Other years where the difference in landings is visible is 2021 and 2022. The reason for this might be related to the availability and completeness of the data at the time when it was uploaded to both databases.

Publication of confidential data

In the period 2013-2023 Poland had 3-5 vessels fishing outside the Baltic Sea. These vessels operate in different areas. Due to the national statistical law and taking into account the level of data aggregation, it was decided to mark the data about their activity as confidential to avoid the risk of identifying a single vessel.

Problems encountered

Problems related to data collection

At the beginning of 2017 a new sampling design was implemented in Poland. The major change was a move towards statistically sound sampling and random selection of sampling units. As a consequence, the refusal rates were provided only for the period 2017 – 2023. In the previous years the sampling design was based on the opportunistic selection of sampling units. Moreover, 2017 was a transitional period between old and new sampling design. Not all contacts to vessel owners were available and as a consequence, many ad-hoc expert trips were done.

Due to covid-19, observer trips at sea were suspended on 18.03.2020. At sea sampling partially resumed on 03.08.2020 but only on vessels less than 12 meters in length. On shore sampling continued without any breaks but a reduction of number of samples was observed. For demersal stocks: cod.27.22-24, cod.27.24-32, fle.27.2425, ple.27.24-32 and tur.27.22-32 it was not possible to assess the impact of covid-19 pandemic on sampling because of Baltic cod fishery closure starting from 2020. Additionally, pelagic and demersal fisheries in the Baltic were closed from June until August 2020(July in subdivision 24). Sampling data on unwanted part of the catch (discards, bms) was less representative or missing in 2020, 2021 and partially in 2022 because of the suspension of at sea sampling, which is the major data source on this part of the catch. In case of pelagic stocks: spr.27.22-32, her.27.20-24 and

her.27.25-2932 the impact of covid-19 on sampling was considered to be medium. At-sea sampling fully resumed in May 2022.

Problems related to data submission

No problems with data submission were encountered.

Other comments if relevant

No other comments.

A1.18 PORTUGAL

Methodology

In general, Portugal uses multiple data sources: Administration database (fleet register and licenses), logbooks, sales notes, questionnaires and biological data collected based on the National Programme for Data Collection (DCF/PNAB), under the Data Collection Framework (DCF).

Transversal data are obtained from electronic and paper logbooks and sales notes considering the Control Regulation and the National Workplan. When available for the same vessel from 2013 to 2020, these data are combined to get more accurate information from both sources. Daily routines from established business rules are performed to detect and correct errors pushed from the data sources to the statistical database. New processes are being developed to improve error identification and rectification and thus get more accurate data. Relating to 2021 to 2023 data, in order to ensure the consistency of the métier, only one data source was used for each vessel: logbook or sales notes and licenses depending on if the vessel reports on logbook or not.

As Landings and Effort are requested at métier level, Portugal developed a procedure that classifies each trip with a métier. The process to allocate the métier follows different methodologies depending on the data source: sales notes and licenses or logbooks.

For vessels without a logbook, Data Integration software is used to apply all the conditions laid down in an algorithm based on Sales Notes and Fishing Permissions (licenses). As the approach for FDI data call is based on the concept of TRIP, it is assumed that each sale note date of a particular vessel corresponds to one trip. Each trip, observing certain conditions in terms of catch composition, and considering the fishing licenses of the vessel, is allocated to a specific métier. In the Madeira and Azores outermost regions, the métier assignment is also supported by questionnaires carried out at the port.

For vessels with logbooks, there is a procedure based on SQL scripts that uses the information recorded in the Electronic Recording and Reporting System (ERS) reports or in the paper logbook, such as gear, catches and spatial data for each haul in each Fishing Activity Report (FAR). Each haul is classified in terms of date, area, gear, target assemblage, catch composition (species), catch weight and catch sale value. As it is not possible to properly connect the sales notes to the logbooks once there is not a trip ID in the sales notes, it is difficult to combine this information with the logbooks. Consequently, there are some inconsistencies between effort and landings and spatial and non-spatial landings when both sources are used for the same vessel in the same year. Nonetheless, using the most significant amount of available information this procedure was considered the best solution until 2020. From 2021, only one data source was used for each vessel in each year: logbook or sales notes, depending on whether the vessel reports on the logbook. Although this methodology uses less precise information, it reduces the number of inconsistencies.

Value of landings

When the data source is the logbook, the value of landings is calculated as the product of the weight of landings by the average price determined for each vessel, species and fishing area. For SSF, the weight and value of landings are the ones recorded in Sales Notes. All vessels are obliged to sell fresh fish at the auction market.

Effort

The fishing effort is estimated based on the information reported by fishermen in the logbooks. However, once vessels under 10 m LOA do not have logbooks, the number of fishing days for SSF is estimated from the sales notes, assuming that 1 sale note corresponds to 1 fishing day.

Spatial information

Concerning the spatial information requested, whenever possible, the coordinates reported on the FAR at the haul level were used for vessels with electronic logbooks. For vessels with a paper logbook, the ices rectangle reported by the fishermen was used. In the case of vessels without logbooks (small-scale fisheries - SSF), the ICES rectangles of the landing harbour were considered to produce the spatial tables.

Discards estimation

Discard values on tables C, D and K are estimated based on biological onboard sampling and were provided only for bottom otter trawl fisheries in 27.9.A.

The discard estimates from the trawl fisheries, reported to ICES for stock assessment purposes, are also the values reported to FDI. In 2013-2019 they were calculated from the data collected from the national observers sampling program (PNAB/DCF), on-board demersal fish (OTB_DEF_>0_0_0) and crustacean (OTB_CRU_>0_0_0) trawlers in area 27.9.A. Using the procedure to raise discards from haul to fleet level in the Portuguese trawl fisheries (Jardim and Fernandes, 2013), species with low frequency of occurrence in discards (i.e., with a large number of zeros in the data set) cannot be reliably estimated at fleet level (Fernandes et al., 2020). The frequency of occurrence in discards of most of the species reported to ICES was 0% or below 30% and, for these species, it is assumed that discards are 0 or negligible. They are reported in table K, which also includes species with no age/length information reported in tables C and D.

Since 2020 (after COVID-19 pandemic), the low sampling coverage of the onboard sampling in Portuguese waters of ICES 27.9.a has hindered the use of the data for discards estimation purposes. In 2023 there were also limitations in the onboard sampling effort due to difficulty in the implementation of a new public procurement process for subcontracting the services of an external company, and difficulty in the implementation by the hired company. As a result, it was not possible to use the standard discard raising procedure at fleet level to estimate discards for 2023. Two different procedures were then used to obtain these estimates, one for the frequently discarded species (more than 30% occurrence in the sampled hauls) where estimates were obtained using the average discards per unit effort (DPUE) (Ton/fishing hours) by quarter, from the period 2017-2019; this average DPUE was then multiplied by the effort (fishing hours) by year. An average length distribution by quarter was also obtained using the 2017-2019 periods and used to obtain the length and age distributions for those years. In the case of species with irregular pattern on frequency of occurrence in discards in the sampling period 2004-2019, standardized discards per unit effort (DPUE) were obtained for that period, and the average value obtained from 2017-2019 DPUE estimates was multiplied by the total fishing effort of the fleet in 2023, to obtain the annual estimates of discards. Species with no or low frequency of occurrence in discards

(below 30%) are reported as zero in table K. This table also includes the discards of species for which no length/age distributions were reported in tables C and D.

For the remaining sampled fleets in 27.9.A (GNS_GTR, LLS_DWS, PS_SPF, and TBB_MCD) discards estimation procedures are still being discussed/developed. The main difficulties for their completion are related to the multi-gear trips (in the case of polyvalent fleet) and the need to choose an adequate auxiliary variable (with consistent information from the population; e.g. the purse seines) to use in the discard raising procedure.

The landing weights by species included in Tables C and D for the métiers coded as OTB_CRU_>=0_0_0 and OTB_DEF_>=0_0_0, were the result of an aggregation of landings of more than one trawl métier reported in Table A, according to Table A1.18.1. Discard estimates are also reported for those combined métiers, according to the National Workplan.

Table A1.18.1. Métiers aggregated in Table A and used to produce the domains of the data reported in Tables C, D, E, F and K.

Métiers from Table A - CATCH	**Métiers in domains of Tables C, D, E, F and K (biological data)**
OTB_CRU_55-64_0_0	OTB_CRU_>0_0_0
OTB_CRU_70-119_0_0	
OTB_CRU_70-99_0_0	
OTB_CRU_65-69_0_0	
OTB_MCD_70-99_0_0 (NEP,DPS,DWS)	
OTB_MCD_>_0_0_0 (NEP,DPS,DWS)	
OTB_DEF_>0_0_0	OTB_DEF_>0_0_0
OTB_DEF_65-69_0_0	
OTB_MCD_65-69_0_0	
OTB_MCF_65-69_0_0	
OTB_MCF_70-99_0_0	
OTB_DEF_>=120_0_0	
OTB_MCF>0_0_0	
OTB_MPD_>0_0_0	
OTB_MPD_65-69_0_0	
OTB_MPD_70-99_0_0	
OTB_MCD_0_0_0 (except NEP,DPS,DWS)	
OTB_MCD_70-99_0_0 (except NEP,DPS,DWS)	
All métiers with gear ‘GNS’	

All métiers with gear ‘GTR’	GNS_GTR
All métiers with gear ‘GTN’	
All métiers with gear ‘FPO’	FPO_MOL_0_0_0
All métiers with gear ‘PS’	PS_SPF_0_0_0
All métiers with gear ‘TBB’	TBB_MCD_0_0_0

Source: Member States submissions to FDI data call 2024.

In what concerns to discards information provided in Table A, values were based on the annual discard estimates for each sampled fleet (OTB_DEF_>0_0_0 and OTB_CRU_>0_0_0), proportionally distributed according to the species landings at métier level 6/quarter/vessel length. This is not the best procedure because OTB discard estimates were calculated using effort as auxiliary variable and, for this purpose, we are assuming that landings and discards are correlated, which may not be true. Discards reported in Table K are also included in Table A.

Landings and Discards Age and Length data

Length frequency is collected for all species present at the landing process occurring in ports with at market sampling coverage – concurrent sampling. The same approach is conducted regarding at-sea sampling, where all species present in all catch fractions of a sample (landings and discards), at haul level, are sampled. Then, depending on the species selected for sampling at the laboratory, the frequency for collecting other biological variables such as weight, age, sex and maturity varies in line with the National Workplan.

Age data (Tables C and E) were provided only for the species that have age information, which are horse mackerel (HOM), mackerel (MAC), sardine (PIL) and blue-whiting (WHB), in area 27.9.A. Table C contains age information only for WHB, because this is the only aged species for discards.

Length data (Tables D and F) is provided for all species assessed by ICES and for métiers sampled in 27.9.A (market and onboard sampling). Table D contains length data of the species for which the frequency of occurrence in discards is higher than 30%, as previously referred. In each DOMAIN_LANDINGS, TOTWGHTLANDG weight was converted in number (dividing by the MEAN_WEIGHT_LANDG) and then distributed by age and/or length, using the proportions of each age or length class in the total distribution. The same procedure was applied for the discards.

Refusal rate

For onboard sampling in 27.9.A, there are five sampling schemes with sampling frames in the national work plan of 2023: PTAS23 - GNS_GTR_DEF (vessel length > 12m), PTAS25 - LLS_DWS (vessel length >12m), PTAS27 - OTB_DEF (vessel length > 24m), PTAS29 - OTB_CRU (vessel length > 12m), PTAS31 - PS_SPF (vessel length > 12m), PTAS33 - TBB_MCD. For each of the five sampling schemes in the sampling year, the sampling frame includes all active vessels (with the combined métier/vessel length) that operated in 27.9.A in the previous year. Vessel selection is random within each métier and the registration of the refusals is made according to the SGPIDS definitions referenced in the 2024 FDI data call.

For the onboard sampling in 27.9.A, refusal rates only started to be recorded systematically in 2017 and therefore were not submitted to FDI for years before 2017. In 2023 the number of trips was extremely low due to the constraints already referred to in the ‘Discards estimation’ section and, therefore, refusal rates were not submitted.

Effort

Logbook information is used to calculate effort (fishing days) by fishing area using SQL scripts. This is a powerful tool for that aim, but in situations where the trip is not well constructed in the electronic logbook, the estimated effort may not be correct. For SSF, it is assumed that one Sales Note corresponds to one trip and one fishing day.

Data availability

Portugal has submitted all tables before the deadline. However, for 27.9.A, some species were missing in tables E and F because the data was not ready to be uploaded by the time of the FDI data call deadline. The reason is that the information reported in the FDI comes from the data submitted to ICES annual datacall and, for those species, the deadlines were later than the FDI datacall deadline, meaning that the data was still being processed and prepared by that time. Only by the end of July all the data was complete and new tables were prepared to be re-submitted during the FDI meeting. Table A was also re-submitted to accommodate the new domains.

Coverage

In addition to the vessels licensed by the mainland, the Portuguese fleet also includes the fleets of the autonomous regions (Azores and Madeira), being the data requested in the FDI data call produced independently by each of the regions.

The outermost region of the Azores has been struggling with temporary or even extended absence of human resources, which has only made it possible to provide a partial response to the 2024 data call.

When the entire time series (2013-2021) was submitted in the new format of the FDI, all the historical data for Portugal was deleted and, consequently, all the information on fishing activity for this fleet and biological data were erased from the FDI database. This caused major problems in reconstructing again the Azores time series because of difficulties in the access to historical data (resolved) and of human resources limitations. In the data call for 2024, Azores transversal data was provided for 2022 and 2023, however, it should be noted that there is an ongoing effort to prepare/compile the remaining data (2013-2021) and tables to be uploaded for next year's FDI data call.

Regarding the Madeira outermost region, data from 2013 to 2023 was provided in the 2024 data call, filling the lack of data for this outermost region that had been created by submitting the entire data series for Portugal. Spatial information was not provided for this fleet.

Data checks

Portugal has verified all the FDI checks available on the JRC website and analysed the quality checks to evaluate potential incorrect data and/or inconsistencies between the data provided. Some tables were resubmitted during the EWG 24.11, however the following issues still persists in the data:

- Effort in days at sea was not provided for the Portuguese mainland fleet.
- Inconsistencies between effort and landings, indicating lack of information on effort.
- Small differences in weight of landings between spatial (table H) and non-spatial (table A) data were reported, which should be related to the sum of rounded values, especially when concerns to small quantities.

- Differences in effort (fishing days) between spatial (table I) and non-spatial (table G) information were detected and are associated with lack of information in table G.
- In some cases, landings by species were reported with the monetary value of zero landings. These situations are often related to by-catches, fish whose sale is not authorized (confiscations, minimum prices, hygiene and health conditions), or processed fish.

The data submitted to the FDI data call are mostly consistent with the Eurostat data, although the FDI database does not have the Azores outermost region data before 2022.

The biological data checks detected the cases where the total weight of discards from certain species is higher than the landings. This is not an error, it occurs for species with no or low commercial value, with a ban on landing below the minimum size, and species whose quota has ended.

Confidentiality

All the data that relate to less than 3 vessels were considered confidential.

Problems encountered

It should be remarked that the final output for JRC database submission depends on the involvement of different institutions (including Outermost Regions). Also, the Portuguese fleet is extremely extensive and diverse, operating in a spread number of FAO areas, meaning that the processes of data handling, data compiling and also for the upload are very time-consuming once not all data handlers have the same level of access to the data needed nor the same skills.

Also, the fact that the outermost regions cannot submit the data autonomously makes it difficult to operate the data call at national level.

In 2024 it was possible to complete the Portuguese data in the FDI database. However, Azores OMR data from 2013 to 2021 is still missing.

For the effort calculation, logbook information is used to determine fishing days using SQL scripts. The logbook is a powerful data source for effort estimation; however, there are situations where the end of the trip is not recorded in the logbook and the trip effort cannot be estimated correctly.

On a few trips, due to errors in reporting by fishermen, it was not feasible to process the fishing activity coordinates, arising inconsistencies between spatial and non-spatial information.

The high disaggregation of data raises issues relating to data confidentiality once the institutions that collect and process the data are covered by statistical confidentiality to safeguard the privacy of citizens, so that direct or indirect identification of the natural and legal persons concerned is not allowed according to the National Law. Whenever there is an aggregation of data that could identify an individual or legal person, it is not published without the express consent of the person. The rule we apply is that each data aggregation must have at least 3 records.

Due to the overlap of the data correction phase with the holiday period, which prevented the timely amendment of the data submitted, some data had to be corrected during the meeting.

A1.19 ROMANIA – NO INFORMATION PROVIDED

A1.20 SLOVENIA

Methodology

The methodology used for the data collection for FDI data call combines information from three main resources:

- Loog books,
- Sales notes,
- National surveys.

Fishing activity data (Capacity, effort and landings data) are collected for all vessels active at any point in time of the year.

Capacity data are collected for all registered vessels of reference year. Fishing capacity data are part of the Fleet Vessel Register Module of the Slovenian information system InfoRib. The Fleet Register data is integrated with other sources of data in order to obtain data at the level of fleet segments and at the level of métiers.

Effort data is collected for all vessels active at any point in time of the reference year. The data is collected from the logbooks. All Slovenian vessels, also those under the 10 meters, are obligated to submit the logbooks.

The target populations for the **landing data** are all active vessels from the Slovenian Fleet (also those under 10 meters LOA). The data is collected from the logbooks and sales notes. The data on the quantity of landings is collected from the logbooks, while the price of the fish is collected from the sales notes. On the basis of both kinds of data the value of all landings in Euros per species is calculated and namely for the metiers as well as for fleet segments.

Partition of data is based on on-board sampling programme conducted under the DCF. Discard are available just for those métiers that have been sampled. The discard applied to the landings at each stratum, by species, for each year, quarter, gear, area within a domain discards. No estimates of discarded catch were provided for unsampled strata, and were marked as “NK”.

Spatial data on landings and effort are submitted using Latitude and longitude of the center of the rectangle together and its dimensions in decimal degrees - 0.5*0.5, corresponding to a c-square. Effort data by rectangle are obtained from the logbooks information. The data by rectangle is derived from logbooks for all of the fleet. The catch was allocated based on the landing port.

Quality control of data

Quality control (QC) in data management involves applying methods and processes to assess whether data meet defined quality goals and criteria. Data are evaluated against specific quality objectives, and rapid data scanning methods are used to identify records that meet or fail to meet these criteria. QC primarily focuses on two types of primary data: fishery-related data, including biological stock and metier-related data, and research survey-related data. The aggregated data, derived from meticulously checked primary data, is considered accurate. The QC process includes assessing qualitative and quantitative indicators and other quality checks, with SQL scripts facilitating efficient data analysis and validation. Notably, quality indicators themselves are not stored in a database but are employed within the QC process to ensure data quality.

Qualitative Indicators

- Availability: Data must progress through a defined workflow from "data input" to "production" to ensure completeness and reliability.
- Accessibility: Data becomes accessible only after passing quality checks, ensuring it's reliable for analysis.
- Missing Values: Database constraints and rules prevent missing values, maintaining data completeness.
- Duplicated Records: Constraints and validation checks prevent duplicate records at the database level, while thorough checks are needed during data aggregation.
- Coding: Internal codes are translated for different reports or systems to enhance data communication and interoperability.
- Accuracy of Spatial Data: Visual verification and datum transformation ensure accurate spatial data.
- Data Anomalies: Regular updates to relationship models correct data anomalies, improving data precision.

Quantitative Indicators

- Standard Deviation: Measures data variability and identifies potential outliers, aiding data consistency assessment.
- Coefficient of Variation (CV): Compares variability of different data attributes, helpful for data quality comparison.
- Sample Size: Larger sample sizes provide more reliable data quality assessments, reducing sampling bias.
- Sampling Rate: Higher sampling rates lead to more representative samples and better insights into data quality.
- Response Rate: Higher response rates indicate better data quality in survey data, reducing non-response bias.
- Coverage Rate: A higher coverage rate implies a more comprehensive representation of the target population in the database, improving data quality and generalizability.

Data availability

Slovenian data were provided on time and in accordance with the required formats.

Coverage

Slovenia continued to use a census sampling strategy, so the provided data covers the whole Slovenian fleet, which operates only in the Adriatic sea. There are no gaps in the data collection or data submission.

Comparison with Eurostat data

Data regarding landing volume provided to STECF FDI were similar to Eurostat data. On the other hand, capacity data (number of total vessels) differ because FDI data contains only active vessels data while Eurostat data include also inactive vessels.

Problems encountered

No problems encountered in the preparation of the files.

Other comments if relevant

No other comments.

Impact of Covid on DCF sampling programme in 2022

No impact on surveys or results.

A1.21 FINLAND

All FDI data were sent within data call schedule. National data submitted are complete in terms of all type of data requested.

Methodology

Transversal data (Logbooks, monthly coastal journals and sales notes)

Catches and fishing activity information were retrieved from logbook database KAKE maintained by national control agency. Fishers using a vessel less than 10 meters in length declare their monthly catches by a coastal fishing journal. Transversal data are compiled based on the assumption that everyone engaged in commercial fishing in the sea areas has complied with the statutory obligations and submitted catch reports.

Calculations for effort measures: Days at Sea and Fishing Days are done using the fecR package.

Nominal catch refers to the catch landed by fishermen or transshipped at sea. For statistical purposes, this is reported in kilograms live weight, i.e. the weight of ungutted fish. Discarding catches back to the sea is prohibited in Finland. Trawl fisheries consist of pelagic species and all catches are landed for industry purposes or human consumption. Discards, for example fish damaged by seals occur mostly in coastal fisheries and are not included in the nominal catch. The major cause for discarding in the Finnish commercial marine fishery is damage caused by seals, cormorants and other predatory species on the fish trapped or entangled in the fishing gear.

Landing values are based on prices derived from sales notes available from control agency database. Average prices calculated from sales notes per each subdivision are multiplied by weight.

Finland has no long-distance fisheries. All catches are caught in the Baltic Sea the EEZ indicator indicating NA.

Discards in the Finnish salmon fisheries

Almost all salmon catches in Finland are caught by the vessels below 8m LOA using trapnets along the coastline in summer. Commercial landings have been on average 30 000 salmon (about 180 tonnes) in 2013-2022 but being only 16 500 salmon in 2023 (about 100 000 tonnes).

Salmon discards have comprised about 10 % of the total commercial salmon catch in 2013-2023 (in numbers of fish). About 67% of the discards has been seal damaged fish. The rest 33% has been BMS salmon that has been released alive back to sea (by the exemption in the landing obligation). Post release mortality of these BMS salmon is estimated to be about 20%.

The amount of BMS salmon is estimated by the data obtained by EU data collection sampling. Selected fishers that collect catch samples keep also journal of their BMS catch (these proportions are extrapolated to the whole salmon fishery). Accuracy of these

estimates are considered to be moderate and estimates can be considered to reflect the magnitude of BMS discards.

Biological data

Biological data under the EU multiannual program is collected following three sampling methods.

1) Onshore samples targeting pelagic species are collected onshore from selected vessels or fishers. The selection of pelagic trawlers and pelagic fyke-nets fishers is done randomly since Q4/2018. The selection of these vessels is done as unequal probability random sampling with replacement based on previous year catches. Refusals to obtain a sample from selected vessels are reported in table B. In case of refusals after contacting a vessel for logistical or practical reasons by observer or industry the sampling has been postponed to the next possible trip. Only actual rejected samples occur in table B as refusals.

2) Onshore samples targeting freshwater species gillnet and fyke-net fishery are selected on judgement sampling to reach a certain quota. Refusals are not reported on these samples.

3) Anadromous species sampling program is carried out as self-sampling among selected fishers. The number and weight of anadromous fish caught are reported by fishers to logbooks. The amount of BMS salmon is estimated based on the data obtained from self-sampling journals.

Workflows merging biological data to catch domains are implemented using R.

Data availability

Natural Resources Institute Finland (Luke) carrying out fisheries data collection program in Finland has direct access to transversal data from control agency database. All logbook data are stored to logbook database by the end of each year. Coastal fishing journals reported on paper take few months after each annual delivery deadline to be stored. Sampling database containing all biological data is developed and maintained in Luke. Sampling data is available after each sample is taken. Age determination information is available online after each sample is examined. All data was available well before FDI data call for assessment purposes.

Coverage

Data from Finnish fleet from the period 2013-2023 including all species are uploaded to FDI database within data call deadline. Landings data include all species reported to logbook database. Biological age data was provided for species for which numbers at age were calculated for assessment purposes.

Minor discrepancies between effort and landings numbers occur when the respective info on effort has not been available.

If a vessel has fished in several rectangles on the same day, the fishing day has been allocated to the rectangle from which the most catch was taken. Therefore, the data contains some spatial catch data per rectangle without fishing days. For the same reason, the fishing days per rectangle and the fishing days per ices-subdivision differ slightly.

Comparison with Eurostat data

FDI data call data is the data concerning Finnish marine commercial fishery matching national official statistics numbers. Eurostat catch data includes both commercial and recreational catches by species and subdivisions. Catches are higher in Eurostat data.

Vessel numbers reported to FDI include all registered vessels and all active vessels i.e. the vessel that have reported effort or catches to logbooks during a year. The statistical unit in

Eurostat is the registered fishing vessel. For that reason, vessel numbers are slightly higher in FDI data.

Comparison with AER data

In AER data fleet segments are clustered in order to provide sensitive economic data. FDI data fleet segments are not clustered.

Publication of confidential data

Data call tables include confidential information, which is marked by 'Y' in confidential column. These data contain information from less than three individual vessels.

Problems encountered

The covid-19 pandemic had no or minor impact on the sampling in 2020-2021. Refusals encountered in biological sampling are reported in Table B.

Other comments if relevant

No other comments.

A1.22 SWEDEN

Methodology

Landings, including BMS landings, were retrieved from logbooks for vessels >=10m LOA and from monthly coastal journals for vessels <10m LOA.

Discards were estimated from the Swedish demersal on-board sampling programme conducted under the DCF. Vessels were randomly selected for sampling with unequal probability, based on the fishing activity in the previous year, within each sampling frame. The selection was carried out without replacement. The sampling frames were based on fishery, area and quarter and are reflected in the "Domain discards" in the FDI data.

The discard estimation (raising) was carried out according to the national sampling schemes. If no estimate could be achieved from sampling, or a stratum was not sampled, no discards were provided. The total discard estimates achieved for each stratum ("Domain discards") were then partitioned to the much more disaggregated format in the STECF data call. The partitioning was done proportionally to the variable used for the raising (landings of target species in the fishery or fishing hours, depending on the fishery). Proportion of landings of the same species was not used for the partitioning of unwanted catch unless the species was a target species. Age distributions for landings were estimated from market sampling data. Age distribution data for discards were collected from the Swedish demersal on-board sampling programme. Length distributions for landings of cod (including BMS landings, where encountered) and witch flounder (up to 2022) were estimated from market sampling data. Length distribution data for other species provided were collected in the Swedish on-board sampling programme. Mean weight at length was, for all species except cod in the Baltic, derived from length-weight relationships based on data collected in surveys (IBTS/BITS) and based on several years data.

EEZ indicator was derived from positions in logbooks/coastal journals, per fishing operation. EEZ borderlines were derived from https://www.marineregions.org.

Effort was calculated using the fecR package.

Métiers were defined by a script developed by the "RCG ISSG Métier and transversal variable issues".

Quarter and year were defined by the landing date of the trip.

Refusal rates in Table B were calculated as the industry refusal rates, i.e. proportion of vessels contacted that did not agree to take observers on-board. Non-response rates were calculated as the proportion of vessels contacted that did not provide an observer trip, for different reasons. Most common reasons for a failed trip were that the vessel was not fishing in the desired time period or other logistical reasons such as bad weather conditions. The rates were calculated on a quarterly basis since the sampling frames were constructed by quarter and based on the activity of the vessels in each quarter previous year. No refusal rates could be calculated for years earlier than 2016. This was partly due to the problems to obtain observer trips, which lead to some ad-hoc sampling (see “Problems encountered”), and partly to inconsistent documentation of the procedure of contacting vessels. In 2021, the covid-19 pandemic resulted in ad-hoc sampling in the on-board sampling programme, and hence no refusal rate could be provided for this year.

Data availability

Data was provided by the data call deadline.

Coverage

In 2024, landing weights and value for all species were provided for 2023, adding to the previously provided time series of 2013-2022.

Discard estimates were provided for all species caught in fisheries sampled under the Swedish demersal on-board sampling programme in 2023. Discard estimates had already been provided for 2013-2022. However, due to the covid-19 pandemic the discard sampling coverage in 2020 and 2021 was poor (see “Problems encountered”).

Age distribution data for landings 2023 was provided for cod. Age distribution data for discards 2023 was provided for cod and plaice.

Length distribution data was provided for all fish species sampled under the Swedish on-board sampling programme that met the following criteria:

1) The species was encountered in at least two trips in the stratum
2) A minimum of 20 individuals were measured in the stratum

Effort (days at sea, kW*days at sea, gt*days at sea, fishing days, kw*fishing days and gt*fishing days) was provided for all vessels in the Swedish fleet 2023, adding to the previously provided time series of 2013-2022.

Refusal rate was provided for the main sampling frames for 2023. Refusal rate had previously been provided for 2016-2020 and 2022, while other parameters in Table B have been provided for 2013-2023.

General comments

Since 2019, no targeted cod fishery is allowed in the Baltic Sea and the TAC is restricted to bycatches of cod for both the Eastern and Western cod stock (EU 2023/2638). Consequently, there is no demersal trawl fishery carried out by the Swedish fleet in the Baltic Sea (Subdivision 27.3.b-d) and no targeted cod fishery by other gears. Hence Sweden has no market sampling of cod in the Baltic Sea in recent years, or sampling of discards in ICES division 27.3.d. Gillnets in ICES subdivision 27.3.b.23 is still sampled for discards and, if applicable, biological data for landed cod.

The covid-19 pandemic had a severe impact on the Swedish discard sampling coverage (see “Problems encountered”).

In the current FDI data call BMS landings are requested as part of the “Landings” fraction. BMS landings are rarely, or never, encountered in many sampling programmes and therefore

often lack biological information. In order to still be able to provide biological information for landings >MCRS, even if the BMS fraction of the landings could not be sampled, landings >MCRS and BMS landings were given different “Domain landings” and biological information was only provided for the fraction >MCRS. BMS landings of cod could only be sampled for biological information for fisheries in the Baltic Sea since no BMS landings were available for sampling in other areas.

In 2015 the number of on-board sampling trips achieved in the Baltic Sea was not sufficient for estimation of unwanted catch due to very high refusals from the fishery (see “Problems encountered”).

In the Swedish on-board sampling programme many species are encountered rarely and/or in very small numbers. No length distribution data has been provided for species for which the sampled number of individuals was considered insufficient for estimation (see above).

Some small landings in Table A have a corresponding value of zero for days at sea and fishing days in Table G (effort). This is a rounding issue; in those cases the vessel used more than one gear/metier/area in one day. The fishing day was then split between the different gears/areas. Since days at sea and fishing days had to be provided in whole days, sometimes they got rounded to zero.

In the last quarter of 2016 Sweden made it compulsory for commercial vessels to accept scientific on-board observers, which is reflected in the refusal rates in Table B.

Comparison with Eurostat data

Differences between landings data provided to Eurostat and landings data provided to FDI are likely due to the fact that different data sources have been used. Landings provided to Eurostat are retrieved from landing declarations, while landings data provided to FDI are retrieved from logbooks. The reason for logbooks being used for the FDI data call is that the Swedish logbooks contains much more detailed information that the landing declarations. Since Sweden has an extended logbook, information on catches, gears, geographical information, etc. is reported by fishing operation in the logbooks, which allows for a data compilation with as few assumptions as possible. However, in some cases the landings between the data sources differ, especially for pelagic species where the species composition of the catch is estimated in the logbook before landing. Some of the differences are however due to different FAO species codes being used. This is likely the case when a species is missing completely in one of the compared sources (For example, anglerfish was submitted with the FAO code “ANF” (*Lophidae*) to Eurostat and “MON” (*Lophius piscatorius*) to FDI).

The number of vessels submitted to FDI is slightly higher that the number of vessels in Eurostat data, for all years. This is likely due to the fact that Eurostat only considers the number of vessels at the end of the year, while the FDI data includes vessels found in the fleet at any time of the year.

Publication of confidential data

For the submission of FDI data in 2024 no data was considered confidential in the Swedish data set.

Problems encountered

Problems related to data collection

The covid-19 pandemic had a large impact on the Swedish on-board discard sampling in 2020 and 2021 and the Swedish discard sampling coverage was severely affected. No on-board observer trips were carried out in quarter two, three and four for most sampling

programmes in 2020, or in quarter one and two in 2021. Sampling programmes relying on self sampling were still carried out during the year, but for most fisheries no discard estimates could be provided for a large part of 2020 and 2021.

In 2015 the Swedish on-board sampling programme failed to collect sufficient unwanted catch data in the Baltic Sea. When the landing obligation was introduced in the Baltic, fishermen refused to take observers and no Swedish discard data could be collected. To support sampling of on-board data, Swedish authorities introduced a new system in late 2016 which made it mandatory for vessels to accept observers.

No refusal rates could be calculated for 2015. This was partly due to the problems to obtain observer trips, which lead to some ad-hoc sampling, and partly to inconsistent documentation of the procedure of contacting vessels. For years before 2015 the documentation of refusals was not sufficient for calculating refusal rates. In 2021 difficulties due to the covid-19 pandemic lead to ad-hoc sampling in the on-board sampling programme. Hence no meaningful refusal rate could be provided for 2021.

Other comments if relevant

In 2023, the whole time series for Tables A, G, H and I (2013-2022) was resubmitted in order to:

1) Provide EEZ indicator for the whole time series
2) Provide métiers derived in accordance with the work of the “RCG Intersessional Subgroup for Métier and transversal variable issues”.

ANNEX 5. AN R-BASED APPROACH FOR LANDING OBLIGATION EXEMPTIONS

An R script has been developed to provide various visualizations — including tables and plots — for the estimates of landings and discards related to the exemptions to the landing obligation, based on the available FDI data (Table A), through an interactive HTML file.

This new approach builds upon methodologies previously established by the STECF Expert Working Groups (EWGs) in reports 20-10, 21-12, 22-10, 23-10, and on the output of the annual ad hoc contracts associated with this task.

Advantages of the R-Based Approach

The exemptions tables (See Annex 3) were previously produced using combination of R and Excel. The updated R-based tool, replicates this analysis and offers further automation, higher flexibility and dynamic visualization combined with the data tables created by EWG previously.

1. Flowchart of the Data Processing Workflow

The process can be visualized through a flowchart that outlines the sequence of data inputs, processing steps, and outputs (see Figure 3.6.2.1).

Flowchart Description:

1. **Inputs**
   - **A:** *Exemption Articles Provided by DG MARE in Tabular Form*.
   - **F:** FDI *Table A* (existing dataset with detailed catch data from Table A and Table A with fill-ins).
2. **Processing Steps**
   - **R Script 1 (to be developed after the finalization of the tabular template of A**) processes **A** to produce **B**:
     - **B:** *FDI Extraction Code Tables* (codes to extract relevant data from the FDI Table A corresponding to each exemption).
   - **R Script 2** merges **F** and **B** to create **C (developed by previous EWGs as part of Step 2 of process)**:
     - **C:** *Merged FDI Table A with Extraction Code Tables* (a unified dataset aligning estimates with specific exemptions).
   - **R Script 3** processes **C** to generate **D (new R script developed by EWG 24-10)**:
     - **D:** *Summarized Tables (as in Annex 3 of this Report*) *& Plots* (final interactive HTML file with interactive visualizations and tables presenting key findings).
3. **Outputs**
   - **D:** *Summarized Tables & Plots* (final interactive HTML file with various visualizations).
     - **Technical Implementation and Further Advantages**

The new approach is implemented using **R Markdown (Rmd) with Shiny runtime**, which offers several technical benefits:

- **No Requirement for R Shiny Application or RStudio**
  - The implementation does not require a full R Shiny application or the use of RStudio. This simplifies deployment and usage, as users do not need to install or configure additional software.
- **Local Execution**
  - The Rmd file with Shiny runtime can be run locally on any machine with R installed, providing flexibility and accessibility for users without the need for server deployment.

- **Possible Extensions**
  - **Prerendered Runtime:** Extensions can include the use of prerendered runtime, enhancing performance and reducing computational load during interactive sessions.
  - **Further Tables on Various Aggregation Levels:** The method allows for the generation of additional tables at various levels of aggregation, providing more detailed insights and catering to different analytical needs.
  - **Use of the knitrdata Library and Encryption:** The knitrdata package allows data files to be embedded directly within R Markdown documents. This means that all necessary data is self-contained within the document, facilitating reproducibility and portability.
    - **Secure Sharing:** R Markdown documents are shared already embedding sensitive data, ensuring that the data is encrypted and accessible only to authorized users. Encryption helps ensure compliance with data protection regulations and organizational policies regarding the handling of sensitive information.
    - **Simplified Workflow:** Users do not need to manage separate encrypted data files, as everything is contained within the R Markdown document.

Dashboard (Html File) Presentation (produced with the new "R script 3")

All tables included in the dashboard allow for interactivity:

- **Dynamic Filtering**: The table is filtered based on the user inputs (region, EEZ, possible/not).
- **Custom Table**: It uses the DT::datatable function to provide a highly interactive experience, including features like:
  - **Row selection**: Users can select specific rows to drill down into more detailed data.
  - **Search/Filter**: Column filters are available to search specific data points.
  - **Sorting**: All columns can be sorted in ascending or descending order.
  - **Export Functionality**: CSV button to export data directly from the table in a csv file.

The values "-1" and "-99" indicate missing or confidential values, respectively.

A. Tables 1 MS Data

The **Tables 1 MS Data** section of the dashboard is dedicated to presenting and interacting with detailed data on **landings and discards** for each **Member State (MS)** under exemptions to the landing obligation. This section provides a comprehensive view of the data, allowing users to explore it through interactive tables, drill-down capabilities, and dynamic filters. It helps users analyze the impact of exemptions based on available Fisheries Dependent Information (FDI).

The section consists of the following tabs:

- **Tab 1.1**: Displays the main dataset, allowing for interaction and selection.
- **Tab 1.2**: Zooms in on related rows based on a selection in Tab 1.1.
- **Tab 1.3**: Provides a drill-down into the raw data behind the selected row in Tab 1.1.
- **Pivot**: Allows for pivot table generation and heat map visualization.
- **Plotting**: Generates dynamic plots

These tabs are interlinked, providing a full workflow for analyzing fisheries data related to landings and discards. Users can explore the data through tables, pivot tables, and visualizations, all with interactive filtering and drill-down capabilities.

User Inputs

A sidebar provides user input fields to filter the data interactively.

- **Region Selection**
  - Allows users to select one or more regions from the dataset using a dropdown.
- **EEZ Selection**
  - Users can choose the EEZ (Exclusive Economic Zone) from the available options, with a default selection of "blank."
- **Possible or Not**
  - Exemptions are characterised into four groups; yes, yes/partial, partial or no, based on the feasibility of the EWG to extract the relevant data. Users can filter the data based on whether it is a "Possible or Not" case.

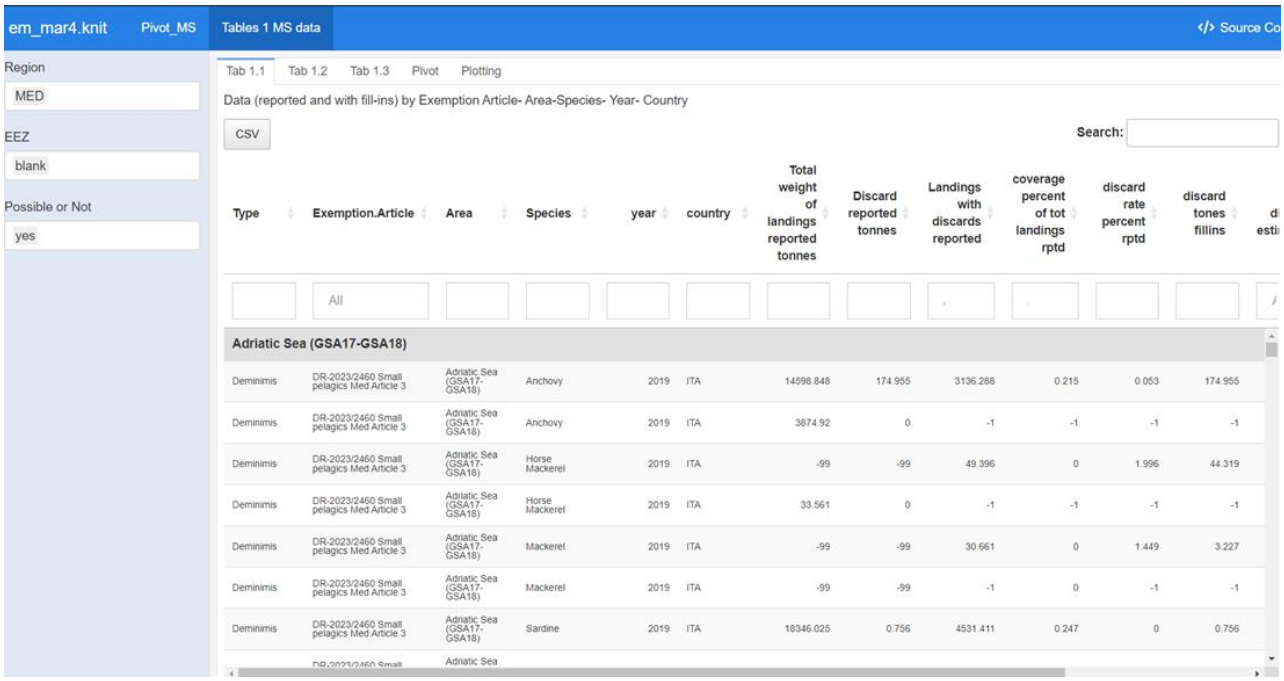
Each of these inputs interacts with the rest of the application, dynamically updating the data displayed in the tables and visualizations.

Tab 1.1

This is the **main data table** for displaying filtered data related to landings and discards.

- **Data Display**: the table shows:
  - **Type**: type of exemption (survivability or de minimis)
  - **Exemption Article**: refers to specific legislative articles of the exemptions.
  - **Area**
  - **Species**
  - **Year**: the year the data pertains to
  - **Country** (Member State responsible for the fishing activity)
  - **Landings, Discard data (with and without fill-ins), discard rate and Coverage**

Figure A5.1. Tab 1.1.



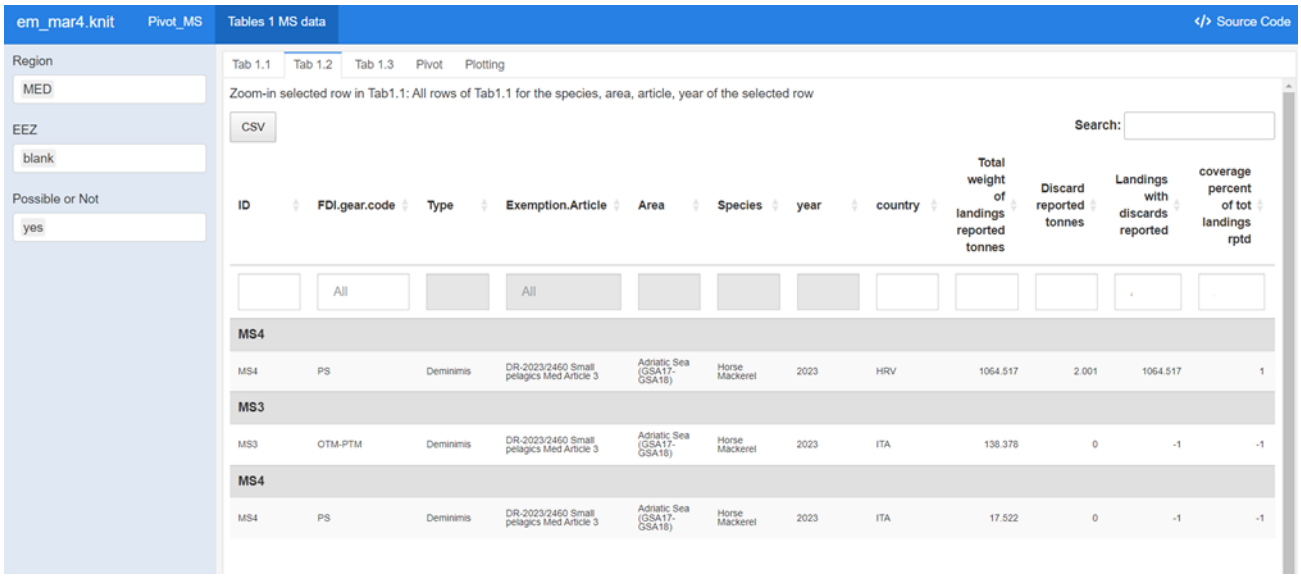
Source: Member States submissions to FDI data call 2024.

Tab 1.2

This tab allows users to **zoom-in on the selected row** from Tab 1.1, providing more granular details for the selected data point. This tab enables users to analyze all data points that share the same characteristics as the selected row, helping them to explore broader trends within the same category.

When a row is selected in Tab 1.1, Tab 1.2 shows all related rows for the same **species**, **area**, **article**, and **year**, including all countries and Exemption IDs corresponding to the Article.

Figure A5.2. Tab 1.2.

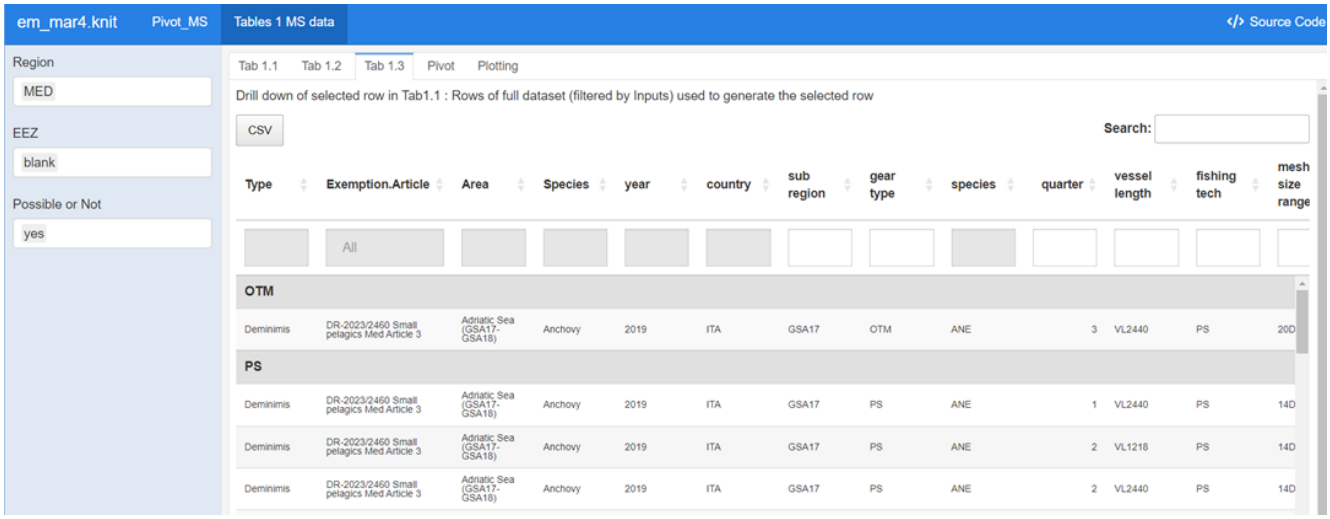


Source: Member States submissions to FDI data call 2024.

Tab 1.3

This tab provides a **drill-down** functionality for the selected row in Tab 1.1, where users can explore the specific data points generating the selected row (similar to the drill down functionality of the Excel pivot tables). The resulting table displays all the rows of the full dataset (filtered by the inputs in the sidebar and excluding the confidential rows) used to generate the selected row (i.e. the rows corresponding to the selected, Exemption Article, country, area, species and year).

Figure A5.3. Tab 1.3.



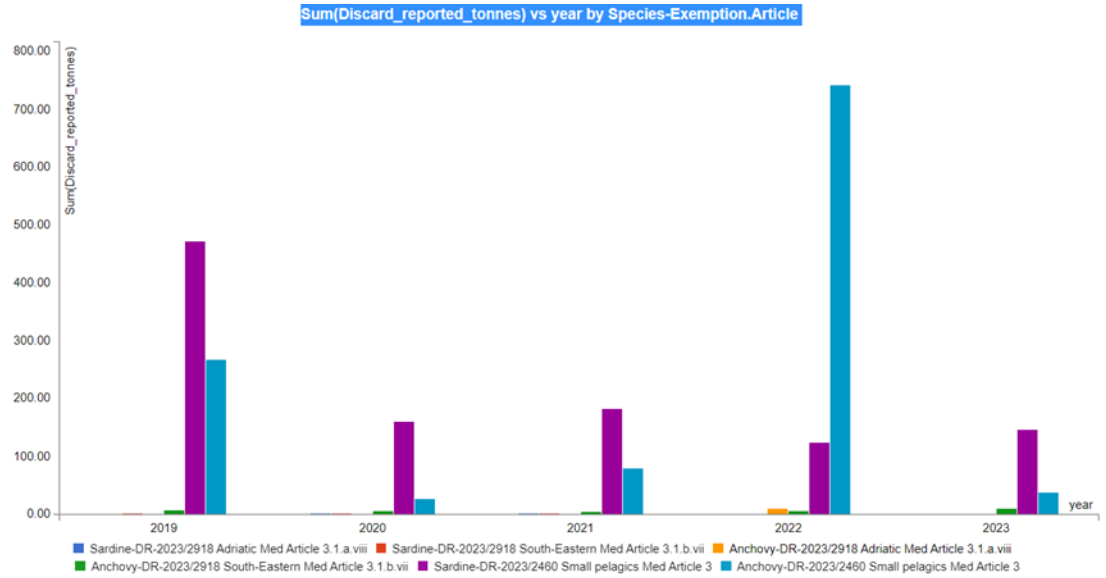
Source: Member States submissions to FDI data call 2024.

Pivot

This tab provides **pivot tables** and **heat maps** for deeper data exploration.

- **Pivot Table**:
  - Built using the R library rpivotTable, it allows for dynamic aggregation and exploration of data points.
  - Users can select aggregators (e.g., sum, average) and organize data by columns such as **country** and **year**.
- **Heat Maps and Charts:**
  - The pivot table output can be rendered as a line chart or other types of visualizations (e.g., heat maps) based on the user's preferences.
  - Users can interactively change the aggregation and visual rendering of the data.

Figure A5.4. Bar plot for the Sum of reported Discards (tonnes) for selected species and for selected exemption articles by year.



Source: Member States submissions to FDI data call 2024.

Figure A5.5. Heatmap of average reported Discards (tonnes) for selected Exemption Articles by year.

Average

Discard_reported_tonnes

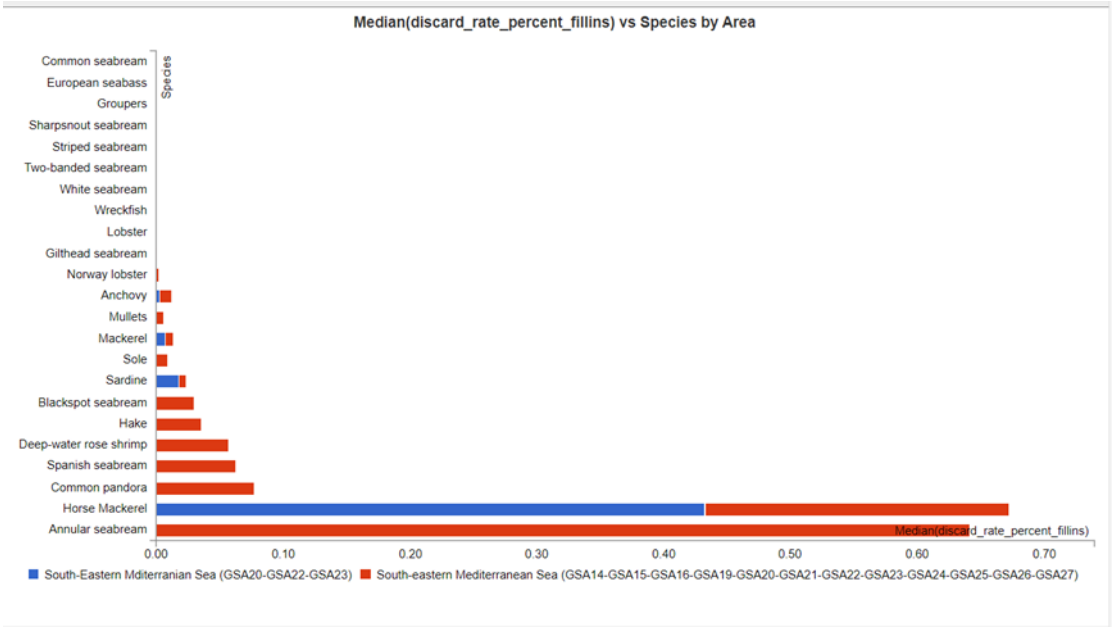
year

Exemption.Article

Exemption.Article \ year	2019	2020	2021	2022	2023	Totals
DR-2023/2918 Adriatic Med Article 3.1.a.iii		0.00	0.00	0.00	0.00	0.00
DR-2023/2918 Adriatic Med Article 3.1.a.ix	0.27	0.46	0.38	0.97	0.70	0.56
DR-2023/2918 Adriatic Med Article 3.1.a.iv	0.00	0.78	0.29	0.28	12.25	2.72
DR-2023/2918 Adriatic Med Article 3.1.a.v	6.87	14.75	1.13	13.46	1.65	7.67
Totals	6.02	12.37	0.97	11.21	2.44	6.68

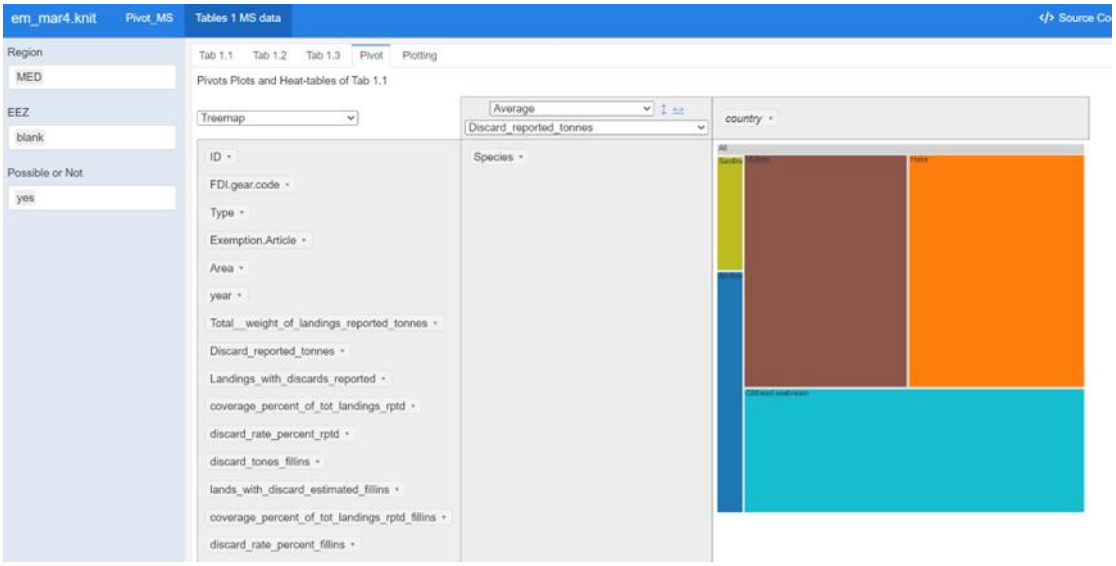
Source: Member States submissions to FDI data call 2024.

Figure A5.6. Median of the discard rate (for discards estimated with fill-ins) for selected species and areas in 2023.



Source: Member States submissions to FDI data call 2024.

Figure A5.7. Treemap for average of discards reported (in tonnes) in a selected country by Species.



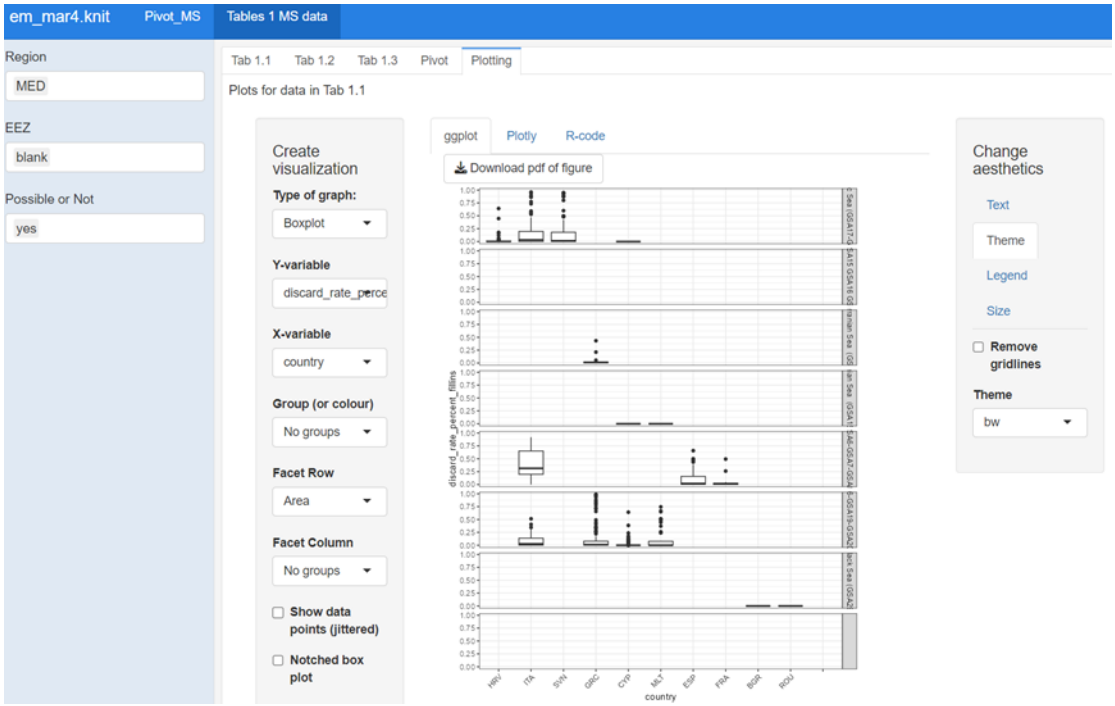
Source: Member States submissions to FDI data call 2024.

Plotting

This tab generates **visualizations** for the data shown in **Tab 1.1** using a custom function adapted from the R library ggplotgui.

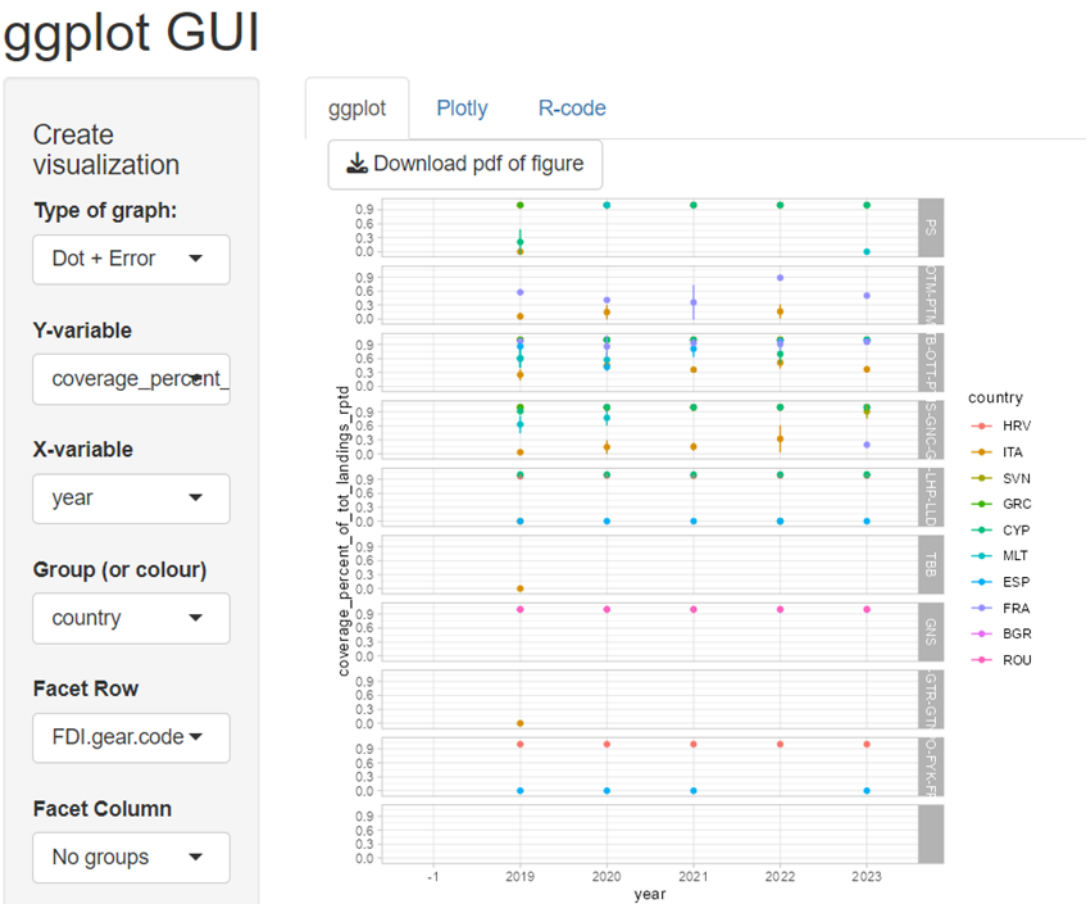
- The dataset is visualized using interactive ggplot or plotly plots, allowing users to explore relationships between key variables, making it easier to visualize patterns or trends across different countries, regions, or fishing techniques.
- The R-code for generating the plots is also provided.
- The plots can be downloaded as pdf files.

Figure A5.8. Boxplot of the discard rates by country. Separate plots (facets) by area.



Source: Member States submissions to FDI data call 2024.

Figure A5.9. Dot – error plot of Coverage percent of total landings for reported discards by year. Separate facets by Fishing techniques and colors by country.



Source: Member States submissions to FDI data call 2024.

B. Pivot_MS

The **Pivot MS** section provides a flexible, customizable interface for users to create **pivot tables** and **visualizations** based on the fisheries data, particularly focusing on **Member State (MS)-specific** data. This section enables users to aggregate and summarize data dynamically across different dimensions: country, species, fishing techniques, and year.

Each tab within the **Pivot_MS** section provides an interactive environment where users can filter and explore data related to landings and discards by various categories. The main table in Tab 2.1 summarizes this information and provides export functionality, while the drill-down feature allows for in-depth exploration of specific data points.

In essence, this section aims to facilitate the presentation of landings, discards and discard rates for one or more selected countries by Exemption Article across years.

Inputs (Sidebar)

The sidebar contains a dropdown menu where the user can select more countries to include in the analysis. The dataset is filtered to include data only for the selected county /ies.

Tab 2.1

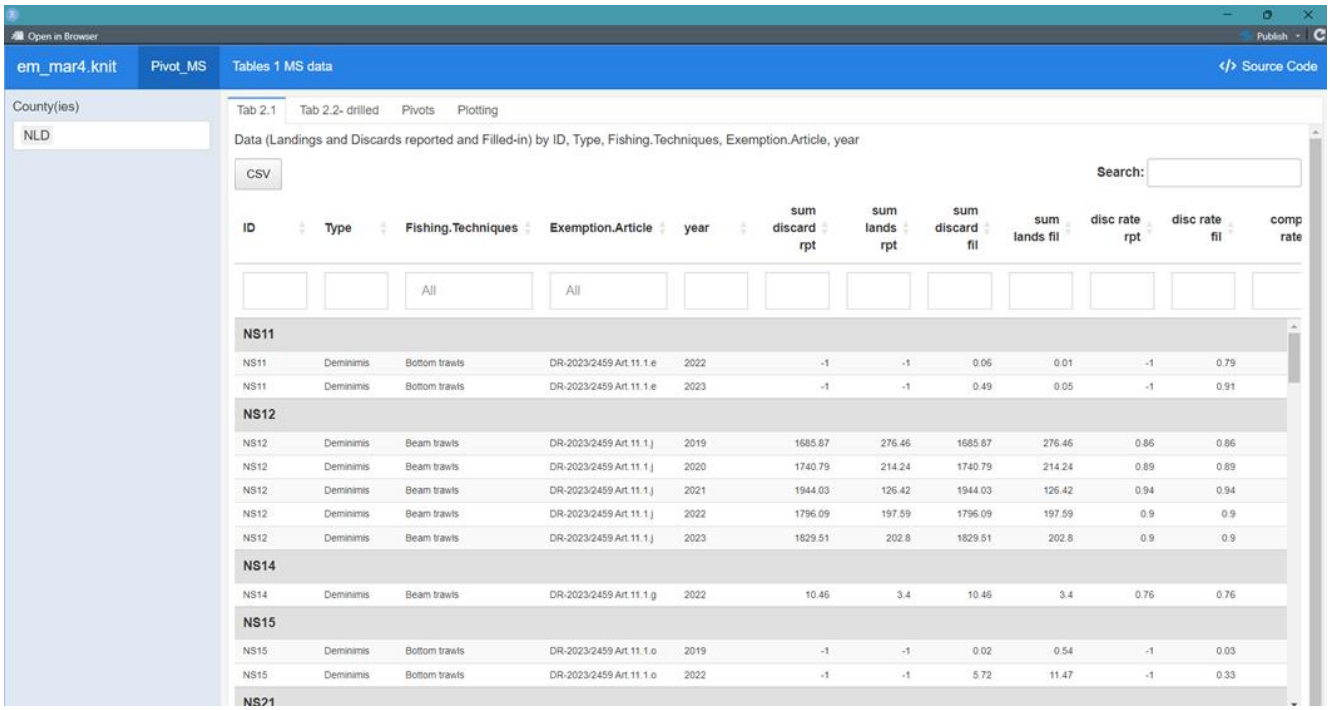
Data (Landings and Discards reported and Filled-in) by ID, Type, Fishing Techniques, Exemption Article, Year

This tab provides a detailed data table displaying landings and discards, both reported and filled-in, grouped by various factors:

- **Data Display**: The table shows the filtered data grouped by ID, Type, Fishing Techniques, Exemption Article, and year. The data includes summarized information such as sum_discard_rpt (sum of reported discards), sum_discard_fil (sum of filled-in discards), sum_lands_rpt (sum of reported landings), and sum_lands_fil (sum of filled-in landings).

Calculation of Rates: Additional columns display discard rates and comparison rates (comp_rate), which measure the difference between filled-in and reported discard rates.

Figure A5.10. Tab 2.1.



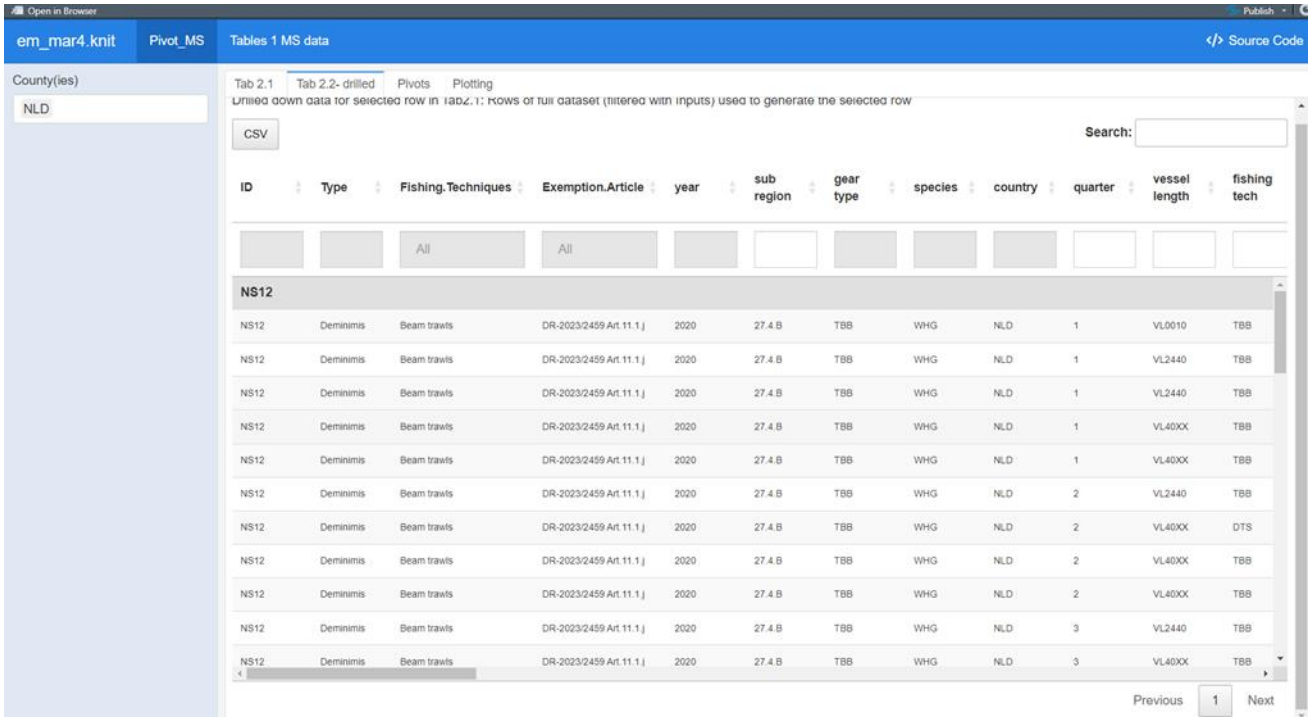
Source: Member States submissions to FDI data call 2024.

Tab 2.2- drilled

Drill-Down Table:

- When a user selects a row from the table in **Tab 2.1**, the corresponding data are retrieved in a table for a deeper inspection. This process resembles the drill-down functionality of the Excel pivot tables.
- Thus, the table in this tab gives the detailed data for each species, sub-region, gear-type and quarter, corresponding to the selected Exemption article, country, fishing technique and year.

Figure A5.11. Tab 2.2 Drill-Down Table.



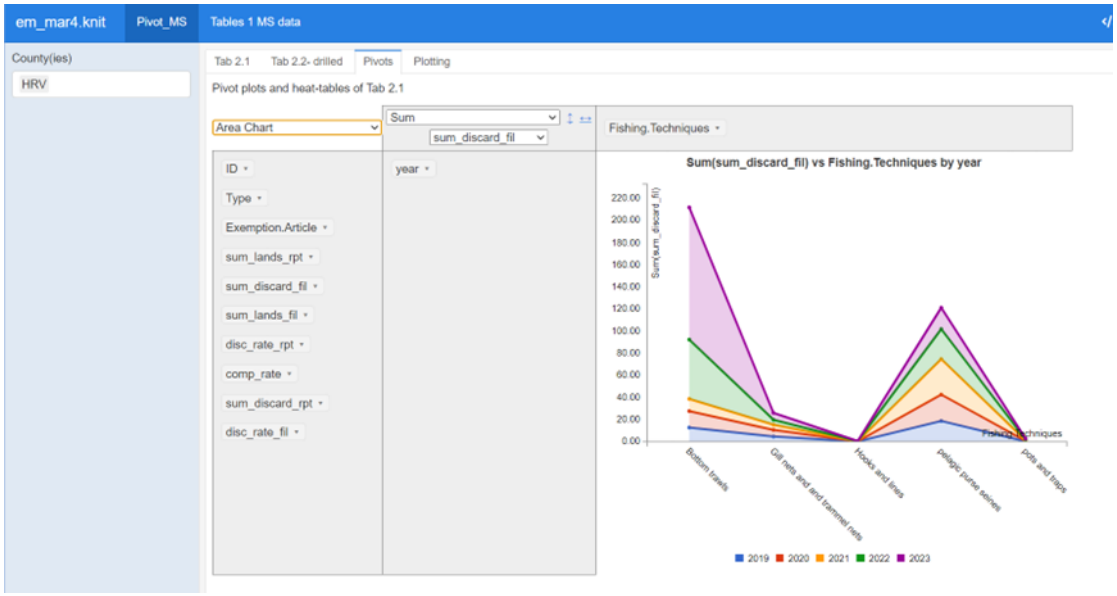
Source: Member States submissions to FDI data call 2024.

Pivots Tab

The **Pivots** tab, similarly to the respective tab in the Tables 1 MS Data section, offers an interactive tool for users to explore and visualize data through pivot tables and charts. This tab allows users to:

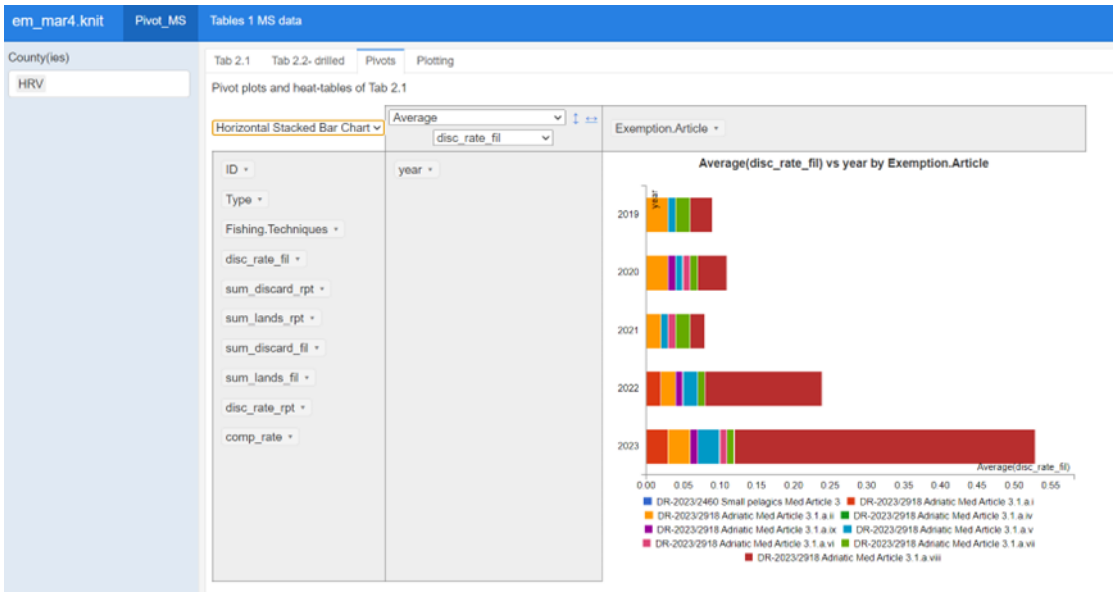
- **Create Pivot Tables**: Drag and drop fields to summarize data from the dataset used in **Tab 2.1**, such as grouping by fishing techniques, exemption articles, and calculating average rates (e.g., comparison rates).
- **Generate Charts**: Visualize the summarized data in different chart types, such as line charts or heatmaps, which can be customized based on user preferences.
- **Customizable Views**: Users can adjust the columns, rows, and values in the pivot table, changing how the data is grouped or calculated. The charts and tables are responsive and adjusted based on the size of the display.

Figure A5.12. Area Chart for the sum of discards with fill-ins by Fishing Technique and by year for the selected country.



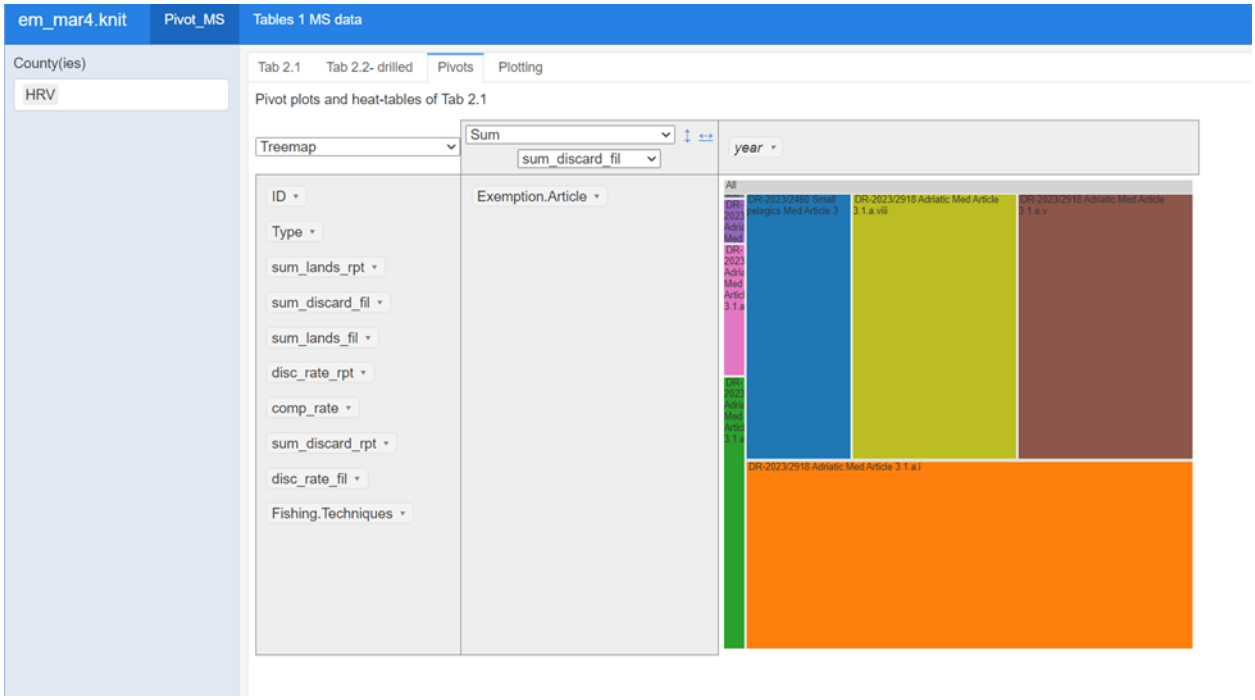
Source: Member States submissions to FDI data call 2024.

Figure A5.13. Horizontal stacked bar chart of average discard rate (with fill-in data) by year and Exemption Article for the selected country.



Source: Member States submissions to FDI data call 2024.

Figure A5.14. Treemap for the sum of discards with fill-ins by Exemption Article for the year 2023 and for the selected country**.**



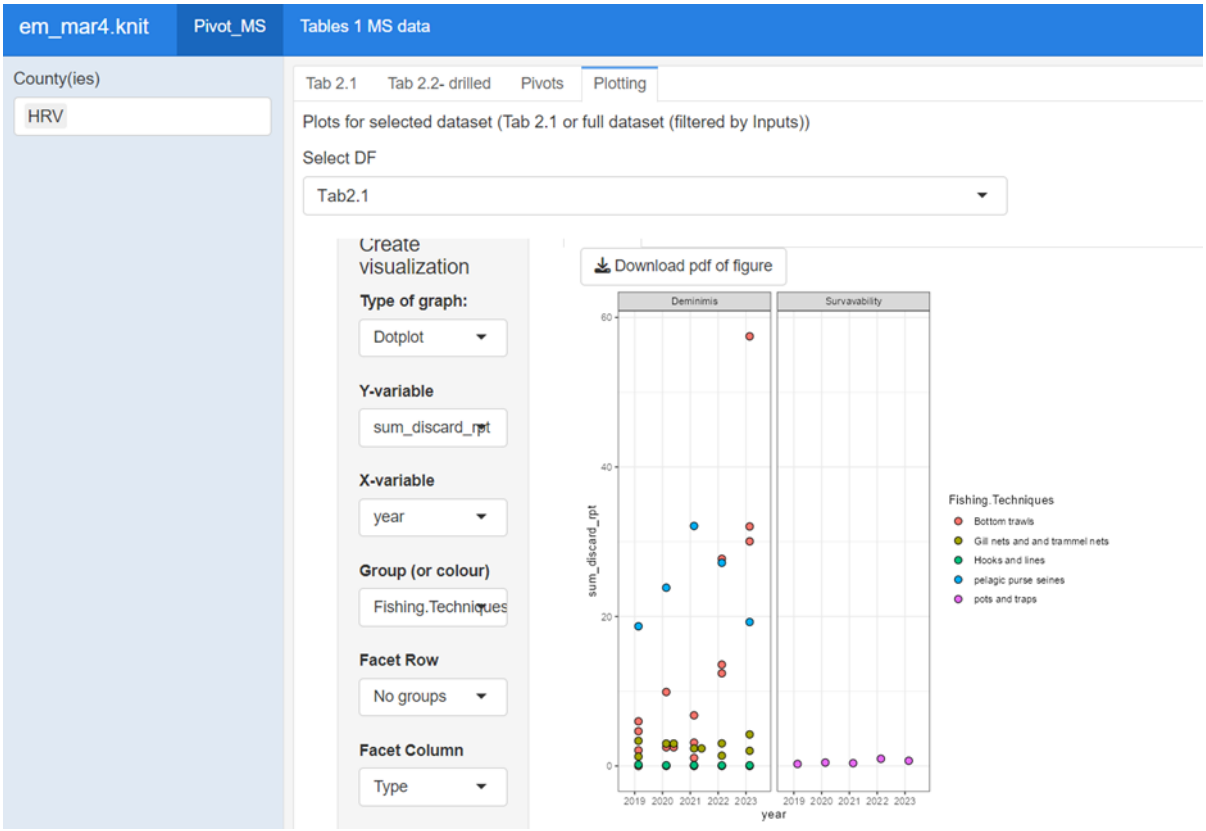
Source: Member States submissions to FDI data call 2024.

Plotting Tab

The **Plotting** tab, similarly to the respective tab in the Tables 1 MS Data section, enables users to create custom visualizations of the data. It includes:

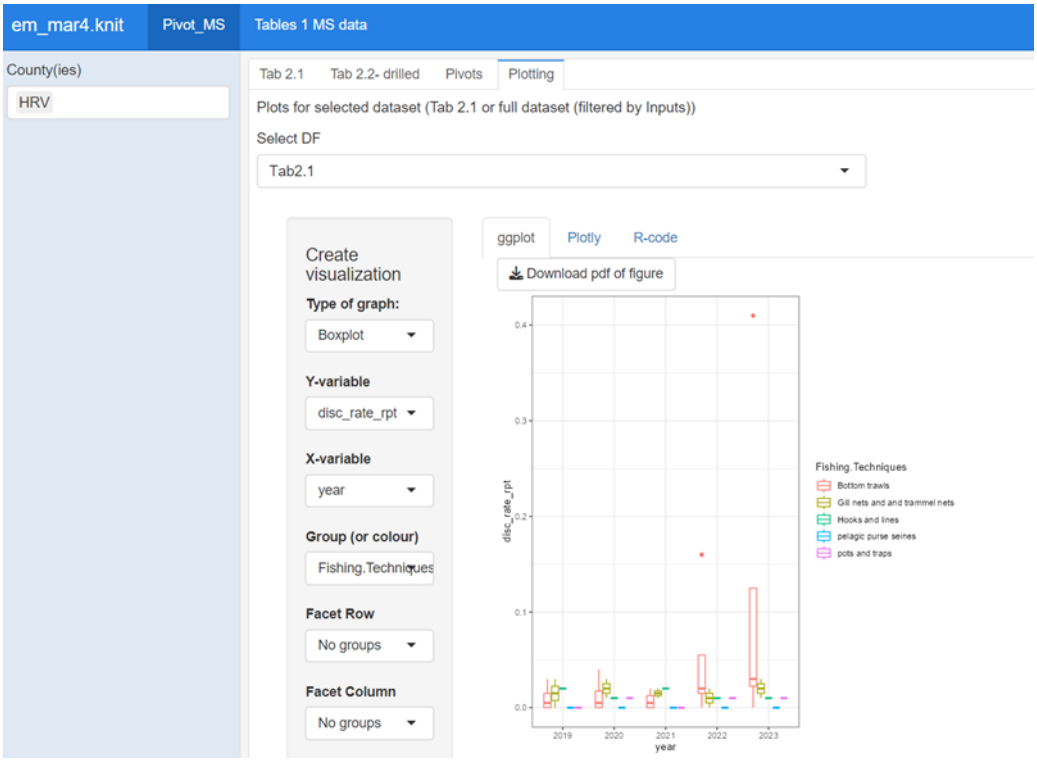
- **Dataset Selection**: Users can choose to visualize either the summarized data from **Tab 2.1** or the full dataset (filtered only by the selected country). This allows for flexibility in exploring both high-level summaries and detailed data points.
- **Custom Plots**: Users can generate various types of plots (e.g., bar charts, line graphs) based on the data they have selected, providing visual insight into trends and comparison, employing either the ggplot or the plotly R libraries. The R code generating the graphs is available for download. The plots can be downloaded as pdf files.

Figure A5.15. Dotplot of the Discards (reported) by year for each type of exemption article. The colors denote the fishing techniques. Data for the selected country from Tab 2.1 are used.



Source: Member States submissions to FDI data call 2024.

Figure A5.16. Boxplot of the discard rate (calculated based on the reported discards) by year. The colors denote the fishing techniques. Data for the selected country from Tab 2.1 are used.



Source: Member States submissions to FDI data call 2024.

List of Annexes

Electronic annexes are published on the meeting's web site on:

Fisheries Dependent Information reports - European Commission

List of electronic annexes documents:

EWG-24-11 – Annex 2 – Exemptions coding table

EWG-24-11 – Annex 3 – Exemptions data extract

EWG-24-11 – Annex 4 - Maps of effort and landings

List of Background Documents

Background documents are published on the meeting's web site on:
https://stecf.ec.europa.eu/meetings-calendar/past-meetings

List of background documents:

EWG-24-11 – Doc 1 - Declarations of invited and JRC experts (see also the section of this report 'Contact details of EWG-24-11 participants')

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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

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