



**Regional Coordination Group**  
North Atlantic  
North Sea & Eastern Arctic



**Regional Coordination Group**  
Baltic

# Intersessional Subgroup (ISSG) 2024-2025 Reports

**RCG NANSEA AND RCG BALTIC REPORT**

**Part III**

**3, 10 – 13 June 2025**

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs

## I ISSG End-users and RCGs

### Background

The aim of this ISSG is to maintain the dialogue between data providers (RCGs) and end users (ICES/Commission) in order to identify effective processes to meet end-user needs and allow the RCG to prioritize its activity relating to future data collection, storage and transmission functions. The ISSG was established as an intersessional subgroup in 2018. During the RCG NANSEA and RCG Baltic Technical meeting in 2020 it was decided that this ISSG should have a more generic focus. It was therefore decided to keep the annual information meetings between ICES and the RCG chairs to ensure good cooperation and to be able to follow progress over time.

### Work-plan

ToRs and work plan (specific tasks) for 2024/2025.

1. Communication channel between ICES and RCG chairs
2. Communication channel between the European Commission and RCG chairs
3. Communicate with ICES regarding ISSG Overviews outputs to ICES WGs
4. Prepare a guide on creating recommendations and updating their status.

### Progress during 2024/2025

The ISSG had online meetings with ICES in September 2024 and with ICES and European Commission in March 2025, to share information and follow up on recommendations and action points.

02-09-2024	End user meeting with ICES
19-03-2025	End user meeting with ICES and European Commission

### ISSG End-users meeting 02-09-2024

#### Attendees

Name	Organisation	Role & Position
Josefine Egekvist	RCG NANSEA	RCG Co-chair
Rita Vasconcelos	RCG NANSEA	RCG Co-chair
Maciej Adamowicz	RCG Baltic	RCG Co-chair
Cecilia Kvaavik	ICES	End-user
Jan De Haes	ICES	End-user
Henrik Kjems-Nielsen	ICES	End-user
María Pérez	RCG Secretariat	Observer
Susana Rivero	RCG Secretariat	Observer

\*Lotte Worsøe Clausen was not able to join the meeting, however she provided comments to the recommendations that were reviewed during the meeting.

#### Agenda:

- Communicate 2024 recommendations
- Updates on pending recommendations from previous years

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs

- Responses to the recommendations from ICES to the RCG
- Access for survey vessels to protected areas
- RDBES related topics
- Communication channel with third countries
- AOB

The RCG chairs reminded about the year wheel of and route of recommendations between RCGs and ICES. The recommendations discussed at the 2024 RCG TM directed to ICES were presented. The list of recommendations is available in the [2024 RCG TM Decisions and Recommendations report](#). These recommendations were also added to the recommendations GitHub. Pending recommendations from 2023 and 2022 were also discussed. See the list of recommendations and follow-up actions in Annex I.

Recommendations from ICES to the RCGs were discussed and commented on the recommendations GitHub.

A discussion point from the RCG TM was presented regarding access for survey vessels to areas that are protected or where windmill farms, highlighting the wish of a coordinated plan and introduction of new methods as well as reduction of survey effort.

RDBES related topics discussed included three recommendations from RCG NANSEA & Baltic: one for NCs to encourage data quality checks by countries, one for NCs to put resources in the development of estimates using RDBES and filling FDI fields, and last one for European Commission to set up a Workshop for NCs to clarify data confidentiality concepts and find the best solution for the RDBES Data License.

The need to consider communication with third countries where relevant was discussed, e.g., in relation to agreements on sampling in surveys.

The submission of DCF Regional Work Plans for 2025-2028 was mentioned.

The introduction of new data collection methods was also referred by the RCG Chairs, with emphasis on the need for caution and consideration of whether such introductions are aiming at meeting end user needs.

#### ISSG End-users meeting 02-09-2024

#### Attendees

Name	Organisation	Role & Position
Josefine Egekvist	RCG NANSEA	RCG Co-chair
Rita Vasconcelos	RCG NANSEA	RCG Co-chair
Vilda Griūnienė	RCG Baltic	RCG Co-chair
Lotte Worsøe Clausen	ICES Secretariat	End-user
Cecilia Kvaavik	ICES Secretariat	End-user
Jan De Haes	ICES Secretariat	End-user
Henrik Kjems-Nielsen	ICES Secretariat	End-user
Monika Sterczewska	DG MARE	End-user
Leonie O'Dowd	DG MARE	End-user
Marta Rodríguez Cobas	RCG Secretariat	Observer
Susana Rivero	RCG Secretariat	Observer

\*Lotte Worsøe Clausen was not able to join the meeting, however she provided comments to the recommendations that were reviewed during the meeting.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs

#### Agenda:

- Communicate 2024 recommendations
- Updates on pending recommendations from previous years
- Responses to the recommendations from ICES to the RCG
- Access for survey vessels to protected areas
- RDBES related topics
- Communication channel with third countries
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#### Roadmap/follow-up

Suggested tasks for the ISSG work 2025/2026

1. Communication channel between ICES and RCG chairs
2. Communication channel between the COM and RCG chairs
3. Follow the SecWeb 2.0 project regarding development of a Recommendations platform

#### SG Participants

Name	E-mail	RCG	Role	MS
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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs – Annex I

#### Annex I. Recommendations discussed in RCG ISSG End-user meetings 02-09-2024 and 19-03-2025

**R03:** The RCG recommends that ICES WGCATCH, WGBYC review the template developed by the RCG to document the methodology and data sources used to populate the calculated RDBES fields in the commercial landings and effort files and provide feedback. [\[ICES WGCATCH, ICES WGBYC\]](#)

**Update on actions:** The template was reviewed by WGCATCH in November 2024. It is being tested by RCG ISSG Metier and transversal variables, including the newest RDBES data format and a Rmd script to help getting an overview of data.

**R06:** RCG recommends ICES to organize in 2024/2025 a workshop to establish the needs in terms of data acquisition, storing, and sharing for developing and implementing AI to review data from electronic monitoring (EM) sources, and particularly to complement data collection onboard RV with EM. [\[ICES\]](#)

The related background information is to be found on the [RCG NANSEA&Baltic technical meeting report](#) (pages 35-36).

**Update on actions:** The recommendation has been forwarded to Working Group on Technology Integration for Fishery-Dependent Data (WGTIFD)

**R07:** RCG NANSEA and Baltic would like to ask the survey groups (EOSG) if benthic VME species are sampled according to the survey protocol and if a species ID manual exist for the area (maybe national). Please forward the materials to ISSG Survey chairs. [\[ICES EOSG\]](#)

**Update on actions:** The recommendation has been forwarded to the EOSG chair for consideration.

**R12:** Recommendation for RCG and ICES to write a joint support letter that will be sent from ICES to NCs to achieve access for MS to control data, which should then take contact to national control agencies to obtain access to control data that can support MS in submitting scientifically adjusted landings weights for RDBES ICES WGs. [\[ICES\]](#)

**Update on actions:** The support letter was prepared in collaboration with Ruth Fernandez from the ICES Secretariat. The ISSG End-User Group agreed that it would be more appropriate for the letter to be sent by the ICES Secretariat. The letter was distributed by ICES on 23 October 2024 to all National Correspondents, RCG Chairs, and ICES representatives. R12 is implemented.

**R13:** RCG recommends that both the scientific landings and official landings to be mandatory in the RDBES format. [\[ICES WGRDBESGOV\]](#)

**Update on actions:** This was supported by the Core Group and approved by WGRDBESGOV. Included in the RDBES data call 2025.

**R16:** In the context of diadromous fishes' data collection, RCG recommends ICES to include DCF-related matters in the general terms of reference of the relevant ICES EGs (WGEEL, WGBAST, WGNAS). [\[ICES\]](#)

**Update on actions:** ICES has communicated with relevant chairs.

**R18:** RCG recommends starting sampling gastro-intestinal tracts of all turbot caught during BITS survey. [\[ICES WGBIFS\]](#)

**Update on actions:** included the topic into the ToRs of the Baltic survey group (BIFS).





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs – Annex I

#### 2023 Pending recommendations

**R01:** Recommendation to ICES WGRDBESGOV to consider how ICES can take over the outputs created by ISSG RDB Overviews for ICES (WGs, Benchmarks) **[ICES]**

Update on actions:

- Recommendation forwarded to BOG,
- BOG has expressed their interest in the overviews and its usefulness not only for benchmarks but also for ongoing AWGs, but they need to evaluate the best way for ICES to take this on.

Ongoing work, define how ICES can take this on. ICES indicated that there is an agenda point related to this topic in the upcoming BOG meeting. Still to be decided.

#### 2022 Pending recommendations

**R01:** ICES give download rights of RDB/RDBES data to ISSG chairs for the ISSG work **[ICES]**

Update on actions:

- ICES added RCG area to download page (roles limitations not developed),
- Requirements for roles and permissions needed in RDBES system for RCG work has been addressed intersessionally by RCG,
- Short-term solution: selected RCG members will have access to RDBES data in the restricted folder on the SharePoint.

RCG Chairs suggested that signing of the conditions for the use of data through a PDF that requires digital signature, once signed you get access to data.

About the duration of the permission, RCG chairs agreed that it should last for one year.

RCG chairs are now able to download RDBES data from the relevant RCG areas

#### Answers to the recommendations from ICES to the RCG

The answers to the recommendations have been provided on the RCGs-ICES recommendation database on GitHub. Further comments during the meeting are detailed below.

**ICES\_2024\_03:** WKPETSAMP3 recommendation on sufficient sampling for better monitoring of high bycatch risk fisheries

Update on actions:

ISSG Overviews and ISSG PETS identified the need for WGBYC to identify if the ETP monitoring data had been/are being submitted to RDBES. Only after that can a characterization of coverage be done by ISSG Overviews. This will be followed up by WGBYC, e.g., by comparing between WGBYC data call and RDBES data call.

**ICES\_2024\_04:** WKPETSAMP3 recommendation on coordination of regional sampling plans

**Update on actions:** ISSG Overviews and ISSG PETS identified the need for WGBYC to identify if the ETP monitoring data had been/are being submitted to RDBES. Only after that can a characterization of coverage be done by ISSG Overviews. This will be followed up by WGBYC, e.g., by comparing between WGBYC data call and RDBES data call.





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs – Annex I

**ICES\_2024\_05:** WKPETSAMP3 recommendation on data quality procedures in sampling programmes ETP species

RCG chairs still need to follow up on this topic, there were no related comments on the RCGs report.

**ICES\_2024\_19:** WGRDBESGOV recommendation on defining the roles and permission for the RDBES

**Update on actions:** WGRDBESGOV 2024 report regarding definition of roles and permissions, the RCG needs a new user type "RCG" who has download access to all stocks and countries in the RCG area

**ICES\_2024\_20:** WGRDBESGOV recommendation on long-term maintenance of older databases

**Update on actions:** WGRDBESGOV discussed the need for access to the Regional Data Base, RDB. There is only a need to be able to, on request, receive the time series of landing, effort and sample data collected over the years and stored in the RDB. Therefore, the RDB system interface could be terminated. There is only a need to keep the RDB database alive with internal access to being able download requested data. In 2024 it has shown that both several ICES Expert Groups and several European projects have requested data from the RDB, and that will continue in the future.

**ICES\_2022\_48:** WGHANSA recommendation regarding ECOCADIZ survey technical problems

**Update on actions:** RCG chairs commented that the ECOCADIZ survey will not be continued by Spain due to the lack of use of data for stock assessment.

**ICES\_2023\_67:** WGBCOD recommendation to WGBIOP and RCGs: start sampling genetic information from North Atlantic cod on a regional basis

**Update on actions:** In response to this recommendation, RCG formulated a recommendation to NCs:

**NANSEA BALTIC\_2024\_R01:** The RCG NSEA & Baltic recommends that all MS collect genetic samples from spawning (running) cod in the southern North Sea (4b, 4c) and the channel 7d, in spring 2025. The collection could be conducted from IBTS, BTS or other relevant scientific survey program as well as from observer programs if possible.

**ICES\_2023\_66:** WGBCOD recommendation to WGCATCH and RCGs: National catch sampling programs should take the new sub-stock structure

**Update on actions:** This recommendation is also related to genetic sampling, covered by the RCGs recommendation mentioned before. The RCG NSEA & Baltic recommends that all MS collect genetic samples from spawning (running) cod in the southern North Sea (4b, 4c) and the channel 7d, in spring 2025. The collection could be conducted from IBTS, BTS or other relevant scientific survey program as well as from observer programs if possible.

**WKEVUT recommendation:** Catch lottery as used in Norway, and the eventually possible improvement on the at random sampling

**Update on actions:** It was concluded that ICES WGCATCH could evaluate the sampling design scientifically/statistically. The RCGs can comment on the logistical issues regarding this type of sampling, which requires real-time access to vessel control systems and direct communication with the vessel to request a sample. This type of setup is not currently available in EU MS. An email was sent by RCG Chairs to WGCATCH chairs.





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I. ISSG End-users and RCGs – Annex I

**WGQUALITY recommendation** regarding developing a graphical informed/uninformed strata report using the RDBES data format

**Update on actions:** RCG Chairs commented that the checks mentioned in the recommendation seem more like end users checks and could be developed by ICES in TAF.

**WGRDBESGOV recommendation:** invite third Countries to the Technical Meeting, when RDBES related issues are addressed (ICES\_2023\_12)

**Update on actions:** RCG chairs is asking also ISSG chairs if it is relevant that third countries are invited to their session.

During the 2024 TM many of these topics were addressed in subgroups sessions. The ISSG Quality is now under ICES WGRDBESGOV, so also including third countries.

**WGSINS recommendation:** increase the survey participation for the Downs Recruitment Survey (DRS) in the second half of April

**Update on actions:** The survey was already expanded by involving a DEU research vessel covering additional areas. When revising the EU-MAP table I it might be suggested to include as mandatory survey.

#### RDBES related topics

**NANSEA BALTIC\_2024\_R02:** The RCG recommends NC to use the markdown script developed by WGRDBESGOV to quality check their data and give feedback to the WGRDBESGOV in November.

**Update on actions:** There were online meetings to introduce the use of the script in November and in March.

**NANSEA BALTIC\_2024\_R04:** NCs to put resources in the development of the estimates using RDBES data and also to start filling the FDI fields in the RDBES data model

To be endorsed at the RCGs decision meeting, late Sep 2024.

**Data license and use of data,** national rules differ between countries, some countries remind that they are not allowed to submit the data if the national confidentiality rules are not ensured. NC need security in this issue.

- **NANSEA BALTIC\_2024\_R05:** Commission to set up a Workshop for NCs to clarify data confidentiality concepts and find the best solution for the RDBES Data License.

The aim of the WK is to find a common ground and also to address the need to be able to produce regional tables for example for the RWPs.

**Update on actions:** An EU-Survey was set up on national legislation regarding sharing, use and publication of data.





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 2. ISSG RDB Catch, Effort and Sampling Overviews

## 2 ISSG RDB Catch, Effort and Sampling Overviews

### Background

The intersessional subgroup on Catch, Effort and Sampling Overviews was established by LM 2018 to streamline and facilitate the work on the fisheries and sampling data of the MS and prepare data overviews in advance of the RCG meetings. Before the subgroup was set up, the different RCGs conducted data analysis and overviews separately with minimal exchange, resulting in redundancies and efficiency loss. Furthermore, a substantial part of the work was being carried out during the RCG meetings themselves and so not readily available to inform RCG preparation and meeting discussions. The intersessional subgroups are intended to work throughout the year, self-organising in terms of their work and having an RCG chair as point of contact. The pan regional subgroup on Catch, Effort and Sampling Overviews consists of members of all three RCGs (RCG NS&EA, RCG NA and RCG Baltic) and had Josefine Egekvis (chair RCG Baltic) as contact point during its activities.

It is chaired by Ana Cláudia Fernandes (IPMA, Portugal) and Lucía Zarauz (AZTI, Spain). The tasks and output from the subgroup fall into 2 main types of work:

- i. To develop tools for internal RCG work and
- ii. Preparatory work for decision making, including input for regional work plans and working groups

### Work-plan

ToRs and work plan (specific tasks) for 2024-2025:

1. Develop the multiannual fisheries code for producing new reports using the RDBES data format (will be on hold the next year)
2. Work on the sampling overviews (Shiny app) - Evaluate the best way to prepare and present the sampling overviews and work collaboratively with the ICES Working Group on Estimation with the RDBES data model (WGRDBES-EST) members that are contributing to the development of the R package RDBESvisualise
3. Improve the annual fisheries overviews
4. Give support to WGBFAS in adapting the previous code to the RDBES format, and other contributions
5. Use the WGBFAS overviews to create a stock template report, with the plots and figures identified as more useful and where the stock can be easily changed. Make it available for other AWG, who will be able to use it and adapt the template to their own needs
6. Convert the Benchmark template to the RDBES data format, document the code and discuss with ICES the way forward
7. Provide input data for table 2.1 of the RWP, in collaboration with ISSG RWP experts that developed the script, and make additional overview of species, if needed.

The group met in biweekly online meetings (via Teams) from December 2024 to June 2025, dealing with specific tasks, reviewing progress and adjusting workloads. Eight group meetings were carried out. Minutes were circulated after each meeting to keep a record on the progress achieved and the tasks ahead.

During the first meeting, the tasks planned for 2024/25 were revised. The group decided to prioritize: 1) the update and production of the annual overview, and 2) the development of the sampling overview in html format. For the tasks related with WGBFAS and the Benchmarks overviews, the group remains open to give support to ICES if it is requested too. The multiannual overview has been put on hold this year.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 2. ISSG RDB Catch, Effort and Sampling Overviews

RCG dates determine the deadlines of the group work, which were set as the following:

- January – April: Time to progress in the different tasks
- 1st April: Deadline for the RDBES data submission. After this we need to prepare the input data and produce the reports
- 2<sup>nd</sup> May – deadline for producing the ISSG report with description of the work performed and all overviews should also be made available to the RCG (SharePoint)
- 10-13 June: RCG NANSEA & BA: The work developed by this ISSG will be presented in the RCG Technical Meeting

#### Progress during 2024/2025

The format agreed for RDBES data extraction was used for the data uploaded in 2025. This data does not include UK countries as a flag country, but they may be present in the cases of landings abroad.

The SharePoint (SP) for [RCG Intersessional Work](#) was used to hold documents, protocols, minutes and final overviews (04. Working documents/ISSG RDB Overviews). The RDBES data extractions were placed in a restricted SharePoint that only ISSG participants working with the data have access to ([RCG data](#)).

Data access was managed following the procedure defined in the RDBES Data Call. ISSG chairs designated the members who needed to use the data and requested access for them via e-mail to the ICES Professional Officer. In the email, a motivation for the data access request was included. All data users signed in the confidentiality conditions for using the data before they were given access to the restricted RCG data SharePoint. The list of data users will be updated every year by ISSG chairs.

All the r-scripts were stored in GitHub. Three projects were created at the [RCG-RDBES-Overviews](#) repository: “data preparation”, “annual overview” and “sampling overview” and they were used to define the tasks and assign them to participants. Participants were advised to use branches and pull requests during the development of the scripts. Commits on the latter are reviewed by other participants prior to merging the code changes to the main branch. The group coordinated part of the work with RDBES visualize (<https://github.com/ices-tools-dev/RDBESvisualise>). The guidelines to harmonize the coding style and best practices defined in previous years (some of them borrowed from WGRDBES-EST) were followed.

The progress made in each of the tasks can be summarized as follows:

#### I Data preparation

Data preparation includes basic checks, country specific corrections, creation of new variables (i.e. fleet segment, country, scientific name, catch group, area name, RCG...) and data formatting.

#### Landings and Effort

For tables CL and CE, the scripts from last year were used, with some developments:

- update of country codes (2 missing codes were added RE-Reunion; MQ-Martinique)
- update of species codes.
- assignment if CatchGroup/ByCatchGroup to several species that were not assigned
- general update of the scripts to the changes in the data model.

#### Sampling



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 2. ISSG RDB Catch, Effort and Sampling Overviews

For CS the data preparation was developed from scratch. Due to the complexity of CS data, with different hierarchies and multiple tables by hierarchy, data were managed using the RDBES Estimation Object function (RDBEScore package), which joins the different CS tables in one single object. Some points for improvement were found in the functions used and will be communicated to WGRDBESGOVestimation.

This is the first time that sampling data from the RDBES are reviewed. A quality check was done before creating the sampling overview to identify errors in the data and ensure the consistency of the report. The script was developed nationally and will be proposed to be included under the ISSG Quality WGRDBESGOV for future developments. The issues found can be summarized as follows:

- In BVvalueMeas there are many inconsistencies on the values reported by different countries (i.e. maturity, sex, otoliths collected...). It looks like there are no validation rules in this field.
- There is no information about the values allowed for maturity (when BVvalUnitScale = "SMSF"). In the report letters are used, but some countries have reported numbers.
- DEsampScheme for some countries is still "National Routine"
- Some countries report BVtypeMeas but without NA in BVvalueMeas
- In the Baltic, there are several countries uploading data for DEsampScheme = "Baltic SPF regional"; but only 2 of them have in DEsampSchemeType == "RegPilCF"
- Year from FTarrivalDate shall be equal than DEyear
- There are many species having different types of length measurements FMtypeMeas (LengthTotal, LengthPinchedTail, ForkLength, LengthMantle, etc) depending on the Country/Sampling Scheme.
- Some data missing from particular countries were also identified. When possible, they were fixed after contacting the countries

The ISSG recommends that additional checking and data validation tools are included in the RDBES data upload process, to prevent errors. In addition, some coordination is needed among countries to ensure that the length measurements (FMtypeMeas) that they are collecting are comparable.

Another issue found is that the FT table is optional in H13, and without it we don't have information of the vessel and of the trip. This may be relevant to get a regional overview of the n° of trips sampled or n° of unique vessels sampled, as data from H13 will not be included.

### 2 Annual overview

The code was adapted to the RDBES format last year. Although some minor changes on the RDBES format have been done, there was no need to perform any change in the code already developed. In addition, some improvements were done namely related to the documentation of the outputs presented and also to accommodate end users feedback.

### 3 Sampling annual overview

The sampling overview report was produced in html format as a first attempt to show the sampling data reported, and the shiny app can be a second step in the development of the sampling overview, but this code will only be developed in the following years. It was decided that interactive plots will not be used at this stage, as they significantly increase the size of the outputs and may cause problems when compiling the reports. The plan is to start with some basic figures summarizing the sampling data and progressively improve the report by adding e.g. the sampling coverage and other useful information.

The structure created for the report is the following:





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 2. ISSG RDB Catch, Effort and Sampling Overviews

- Introduction
- Commercial fishery sampling overview
  - General information
    - Sample information
    - Samples data
    - Frequency Measure data
    - Biological data
  - Number of individuals in all types of biological variables
  - Biological information by species

#### 4 Other issues

**SSF Overviews:** The ISSG SSF has been discussing the annual and multiannual fisheries overviews and found that they can be very useful but the way they were presented until now didn't fit the purpose of their group work. They need information about the sampling coverage (metier, stocks, sampling schemes) and spatial information. The ISSG SSF will finish their reflection on the type of information they need, and they will inform us.

#### Roadmap/follow-up

The work of the subgroup will be presented during the 2025 RCG TM. There is also some time for subgroup work planned.

Plan for the next year.

We have some ideas for improvement of the overviews that will be included in the report. E.g:

- Annual Overview: there are some figures planned that have not been developed yet
- Sampling Overview: In particular, include some figures about the sampling coverage
- Multiannual Overview: new to convert it into the RDBE format

But before defining the task for next year, we need to make a reflection on the use of the overviews, because we want to produce the figures and summary information that are actually needed for the RCG work. To that aim, we need the feedback of the possible end users. During the subgroup slot in the RCG TM, we plan to gather feedback from the ISSG on SSF and the ISSG Small Pelagics (what do they need?), but also any other ISSG is welcome to contribute.

In addition, the RCG asked for some figures about the landings in foreign countries in order to spot the need for bilateral agreements. The figures have been included in the overviews, but we want to know if they fit for purpose.





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### 2. ISSG RDB Catch, Effort and Sampling Overviews

#### SG Participants

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### 3 ISSG Métier and transversal variable issues

#### Background

The aim of the group is to maintain the list of DCF métiers on level 6 and level 7 that is used for data calls in ICES and STECF and to serve as a forum to discuss harmonization of methods used for assigning métier codes and working with transversal data (i.e. fishing activity data) in EU Member States.

The group has been ongoing since 2018, starting with a workshop discussing the methods used to assign métier codes to transversal data, issues and best practices, and the following years as an RCG ISSG, reports can be found on [GitHub](#) and on the [RCG website](#). Achievements from the ISSG over the years have been:

- Implementation of [new standardized and harmonized list of métier codes on DCF level6](#), regionalized by RCG (and DCF level7 especially for LP fisheries since 2023), which was approved by RCG's in 2020 and in the September 2020 Liaison meeting, it was agreed by the NCs that the new codes for métiers and reference lists are used and implemented by the MS.
- Reference lists:
  - [Reference species list on how to group species \(into group of species on DCF level5\)](#)
  - [Reference areas list establishing the link to RCG area](#)
  - [Reference gears list on how to group gears \(into gear DCF level4 and gears' group\)](#)
- [Script](#) that can assign métier codes using a specified data input format. It also has functionalities 1) to propose an estimate of métiers where all needed information is not available and 2) to refine the "rare" métiers firstly assigned by the general algorithm focusing on the year\*vessel main métiers, in order to limit the multiplication of métiers calculated.
- [Manual](#) explaining the background, script, input format and reference lists
- GitHub repository ([RCGs/Metiers at master · ices-eg/RCGs \(github.com\)](#)) where all the material is available (reports, métier lists, reference lists, script, manual)

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The new métier codes are now being requested in ICES (*RDBES and VMS/Logbook*) and STECF FDI data calls.

In 2021, the group changed name to 'ISSG on Métier and transversal variable issues', also including a task to look at effort calculations for the small-scale fisheries (including the use of the fecR package) and a task to discuss harmonization of methods used to estimate fishing activity data in global (in particular to complete RDBES tables CE&CL).

The ISSG is addressing requests for new métier codes, ensuring that it follows established principles and, when approved, communicates to JRC/FDI and ICES to add the codes.

The ISSG is chaired by Sébastien Demaneche, Ifremer, France and Josefine Egekvist, DTU Aqua, Denmark

#### Work-plan

ToRs and work plan (specific tasks) for 2024/2025:

1. Continue following and evaluating the implementation of the métier codes on a pan-regional level and maintaining métier codes and other reference lists and scripts.
2. Update and further develop métier description report, so that it can produce a multiannual report and can take the RDBES data license into account for making a public report.
3. Continue the analysis of questionnaires sent out in spring 2023, to evaluate the use of cross-validation methods in MS to combine data coming from different declarative sources, the ongoing

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### 3. ISSG Métier and transversal variable issues

- standard practices and develop, on this basis, best practices guidelines, with a specific focus on the RDBES CE and CL tables.
4. Evaluate eventual feedback on the draft template elaborated in 2024 to document methodologies applied to inform RDBES CE & CL tables
  5. Continue following up on the development of the fecR package to calculate fishing effort metrics that are harmonized/homogenized between MS.
  6. Regarding RCG Econ economic fleet segmentation, the plans for development on this should be discussed at Liaison meeting
  7. Potential updates of RWPs to be finalized in 2026 for RWPs 2028-2030

### Progress during 2024/2025

The ISSG had the following online 1.5 - 2 hours meetings during the last year:

29-10-2024	Meeting to follow up on requests for updates to métier and reference lists
24-01-2025	Meeting to plan work for 2025 and follow up on requested codes
26-02-2025	Meeting to follow up on ISSG tasks
28-03-2025	Meeting to follow up on ISSG tasks
24-04-2025	Meeting to finalize ISSG tasks and report & address a request from STECF on an incoming new gear: trap-lines (suggest a new gear code).

Communication between the ISSG and other groups

- RCG Med&BS chair Charis Charilaou participated in ISSG meeting 29th October 2029
- Communication with Norway (Kotaro Ono – Institute of Marine Research) regarding metier codes through online meetings and emails
- For task 1, the ISSG chairs were in contact with ICES and JRC to update the métier codes reference lists (DCF level6 and level7) for data calls (e.g. ICES RDBES and STECF FDI data calls).
- The chairs presented the ISSG 2024/2025 work at the 2024 Technical Meetings of RCG NANSEA & Baltic, RCG Med&BS and RCG LP
- Communication on métier code requests with RCG Med&BS and RCG LP
- Communication on métier code requests from Iceland
- Communication with STECF on request for new gear code
- Meeting between ISSG Métier and transversal variables, ISSG SSF, ISSG EMT regarding tasks on SSF.

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### Difficulties encountered caused by external influences

By the deadline of the ISSG report, one MS had not submitted RDBES effort and landings data, and therefore it could not be included in the métier description report (see task 2).

### Roadmap/follow-up

#### Main outcomes

- Reviewed requests for new métier codes to add in the reference lists from countries and RCGs from:
  - o STECF (new gear: trap-line)
  - o Norway (species codes, gear codes, methodologies)
  - o Iceland (cucumber fishery, differentiation in level 7 between two demersal gillnet fisheries)
  - o RCG Med&BS (requests for additional métier codes)
  - o RCG LP (suggestion to include FAD codes in the métiers DCF level7 reference list)

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### 3. ISSG Métier and transversal variable issues

- Spain (request for additional métier codes)
- The Netherlands (methods)
- Update of manual to assign métier codes to transversal data
- Updated annual métier description reports and developed multiannual métier description reports.
- Continued the analysis of methods applied by MS for cross-validation methods in estimating transversal data
- Tested the revised template to document methods used for creating the RDBES CE and CL data on national level and suggested modifications. The ISSG recommends that this template is used for documentation of the RDBES 2026 data call.
- Updated effort fecR package with disaggregation function and methods for SSF
- Discussed input for RWP 2028-2030

#### Suggestions for the next step in intersessional work (future tasks)

1. Continue maintaining métier codes and other reference lists and scripts. Follow and evaluate the implementation of the métier codes on a pan-regional level.
2. Update and further develop métier description report (annual and multiannual).
3. Finalize the analysis of questionnaires sent out in spring 2023, to evaluate the use of cross-validation methods in MS to combine data coming from different declarative sources, the ongoing standard practices. Develop, on this basis, best practice guidelines, with a specific focus on the RDBES CE and CL tables.
4. Evaluate documentation of methodologies applied to inform RDBES CE & CL tables, i.e., collect and analyse the templates provided by countries (in answer to the RDBES 2026 data call), to document MS methods used to estimate fishing activity data especially for RDBES CE & CL tables
5. Continue following up on the development of the fecR package to calculate fishing effort metrics that are harmonized/homogenized between MS and meet the requirements of the RDBES format.
6. Evaluate and provide feedback on the ICES species list relation between FAO code and aphialD.
7. Finalize the updates of RWPs

The suggested task 6 is one request from an STECF Expert Group experiencing difficulties with RDBES CL data, where no FAO code is available, and also experienced that different MS are using different aphialD's for groups species. It was also highlighted that this could be an issue for ICES WGMIXFISH.

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### 3. ISSG Métier and transversal variable issues

#### Task I: Continue following and evaluating the implementation of the métier codes on a pan-regional level and maintaining métier codes and other reference lists and scripts.

The métier codes are requested in the STECF FDI data call and in ICES data calls (VMS/Logbook and RDBES). Within this task, requests for new métier codes to add and revision of other reference lists (area, gear or species) are evaluated, approved and implemented. The current métier reference lists (DCF level6 & level7) and other reference lists (e.g., species reference list) elaborated by the group are available in the following GitHub: <https://github.com/ices-eg/RCGs/tree/master/Metiers>

#### Request from STECF to suggest gear and metier codes for new gear: trap-lines

EU long liners targeting swordfish have switched from hooks to trap lines which is believed to have significantly altered their catchability. This gear has been discussed by ICCAT for a few years and has been described Garibaldi et al. in 2024.

The gear is not officially defined anywhere, not in FAO manuals classifying fishing gears, DCF code lists or our own ISSG reference lists and this is presenting a problem as the data is not being recorded in logbooks, for example, and also not reported to data calls such as FDI or RDBES and therefore it is not possible to evaluate its implementation or impact. Furthermore, in some cases, it is currently reported with the “LLD/Drifting Longline” gear code including these practices with other practices of Longlines which is a source of uncertainty and imprecision.

The ISSG was requested to add a gear code and associated metier codes to the DCF official list and ISSG reference lists. As STECF recognised the *RCG ISSG métier and transversal variable issues* (<https://www.fisheries-rcg.eu/intersessional-subgroups/>) as responsible for the maintenance of naming conventions for gears, metiers, selectivity devices, etc. it was suggested that potential new codes developed to classify LLDs armed with traps should be submitted through this RCG ISSG subgroup.

STECF found it important to classify this new device either as a new gear or as a gear component. STECF noted that as described in Garibaldi et al. (2024) the new device commonly called trap-line, is a drifting longline (LLD) which, attached to each branch line, instead of a baited hook, has a series of monofilament nylon concentric rings (a spiral) (ranging from 6 to 8) of increasing size (from 30 cm to 50/70cm diameter) joined by a tape where a U-shaped wire is connected to a swivel. Within the central ring the bait is positioned with an artificial lure occasionally filled with a sardine. STECF observed that due to the characteristics of the trap-line and the way it catches target species (which is independent from the presence of a hook within the trap), this device could be classified as a new gear instead of a gear component. Therefore, drifting longlines armed with hooks (LLD), with traps and hooks, or armed only with traps could be classified by different gear codes.

The ISSG received information from STECF that the trap-lines gear has only been used on drifting longlines (LLD), and not on set longlines.

Therefore, the suggestion from the ISSG is that it should follow the codes of « Hooks and Lines” gear group and suggest to use the gear code **LLT** for reporting the trap-line fishery. This code follows the gear code structure with ‘LL’ indicating longlines and ‘T’ indicating traps. The ISSG also found that this code is not used for any other fishing gear.

The gear description could be: 'Longlines Trap', or 'Traplines'. It will be included in the “Hooks and lines” gear’ group and therefore “no mesh size” will be described in the métiers DCF associated.

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The métier DCF level 6 suggested is: 'LLT\_LPF\_0\_0\_0' as it is targeting a large pelagic fish (swordfish) and doesn't have a mesh size. The suggestion for corresponding new métier DCF level 7 codes could be: "LLT\_LPF\_0\_0\_0\_SWO"

As it will be included in the "Hooks and lines" gear' group, this new gear code should follow the rules agreed for "Hooks and Lines" gear group i.e., "no mesh size" described and "gear dimension = number of lines and number of hooks" (i.e., gear' group dimensions generally reported). Nevertheless, some discussion raised in the group on this subject especially if other relevant gear dimension parameters (more in line with its "trap" characteristics) should be reported such as number of traps, diameter of rings, number of rings, soaking time. Following the Garibaldi definition (which refers to a "branch line" instead of a "baited hook"), it is not clear if "Number of traps" should be added as "Number of lines" and "Number of traps" could be similar. Finally, it seems that more discussions are needed to define the parameters/metrics that should be collected/reported when using the gear to describe its dimensions and effort. In the end, the group agreed to propose first a new gear code (LLT), and new métiers associated and discuss further, during the next year, the way to declare/report gear dimension for this new gear.

The request is urgent (esp. for some areas), to be able to follow the implementation of this gear in the EU fisheries, e.g., some fishers need to extract this information to ask for exemptions. When the ISSG has finalised a proposal, this should be communicated with RCG MBS, RCG LDF, RCG LP, STECF, DG MARE, JRC/FDI, ICES, GFCM and potentially EFCA and FAO. This addition of a new gear code will constitute a starting point to evaluate its implementation or impact (it should be noted that there is no existing formal path to include a new gear code into the DCF requirements).

This gear code should be suggested to FAO and the EU gear code reference list. It would be then available for reporting in EU logbooks and in data calls from STECF and ICES.

#### **Recommendation:**

The ISSG recommends that the gear code 'LLT' should be used for the 'Trapline' gear. This code should be introduced in EU gear code reference list, suggested to the FAO gear code reference list and requested in ICES and STECF data calls, with corresponding métier codes 'LLT\_LPF\_0\_0\_0' for level 6 and 'LLT\_LPF\_0\_0\_0\_SWO' for level 7.

#### **Request from Norway on species codes, gear codes and methods**

The ISSG was contacted by the expert Kotaro Ono from the Institute of Marine Research from Norway for feedback on his requests to update reference lists. Kotaro is working on assigning métier codes to transversal data to submit to ICES data calls. The request had three parts: species list, gear codes and methods.

#### **Species list**

An analysis of species reported in Norway showed 90 species that were not in the ISSG species reference list, this list was sent to the ISSG with a request to include them in the list. After analysing the list, it was found that part of the 90 species were bycatch species (birds and marine mammals) and it was agreed not to include those, as the métier codes are reflecting the target species. It was also discussed that there is a targeted whale fishery in Norway using harpoon gear. After checking with ICES, this doesn't need to be reported to ICES (already reported to Whaling Commission). In the species list, the target assemblage code MMA has been included for marine mammals. Following that, the relevant species codes have been added to the species reference list, and the species file on GitHub was updated. This reference list included the new suggested species group and was validated by the Norwegian expert.

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### 3. ISSG Métier and transversal variable issues

#### Gear list

There was an initial request to add four gear codes (*FCN/HAR/HMP & OTS*) to the gear reference list. This was discussed in an online meeting with Kotaro from Norway. FCN might be a typo, and therefore there is no need to include it. HAR is only used for the whale fishery which doesn't need to be reported to ICES (see above). In the end, only the two gear codes HMP & OTS have to be included.

“HMP/Harvesting pumps” should be included as a new level 6 gear code in NATl and NSEA as there is no corresponding gear DCF level 6 code already existing into the group “Harvesting Machines” (which already included the gears “HMD/Mechanized dredges” and “HMS/Harvesting Machines (Scoubidou)”). The corresponding métier code will be HMP\_MOL\_0\_0\_0 (métier with no mesh size).

It has been agreed in the group and with Kotaro that “OTS/Twin Otter Trawls for Shrimp” gear code should be added to the gear reference list to be grouped with the DCF level 6 gear code “OTT/Otter Twin Trawls” corresponding (transcoding proposal from OTS to OTT in the gear reference list – therefore there is no need to add new métiers – they will be coded with OTT). The Shrimp target will be detailed in the second part of the métier describing the species (DCF level7) or group of species (DCF level5) targeted.

Following that, the gear reference list and the métier DCF level6 list have been updated on the GitHub.

#### Method

There was a question from Norway regarding the method to determine target species. The ISSG discussed the issue and referred to the manual<sup>1</sup>. This was also discussed with the expert from Norway, and they will apply the methodology agreed by the ISSG (i.e. determining the group of species with most landings in value or weight) as the intended species potentially declared in their logbooks are generally either unreliable or unavailable<sup>2</sup>.

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#### Request from Iceland

A request for adding métier codes came from Guðjón Már Sigurðsson - HAFRO [gudjon.mar.sigurdsson@hafogvatn.is](mailto:gudjon.mar.sigurdsson@hafogvatn.is).

#### Dredge fishery for sea cucumbers

There is a dredge fishery (DRB\_MIS\_0\_0\_0) in Icelandic coastal waters for sea cucumber (*Cucumaria frondosa*) which doesn't fit into the crustacean or cephalopod categories. The ISSG suggested to use the métier code DRB\_DES\_>0\_0\_0 (fishing for demersal species) already included into the reference lists for RCG MBS & Natl.

The group specified also that two sea cucumbers species code (*CUX-Sea cucumbers nei & JCR-Royal cucumber*) are already available in the species list and, grouped into the species group DES (*demersal species*). The “KHG-*Cucumaria frondosa*” was added to the species reference list with the species group “DES-Demersal species”.

#### Distinguishing gillnet fishery for lumpsuckers from gillnet fishery for cods

<sup>1</sup> Notion of group of species to be consider when calculating the métier i.e. first step would be to aggregate the species by group of species before estimating the target group of species. The list of métiers is defined at DCF level5 i.e. by group of species => the specific target specie(s) could be distinguished in Metier DCF level7 nationally if needed (more precise than métier DCF level5).

<sup>2</sup> ISSG should discussed further the methodology to adopt if such “intended” species, before the fishing trip, would be of better quality in the future, should it be used directly to estimate the métier?

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There is a large mesh gillnet fishery (GNS\_DEF\_254-268\_0\_0) in Icelandic coastal waters for the lumpfishes (*Cyclopterus lumpus*). The gillnet fisheries for cods and lumpfishes have very different bycatches and need to be distinguished for the bycatch assessment.

The group discussed different solutions but want to avoid 1) creating overlapping mesh sizes (*in lines with the principles retained*) and 2) major changes in the mesh size ranges which will imply that all MS need to resubmit all their data with the net's métiers in the region (*as the principles imply to adopt a mesh size ranges common by gear for all the métiers corresponding*).

After agreement with Iceland, the ISSG added "GNS\_DEF\_>=220\_0\_0\_LUM" and "GNS\_DEF\_>=220\_0\_0\_COD" into the métier DCF level 7 reference list for the RCG NSEA and kept the métier DCF level 6 reference list as it is. In the RDBES, the DCF level7 métiers can be uploaded in the column National Fishing Activity, and therefore it will be possible to distinguish the two fisheries e.g. for the needs of the WGBYC expert group.

The new Métier DCF level 7 have been added to the reference list on the GitHub and have been sent to JRC/FDI and ICES to be considered for data calls.

#### Request from RCG Med&BS

Below the requests/comments of the RCG Med & Black Sea to the ISSG are summarized, concerning métiers not listed in the ISSG Metier reference List for Med&BS. There are 4 categories:

1. Métiers listed in the ISSG Metier reference List for some RCG but not for Med&BS (in this case it seems that the reference list should be revised for RCG Med&BS) (in light yellow)
2. Métiers not listed in the ISSG Metier reference list, for which RCG Med & Black Sea ask the opinion of the group (in orange)
3. One métier HAR\_DEF\_0\_0\_0 that is currently included in MISC, since HAR is not included in DCF Table 5. RCG Med & Black Sea request opinion of the group whether HAR could be added in Table 5.
4. Finally, 3 métiers with small differences on mesh size regarding the ones used by RCG Med&BS and the ones used in the new reference list. As an example, the ">=" has been added to LA\_SLP and PS\_LPF to follow the ISSG principles for the ISSG métiers reference list but is not completely in accordance with the métier codes used so far. RCG Med&BS think that in these cases, it will not be a problem to follow the new métiers codes from the ISSG reference list. Concerning OTM\_MPD\_>=13\_19\_0\_0, RCG Med&BS needed to check with colleagues from the Black Sea because it can be a potential error in coding.

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Code	Description	Comment	Included in ISSG Metier List for MedBS?
DRH_MOL_>0_0_0	Hand dredge for molluscs	New metier, added in 2024.	N
FPO_SPF_>0_0_0	Pots and traps for small pelagic fish	New metier, added in 2024. Included in FDI codes, not included in ISSG Metier List	N
GNC_FIF_>0_0_0	Encircling gillnets for finfish	New metier, proposed in 2024. Currently not included in ISSG Metier and FDI codes. Request opinion by ISSG on metier and transversal variables	N
GNS_DEF_>=400_0_0	Set gillnets for demersal species (for Black Sea region)	Replaced GNS_DEF_360-400_0_0	N
GTN_SPF_>0_0_0	Combined gillnets-trammel nets for small pelagic species	New metier, proposed in 2024. Currently not included in ISSG Metier and FDI codes. Request opinion by ISSG on metier and transversal variables	N
LA_SLP_>14_0_0	Lampara nets according to meshsize regulation		LA_SLP_>=14_0_0
OTM_MPD_>=13_19_0_0			OTM_MPD_14-19_0_0
PS_LPF_>14_0_0	Purse seine for large pelagic		PS_LPF_>=14_0_0
TBB_MOL_>0_0_0	Beam trawl for molluscs	New metier, added in 2024.	N
HAR_DEF_0_0_0		Included in MISC. Request opinion from ISSG on metier and transversal variables. If not possible to add, continue using MISC.	N

#### Discussion in the ISSG metier meeting:

- *DRH\_MOL\_>0\_0\_0*: the ISSG agreed to add this new métier code to the métier reference list for RCG MBS (métier code already available in the reference list for RCGs NSEA and NATl)
- *FPO\_SPF\_>0\_0\_0*: the ISSG agreed to add this new métier code to the métier reference list for RCG MBS (métier code already available in the reference list for RCG BALT)
- *GNC\_FIF\_>0\_0\_0*: In general, the ISSG want to avoid using the FIF (*finfish group*) code (*not calculated by the metier assignment Rscript developed*). Nevertheless, such métier codes have been already integrated into the reference list following other requests and the reference list remains of the responsibility of the RCG Med&BS. RCG Med&BS indicated that the target species are effectively only fishes (*no other species*) and not demersal fishes which explain the request. Therefore, the group agreed to add the métier code “GNC\_FIF\_>0\_0\_0” in the métier reference list for the RCG MBS. Furthermore, the métier codes GNC\_FIF\_>=16\_0\_0 & GNC\_FIF\_<16\_0\_0 will be also added following the principles and the mesh size ranges already applied for other GNC métiers for RCG MBS.
- *GNS\_DEF\_>=400\_0\_0*: Only relevant for the Black Sea and defined in the technical regulation. The group discussed the issue. Currently the following métier codes are available in the métier reference list for RCG MBS: GNS\_DEF\_>0\_0\_0, GNS\_DEF\_<16\_0\_0 and GNS\_DEF\_>=16\_0\_0. Adding the >=400 mesh size range will create overlapping mesh size ranges which the group want to avoid. To integrate this new mesh size ranges for nets métiers in RCG MBS, it will also imply a major change in the mesh size ranges for all nets’ métiers in RCG MBS and therefore a resubmission from MS for all their data with nets’ métiers in the region which the group want also to avoid. Following that this new métier request is specific for Black Sea region, the group ask RCG Med&BS if there is a need to develop two different specific métiers separate reference lists, one for the Mediterranean Sea and one for the Black Sea? If yes, should be discussed by the group the possibility to develop such new reference list. To be noted, that such changes will also affect the region and reference list in the ICES vocabulary.
- *GTN\_SPF\_>0\_0\_0*: The ISSG agree to add this new métier code to the métier reference list for RCG MBS. Furthermore, the métier codes GTN\_SPF\_>=16\_0\_0 and GTN\_SPF\_<16\_0\_0 will be also

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added following the principles and the mesh size ranges already applied for other GTN métiers for RCG MBS.

- *LA\_SLP\_>14\_0\_0*: The ISSG suggest to use *LA\_SLP\_>=14\_0\_0* which is already available in the métier reference list for RCG MBS.
- *OTM\_MPD\_13\_19\_0\_0*: The ISSG suggest to use *OTM\_MPD\_14-19\_0\_0* which is already available in the métier reference list for RCG MBS. Charis will check if it could be agreed at regional level.
- *PS\_LPF\_14\_0\_0*: The ISSG suggest to use *PS\_LPF\_>=14\_0\_0* which is already available in the métier reference list for RCG MBS.
- *TBB\_MOL\_>0\_0\_0*: The ISSG agreed to add this new métier code to the métier reference list for RCG MBS (*métier code already available in the reference list for RCGs NANSEA and Natl*). Furthermore, the métier codes *TBB\_MOL\_>=40\_0\_0* and *TBB\_MOL\_<40\_0\_0* will be also added following the principles and the mesh size ranges already applied for other TBB métiers for RCG MBS.
- *HAR\_DEF\_0\_0\_0*: Used only by Croatia at this stage. Would it be used by other countries? The HAR code is not a gear available in the EU-MAP regulation. Can the code DIV (diving) or FOO (fishing on foot) be used, depending on how the harpoon fishery is taking place? Otherwise, in the meantime, the code MIS (Miscellaneous) should be used.

Following the discussion, in the end, the ISSG agreed to add the following métier codes to the métier DCF level6 reference list: “*FPO\_SPF\_>0\_0\_0*”, “*TBB\_MOL\_>0\_0\_0*”, “*TBB\_MOL\_<40\_0\_0*”, “*TBB\_MOL\_>=40\_0\_0*”, “*GNC\_FIF\_>0\_0\_0*”, “*GNC\_FIF\_<16\_0\_0*”, “*GNC\_FIF\_>=16\_0\_0*”, “*GTN\_SPF\_>0\_0\_0*”, “*GTN\_SPF\_<16\_0\_0*” and “*GTN\_SPF\_>=16\_0\_0*”. This has been validated by RCG Med&BS. For some other métier requests, it will need more discussion which have been scheduled for the RCG Med&BS TM (e.g. “*GNS\_DEF\_>=400\_0\_0*” for Black Sea region). RCG Med&BS will come back to the ISSG after if needed.

The agreed métier codes have been added into the métier DCF level6 reference list on GitHub and sent to JRC/FDI and ICES to be considered for data calls.

#### Request from RCG LP

In 2024, the ISSG agreed with the suggestion from RCG LP to include the information on School type/FADs in the métier reference list at DCF level 7 as optional information (*after discussing the importance to have this information for LP fisheries in previous meetings*).

Following these discussions, RCG LP drafted the following **Recommendation**.

#### Proposals for Recommendation and Decisions

**LP\_2024\_R10:** Include DCF level 7 as optional information the School type/FADs in the RCG LP métiers reference list

Following a request from RCG LP members it has been approved to include information on School type/FADs in the métiers reference lists by the group as an optional possibility at DCF level 7.

The ISSG discussed the way to include this new information in the métier reference list at DCF level7 and proposed to inform it further in the métier code DCF level7 (*after the group of species targeted*) considering the “FAD/School type” used and distinguishing three different cases (*no information means is unknown – codification in line with IOTC*):

- i. “Fishing on schools associated with anchored floating objects” (“**AF**”)
- ii. “Fishing on schools associated with drifting floating objects” (“**DF**”)

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#### iii. “Fishing on free schools (un-associated with floating objects)” (“\_FS”)

Following that, the métier reference list at DCF level 7 has been updated. The old métier codes have been kept, and new detailed métier codes have been added, so it remains an optional information. At this stage it is added only for LP fisheries in RCG LDF area.

The métier DCF level7 métier reference list has been accordingly updated on the GitHub and sent to JRC/FDI and ICES to be considered for data calls.

#### Request from Spain

There was requested if the métier codes LHM\_DWS\_0\_0\_0 and MIS\_DES\_0\_0\_0 could be linked to the RCG LDF (i.e. added to the reference list of métier DCF level6 for RCG LDF). It was later clarified that it was not needed but could be solved in other ways.

#### Request from The Netherlands

The Netherlands identified an issue in the latest RDBES submission: some metiers could be practiced during the same trip in different RCG areas, e.g. mainly OTM\_SPF. The métiers have been assigned on the trip level using the new ISSG metier list, using weight or value (depending on species) to determine the dominant gear and mesh size.

Netherlands noticed that they have several pelagic vessels that cover the NSEA and NATl areas within a trip. So, when for example a vessel targets herring in 4.a and the vast majority of catches are from this species in this area the metier will be OTM\_SPF\_32-69. However, this vessel could have gone within the same trip in an area in NATl and have some minor bycatch of other pelagic species. The metier in this case should be, OTM\_SPF\_32-39\_0\_0, OTM\_SPF\_40-54\_0\_0, OTM\_SPF\_55-64\_0\_0 or OTM\_SPF\_65-69\_0\_0 but because we don't assign the metier on the catch registration level (which is the finest resolution we have in our logbooks) but instead the trip, a metier that is not allowed in the NATl area will appear in the data.

The issue was discussed by the ISSG which wants to avoid a major change in the mesh size ranges considered in RCG NANSEA as it will imply resubmission from MS for all their data with pelagic trawls métiers in the region. The ISSG agreed that, consequently, it should be avoided to add the more detailed (*regarding mesh size ranges*) métier codes in the NSEA region. The group suggest to split the information of the fishing trip by fishing sequence so that it would have two métier codes, in this case, attributed to each RCG region. This would be also in line with the guidelines issued from the 2018 métier workshop and supported by the group and the métier assignment R-script developed (*which attributed a métier at the fishing sequence level i.e. by day\*fishing area and allow them to split the fishing effort metrics calculated between the different areas/sequences*). RDBES allows to provide “Fractional trips” and “Dominant trips” information for the calculation of the number of fishing trips which is well adapted to this case.

The response was accepted by the Netherlands.

#### Update of métier manual

The métier manual was last updated in 2021. Therefore, in 2025 it was revised, adding especially the procedure and principles used by the ISSG for defining and assigning a new métier code into the reference lists (Métier assignment procedure). Information related to the Métier DCF level7 reference list have been also added to the manual. The HTML and R-script updated have been uploaded to GitHub.

The manual has been also converted from an *html* format to a *pdf* format to be able to ask for a DOI in order to reference the document.

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**Task 2: Update and further develop métier description report, so that it can produce a multiannual report and can take the RDBES data license into account for making a public report.**

The métier reports that were generated in 2024 were evaluated and in general found very informative. The code used allows to generate a report for each year. A user manual was created on how to run the single-year report script. The R-script and manual have been added to the ISSG Metier GitHub <https://github.com/ices-eg/RCGs/tree/master/Metiers/Scripts>, to make it possible for e.g., ICES groups or national data submitters to run the report.

A multiannual report format was suggested to show trends in métiers across years. The ISSG should discuss that further before making it publicly available on the GitHub.

To make such reports public requires also that the RDBES data license is followed. The license will be revised after an EU survey on data confidentiality has been evaluated.

For creating the reports, RDBES data was made available to the expert. The 2025 RDBES data call with deadline 1<sup>st</sup> April was extended to 15<sup>th</sup> April. However, one MS had not submitted landings and effort data by the deadline of this report (2<sup>nd</sup> May 2025). Therefore, the métier reports were updated with these new data without considering this country.

**Task 3: Continue the analysis of questionnaires sent out in spring 2023, to evaluate the use of cross-validation methods in MS to combine data coming from different declarative sources, the ongoing standard practices and develop, on this basis, best practices guidelines, with a specific focus on the RDBES CE and CL tables.**

This task work has been based on the replies from a questionnaire populated in 2023 (sent from the ISSG to NCs in spring 2023) regarding methodologies used by MS to calculate fishing activity estimates. The questionnaire evaluates especially the use of cross-validation methods in MS to combine data coming from different declarative sources.

As the replies to the questionnaire were both very comprehensive and diverse, they were first summarized in the 2023 ISSG Métier and transversal variables issues report. Last year the group focused on three specific topics: a) the types of declarative data considered, b) the algorithms/methods used to cross-validate or combine the data, and c) the methods used to estimate or assess the value of landings.

This year, the work consisted of a more in-depth analysis of the replies related to four next additional topics from the questionnaire, with the aim of identifying common or standard practices used across Member States and highlighting those practices that may have the potential to enhance data quality (i.e. suggest best practices):

- The algorithms/methods used to consolidate the species composition
- The algorithms/methods used to consolidate the « vessel fishing effort » especially if geo-localisation data are considered for that?
- The algorithm/methods used to consolidate the gear mesh size, gear dimension and gear fishing effort or soaking time
- The algorithm/methods used to consolidate the spatialization of fishing effort and landings especially if geo-localisation data are considered for that?

Overview of conclusions for these different topics are summarized hereunder

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Topics	Description	Potential to enhance data quality
The algorithms/methods used to consolidate the species composition (e.g. combining species composition from logbooks, landings declaration and sales note).	In most cases, only a single source is used to determine the species composition. It could be sales notes, logbooks or coastal logbooks. Landings declaration and catch data ( <i>derived from logbooks or coastal logbooks</i> ) are cross validated in four countries to refine species composition. Furthermore, two countries compare or cross-validate logbooks/coastal logbooks with sales note to refine species composition. Finally, in certain cases, species composition estimates are compared with fisheries samples.	Consider the use of cross-validation methods comparing different available data sources (e.g., catch data, landings declarations, and sales note data) to determine species composition, particularly to refine the taxonomic resolution and differentiate species at a more detailed level. Sampling data could provide another approach to refine species composition, particularly to improve taxonomic resolution for certain 'congeneric' species or specific fisheries. Consider the sharing of algorithms developed or used by countries to enhance global data quality.
The algorithms/methods used to consolidate the « vessel fishing effort » (i.e. days at sea, fishing days, fishing hours) especially if geo-localisation data are considered for that?	In most cases, vessel fishing effort metrics are directly derived from logbooks and, for fleets not required to complete logbooks, from coastal logbooks whereas some countries rely solely on sales notes. When using coastal declarative form/monthly report, in general the following assumption is applied: "1 Fishing Day = 1 Day At Sea = 1 Fishing Trip" which could be expanded to the following: "1 Sales note = 1 Fishing Day = 1 Day At Sea = 1 Fishing Trip" for countries relying solely on sales notes. In cases where nationally established logbooks were required for small-scale fisheries, the methods used to calculate effort were similar to those used for large fleets. Geolocation data are also used, in addition, in four countries to improve the calculation of fishing effort metrics, e.g., to complete, cross-check or validate declarative information, to complete missing information or to refine the resolution of effort estimates derived from the declarative data — particularly for fishing hours.	Consider consideration of geolocation data when assessing vessel fishing effort estimates. This also includes promoting the collection of such geolocation data, particularly for small-scale vessels, based on new Control Regulation requirements. For vessels with limited information, the following assumption may be considered: "1 Fishing Day = 1 Day At Sea = 1 Fishing Trip", as far as there is no evidence contradicting this assumption. This could be expanded to the following: "1 Sales note = 1 Fishing Day = 1 Day At Sea = 1 Fishing Trip" when solely sales notes are available (in this case, estimates should be interpreted with caution). In both of the above cases, average 'Hours At Sea' and 'Fishing Hours' per day at sea (or per fishing day), based on the average/common practices within the vessel's fleet segment considered, should be used instead of defaulting to a 24-hour value. Consider the sharing of algorithms developed or used by countries to enhance global data quality.
The algorithm/methods used to consolidate the gear mesh size, gear dimension and gear fishing effort or soaking time ( <i>for gears concerned</i> ).	In most cases, gear mesh size, dimensions, and soaking time (for applicable gear types) are directly derived from logbooks or coastal logbooks. Some concerns raised about the completeness of the information available in logbooks, as these variables are not currently mandatory. When solely sales notes are available, first step is to estimate the gear used (e.g., from species composition). In these cases, gear	Consider the improvement of the completeness of gear mesh size, dimensions, and soaking time information in logbooks, and the collection of such data for vessels under 10 metres (e.g., through coastal logbooks). Consider reviewing and exploring the use of high-temporal-resolution geolocation data to develop algorithms

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Topics	Description	Potential to enhance data quality
	<p>mesh size, dimensions, and soaking time are not estimated.</p> <p>Validation schemes are or will be implemented in four countries to verify declarative gear information in relation to fishing laws and regulations or based on fisheries expertise and knowledge.</p> <p>On-going plans to consider high-temporal-resolution geolocation data to estimate such information in order to enhance, cross-validate or complete declarative information.</p>	<p>that estimate gear dimensions and soaking time, with the aim of enhancing, completing, or cross-validating declarative data. This also includes promoting the collection of such geolocation data, particularly for small-scale vessels.</p> <p>Consider the fishing laws and regulations, together with fisheries expertise and knowledge, in developing validation schemes and reference frameworks for assessing declarative gear information. Dedicated surveys could support the development of such expertise.</p> <p>Consider the sharing of algorithms developed or used by countries to enhance global data quality.</p>
<p>The algorithm/methods used to consolidate the spatial information (i.e., allocate fishing effort and landings by fishing areas e.g. by ICES statistical rectangles, FAO fishing areas and subareas, EEZ, ...) of fishing effort and landings especially if geolocalisation data are considered for that?</p>	<p>In most cases, spatial information is initially derived from logbooks or coastal logbooks. Geolocation data are considered by six of these countries, to validate or correct identified errors, to fill in missing data, to improve/refine the spatial resolution of the declarative information or to cross-validate and complete declarative information.</p> <p>When solely sales note are available or spatial information is missing/invalid, fishing area is generally inferred based on the landings harbour (<i>in this case, estimates should be interpreted with caution</i>). One country considered, in these cases, a specific complementary survey to enhance declarative information available.</p> <p>Validation schemes are applied in several countries, e.g., to check consistency between the declared fishing area at different spatial levels, to verify the plausibility of gear-area combinations based on fisheries expertise/reference frameworks or to assess declared spatial information by comparing it to vessel fishing patterns/habits.</p>	<p>Consider the consideration of geolocation data when assessing spatial information. This also includes promoting the collection of such data, particularly for small-scale vessels.</p> <p>Consider the development of validation schemes.</p> <p>For vessels or fishing trips where only sales notes are available, landings harbours may be considered as a proxy to infer spatial information.</p> <p>However, this method is inherently imprecise, and collecting additional information—such as typical fishing grounds by vessel, fleet segment or vessel length—would help improve spatial accuracy.</p> <p>Consider the sharing of algorithms developed or used by countries to enhance global data quality.</p>

More details can be found in annex 2, where for each question, the first paragraph “Summarized information” presents information detailed in the last year’ report to introduce new readers and in the second paragraph some of the practices are discussed more in depth especially regarding their potential to enhance data quality. Finally, the replies by country related to the topic have been summarized and are presented in the appendix of the annex (*one appendix by topic*).

ISSG agreed to highlight these methods and encourage to have a look into them but that, at the same time, it would need more detailed guidelines and discussions to become a recommendation. This is the case with

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using geolocation data to cross-validate/consolidate fishing effort metrics calculated from logbooks or to improve/refine fishing area declared (main ICES rectangle should be reported). It is also the case when partial information is available on a metric (e.g., gear dimensions, soaking time etc.) and its need to be reported.

Final ISSG' aim on this task will be to combine all the results and conclusions and from that develop a best practices guidelines document regarding cross-validation methods to calculate/improve fishing activity data with a specific focus on the RDBES fishing activity data (i.e. variables asked in the RDBES tables CE&CL) and an objective of enhancing fishing activity data quality and completeness. For that, it will be discussed next year the work plan and best options to advance and coordinate this development (*need of a workshop to discuss more deeply the algorithms/the assumptions done?*). The impact of the implementation of the new control regulation has to be also followed regarding these issues.

#### **Task 4: Evaluate eventual feedback on the draft template elaborated in 2024 to document methodologies applied to inform RDBES CE & CL tables.**

The template to document applied methodologies by MS to calculate fishing activity data estimates in order to inform especially RDBES CE and CL tables, proposed last year by the ISSG, has been revised by ICES WGCATCH. This revised template has been tested by ISSG experts from Denmark, Lithuania and Poland. After testing it on national data, some modifications/changes have been suggested to the template. The template was also modified to follow the newest changes to the RDBES CE and CL format (e.g., change from "data type" to "data basis", updates in the data quality fields, ...). The revised suggested template proposal is available in Annex I. The filled in examples would be also available on the GitHub to help countries to complete it.

In addition, an R-markdown script detailing the databases reported for the different variables has been suggested. It can be added to the RDBES CL/CE quality report developed by the WGRDBES-GOV ISSG Quality (the R-script is available on the SharePoint and will be addressed to the ISSG Quality).

The ISSG agreed, following these tests, that the template will be very informative and will constitute an added value for the RDBES database end-users. Therefore, the ISSG made the following recommendation:

The ISSG recommends that MS are requested to fill in the template, documenting applied methodologies in MS to calculate fishing activity estimates to inform RDBES CE and CL tables, in connection to the RDBES data call 2026.

If the recommendation is agreed at the TM, it will be taken to the decision meeting in September to agreements with National Correspondents. In the long terms, the ISSG will be responsible to collect and maintain these documentations.

#### **Task 5: Continue following up on the development of the fecR package to calculate fishing effort metrics that are harmonized/homogenized between MS.**

A disaggregation function has been developed for the fecR package, so that the results (fishing effort metrics calculated by the functions of the fecR package) can be disaggregated by métier (the global aim is to be able to disaggregate the fecR outputs to the level asked into the RDBES data call, métier constitute a first step to do that). Some issues regarding the use of passive gears have been discussed by the group which agreed to keep the sum coherent with the initial calculation from the fecR package functions (e.g. *two different nets métier are operated by the vessel during one Fishing Day then 0.5 Fishing Day will be allocated to each métier although the 'Nicosia' principles assumed that these two métiers could be used in parallel*).

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The ISSG has also worked on calculating fishing effort metrics for SSF in the case of incomplete data available in order to adapt the calculation to these incomplete data (e.g., information is provided by fishing day and not by fishing trip – ICES rectangle is unknown – Gear dimension is unknown - etc.). First, the minimum of input information to be processed by the package was agreed. Then some assumptions have been made to complete the missing data (e.g., following the hypothesis ‘1 Fishing Day = 1 Day At Sea = 1 Fishing Trip’ or only one ICES rectangle will be crossed during the day) which allow the calculation of the corresponding fishing effort metrics using a downgraded mode. These improvements will constitute a new specific function which will be named “SSF\_correct” and will be made available in the fecR package. The function gives flexibility to specify the part of the fleet for which the data completion algorithm will be applied. The ISSG will discuss further the way to distinguish vessels where these corrections could be made (i.e., where the SSF hypothesis could be applied based on vessel length) and not. At this stage, a default vessel length threshold has been proposed (e.g., put at 10m as vessels <10m are not required to complete EU logbooks).

When the updates are implemented, the vignette can also be updated to document the revision provided. The ISSG will continue to work on these improvements and develop the “branch” corresponding before updating the fecR package.

**Task 6: Regarding RCG Econ economic fleet segmentation, the plans for development on this should be discussed at Liaison meeting.**

Since there were no planned development on this from the RCG Econ, the ISSG did not work on this task in 2024/2025.

**Task 7: Potential updates of RWPs to be finalized in 2026 for RWPs 2028-2030.**

The questions below from ISSG RWP were addressed and presented at the ISSG RWP 22<sup>nd</sup> April 2025.

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#### **What are the main challenges for the ISSG?**

- The main challenges are currently linked with the improvement of the reporting for the Small-Scale Fisheries, especially regarding passive gear effort (e.g., soaking time) and gear dimensions (e.g., net height, net length, number of hooks, ...).
- ISSG especially wants to follow any improvements resulting from the new control regulation which include modifications for the reporting from the SSF until 2030 (e.g., wider implementation of geolocation data for vessels less than 12m, introduction of mandatory logbook data for SSF, etc.).

#### **Do we still need this ISSG?**

Yes, the ISSG should continue the work on managing métier codes, standardizing and harmonizing methods to assign metier codes and to calculate and report transversal data estimates.

#### **What do the ISSG want to achieve by the end of 2030?**

- Improved reporting of effort for SSF esp. regarding passive gear effort and gear dimension, which is largely depending on the implementation of the new control regulation
- During 2028-2030 the ISSG will have a focus on development of common calculation methodologies (e.g. cross-validation methods to calculate fishing activity data estimates) for SSF which would globally improve the data quality.

#### **Where can we benefit from regional coordination?**

- The ISSG is working on documentation and harmonization of methods, suggesting best practices

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- The group works pan-regionally with the other RCGs, with JRC/FDI and ICES and non-EU countries (UK, Norway, Iceland)
- A meeting was held between ISSG SSF, ISSG EMT and ISSG Metier and transversal variables. The task of our ISSG will be to continue to focus on methods for calculating the variables especially to inform the RDBES CE & CL tables and to assess the data coverage. The ISSG will also work on documentation, to suggest best practices, etc. More technical work on position data will be done outside ISSG especially in ICES.

#### Do the areas currently identified, need to stay?

- The ISSG will also continue to manage the métier codes and reference lists associated, gears and species reference lists, guidelines, scripts, etc.
- The ISSG will continue having the focus on methods for getting the variables into the RDBES CE and CL, to assess data coverage, develop associated documentation etc.

#### New areas to identify?

- More technical work on position data is ongoing in ICES WGSFD, ICES WKSSFGEO workshops and in different scientific projects. If a need for regional coordination from RCG side on this appears over the next years, we will tackle it when relevant. This could also be in collaboration with ISSG EMT.

#### Ideas on actions

To add to the RWP Text Box 1b: “Other data collection activities” the MS involvement in analyses of SSF data submitted by electronic devices:

“With the new control regulation being implemented gradually until 2030, from 2028 MS will be able to evaluate data availability relating to the new obligations on SSF data transmission. MS shall agree on their contribution to this data analysis based on the data availability for SSF and the methods for calculation of effort variables for SSF involved in fisheries with passive gears.

The main focus shall be to apply a common method for calculating trips, fishing days, and soaking time for passive gears, based on information provided by MS. In addition, attention shall be given to any differences in outcomes among MS due to variations in the availability of fisheries data for small-scale fisheries (SSF).

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**Annex I. Template to document methods applied to prepare commercial landings (CL) and effort (CE) data submitted to RDBES.**

This document aims to collect information on the preparation of data submitted in response to the joint RCG-ICES data call. Some of this information is already contained in specific fields of RDBES data format or in the upload logs. However, this can only give a general overview of the methodologies used, while this document asks to provide more detailed information.

**General questions**

<b>Country for CL and CE data submission</b>
<b>What is the data submission year for this documentation?</b>
<b>What are the years of data submitted?</b>

1. Scientific vs official landings weight.

<b>Are there differences between official and scientific landings weights submitted in CL data? If yes, please provide a brief explanation of the differences and describe the calculations that caused the differences</b>

2. Describe data basis (origin) and data sources for official (what would be reported by the administration agencies) and scientific values (including adjustments made by scientific institutes) of transversal variables\*.
  - a. The data basis (origin) can be official data based either on census or official sampling. If official sampling is in place, please provide a brief description or a reference to the documentation. If values are based on data coming from scientific estimates or scientific sampling, please describe methods used for estimation or re-evaluation.
  - b. The data source can be e.g., logbooks, sales notes, other declarative forms, sampling data, etc. Please provide a brief description of data sources and indicate if they vary according to vessel length categories (small-scale fleet vs large scale fleet), areas or other factors.
  - c. In cases where different sources are applied to different fleet segments, please specify.

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### 3. ISSG Métier and transversal variable issues – Annex I

Group variables	of	Variable name	Data basis and data sources used to populate official variable	Data basis and data sources used to populate scientific variable
<b>Landings</b>		Landings weight		
		Landings value		
<b>Vessel effort</b>		Number of fractional trips		
		Number of dominant trips		
		Days at sea		
		Fishing days		
		Vessel fishing hour		
		kW Days at sea		
		kW Fishing days		
		kW fishing hours		
		GT Days at sea		
		GT Fishing days		
	GT Fishing hours			
<b>Gear effort</b>		Soaking meter hour		
		Number of hauls/sets		
		Gear dimensions		

\* For Landings value, Number of fractional trips, GT Fishing hours and Gear dimensions only scientific values are requested in the RDBES data format.

#### 3. Provide information on data completeness and availability.

<b>Were all data on fishing activities available for responding to the RDBES data call? If not, specify the missing data.</b>
<b>Has information on all species landed been submitted to the RDBES? If not, please indicate which were not submitted.</b>
<b>Has information from all vessels been submitted to the RDBES? Is there any part of the fleet that has not been included in the data submitted?</b>

4. Describe methods used to determine métier level 6 codes.

<b>Do you use the script developed by the RCG ISSG métier and transversal variable issues? Does the script require national adaptations or additions? If you do not use the script by ISSG, do you use similar algorithms to assign metier codes? If you do not use similar algorithms, specify.</b>
<b>Does your source data contain all the information needed to assign metier codes? If not, specify.</b>
<b>Is the target assemblage determined post factum using dominance criteria as in the script by ISSG or is it known from declarative forms? Please specify which dominance criteria was used and indicate the specific fleet segment if different dominance criteria were applied.</b>
<b>How do you deal with a situation where a metier code could not be assigned? If there are cases where data on the target assemblage is available but no information on gear is available, please describe the metier allocation method.</b>
<b>Do you identify rare metiers? If yes, specify if you reassign rare metiers and what methods (e.g. vessel patterns) and thresholds you apply?</b>
<b>Other information.</b>

5. Describe methods used to calculate vessel effort (days at sea and fishing days) variables.

<b>Is fishing effort calculated according to the principles specified at the 2<sup>nd</sup> Workshop on Transversal Variables, Nicosia, 2016?</b>
<b>Do you use the fecR package to calculate fishing effort? If not, do you use similar algorithms to those implemented in the fecR package? If you do not use similar algorithms, specify how you distribute effort to areas and gears?</b>
<b>Does your source data contain all the information needed to calculate effort of small-scale fleet? If not, specify, e.g., is the assumption 1 sales note = 1 fishing trip = 1 fishing day used?</b>

6. Describe methods used to calculate gear effort variables.

**Specify methods used to report gear effort (scientific soaking meter hour, scientific number of hauls/sets, gear dimensions).**

**Is there a difference between reporting for large-scale fleet and small-scale fleet?**

7. Describe methods used to provide spatial information on landings and effort.

**What is a source of information on statistical rectangle for LSF and SSF? If it is estimated, please provide description of methods.**

**How is the exclusive economic zone determined, e.g., is it based on declarative data or determined using position data? Please separate by LSF and SSF**

**Do you validate spatial information (statistical rectangles, FAO areas, EEZ) using other data sources, e.g. VMS, AIS, etc.? How do you deal with missing or mismatching data? Please separate by LSF and SSF.**

8. Provide information on FDI related fields.

**In the data model, there are fields required by FDI database, i.e. 'Fishing Technique', 'Mesh size range', 'Supra Region', 'Geographical indicator', 'Specific conditions to technical measures', 'Exclusive Economic Zone (EEZ)', 'Exclusive Economic Zone Indicator (EEZI)', 'Deep Sea Regulation', 'Official vessel hours at sea', 'FDI confidentiality code'. Do you provide data in all FDI related fields in the data submitted to the RDBES? Please briefly describe the methodology used to complete the FDI fields. Please specify the reasons if you do not submit data.**

**Are values of the relevant FDI fields (Supra Region, Geographical indicator, Fishing Technique) aligned with the values provided to the AER data call?**



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 3. ISSG Métier and transversal variable issues – Annex 2

#### Annex 2. Questionnaire on cross validation methods used by MS to combine data from different sources

Based on the information gathered from the questionnaires distributed in spring 2023—which serve as the foundation for ISSG's work on this topic—the ISSG is evaluating the use of cross-validation methods in Member States (MS) to combine data from different declarative sources. The group is also detailing current common and standard practices, with the ultimate goal of suggesting and developing best practice guidelines for cross-validation methods to enhance standardization, homogenization, and harmonization among Member States in estimating fishing activity, with a specific focus on the variables requested in the RDBES CE and CL tables.

The questionnaire replies were summarized in the 2023 report. Last year, due to the large and diverse nature of the information collected, the group focused on three specific topics: a) the types of declarative data considered, b) the algorithms/methods used to cross-validate or combine the data, and c) the methods used to estimate or assess the value of landings. This year, the work consisted of a more in-depth analysis of the replies related to four next additional topics from the questionnaire, with the aim of identifying common or standard practices used across Member States and highlighting those practices that may have the potential to enhance data quality (i.e. suggest best practices):

- The algorithms/methods used to consolidate the species composition
- The algorithms/methods used to consolidate the « vessel fishing effort », especially if geo-localisation data are considered for that?
- The algorithm/methods used to consolidate the gear mesh size, gear dimensions and gear fishing effort or soaking time
- The algorithm/methods used to consolidate the spatialization of fishing effort and landings, especially if geo-localisation data are considered for that?

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For each topic, the summarized information detailed in the 2023 report is repeated, followed by a discussion of some of the practices described in the questionnaire replies, particularly with respect to their potential to enhance data quality. The ultimate goal of this work is to consolidate all results and conclusions and to develop, on this basis, a best practice guidelines document. In the annex, summaries and extracts from the questionnaire replies related to each topic are presented by country.

#### The algorithms/methods used to consolidate the species composition (e.g. combining species composition from logbooks, landings declaration and sales note).

##### Summarized information

Species composition can be based on sales notes, logbooks, landing declarations or a combination of these data sources.

##### Resumed of practices and discussion on potential to enhance data quality

Nine out of twelve countries provided a response.

In most cases, data quality largely depends on the primary fisheries data sources considered, as only a single source is used to determine the species composition, without any cross-validation procedures being applied (as reported by seven countries). Sales notes are used as this unique source in two countries, whereas logbooks or coastal logbooks (either landings declarations or catch data) are used in five countries.

Landings declarations and catch data (derived from declarative sources such as logbooks or coastal logbooks) are cross validated in four countries to refine species composition. For example, Sweden has developed an





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### 3. ISSG Métier and transversal variable issues – Annex 2

algorithm to break down species composition from catch data into finer taxonomic resolution based on landings declarations. France has implemented an algorithm to first compare and cross-validate species composition between catch data and landings declarations, which are then further compared with sales notes. Finally, Ireland does not retain species recorded only in catch data but not present in landings declaration.

Two countries also compare or cross-validate declarative data with sales notes to refine species composition. For example, Spain treats inconsistencies between landings declarations and sales notes as errors, and such species are generally assigned the 'OTH' species code when reporting the data. France provides all species that are sold or declared, based on the results of an algorithm that cross-validates species composition across sales notes, landings declarations and catch data by species family (a grouping of species codes developed to enable comparison between sources). The French algorithm ultimately retains the most detailed species composition available from the data sources. Finally, Finland has conducted some promising trials.

Finally, in certain cases, species composition estimates are compared with fisheries samples. For example, Denmark and Spain use sampling data to estimate species composition for specific fisheries or 'congeneric' species, based on the 'average' species composition per year/quarter/month, métier/fishery and area, derived from biological samples collected.

- Consider the use of cross-validation methods comparing different available data sources (e.g., catch data, landings declarations, and sales note data) to determine species composition, particularly to refine the taxonomic resolution and differentiate species at a more detailed level.
- Sampling data could provide another approach to refine species composition, particularly to improve taxonomic resolution for certain 'congeneric' species or specific fisheries.

Consider the sharing of algorithms developed or used by countries to enhance global data quality.





## 4 ISSG Electronic Monitoring Technologies

### Background

The ISSG EMT (Electronic Monitoring Technologies) was created in 2021. The ISSG was formed in response to the rapid growth of electronic monitoring technologies (EMT) in recent years in the field of fisheries monitoring. The goal of this ISSG is to cast a light on the initiatives taking place in nearly all EU MS in relation to EMT, highlight the most promising technologies, gather knowledge, and share it with MS and, where possible, promote new collaborations between MS. These EMT include e.g. video acquisition systems coupled with position trackers and gear sensors (EM – Electronic Monitoring) that can monitor the entire fishing activity of vessels over extended periods (to collect data on fishing activity data and biological data on catches), electronic measuring boards (to collect biological data) used by scientific observers, mobile phone apps that facilitate reporting of catches by fishers, as well as genetics tools – such as environmental DNA (eDNA) to monitor species presence and abundance, and other genetics tools to define stocks, assign individuals to stock in mixed stock situations, detect hybrids, and estimate spawning stock biomass. Since its creation, the pertinence of having genetic tools associated to the ISSG EMT has been discussed both within the ISSG EMT and at the RCG meetings, as genetics are usually not the core expertise of most members of this subgroup. This year is the first where no specific task in the terms of reference covers the use of genetic tools for monitoring. In addition, the ISSG aims to identify and describe the ongoing work in the different MS to automatise the identification of catches from annotated video/images using machine learning algorithms (i.e. computer vision). Such models require a large amount of training data to reach acceptable levels of accuracy and the cost to produce such massive training datasets may be prohibitive for individual MS. This ISSG could constitute the appropriate platform to promote a future development of a shared database of annotated data between participating MS that respects intellectual property rights, and which would allow the rapid development of ML models tailored to the monitoring of fisheries.

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The ISSG EMT is chaired by Gildas Glemarec (since 2022) and Sander Delacauw (since 2025).

### Work-plan

1. Start the inventory of labelled data owned by the MS that could be used now or in the future for training identification/classification models.
2. Continue the discussion and examination of the possibilities that these labelled data are shared between MS without breaching privacy and ownership concerns.
3. Continue the inventory of data collection technologies used in different member states: e.g., electronic monitoring (EM), Machine Learning development, electronic measuring boards.
4. Continue the discussion on the elaboration of a methodology to collect and annotate pictures and/or video footage of catches (fish, shellfish, and other organisms) onboard research vessels that may be used for the development of machine learning algorithms for species identification/classification.
5. Potential updates of RVVPs to be finalized in 2026 for RVVPs 2028-2030

### Progress during 2024/2025

The 2024/2025 ISSG EMT work consisted of 3 group meetings between January and April 2025, as well as intersessional work through email exchange and a questionnaire sent to all MS representatives. As reflected in the ToR, an important part of the discussions that the ISSG had this year concerned the availability, use, and possible standardization and sharing of annotated imagery data for various purposes, including the development of computer vision models.



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### 4. ISSG Electronic Monitoring Technologies

#### ToR 1, 2, and 4: Information from Member States about imagery and labelling datasets

A questionnaire on imagery data and labelling practices in fisheries monitoring and data collection was distributed to all members of the EMT ISSG in February 2025. We received 12 answers in total from 11 MS (Table 4. 1 and MS-specific summaries at the end of this section). The information presented here is a summary of the perceived similarities and differences in the responses based on the reports provided by each MS, highlighting their approaches to imagery data collection, annotation, processing, and sharing. This section cannot be considered an exhaustive overview of all annotated imagery datasets in the region at this stage, but it constitutes a first go at mapping the situation at the present time in the NANSEA and Baltic RCG MS. It is chiefly intended to fuel the discussions about the work that the ISSG EMT could be susceptible to do in the coming years.

Table 4. 1. Summary of the responses collected among MS on their current data collection and annotation methods of imagery data.

Member State	Data Collection and Annotation Methods
<b>Belgium</b>	Data are collected from Belgian Beam trawl fisheries using a camera system developed in the VISIM project. Cameras are located in the sorting area on top of the conveyor belt. Data annotation consists of polygons denoting individual fish and associated species. CVAT is used for annotation, with assisted annotations becoming more accurate over time.
<b>Denmark</b>	Data is collected from Danish commercial gillnet fisheries with EM systems installed on 20 vessels. Data annotation includes polygons and bounding boxes, with the use of the SegmentAnything algorithm to save time. The dataset includes various classes of ETP species, round fish, and other elements.
<b>Estonia</b>	No answer
<b>Finland</b>	Data collection is planned for trawl fisheries for herring and sprat, with potential expansion to coastal trap-net and gillnet fisheries. Annotation methods are still being developed, with a focus on standardizing equipment and software.
<b>France</b>	Data is collected from French netters fisheries in the Bay of Biscay using the EM program OBSCAM. Annotation focuses on bycatches, using bounding boxes. CVAT and VIAME are used for annotation, with the goal of reducing human review time.
<b>Germany</b>	Currently no EMT in use for monitoring purposes.
<b>Ireland</b>	Data is collected from potting vessels targeting lobsters and brown crabs. Annotation is in the early stages, with bounding boxes used to identify species. CVAT is used for annotation, and the method may evolve as more data is collected.
<b>Latvia</b>	No EMT in use currently for monitoring purpose.
<b>Lithuania</b>	No EMT in use currently for monitoring purpose.
<b>Netherlands</b>	Data is collected from demersal trawlers using EM to verify AI results. Annotation is at the species level using bounding boxes and polygons. The general fish detector algorithm was developed by Wageningen Research and University.
<b>Poland</b>	No answer
<b>Portugal, Azores</b>	Data is collected in market auctions of the ICES area X.2.a throughout the year. The Fishmetrics system uses fixed hardware, a digital measurement system, and a back-end server. Images are uploaded to a remote database where samplers can access and measure the fish. Annotation is based on key points, and morphometric relations are used if the fish's position does not allow for direct measurement.
<b>Portugal, mainland</b>	Data is collected from fisheries landings in 7 ports using the Fishmetrics image acquisition system. Annotation consists of marking key points to obtain lengths and creating bounding boxes. The system is accessible online to restricted users.

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### 4. ISSG Electronic Monitoring Technologies

Member State	Data Collection and Annotation Methods
Spain	No answer
Sweden	EM data from ~400-500 FD/year on SSF GN in areas IIIa,b,d; 25 vessels in 2024. Good quality images saved for training during EM review and annotated later (multiple classes per image).

#### I Data collection and annotation methods

Most MS utilise routinely in their data collection programmes and/or in specific scientific projects some sort of Electronic Monitoring (EM) system and/or other Electronic Technologies (ET) using videos (Table 4. 1). Important data collection programmes using EM include, e.g. the VISIM projects in Belgium onboard beam trawlers, the ETP species bycatch monitoring programmes in the Danish, the French, and the Swedish gillnet fleets, the full documentation of demersal trawlers in the Netherlands, or the catch composition and discard in the potting fleet targeting crabs and lobsters in Ireland. EM systems are also installed at auction markets, e.g. in the Azores with the Fishmetrics system. Not all these systems are fully implemented and/or reporting to the DCF yet, but they are nonetheless crucial for monitoring fisheries activities and for collecting data for additional scientific research. Moreover, some MS, like Finland, are still in the testing phase for EM systems and have not yet started to collect significant imagery data, while others like Latvia report having no activities using EMT tools yet. Other projects include, among others, electronic technologies using underwater video footage to monitor various aspects of fisheries and/or the marine environment e.g. the assessment of prawn burrows (Ireland), the identification of species in real-time from permanent underwater stations (Ireland), the automatic identification in near real-time of target fish inside the fishing gear (Denmark), or the use of baited remote underwater cameras (BRUVs) to survey fish and crustaceans directly underwater. Additionally, we also received information from Norway, with several ongoing projects that collect imagery data and could be of interest to several MS.

Although the types of fisheries and areas covered vary widely among MS, and sometimes within MS, depending on the focus of the national and/or the fisheries-specific monitoring programmes, it appears that already now the diversity in data collection methods and areas covered by MS can provide a wide array of annotated imagery data. If these data can be standardised and eventually shared, this could support the development of more accurate computer vision models to identify and classify species, which would enhance existing, and facilitate the development of new monitoring programmes in the EU.

From the answers to the questionnaire, it appears that annotation methods can vary widely between MS. For example, Belgium and Denmark prefer using polygons for precise segmentation, while Portugal and the Netherlands generally use bounding boxes. Likewise, software tools used for annotations differ between respondents and include, but are not restricted to, CVAT, VGG Image Annotator, and proprietary systems like Fishmetrics, or plugins integrated to EM data processing software. Assisted or semi-automatic annotations are employed or tested in some cases (e.g. Belgium, Denmark) to improve efficiency, accuracy, and speed. Finally, the level of annotation varies importantly, with some MS annotating all the data they collect with EM (e.g. Sweden, France, Denmark) while others are restricted to a subset of the collected imagery data they collect.

With the current datasets collected locally (nationally or in specific research projects), several MS have already started to train models using e.g. neural networks based on the imagery data collected onboard fishing vessels or in harbour (**Table 4. 2**). The objective(s) of these models is (are) to identify and count target species (e.g. fish, crustaceans) and/or non-target species (e.g. marine mammals, birds, sharks) or groups of species; in some cases, these models are also designed to produce length estimates. Some MS, like Belgium and the

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### 4. ISSG Electronic Monitoring Technologies

Netherlands, are also developing methods to create synthetic datasets in order to enhance future model training. On the other hand, Finland or Latvia have not yet started significant imagery data processing and subsequent model training.

**Table 4. 2.** Summary of the currently available imagery data in the NANSEA/Baltic RCG from the responses received from MS.

Member State	Current Number of Annotated Images	Availability of Data	Objectives of Datasets	Main Classifications
<b>Belgium</b>	9300 segmentation labels at species level, 20,000 more segmented with no species assigned	Private, sharing possible with permission	To link data with other metadata from specific trips	Mixed demersal catch, single catches, stereo data
<b>Denmark</b>	8781 unique images initially, increased substantially since 2022	Anonymized, sharing possible under EcoCatch project	To fulfil requirements of Denmark in terms of bycatch of ETP species	ETP species, round fish, other elements
<b>Estonia</b>	No answer	NA	NA	NA
<b>Finland</b>	No annotated data available yet	DCF data may be available for other use	To develop fisheries-independent electronic bycatch monitoring method	Not specified
<b>France</b>	Around 30,000 annotated frames	Anonymized, boat-specific conditions	To detect and anonymize fishers' faces, identify key video sequences	PETS (marine mammals, seabirds, elasmobranchs), target species
<b>Germany</b>	No annotated data available yet	NA	NA	NA
<b>Ireland</b>	Limited data available, <10 minutes of annotated footage from one potting vessel	Not available for sharing yet	To estimate catch for lobsters and brown crab	Lobsters, brown crab
<b>Latvia</b>	No annotated data available yet	NA	NA	NA
<b>Lithuania</b>	No annotated data available yet	NA	NA	NA
<b>Netherlands</b>	~13,500 annotated images of discarded fish catch	Permission required from project stakeholders	To automate discard recording on board fishing vessels	28 classes, general fish detector algorithm
<b>Poland</b>	No answer	NA	NA	NA
<b>Portugal, Azores</b>	120,000 fish individually segmented, measured, and labelled	Private, sharing possible with permission	To link data with other metadata from specific trips	Fish species, vessel identification, commercial size category
<b>Portugal, mainland</b>	Data collection ongoing, annotation for 20 species	Verbal agreement with auction company	To associate images with auction data	Commercial species, individual lengths



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### 4. ISSG Electronic Monitoring Technologies

Member State	Current Number of Annotated Images	Availability of Data	Objectives of Datasets	Main Classifications
Spain	No answer	NA	NA	NA
Sweden	1104 annotated images of bycatch (as of March 2025)	Raw images or data not sharable outside the project	1) identity masking (people and markings) in accordance with GDPR 2) ETP species bycatch of detection models.	Person, Bird, Seal, Porpoise, Shark, Ray, Sturgeon

#### I Imagery data ownership and sharing

Imagery data sharing is sometimes possible but often restricted to specific projects and in most cases needs to be anonymized before sharing (**Table 4. 3**). It also usually requires obtaining explicit permission from vessel owners or government authorities when the imagery data are collected onboard a vessel. In this case, data anonymisation is a common practice before sharing, including masking or blurring elements that could be used to identify a specific vessel or individual. Some MS (e.g. Portugal or the Netherlands) have existing agreements in place for data sharing specifying conditions for anonymization. Sharing imagery data from underwater footage is in that sense easier as it does not require preliminary anonymisation.

**Table 4. 3.** Summary of the responses collected among MS on their current data processing and sharing options.

Member State	Data Processing and Sharing
Belgium	Data are processed using a hardware system housed in a protective enclosure. The system uses a ZEDx mini from Stereolabs and a Jetson AGX Orin Dev Kit for processing. Sharing data with other scientific institutes is possible with permission from the vessel owner.
Denmark	EM data are stored on cloud storage, representing ~100TB of data. Data are anonymized, and sharing is possible with other research institutes under specific agreement like e.g. the EU Horizon EcoCatch project. No specific time limit or embargo period is defined for data storage.
Estonia	No answer
Finland	Data processing methods are still being developed. Luke is interested in standardizing equipment and software. DCF data may be available for other use, as long as personal information is not shared.
France	Data are processed using the EM program OBSCAM. Annotations focus on bycatches of ETP species, and models are trained to detect and blur fishers' faces. Sharing data is possible but conditions are boat-specific, and data must be anonymised.
Germany	No EMT programme in place in the MS.
Ireland	Data processing has not reached this stage yet. Limited data are available for sharing, and no data sharing agreement has been set up with any vessels.
Latvia	No EMT programme in place in the MS.
Lithuania	No EMT programme in place in the MS.
Netherlands	Data are processed using line scanners over conveyor/sorting belts (CatchWAM systems). Seven different networks are trained with these data. Sharing data requires permission from project stakeholders.
Poland	No answer



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Member State	Data Processing and Sharing
<b>Portugal, Azores</b>	Fish boxes images are automatically acquired with a system installed on the top of the weighting area. Fishmetrics developed algorithms for fish species and size identification using neural networks and AI. Sharing data with other scientific institutes is possible with permission from the Azorean government. All private data needs to be anonymized.
<b>Portugal, mainland</b>	Data are processed using the Fishmetrics image acquisition system. Preliminary training of single species and multi-species models has been done. Sharing data with other scientific institutes has not been discussed.
<b>Spain</b>	No answer
<b>Sweden</b>	Masking model continuously trained using additional material. Bycatch images have not been used for any official models. There has been an initial attempt at training a porpoise-model using a portion of the images in 2023. Images mined from the internet were also used in this model

## 2 Detailed summaries by Member State

The summary of the questionnaires received from the MS highlights both the commonalities and unique aspects of image dataset collection, annotation, processing, and sharing practices across different MS. While there are shared goals and methodologies, each MS has tailored its approach to fit its specific fisheries and regulatory environments. This diversity offers opportunities for collaboration and standardization, which could enhance the effectiveness and efficiency of fisheries monitoring and data collection across the EU. This section provides a quick overview of the individual responses from each MS in **Table 4. 4** and in **Table 4. 5**, followed with a short summary of the response for each MS.

**Table 4. 4.** Key summary of the imagery data collection and annotation methods from the respondents.

Member State	Fishery Type	Data Collection Technology	Annotation Method	Software Tools
<b>Belgium</b>	Beam trawl	3D camera system	Polygons	CVAT
<b>Denmark</b>	Gillnet	EM system (Anchorlab BlackBox)	Polygons, bounding boxes	VGG Image Annotator, BlackBox Analyzer (EM software)
<b>Ireland</b>	Potting fleet	Mounted cameras	Bounding boxes	CVAT
<b>Finland</b>	Trawl, gillnet	EM systems	Not yet annotated	Commercial software (planned)
<b>Latvia</b>	None	None	NA	NA
<b>Lithuania</b>	None	None	NA	NA
<b>Netherlands</b>	Demersal trawlers	Line scanners	Bounding boxes, polygons	Darwin
<b>Portugal, Azores</b>	All (EM systems at auction houses)	Fishmetrics systems	Key points, polygons	Fishmetrics software
<b>Portugal, Mainland</b>	All (EM systems at auction houses)	Fishmetrics systems	Bounding boxes	Fishmetrics software
<b>Sweden</b>	Gillnet	EM system (SpotX cameras and LPScam)	Bounding boxes	BlackBox Analyzer (EM software), Delineator

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**Table 4. 5.** Key summary of the imagery data processing and sharing from the respondents.

Member State	Models Trained	Synthetic Data	Sharing Conditions	Reciprocity Agreements
<b>Belgium</b>	Yes	Yes	Permission required, anonymization	No specific agreements
<b>Denmark</b>	Yes	Discussed	Permission required, anonymization	Open to sharing with partners
<b>Ireland</b>	No	No	Limited data available	No specific agreements
<b>Finland</b>	No	No	Not yet defined	Interested in standard procedures
<b>Latvia</b>	No	No	NA	NA
<b>Lithuania</b>	No	No	NA	NA
<b>Netherlands</b>	Yes	Under development	Permission required, anonymization	No specific agreements
<b>Portugal, Azores</b>	Yes	No	Permission required, anonymization	No specific agreements
<b>Portugal, Mainland</b>	Yes	No	Verbal agreement with auction company	No specific agreements
<b>Sweden</b>	Yes	No	No sharing allowed	NA



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### 4. ISSG Electronic Monitoring Technologies

#### 1 Belgium

In Belgium, data are collected from beam trawl fisheries using a camera system developed in the VISIM project. The cameras capture footage from both the beginning and the end of the conveyor belt, where discards are captured. The footage is collected with a 3D camera, enabling the measurement of fish lengths in addition to identifying species. Belgium has footage from five different vessels and has collected 4.5 TB of video data, with 9,300 segmentation labels at the species level and 20,000 more segmentation labels segmented with no species assigned. The data is primarily stereo data and is annotated using CVAT.

#### 2 Denmark

Denmark's bycatch monitoring programme for endangered, threatened, and protected (ETP) species in commercial gillnet fisheries started in 2010. The programme uses EM systems installed gillnet vessels, covering ICES areas IVb, IVc, IIIa20, IIIa21, IIIc22, and IIIc23. The data are used to fulfil Denmark's requirements for ETP species bycatch monitoring. The programme has collected approximately 100 TB of EM data to date, with 8,781 unique annotated images including different classes of ETP species. The data are annotated using polygons or bounding boxes, using an AI-assisted annotation tool integrated to the EM software and that uses the Segment Anything algorithm (SAM).

#### 3 Estonia

No answer received.

#### 4 Finland

Finland is currently testing and developing methods to monitor ETP species bycatch using EM methods. The test study aims to develop a fisheries-dependent and a fisheries-independent EM programme for bycatch monitoring, starting with trawl fisheries for herring and sprat. The data collection involves onboard EM on Finnish trawlers, EM at fish sorting centres, and collecting EM data onboard a scientific survey cruise. Finland is interested in standardizing equipment and software for annotation methods.

#### 5 France

France's OBSCAM programme targets bycatch of small cetaceans in the Bay of Biscay. The programme uses EM to monitor fishing operations, with 52 vessels equipped and more being equipped every month. The data are annotated using bounding boxes, with assisted annotations using CVAT and VIAME. France has collected around 30,000 annotated frames, with 28 classes gathering all bycatch of ETP species at the species level when possible. The data are stored for three years and can be used in new projects, although boat-specific restrictions may apply.

#### 6 Germany

Currently no EMT in use for monitoring purposes. First trials, however, are in place to identify invertebrates in video footages close to offshore wind farm areas.

#### 7 Ireland

In Ireland, several small trial projects are in place to use existing image datasets. The Marine Institute has analysed video footage from underwater video surveys and from the SmartBay Observatory. A recent project focuses on identifying lobsters and brown crab from footage taken from the potting fleet in coastal waters around Ireland. The data are annotated with bounding boxes using CVAT.





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### 4. ISSG Electronic Monitoring Technologies

#### 8 Latvia

Latvia has no activities using EMT tools yet.

#### 9 Lithuania

Currently no EMT in use for monitoring purposes.

#### 10 Netherlands

The Netherlands is involved in the Fully Documented Fishery (FDF) research project to develop technology to automate discard recording on board fishing vessels. The project uses EM to verify AI results and has collected approximately 13,500 annotated images of discarded fish catch on sorting belts. The data are annotated using bounding boxes and polygons, with assisted annotations using Darwin. The Netherlands has trained seven different neural network models with these data and is developing synthetic data.

#### 11 Poland

No answer received.

#### 12 Portugal, Azores

The Azores EEZ covers approximately 1,000,000 km<sup>2</sup>, with an average depth of 3,000m. The region has a unique system for fishery data collection, with all catches by Azorean vessels landed at auction houses distributed throughout the islands. The data collection system, developed by Fishmetrics, involves cameras strategically located to capture footage from fish boxes at the auction houses across the territory. The system uploads data to a remote database, where samplers can access and measure the fish. The data include metadata such as fish species, vessel identification, and fishing gear. The system has collected 800,000 images since March 2022, with 120,000 fish individually segmented, measured, and labelled.

#### 13 Portugal (Mainland)

In Portugal, data are collected from fisheries landings in seven ports using an image acquisition system developed by Fishmetrics. The system captures images immediately after each box is sold, with each image associated with the data of that specific auction box. The data are annotated using bounding boxes, with assisted annotations using Fishmetrics software. Portugal has collected data in Portuguese ports of ICES 27.9a, with significant variation in image quality and position of the market box.

#### 14 Sweden

The Swedish national ETP species bycatch monitoring programme focusses on small-scale gillnet fisheries and uses video footage collected by two cameras on vessels to monitor the vessels' fishing activity, with a particular attention to harbour porpoises. Since 2020, the programme has expanded its coverage from the Sound (ICES IIIb23) and southern Kattegat (IIIa21) to the Baltic proper (III d), with 25 vessels participating in 2024. Data annotation involves masking personal data for GDPR compliance and labelling bycatch images for detection models, using tools like Delineator for annotations. The programme has collected 1104 annotated images of bycatch as of March 2025, with annotations including labels for people, text, and various types of bycatch species. Raw video material is masked and deleted within 90 days, while annotated images are used for model training and shared only in aggregated form.



### ToR 3: Inventory of data collection technologies

OptiFish – an EU project funded by Horizon Europe – will release a “Blue Paper”, a report inventorying EMT usage and development in the EU. Because the content of the Blue Paper fully overlaps with the aims of ToR 3, the ISSG EMT agreed to include a summary of the report here. The Blue Paper has been submitted to the EU Commission at the end of January 2025 and is still currently under review at the time of writing (April 2025), awaiting feedback before it can be published.

The OptiFish project began in February 2024 and will run until January 2028. With a budget of just under €5 million, it involves 19 partners across 8 countries. The project’s goal is to address key challenges in fisheries monitoring, such as reducing manual data collection, minimizing intrusive measures, and ensuring data security. The project develops technologies, establishes common standards, and engage stakeholders through tools like the OptiFish Academy and other communication efforts.

The Blue Paper focuses on implementing electronic monitoring and rapid-DNA technologies in fisheries, covering challenges, pilot studies, and technical solutions. It includes an overview of existing technologies, functional and non-functional requirements, and potential risks for technology implementation. The Blue Paper also describes pilot studies across regions, testing technologies such as EM cameras, multispectral cameras, and rapid DNA.

Initially, the plan was that once the authors had received feedback from the EU Commission, Sander Delacauw (ISSG EMT chair) would send the Blue Paper to all the EMT members, so they could review it and integrate it to the report. However, at the time of writing, the Commission still has not finished the review work, so the OptiFish report will be linked and summarised in the next 2025/2026 session of the ISSG EMT.

### ToR 5: Regional Work Plan and Electronic Monitoring Technologies

The ISSG focused on improving Regional Work Plans (RWP) through enhanced The Regional Work Plan ISSG (RWP ISSG) is seeking input from other ISSGs to identify innovative ideas that could improve data collection efforts in the coming years.

A significant focus of the discussion within the ISSG EMT was on identifying gaps in EM(T) data collection across Europe and understanding the limitations that prevent some MS from closing these gaps, such as cost, logistics, and resistance from fishers to EM (specifically, to CCTV cameras). Examples were provided (e.g., the Azores) of regions where traditional data collection (i.e., onboard observers) is challenging, due to the requirement to cover 10% of fishing trips targeting deep-water species (particularly in areas where deep-water fisheries dominate), highlighting the potential use of electronic monitoring (EM). The ISSG agreed that efforts should focus on addressing these gaps systematically within each MS and prioritizing EMT solutions that can meaningfully improve data quality and quantity. The discussion also concentrated on aligning monitoring using EM(T) solutions with the objectives of the DCF to ensure that they contribute to better regional data collection and determining where regional cooperation could provide added value. Especially, working towards standardising imagery datasets and work toward sharing agreement would considerably facilitate the development and subsequent implementation of new EM programmes by enabling AI-assisted EM review and thereby reducing the implementation and running costs of such programmes.

Besides, it seemed clear from the feedback of the other ISSGs present at the ISSG RWP meeting that the ISSG EMT work is of interest to these other ISSGs too. For instance, there is clearly room for discussion with the ISSG Survey on the topic of using EM(T) for the collection of fisheries-independent data, e.g. onboard research vessels – which aligns with the objectives of ToR 4.

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### 4. ISSG Electronic Monitoring Technologies

#### Roadmap/follow-up

Although the EU Commission might tend to ask for more in terms of monitoring, the budget each MS can possibly allocate to fisheries monitoring is not expansible infinitely. Therefore, the question is what can we do “better”, or at least cheaper, while keeping the data flows at least as good as they are today? For instance, can we use EM to replace some of the “traditional” data collection? Can EM be used in a more cost-effective manner, e.g. with the development of AI assisted processes that could reduce EM reviewer person-hours? Moreover, because of the concerns of the fishers themselves for their privacy, can (part of) the EM review process be done automatically onboard the vessel (e.g. the analysis of catch composition)? In at least some MS, the legal requirements can be such that a data reviewer like a fisheries Institute is required by law to hand in data to anyone who asks for them. The ISSG EMT could compare the way EM and imagery data are treated in legal terms in different MS and how data access from external stakeholders (e.g. NGOs) is considered. To mitigate this, the ISSG EMT could also evaluate the different methods to anonymise EM and imagery data in the different MS. What is more, the EU Control Regulation states that in 2028, larger vessels must in principle all be equipped with EM. The ISSG EMT could discuss the interest of this for the DCF and how these new data sources are handled at the level of each MS. It is up to individual MS to decide on this, so the ISSG EMT could try to work on harmonising this across the region. The group agreed that we should try and discuss this already in autumn 2025.

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 4. ISSG Electronic Monitoring Technologies

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## 5 ISSG Surveys

### Background

The RCG NANSEA & Baltic 2020 specified the scope of the RCGs regarding surveys as follows: “Given the expectation that survey designs, planning and task-sharing might change in the foreseeable future, RCGs are expected to play a more substantial role in the decision-making process when it comes to budget and/or national implications. The scope of the RCG will continue to focus on the budgetary aspects and national obligations in relation to proposed changes to a survey. It may be needed to rubberstamp and approve the current survey effort by MS to act as a baseline to measure and evaluate future modifications against. RCG mandates are described in the respective RoPs and these cover survey subjects as well.”

Following this scope, the ISSG on surveys underpins the substantial role of the RCGs regarding DCF surveys in the future.

Current chairs of the ISSG on Surveys are Sieto Verver (NLD) and Christoph Stransky (DEU).

### Work-plan

ToRs and work plan (specific tasks) for 2024/2025:

- 1 Renew the multilateral agreements on cost-sharing of the International Ecosystem Survey in the Nordic Seas (IESNS=ASH) and International Blue Whiting Survey (IBWSS).
- 2 Follow-up on proposals for options to cost-share surveys based on the ISSG work 2023-2024
- 3 Monitor and discuss implications of the influence of external factors on surveys from a DCF perspective and react when appropriate and requested.
- 4 Monitor the regionalisation process within ICES (e.g. ICES NETSEA) and act as the focal point for RCG contact.
- 5 Respond to requests, recommendations and proposals addressed to the RCG regarding surveys, including proposals for substantial changes to the design, set-up or other aspects of the survey impacting MS’s Work Plan, effort and/or budget allocation, or obligations. Consider requirements to facilitate future review processes.
- 6 Review emerging techniques, potentially improving or expanding data collection during surveys. Novel methods are to be considered together with potential effort reduction.
- 7 Compile some concrete examples where issues with scientific surveys in spatially restricted zones have been encountered and if and how they have been resolved.
- 8 Potential updates to RWPs to be submitted by October 2026 for RWPs 2028-2030
- 9 Identify, list and suggest improvements to EU-MAP
- 10 Follow up on the coordination of sampling of VME invertebrate benthic indicator species in surveys. Compile some concrete examples where issues with scientific surveys in spatially restricted zones have been encountered,

### Progress during 2024/2025

The ISSG on Surveys met online on March 4, 2025

**ToR 1: Renew the multilateral agreements on cost-sharing of the International Ecosystem Survey in the Nordic Seas (IESNS=ASH) and International Blue Whiting Survey (IBWSS)**





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 5. ISSG Surveys

Until Brexit, the UK provided staff for the ASH, and the hosting country (DNK) has addressed the loss of this contribution since then. Other participating MS provided staff based on the original distribution. DNK raised concerns regarding the durability of this arrangement and requested a review of the staff exchange in relation to the cost-sharing agreement. The long-standing cost-sharing agreement is based on TAC shares of the respective MS and covers vessel costs only. Earlier exploratory exercises on cost-sharing discussed various options to address differences in hourly rates, etc., but this proved too complicated due to the different organisational structures.

The ISSG briefly reviewed the options and decided to explore person-days as a unit of contribution without considering the national cost structures. The ISSG noted that year-to-year revision of the arrangement needs to be avoided and that any decision should be made based on a multi-year plan. The ISSG shall prepare a renewal of the ASH agreement, taking the staff exchange into account, and will explore options to include a similar arrangement for the IBWSS. The arrangements will be forwarded to the respective NCs for approval.

#### **ToR 2: Follow-up on proposals for options to cost-share surveys based on the ISSG work 2023-2024**

Since 2016, the RCG ISSG on Surveys (or its predecessors) worked on a universal mechanism for cost-sharing of surveys, in line with the requirements defined in the DCF. The ISSG aimed to provide a comprehensive overview of all surveys and MSs contributions to facilitate general and specific discussions on cost-sharing for any survey at any time. The mechanism has been successful for the IBWSS and ASH. However, no other requests have been made over the last years to work out a cost-sharing model for a specific survey. Given the effort required to create a comprehensive and correct overview for all surveys, while no specific requests or needs are specified by the MS, the ISSG proposes to leave the idea of producing this overview and stresses that the methodology and background data is available, should a specific request be made to the group. The ISSG can then assist in setting up or proposing cost-sharing agreements, based on specific needs. For the upcoming ISSG work plan, the ISSG thus proposes to close this ToR until a specific request is made.

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#### **ToR 3: Monitor and discuss implications of the influence of external factors on surveys from a DCF perspective and react when appropriate and requested.**

The ISSG discussed various cases where surveys were hampered due to area closures. These closures occur more frequently nowadays, and while closures in the past were often related to conservation measures and wind farms, the current political situation leads to even more reluctance, and military restrictions are in place as well. The ISSG notes the general concern that cooperation in fisheries research and data collection is not necessarily seen as a mutual priority for MS administrations. In some specific cases, national vessels may be able to take over, but this would require substantial additional effort and restructuring of the survey planning.

In the wake of raised tension and additional scrutiny of every request, the ISSG was informed that a MS started to request payments to handle permit requests. It remained unclear whether this was a specific case or whether this would become common practice.

Based on several examples, the ISSG concluded (again) that there is a need for a more uniform approach to judging survey requests for EU mandatory surveys. However, the ISSG notes that national rules must be respected, and non-EU countries may operate differently. Informing the Commission of current issues, chosen ad-hoc solutions, and foreseen issues should be based on a standardized overview. The ISSG will discuss a format, possibly based on the current format used by ICES WGBIFS.





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 5. ISSG Surveys

Various groups have already discussed survey area reductions of any kind (e.g. ICES WKUSER and WKUSER2) and how to solve these, e.g. through modelling. In addition to these groups, various initiatives are deployed by ICES to follow up on this topic and case studies have been presented in several recent publications (e.g. Anderson et al. 2025, Haase et al. 2025, Stroh et al. 2025). The ISSG felt that these initiatives cover the range of relevant issues at the moment, and the added value of the ISSG is limited given the lack of sufficient expertise and assertiveness. The role of the ISSG is to monitor the initiatives and discuss and promote possible solutions when these impact budgets or contributions by MS to a specific survey. The ISSG may request to attend specific groups to monitor the progress.

**ToR 4: Monitor the regionalization process within ICES (e.g. ICES NETSEA) and act as the focal point for RCG contact.**

The proposed ICES NETSEA meeting aims to bring together the end users with an ecosystem and assessment perspective on surveys and survey-coordinating bodies. The group is to discuss whether the (costly) surveys are still fit for purpose and how the community can benefit from optimisation of the surveys in terms of data quality, data quantity, multi-purpose use and cost efficiency. Unfortunately, the group couldn't attract sufficient critical mass nor expertise, so the group was not held in 2024/2025. The idea is to start off with a core group somewhere in 2025/2026 and evolve from this group. The ISSG still fully supports the group and its goals and hopes that the group will draw attention in different fields of expertise given the need to evolve the surveys, embrace new techniques and survey designs under the pressure of shifting budgets and other external pressures.

**ToR 5: Respond to requests, recommendations and proposals addressed to the RCG regarding surveys, including proposals for substantial changes to the design, set-up or other aspects of the survey impacting MS's Work Plan, effort and/or budget allocation, or obligations. Consider requirements to facilitate future review processes.**

Regional cooperation in surveys forms one of the cornerstones of the DCF and, subsequently, of the RWP and the RCG work. Reviewing survey modifications (of any kind) that have an impact on the survey as a whole or having potential financial implications for other survey partners are to be discussed and agreed upon in the RCG. This may take place through the RWP sessions or this ISSG. Through different channels, the ISSG was informed on changes in the Portuguese contribution to the International Mackerel and Horse Mackerel Egg Survey (MEGS). Given the specific nature of this survey and the sensitivity around the credibility of the survey, the ISSG was surprised to learn that this proposal had not been presented and discussed within the RWP planning, nor has it been reflected in the NWP 2025-2027. The issue was only addressed briefly in the relevant planning group (ICES WGMEGS). Changes of proposals for substantial changes are to be discussed between the participating MS, and this ISSG (or RCG) has a role in this discussion. The ISSG regrets that this has not been done and also regrets that the survey is executed in a suboptimal manner in 2025.

The ISSG briefly discussed the role of the group and how to improve this role as well as the visibility and the awareness of survey planning groups that proposals shall be forwarded to this group. The ISSG plans to further discuss this topic at the TM in June.

**ToR 6: Review emerging techniques, potentially improving or expanding data collection during surveys. Novel methods are to be considered together with potential effort reduction.**





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 5. ISSG Surveys

The ISSG discussed some developments of novel techniques. But despite having the wish to be at the forefront of developments, the ISSG must acknowledge that the methodological development takes place in other fora for obvious reasons. The ISSG concluded that its role is to discuss the implementation of new techniques and to act as catalyst to speed up or encourage the implementation of new techniques. As a general remark, reduction in effort (be it vessel time or staff) may not be the case everywhere as new requests will come in and vessels have a limited capacity as well. The steps towards adaptation of new techniques needs to take the fade-out of traditional methods into account, in particular when it comes to balancing current expertise and staff effort and new expertise and requirements.

The ISSG discussed the way forward and the role of the survey groups. These groups, obviously, play a big role in the application of new techniques. On the other hand, the group is aware that changing well-established surveys may be challenging and some groups express a somewhat conservative approach to new changes.

The NETSEA group (ToR 4) can hopefully spark the discussions around modernizing the surveys and initiate steps to take new techniques on board based on the wider needs and redefined purposes of some surveys. The ICES Ecosystem Observation Steering Group (EOSG) chair may pick up the general signal and transfer this to the survey planning groups. The overarching SCICOM forms the umbrella for all survey groups, and the ISSG suggests checking with ICES whether new techniques form part of the foreseen transition in the coming years and to what extent.

**ToR 7 Compile some concrete examples where issues with scientific surveys in spatially restricted zones have been encountered and if and how they have been resolved.**

Not specifically addressed given the overlap with ToR 3.

**ToR 8 Potential updates to RWPs to be submitted by October 2026 for RWPs 2028-2030**

Upon request of the ISSG on RWP, the ISSG discussed the workflow for updates and potential improvements to the RWP. Concerning the workflow: No major changes are required for surveys, as the list of mandatory surveys is clear, as are national obligations concerning joint survey execution. The primary concern is how to pick up signals of potential (substantial) changes to survey execution as described under ToR 5.

Regarding improvements to the RWP, the ISSG considers adding survey maps a valuable contribution. Now, no uniform overview can be produced to demonstrate spatial and temporal coverage. The suggestion is taken forward by the ISSG RWP, although there is a lack of capacity to produce these maps at the moment.

More emphasis could be made on end-user needs. When these needs are better specified and included, new techniques will find an easier slot in the RWP, beyond the current generic formulation, e.g. as test study.

**ToR 9 Identify, list and suggest improvements to EU-MAP**

The ISSG continues collating improvements to the EU-MAP. So far, the need for updating the list of target species was identified. In 2024, the ISSG stated: The ISSG will further explore these inconsistencies; future updates to Table I may at least consider the following proposed revisions:

- Remove herring as target species for BITS
- Include IBERAS (Iberian Acoustic Survey) and DRS (Downs Recruitment Survey) as mandatory surveys
- Update species codes to correct typos and to align with common FAO codes





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 5. ISSG Surveys

#### ToR 10 Follow up on coordination of sampling of VME invertebrate benthic indicator species in surveys

Not discussed in detail. Will be followed up at a later stage if needed

#### Roadmap/follow-up

The work plan for 2025/2026 depends on the discussion results concerning the future of this ISSG at the TM in June. The most anticipated remaining ToRs have already been identified as follows

- 1 Renew the multilateral agreements on cost-sharing of the International Ecosystem Survey in the Nordic Seas (IESNS=ASH) and International Blue Whiting Survey (IBWSS).
- 2 Follow-up on requests for to develop a survey-specific cost-share survey based on previous ISSG work
- 3 Monitor and discuss implications of the influence of external factors on surveys from a DCF perspective and react when appropriate and requested.
- 4 Monitor the regionalisation process within ICES (e.g. ICES NETSEA) and act as the focal point for RCG contact.
- 5 Respond to requests, recommendations and proposals addressed to the RCG regarding surveys, including proposals for substantial changes to the design, set-up or other aspects of the survey impacting MS's Work Plan, effort and/or budget allocation, or obligations. Consider requirements to facilitate future review processes.
- 6 Identify, list and suggest improvements to EU-MAP

Depending on the final plan, at least one physical/hybrid meeting is foreseen early 2026 to progress with the abovementioned tasks.

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## 6 ISSG Regional Work Plan

### Background

In 2022 the ISSG/RWP was given the mandate to develop Draft Regional Work Plan taking over the Fishn'Co project and then follow-up on the RWP development in 2023 onward. It was also recommended that the status of the ISSG/RWP was pan-regional.

The RWPs to be dealt with within the ISSG RWP are RWP NANSEA, RWP Baltic and RWP Large Pelagics and alignment with RWP Med & BS was demanded. The RWP socioeconomics are dealt with within RCG ECON. In October 2024 the RWPs mentioned above for the period 2025-2027 were decided.

All ISSGs chairs, RCG chairs, NCs and secretariat are invited participants in the group.

The ISSG is chaired by Els Torreele (Ilvo, Belgium) and Maria Hansson (SLU-Aqua, Sweden).

### Work - plan

ToRs and work plan (specific tasks) for 2024/2025.

- Consider feedback from STECF evaluation in June 2024, knowing that a final validation of the RWP 2025-2027 is expected including minor edits, if any. In the latter case, the ISSG/RWP will do the correction. A plenary meeting of the ISSG will be scheduled early July to address the pending issues.
- Support MS in linking the NWP to RWPs 2025-2027.
- A roadmap for developing the RWP 2028-2030 to be developed in relation to all ISSGs contributing to RWPs.
- A plenary meeting of the ISSG will be scheduled after the submission of the NWP 2025-2027 to start planning the activities and their timelines. The main goal of this meeting will be to clarify achievements needed for TM June 2025 and TM June 2026 to meet the deadline of October 2026.
- How to include bilateral agreements in NWP tables 2.1 and 2.5. Is it the MS sampling or the vessel flag country that reports the sampling scheme.
- Consider how to use new methods (e.g., genetics, EMT) to reach end-user needs on regional level.

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### Progress during 2024/2025

#### 1 Approval of RWPs

The RWP Baltic 2025-2027 and RWP NANSEA 2025-2027 were approved in October 2024, after taking the comments made by STECF in July into consideration. The comments made by STECF under the evaluation of the RWPs (October) were limited with no fundamental issues and were more oriented towards improvements for the future.

The ISSG RWP met for meetings in January, March, April and May. The meetings have mainly focused on the input needed to develop a roadmap for the RWP 2028-2030 in relation to all ISSGs contributing to RWPs. The main goal of this meeting is to clarify achievements needed for TM June 2025 and TM June 2026 to meet the deadline of October 2026.

#### 2 Lessons learned from the process on drafting the RWPs 2025-2027

In the starting up meeting in January there was discussions in subgroups to reflect on what we learned from drafting the RWP 2025-2027, what can be improved? Below is the summary of the outcome from the discussions and is relevant to keep in mind for the work ahead.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

#### General

There are still difficulties in understanding the general **concept of the RWP**, which generates some confusion; in particular, the linkage between RWP and NWP and the reporting obligations for MS. Additionally, it is not always clear to the ISSGs and the MS what it is the gain of including something in the RWP.

On the **communication** aspects, before having a final RWP 2025-2027 ready for publication, there were a lot of email exchanges with MS to adjust some of values on the RWP, with very tight deadlines which implied a heavy workload for RCG chairs (responsible for the submission of RWPs). The timing and communications processes should be improved to avoid similar situations.

Regarding the **general procedures** when drafting the RWP and how to react in the event of blocking situations/positions from MS. It has been the case with some important issues that have been blocked for years, hampering the possibilities for the RCGs to move forward. The ISSG RWP to consider looking into successful examples and share the good practises on how to unblock difficult situations; to produce a guidance document or report on successful examples.

#### Planning

It is important to have a precise **roadmap**, define the **milestones** and the **timeline** very clearly.

**Timing**, there is a general feeling that in the previous RWP 2025-2027 there was little time in between the publication of the RWP and the deadline for submitting NWP. Therefore, little time left to properly integrate the regional coordination aspects into NWPs. Consider timing adjustments to facilitate a proper linkage between RWP and NWP.

There should be a clear link with **ISSGs work** and planning.

For the **case studies** which have not started yet, it is important to be aligned with the RWP roadmap 2028-20230 and the timeline. Which are the differences between pilot studies, test studies and case studies? Should there be a common way to refer to them in the RWP?

#### Structure-forms

The general **format** is too strict and generated a lot of difficulties previously. There were lots of discussions around the topic, losing precious time and the interest/focus of many experts. This type of discussions is to be avoided in the future and focus on more practical issues.

#### Contents

**Table 2.1.** has to be produced with the results from the data call; the **timing** is a big constraint here. In the previous RWP 2025-2027, there was little time in between the data call and the submission of the RWP. Need to rethink the timing. An additional issue raised with Table 2.1 is that **RCG LP** does not have a data call and had difficulties to produce Table 2.1.

**Table 2.4.2.** compares the discrepancies between RWP and NWP. STECF EWG 24-15 report (RWP related info on p. 27-28 and p. 45-47 in the PDF) to be considered. Link to the report <https://publications.jrc.ec.europa.eu/repository/handle/JRC140596>

**Electronic monitoring** and **genetic tools**, both subjects have been explicitly mentioned in the RWP 2025-2027; these areas will need a more regional coordinated approach in RWP 2028-2030.

**Diadromous fishes** expressed their willingness to develop a RWP in 2028-2030.

Regarding **case studies (CS)** and **multilateral and bilateral agreements**, the group reflected about the gain or not of having CS included in the RWP. Having the CS in the RWP has an extra binding layer from MS, however, it does not guarantee the involvement of third countries. How to make the involvement of third countries more binding still remains an issue.

### *Progress-follow up*

There was a suggestion to consider having a proper **exchange platform** to be able to follow the progress and where discussions could be clearly reflected. The exchange platform could even be grouped into main topics, such as structure of forms, topics of interest for the RWP, etc.

### **3 Steps towards RWP 2028-2030**

Since all ISSGs has the ToR "Potential updates of RWPs to be finalized in 2026 for RWPs 2028-2030", the ISSG RWP focused during spring their work on the request to all ISSGs to have internal discussions during their regular meetings and report back on some questions i.e. on how to develop the RWP 2028-2030 in relation to their ISSG.

Feedback was received from eleven ISSG: ISSG Diadromous, ISSG Freezer trawler, ISSG Stomach sampling, ISSG Overviews, ISSG Surveys, ISSG Métier and transversal variables, ISSG Iberian Case study, ISSG Recreational, ISSG EMT, ISSG on sampling of SSF, ISSG on ETP bycatch sampling. The ISSG National correspondents did not have any need for discussion at this time, this will become more relevant for them once the roadmap, and the timing of milestones is more aligned.

The ISSGs were requested to address 8 questions during their regular meetings, being:

- 1 What are the challenges for the ISSG?
- 2 New areas to identify?
- 3 What do we want to achieve in our work by the end of 2030?
- 4 Where can we benefit from regional cooperation
- 5 Do the areas currently identified need to stay?
- 6 Do we still need this ISSG?
- 7 Ideas on actions?
- 8 Inclusion of "cool stuff"?

In two separate ISSG RWP meetings in March and April 2025, the ISSG reported back on the questions listed above.

The valuable outcome from the ISSG reflections is summarized below, by question (for all ISSG how gave input to the specific question). This will be the basis for the discussions to develop the roadmap for the RWP 2028-2030.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

#### I What are the challenges for the ISSG?

All ISSG which gave feedback on the questions, listed topics which they see as a challenge for the upcoming RWP 2028-2030.

ISSGs	Challenges
Diadromous	<ul style="list-style-type: none"> <li>Appoint new contact persons, form core group</li> </ul>
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Shortages in EMT for data collection between MS.</li> <li>Costs of EMT implementation.</li> <li>Resistance from fishers to EM (cameras onboard).</li> <li>Where EM(T) are implemented, they do not often readily align between MS.</li> </ul>
ETP species	<ul style="list-style-type: none"> <li>ETP bycatch is a “Hot topic” and will need extra attention in the RWP</li> <li>Many EU Regulations and Directives focused on ETP species status, bycatch mitigation needs, bycatch estimates...</li> <li>Improve the knowledge of fisheries bycatch on ETP species groups</li> <li>Identify sampling needs, coverage...</li> <li>Full incorporation of ETP bycatch data into the RDBES</li> <li>Implementation of different methodologies, tools to improve ETP species bycatch data</li> </ul>
Iberian waters - CS	<ul style="list-style-type: none"> <li>Operational limitations for port sampling (both national and foreign landings)</li> <li>Aligning timing with submission of RWP</li> </ul>
Metier and transversal variables	<ul style="list-style-type: none"> <li>Logbook reporting in the Small-Scale Fishery, passive gear effort (soaking time etc.) and gear dimensions (net height, net length, number of hooks etc.).</li> <li>This is linked with the new control regulation which include modifications for the reporting from the SSF until 2030 (e.g. wider implementation of geolocation data for vessels less than 12m, introduction of logbook data for SSF, etc.).</li> </ul>
Overviews	<ul style="list-style-type: none"> <li>To be able to have some stable reports which are useful for the RCG</li> </ul>
Pelagic freezer Trawlers CS	<ul style="list-style-type: none"> <li>Agree on harmonised age sampling protocol</li> </ul>
Recreational	<ul style="list-style-type: none"> <li>Coordination of MRF data collection across different regions and countries with varying survey methods and regulations is difficult – not one size fits all approach, but bespoke surveys tailored to the national MRF, cultural backgrounds and available resources</li> <li>MRF data collection has different relevance in the countries – funding and personal often lacking.</li> <li>Few dedicated experts capable running national MRF data collection programs – lack of experience.</li> <li>Liaising with other groups WGRFS, ISSG Diadromous, ISSG RWP, RCG LP, RCG ECON, ICCAT, RCG Med challenging as this ties many resources.</li> </ul>
Small scale fisheries	<ul style="list-style-type: none"> <li>Improve SSF fishing activity data (e.g. catch and effort data...)</li> <li>Better knowledge of SSF activity impacts (e.g. Impact on coastal species, ETP species bycatch, coastal habitats)</li> <li>Implementation of “new” methodologies under the SSF sampling programmes Full incorporation of SSF data into the RDBES</li> <li>Marine Spatial Planning</li> </ul>

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

ISSGs	Challenges
	<ul style="list-style-type: none"> <li>Follow up and progress of the EU Control Regulation implementation for these fisheries</li> </ul>
Stomach sampling	<ul style="list-style-type: none"> <li>“Influence” on third countries</li> <li>Stomach sampling is mandatory. Analysis and data upload not!</li> <li>End-user involvement + feedback</li> </ul>
Surveys	<ul style="list-style-type: none"> <li>Main job (cost-sharing exercise) done already in previous years, ready to proceed on demand (no current request)</li> <li>Partly overlapping tasks with ICES EGs, importance to keep the link and avoid duplication; rather report on progress in other fora</li> <li>Need to be involved when MS decide to change/discontinue survey participation (MEGS example).</li> <li>External help/assistance needed to provide maps of survey effort distribution</li> </ul>

### 2 New areas to identify?

The ISSG Iberian Waters, ISSG Overviews and the ISSG Surveys did not define new areas they need to explore further for the RWP 2028-2023. The other ISSG defined one or more new areas.

ISSGs	New areas
Diadromous	<ul style="list-style-type: none"> <li>Work in ICES WG’s</li> </ul>
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Yes, but this has to be brainstormed together with other ISSG depending on the need (e.g. EMT for fisheries-independent data collection)</li> </ul>
ETP species	<ul style="list-style-type: none"> <li>In collaboration with main end-users, experts (e.g. ICES WGs,) monitoring of potential new areas will continue to be carried out</li> </ul>
Iberian waters - CS	<ul style="list-style-type: none"> <li>N (But sampling of foreign landings in other cases?)</li> </ul>
Metier and transversal variables	<ul style="list-style-type: none"> <li>More technical work on position data is ongoing in ICES WGSFD, ICES WKSSFGEOWORKSHOPS and in different scientific projects. If a need for regional coordination from RCG side on this appears over the next years, we will tackle it when relevant. This could also be in collaboration with ISSG EMT.</li> </ul>
Overviews	<ul style="list-style-type: none"> <li>N/A</li> </ul>
Pelagic freezer Trawlers CS	<ul style="list-style-type: none"> <li>Solving practical issues</li> </ul>
Recreational	<ul style="list-style-type: none"> <li>Identification of end users relevant for MRF, because in many cases the integration of MRF data in assessments is still lacking</li> <li>Multitude of approaches requires us to focus on minimum standards for data quality, and allowing flexibility in data collection methods</li> </ul>
Small scale fisheries	<ul style="list-style-type: none"> <li>ISSG SSF will be on the lookout for possible new areas to identify in collaboration with end-user (e.g. ICES WGs)</li> </ul>
Stomach sampling	<ul style="list-style-type: none"> <li>Thematically: no!</li> <li>Geographically: Bay of Biscay</li> </ul>
Surveys	<ul style="list-style-type: none"> <li>Currently not.</li> </ul>

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

#### 3 What do we want to achieve in our work by the end of 2030?

All eleven ISSG listed one or more challenges for the upcoming RWP 2028-2030

ISSGs	Want to achieve by the end of 2030
Diadromous	<ul style="list-style-type: none"> <li>Some work must wait until DIASPORA project is completed</li> </ul>
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Identify gaps in electronic monitoring technologies across different regions.</li> <li>Understand the limitations preventing MS from closing these gaps (cost, logistics, resistance, etc.).</li> <li>Align EM(T) solutions with the DCF objectives to ensure they contribute to better regional data collection, e.g. review protocols, image annotations, etc.</li> <li>Determine where regional cooperation could provide added value (e.g. standardising imagery datasets and work toward sharing agreement to facilitate AI-assisted EM reviews and reduce costs).</li> <li>Outlining what MS should collaborate on beyond their national work plans (common databases of annotated images is one).</li> <li>Identifying new areas where EMT can enhance regional cooperation and improve data collection under the DCF.</li> </ul>
ETP species	<ul style="list-style-type: none"> <li>Improve the ETP species groups bycatch data to provide accurate estimates</li> <li>Potential coverage increases in high-risk fisheries</li> <li>Implementation of different sampling methodologies (e.g. EM, IA identification etc.)</li> </ul>
Iberian waters - CS	<ul style="list-style-type: none"> <li>Sampling of foreign landings (PRT vessels in ESP)</li> </ul>
Metier and transversal variables	<ul style="list-style-type: none"> <li>Improved reporting of effort for SSF, depending on the new control regulation</li> <li>During 2028-2030 the ISSG will have a focus on development of common calculation methodologies for SSF which would improve the data quality.</li> </ul>
Overviews	<ul style="list-style-type: none"> <li>To be able to have some stable reports which are useful for the RCG</li> <li>Stable: work is in progress to adapt to the new RDBES format. format is still changing</li> <li>Useful: the reports shall serve to: <ul style="list-style-type: none"> <li>Know the fisheries and the sampling we have at a general level</li> </ul> </li> <li>To improve the sampling design for a particular area or fishery, avoid over/under sampling: <ul style="list-style-type: none"> <li>In general, the RCG to identify fisheries or areas where the regional sampling design can be improved à a specific overview can be produced (similar to WGBFAS but addressed to the needs of the RCG)</li> <li>The test study for pelagic species in the Baltic?</li> <li>SSF?</li> <li>other regional test studies?</li> </ul> </li> </ul>
Pelagic freezer Trawlers CS	<ul style="list-style-type: none"> <li>Harmonised protocol</li> <li>To what extent will it run on regional level?</li> </ul>
Recreational	<ul style="list-style-type: none"> <li>Our goals are to identify end users, harmonize data collection methods and ensure data quality and comparability.</li> <li>Specifically, our aim is to develop Regional Work Plans that lift specific tasks from National Work Plans to ensure coordinated monitoring and data collection of recreational fisheries data.</li> </ul>

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

ISSGs	Want to achieve by the end of 2030
	<ul style="list-style-type: none"> <li>Develop and coordinate MRF data collection from EUMAP, ControlReg (mandatory catch reporting from 10.01.2026), and EFAS</li> </ul>
Small scale fisheries	<ul style="list-style-type: none"> <li>To achieve and monitor significant progress in all the challenges mentioned earlier.</li> <li>Understanding of SSF should be equivalent to that of LSF.</li> </ul>
Stomach sampling	<ul style="list-style-type: none"> <li>The aim is to have well-functioning regionally coordinated stomach programs in several areas of the North Atlantic (North Sea, Baltic Sea, Bay of Biscay...), where all components (stomach sampling, analyses, data upload, data usage by end-users, communication, funding) are defined, agreed, organized and funding guaranteed.</li> <li>The coordination of the programs should be intensified, for example by intercalibration workshops on the stomach content analysis.</li> </ul>
Surveys	<ul style="list-style-type: none"> <li>Improved integration of end-user needs, especially regarding “new (monitoring) techniques”</li> <li>Better overview on the international survey effort (i.e. maps)</li> <li>Better awareness that the ISSG exists and improved involvement in case of substantial changes to the survey designs, MS participation etc.</li> </ul>

#### 4 Where can we benefit from regional cooperation?

The ISSG Diadromous did not define yet benefits from regional coordination, but this is rather because the DIASPORA project is currently ongoing, and the output of this project could give input to this question.

ISSGs	Benefits from regional cooperation
Diadromous	<ul style="list-style-type: none"> <li>N/A</li> </ul>
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Identification of data collection gaps in different MS that could be filled using EMT (e.g. bycatch assessment, discards, etc.)</li> <li>Sharing of annotated or non-annotated data between MS for the development of AI models (for species identification) between some countries in a region</li> </ul>
ETP species	<ul style="list-style-type: none"> <li>Some fisheries might need increase sampling effort and coordination between MS will be needed</li> </ul>
Iberian waters - CS	<ul style="list-style-type: none"> <li>Regional sampling plan</li> </ul>
Metier and transversal variables	<ul style="list-style-type: none"> <li>The ISSG is working on documentation and harmonization of methods, suggesting best practices</li> </ul>
Overviews	<ul style="list-style-type: none"> <li>We benefit of having all data in the RDBES.</li> <li>The overviews we produce, shall be helpful to improve regional coordination.</li> </ul>
Pelagic freezer Trawlers CS	<ul style="list-style-type: none"> <li>By regional cooperation we aim to optimize sampling and to achieve a better coverage of the fisheries which will be of benefit for the end-users</li> </ul>
Recreational	<ul style="list-style-type: none"> <li>Many candidate species identified for which regional coordination of MRF data is relevant, e.g. BFT, sea breams, diadromous species, Baltic cod, sharks and rays</li> </ul>
Small scale fisheries	<ul style="list-style-type: none"> <li>It is supposed that with a better knowledge of these fisheries, there will be more data needs from end-users that will need some regional coordination</li> </ul>
Stomach sampling	<ul style="list-style-type: none"> <li>Benefits of regional cooperation: standardization of methods, eco-region level analysis of consistent/comparable data sets allows more robust assessment of</li> </ul>

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

ISSGs	Benefits from regional cooperation
	the state and trends of trophic relationships and a better management of the fisheries resources in the Northeast Atlantic accordingly.
Surveys	<ul style="list-style-type: none"> <li>We already benefit, but better coherence needed with other fora (e.g. ICES survey planning groups)</li> </ul>

#### 5 Do the areas currently identified need to stay?

In general terms, we can say that the ISSGs see the need for the identified areas to stay, with some exceptions that are listed below:

ISSGs	Need for the identified areas to stay
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Some but not all (e.g. inventories can be redundant, genetic tools might be misplaced, etc.)</li> </ul>
Recreational	<ul style="list-style-type: none"> <li>We are discussing whether RWP should be structured mainly by species and not by regions.</li> </ul>

#### Do we still need this ISSG?

All the replies received from the ISSGs were positive in this regard. There is without doubt a general need to keep the established ISSGs.

#### 6 Ideas on actions?

Within all ISSGs, there were on ideas on actions to be taken and/or way forward for the RWP 2028-2023.

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ISSGs	Ideas on actions
Diadromous	<ul style="list-style-type: none"> <li>Work in ICES WG's (WGBAST, WGNAS, WGEEL)</li> </ul>
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Basically, all the challenges listed above:</li> <li>Identification of where EMT could help fill data collection gaps in different MS</li> <li>Alignment in protocol</li> <li>Align EM(T) solutions</li> <li>Standardise imagery datasets and work toward sharing agreement to facilitate AI-assisted EM reviews and reduce costs</li> </ul>
ETP species	<ul style="list-style-type: none"> <li>Collaboration at pan regional level between all RCGS</li> <li>Collaboration with main end users involved in bycatch topics (e.g. ICES WG, ASCOBBANS...)</li> </ul>
Iberian waters - CS	<ul style="list-style-type: none"> <li>June 2025-May 2026: <ul style="list-style-type: none"> <li>June 2025-December 2025: consider and conceptually prepare the inclusion of the data from the regional sampling plan into the RDBES.</li> <li>calendar year of 2026: implementation of the pilot study</li> </ul> </li> <li>June 2026-May 2027 and June 2027-May 2028: <ul style="list-style-type: none"> <li>calendar year of 2026: implementation of the pilot study</li> <li>June 2027-May 2028: analyse results of the pilot study (data for 2026, available in April 2027).</li> </ul> </li> <li>Define future steps.</li> </ul>

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

ISSGs	Ideas on actions
Metier and transversal variables	<ul style="list-style-type: none"> <li>To add to the RWP Text Box 1b: “Other data collection activities” the MS involvement in analyses of SSF data submitted by electronic devices.</li> </ul>
Overviews	<ul style="list-style-type: none"> <li>What are people measuring? (total length, pinched length...)</li> <li>Which is the Length-Weight relationship used by different Countries/institutes for the same stock and area?</li> </ul>
Pelagic freezer Trawlers CS	<p>Analyse 2025 pilot study data, focusing on age sampling (Q3, Q4 2025)</p> <ul style="list-style-type: none"> <li>In case of Outcome A: MS agree on age sampling protocol</li> </ul> <p>Run current protocol and new harmonized protocol simultaneously in 2026? Needs to be discussed at the national institutes. If positive, make step to harmonized protocol in 2027?</p> <ul style="list-style-type: none"> <li>In case of Outcome B: MS do not agree on age sampling protocol</li> </ul> <p>More pilot studies are needed.</p>
Recreational	<ul style="list-style-type: none"> <li>RWP “Recreational” template was developed and shared among the group (region, species, legal requirement, survey methods for CPUE/effort, biological sampling, end users, coordination, gaps, challenges) to identify way forward</li> </ul>
Small scale fisheries	<ul style="list-style-type: none"> <li>Very important to improve the collaboration with other RCGs, specially with MED &amp; BS.</li> </ul>
Stomach sampling	<ul style="list-style-type: none"> <li>Incorporate the stomach analysis and data upload to the ICES data base into the upcoming RWP</li> <li>Organize an intercalibration meeting/workshop on best practice of stomach sampling analysis</li> </ul>
Surveys	<ul style="list-style-type: none"> <li>Will be discussed at the Technical Meeting in Lysekil (need a time slot)</li> </ul>

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### 7 Inclusion of “cool stuff”?

ISSGs	Cool stuff
Electronic Monitoring Technologies	<ul style="list-style-type: none"> <li>Showcase some cool EU projects that work on the development of computer vision and automatization of monitoring (e.g. Marine Beacon, Eco Catch, OptiFish, etc.)</li> </ul>
ETP species	<ul style="list-style-type: none"> <li>Follow up of EU relevant projects outputs relevant for this ISSG (e.g. CIBBRINA, Marine Beacon...)</li> </ul>
Small scale fisheries	<ul style="list-style-type: none"> <li>Automatization of many analyses in collaboration with other ISSGs (e.g. ISSG metiers, ISSG EM, ISSG overviews)</li> </ul>
Surveys	<ul style="list-style-type: none"> <li>Yes, but needs to be coherent with other relevant groups (e.g. ICES EGs)</li> </ul>

## Roadmap/follow-up

### In preparation of the RCG TM

- Before the RCG TM the ISSG RWP will look into and reflect on the tool “level of ambition” developed in the project Fishn’Co and decide if it’s useful for the further work. Discussion and suggestions on the usefulness and improvement of the ambition level are needed to be held during the RCG NANSEA&Baltic TM meeting in June.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 6. ISSG Regional Work Plan

- Introduction to build the Roadmap for RWP 2028-2030. ISSG to identify specific themes that will benefit for having regional coordination and request the ISSGs to make a plan on tasks to be done to have RWP ready in those topics.

#### Key questions in RCG TM

Two main topics need to be addressed during the RCG Meeting in June 20205.

- Draft Roadmap for RWP 2028-2030, based on the outcomes from the respective ISSGs
- Revision and defining the levels of ambition tool (as initiated by Fishn'Co) and decide on how to use them in the roadmap.

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### 6. ISSG Regional Work Plan

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 7. ISSG Case Study of Fisheries for Small Pelagics in the Baltic

## 7 ISSG Case Study on the Small Pelagics in the Baltic

### Background

RCG Baltic has for the time period 2025-2027 agreed to use the fisheries for small pelagic species as a regional sampling programme in the Baltic Sea. This ISSG group has existed in several years and for 2025 we would like to come one step further and start to make regional estimation on the regional samples collected. The pelagic fisheries target western Baltic herring, central Baltic herring, herring in Gulf of Bothnia, herring in Gulf of Riga and sprat.

In the 2022 decision meeting (D04): NCs agreed on the development of a binding RWP 2025-2027 for NANSEA and Baltic region without formal adoption. (DE, DK, EE, FI, LT, LV, PL, SE)

Summary of progress of the ISSG activity in 2024-2025.

### Work-plan

In 2024 the RWP was finalized for the years 2025-2027 including the small pelagic in the Baltic.

In 2025 the ISSG has planned for an estimation workshop on the case study.

### Progress during 2024/2025

One online meeting was conducted in the ISSG on February 19<sup>th</sup>, 2025, and here the ISSG decided to have a physical workshop in the fall to work on the estimation within the RDBES on both a national level and on a regional. During the technical meeting in June there will be a short session on the data format needed for the workshop. At the workshop we will also look into MS upload logs.

Last year it was recommended by the group not to continue to look into the historic misreporting as it was difficult to archive information that could be used to update the time series. However, the new landing variable in the RDBES, was discussed as it gives the possibility to upload two different numbers for landings the “official” and “Scientific”. It was discussed that it would be very beneficial with an overview on how the MS are using these variables (logbooks, landing declarations, samples etc.).

### SG Participants

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 7. ISSG Case Study of Fisheries for Small Pelagics in the Baltic

Name	E-mail	Institution	MS
Yvette Heimbrand	<a href="mailto:yvette.heimbrand@slu.se">yvette.heimbrand@slu.se</a>	SLU Aqua	SWE

#### Agenda from the online meeting 19.2 2025

1. Continuing RWP on small pelagic in 2025.
  1. Planning (how are all MS doing, how many PSU ??)
  2. Implementing (post stratifying of samples) follow up on the protocol – would we like to update the manual problems encountered?
  3. Estimating – suggestion for a common workshop (dates 9.6? or fall) to estimate first national data and if possible, arise on a regional level
2. Continue to work on table 2.5, text box 2.5 and annex I.1
  - Are all familiar with the upload to RDBES
3. If possible, still having focus on the possible misreporting between sprat and herring, how can we improve?
  - Upload with both official landings and scientific landings (where misreporting or other relevant information has been accounted for)
4. Update and adjust the RWP on small pelagic to archive the best possible compliance between all MS
5. Start working on RWP table 2.2 on sampling of biological variables to be included in RWP 2028-2030, to be submitted by October 2026.

#### Updates from MS

**Denmark:** census from all large vessels (above 24 meters) in the Baltic. For some of the vessels it is 1 sample by haul. In case of refusals we get a landing from land

**Germany:** none problelistisk 2 samples per week, 20-25 kg samples in main fishery season. 2 sprat 8 herring vessels

**Finland:** sampling on land, smaller vessels 21 vessels random selection on each quarter 20 kg per landing. Length stratified. SD 30? Should that be included in the RWP. PSU 17 in quarter 1, different between SD in effort depending on landing weight by SD.

**Poland:** 63 vessels, minimum 10 t and targeting small pelagic, minimum 17,5 meter, 80 samples per year – around 40 samples planned to achieve, random selection. Minimum 5 kg.

**Estonia:** 20 active vessels involved in mixed sprat and herring fishery. 3-4 samples month/ SD only harbour sampling 10-15 kg per samples. Challenges: lack on staff.

**Latvia:** no person attending

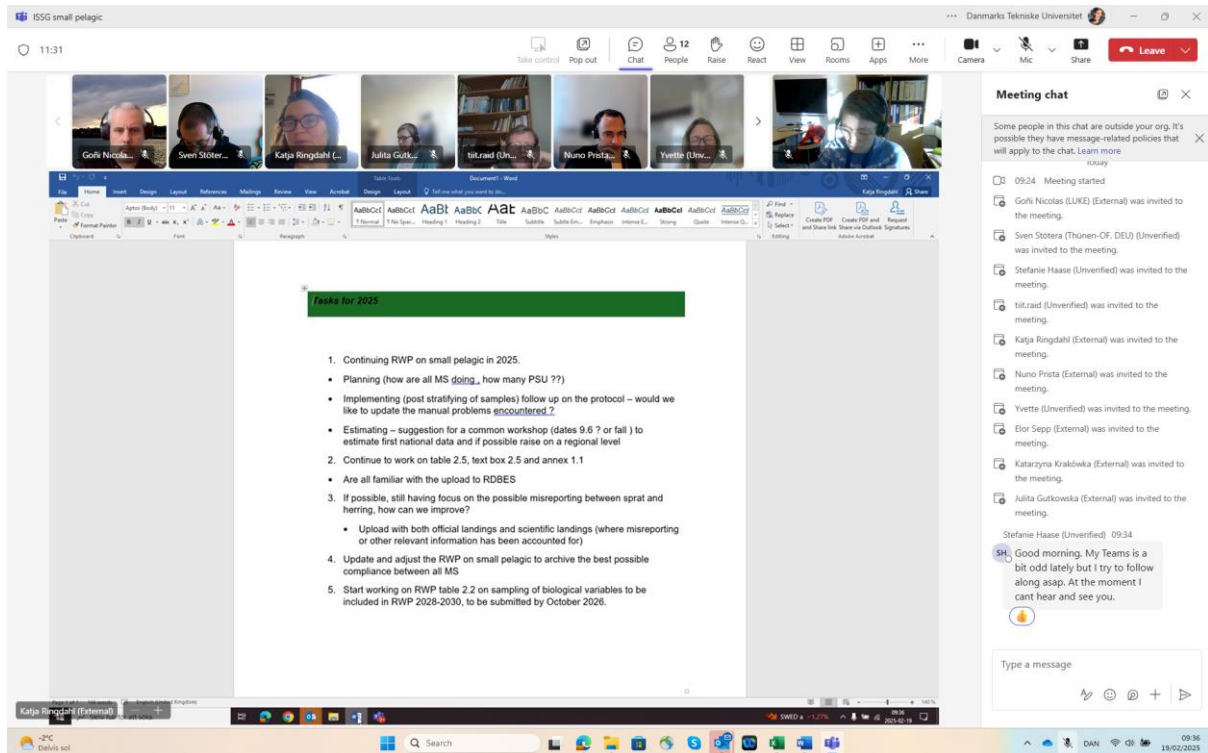
**Lithuania:** no person attending

**Sweden:** 3 vessel list, 1 North Sea, 1 Baltic and 1 mixed. Called every week. 5 kg samples every haul, in a sampled the fish is randomly sampled for length and age. Post stratified 2 samples/ SD / trip.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 7. ISSG Case Study of Fisheries for Small Pelagics in the Baltic



ISSG small pelagic

11:31

Take control Pop out Chat People 12 Raise React View Rooms Apps More Camera Mic Share Leave

Meeting chat

Some people in this chat are outside your org. It's possible they have message-related policies that will apply to the chat. Learn more

09:24 Meeting started

Görlü Nicolas (LUKE) (External) was invited to the meeting.

Sven Stötter (Thünen-OF, DEU) (Unverified) was invited to the meeting.

Stefanie Haase (Unverified) was invited to the meeting.

lit.raid (Unverified) was invited to the meeting.

Katja Ringdahl (External) was invited to the meeting.

Nuno Prista (External) was invited to the meeting.

Yvette (Unverified) was invited to the meeting.

Elor Sepp (External) was invited to the meeting.

Katarzyna Krawkowska (External) was invited to the meeting.

Julita Gulitowska (External) was invited to the meeting.

Stefanie Haase (Unverified) 09:34

SH: Good morning. My Teams is a bit odd lately but I try to follow along asap. At the moment I cant hear and see you.

Type a message

Tasks for 2025

- Continuing RWP on small pelagic in 2025.
- Planning (how are all MS doing, how many PSU ??)
  - Implementing (post stratifying of samples) follow up on the protocol – would we like to update the manual problems encountered?
  - Estimating – suggestion for a common workshop (dates 9.6 ? or fall ) to estimate first national data and if possible raise on a regional level
- Continue to work on table 2.5, text box 2.5 and annex 1.1
  - Are all familiar with the upload to RDBES
- If possible, still having focus on the possible misreporting between sprat and herring, how can we improve?
  - Upload with both official landings and scientific landings (where misreporting or other relevant information has been accounted for)
- Update and adjust the RWP on small pelagic to archive the best possible compliance between all MS
- Start working on RWP table 2.2 on sampling of biological variables to be included in RWP 2028-2030, to be submitted by October 2026.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 8. ISSG Case Study Freezer Trawler Fleet Exploiting Pelagic Fisheries in the Northeast Atlantic

## 8 ISSG Case Study Freezer Trawler Fleet Exploiting Pelagic Fisheries in the Northeast Atlantic

### Background

In 2018, The EU freezer trawler fleet targeting small pelagic species (mackerel, herring, horse mackerel, blue whiting, sprat and argentine) in the North Atlantic and North Sea was identified by the RCG as a potential candidate for the development of a regionally coordinated sampling plan. The current sampling of the fleet, which is largely Dutch owned and operates under the flags of the Netherlands, Germany, France, UK (England), Poland and Lithuania is conducted by the Dutch and German research institutes. While there exists an element of cooperation, the national sampling schemes differ in extent and methodology and there is no formal arrangement or harmonisation.

Currently, the Dutch sampling consists of 2 separate programmes: an on-board observer programme and a market sampling programme. The observer programme is a continuation of the Dutch discard sampling programme and is mainly conducted under the remit of bycatch monitoring, whereas the market sampling programme samples the catch for the purposes of informing assessment working groups. The German sampling consists of an on-board observer programme where catch is sampled, for the purpose of informing assessment working groups, and bycatch is monitored. The primary purpose of this ISSG is to propose a statistically robust regional sampling scheme for the European pelagic freezer trawler fleet aiming to both monitor the pelagic target species and the incidental bycatches. An observer programme, rather than a market sampling programme, was identified as the most suitable regional sampling scheme (RCG NA NS&EA RCG Baltic, 2022) as it is the most efficient approach to meet the two monitoring aims.

So far, simulation studies have been conducted to investigate annual sampling coverage for a suite of preselected stocks under various sampling schemes including random selection of individual fishing trips and vessels. Furthermore, the ISSG developed a sampling protocol which was tested during several pilot studies: a pilot study for the North Sea herring fishery in Q3 in 2022, a pilot study for the blue whiting fishery in Q3 in 2023, a pilot study for the mackerel fishery in Q1 in 2024, and a pilot study for the greater argentine fishery in Q2 in 2024. While the pilot studies showed promising results, the protocol for age sampling appeared to be practically challenging. Therefore, the ISSG recommended to further develop the harmonized protocol and to conduct and evaluate a NLD and DEU pilot study for the same species\*area combination.

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### End-users need

Stock assessments for pelagic species in the NE Atlantic generally adopt an age-based approach. A key requirement for the assessment is therefore an estimate of the annual catch in number by age. National fisheries tend to operate on the basis of location and season, driven by access arrangements, market conditions and geographic proximity to landing ports. While national sampling programmes aim to ensure adequate coverage of the activities of their own fleet, when all national estimates are compiled for the purposes of stock assessment, gaps in sampling coverage can result resulting in samples from other fleets and areas having to be used to estimate the catch at age. Increased use of regionally coordinated sampling programs could help ensure that such gaps do not occur and ensure appropriate samples are available.

The pelagic freezer fleet was identified as a candidate for a regional sampling approach. The fleet operates under different flags. Although there exists a degree of cooperation, different approaches to sampling are adopted by the Netherlands and Germany. A regional sampling plan would harmonise the approach, would be less likely to have gaps in coverage whilst also resulting in increased efficiency.





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 8. ISSG Case Study Freezer Trawler Fleet Exploiting Pelagic Fisheries in the Northeast Atlantic

Netherlands, Germany, France, UK (England), Poland, and Lithuania is conducted by the Dutch and German research institutes

#### Work-plan

The following tasks were identified during the RCG meeting in 2024 for the attention of the ISSG in 2024/2025:

- 1 Further develop the harmonized protocol for sampling the EU freezer trawler fleet
- 2 Identify, conduct and evaluate a NLD and DEU pilot study for the same species\*area combination during the 2<sup>nd</sup> half of 2024
- 3 Run the NLD market sampling programme executing its current protocol simultaneously with the NLD observer programme executing the harmonized protocol for sampling the EU freezer trawler fleet during the 2<sup>nd</sup> half of 2024
- 4 Develop harmonized raising methodology for conducted sampling of the EU freezer trawler fleet

#### Progress during 2024/2025

The work of the ISSG in 2024/2025 focussed on Tasks 1 and 2 of the defined workplan.

Based on the experience with the various pilot studies, it appeared that the methodology in processing the age samples needed further investigation. Therefore, a pilot study of the same species\*area combination in the same year and quarter conducted by both the Dutch and German sampling programme was executed. The simultaneous pilot studies were carried out during a Dutch and German observer trip targeting, amongst others, mackerel, in January 2025 (Figure 1).

During the Dutch pilot study 43 hauls were deployed, from which 38 hauls were samples for length. At first the trip targeted horse mackerel after which it switched to mackerel. Age samples of mackerel were taken from 10 hauls (out of the sampled 38 hauls). As it was practically not possible for the observer to take the otoliths from the mackerel during the trip, the age samples were taken back to the lab for further processing. In the lab all mackerel were measured by mm and age readings were conducted (overall 495 otoliths).

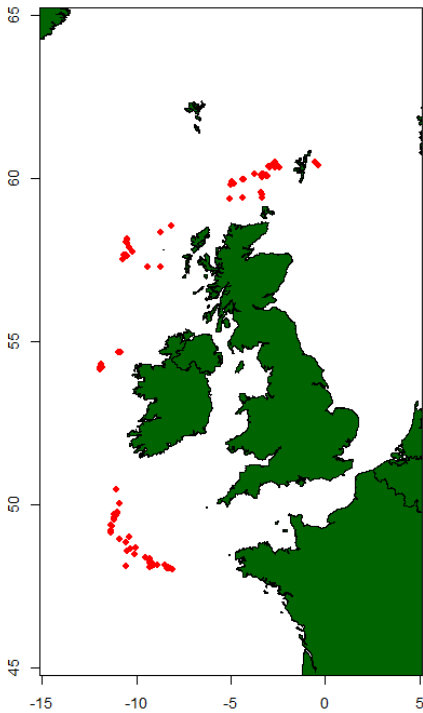
During the German pilot study 60 hauls were deployed, from which 28 hauls were samples for length. These 28 hauls were targeted on mackerel in areas 4a and 6a. The additional hauls were targeting horse mackerel and blue whiting. Age samples of mackerel were taken from 22 hauls (out of the sampled 28 hauls). As it was practically not possible for the observer to take the otoliths from the mackerel during the trip, the age samples were taken back to the lab. In the lab all mackerel were measured by mm on an electronic measuring board, weighted and the maturity determined as well as all otoliths were taken. Age readings are partly done in the German lab by the German method (10 otoliths by length class, overall app. 195 otoliths). Additional otoliths (app. 777 otoliths) which were taken by the Dutch method (random samples of 50 mackerel by haul) were sent to the Netherlands because in the German lab no additional age reading capacity is available.

The data collected within the two pilot studies will be compared once the processing of all samples has been completed. The analyses will especially focus on the methodology of collecting age samples.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 8. ISSG Case Study Freezer Trawler Fleet Exploiting Pelagic Fisheries in the Northeast Atlantic



**Figure 8. 1.** Positions of conducted hauls during the simultaneous pilot NLD and DEU pilot studies in January 2025.

#### Roadmap/follow-up

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The following tasks have been identified during the RCG meeting in 2025 for the attention of the ISSG in 2025/26:

- 1 Analyse data collected within the 2025 DEU and NLD pilot studies
- 2 Further develop the harmonized protocol for sampling the EU freezer trawler fleet
- 3 Depending on outcome of Tasks 1 and 2: run the NLD market sampling programme executing its current protocol simultaneously with the NLD observer programme executing the harmonized protocol for sampling the EU freezer trawler fleet for a considerable amount of time (e.g. ½ year or 1 year)
- 4 Depending on outcome of Tasks 1, 2, 3: develop harmonized raising methodology for conducted sampling of the EU freezer trawler fleet
- 5 Work towards a regional sampling plan to be integrated into RWP

#### SG Participants

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

## 9 ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

### Background

An ISSG was set up in RCG NANSEA 2019 to continue the previous work by projects Fishpi and Fishpi2 towards developing a Regional Sampling Plan for trawl fishery in Iberian waters (see RCG NANSEA reports 2019, 2020, 2021, 2022, 2023, 2024 and Fishpi and Fishpi2 reports).

### Work-plan

In the RCG report of 2024 the following work plan was suggested for 2024/2025, as well as for the following years:

1. July 2024-May 2025:
  - Analyse results of the survey on foreign landings implemented by IEO-CSIC in 2024.
  - Update allocation of sampling effort to ports based on recent data from trawl fisheries in the Atlantic Iberian waters
  - Define the sampling plan to be implemented in the pilot study and prepare changes/additions to contracts
  - Consider and conceptually prepare the inclusion of the data from the regional sampling plan into the RDBES.
2. June 2025-May 2026 and June 2026-May 2027 (calendar year of 2026):
  - Implementation of the pilot study
3. June 2026-May 2027 and June 2027-May 2028 (starting in April 2027):
  - Analysis of the results of the pilot study (data for 2026, available in April 2027).
  - Define future steps.

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During the intersessional period 2024-2025, the need for a new task to be developed in 2024-2025 was identified, namely:

- Summarize information on Portuguese bottom otter trawl vessels landing in Spanish ports.

### Progress during 2024/2025

In what concerns the tasks planned for 2024-2025:

#### I Task “analyse results of the survey on foreign landings implemented by IEO-CSIC in 2024”

#### Background of survey

IEO-CSIC has a contract with an external company until the end of 2025 for the implementation of the onshore sampling in ports of Spain as planned in the national work plan of Spain. Conditions set in this contract do not allow the sampling of foreign landings. In preparation for the implementation of the pilot study of this ISSG, IEO-CSIC implemented in 2024 an *in-situ* survey regarding the occurrence and potential possibility to sample foreign landings from Portuguese vessels operating with bottom otter trawlers and landing in Spanish ports of ICES divisions 27.8.c and 27.9.a [only in North (Spanish Galician waters)]. Since there is no precedent for sampling foreign landings, the objective of this survey was to estimate the number of trips of foreign landings likely to be chosen for sampling in a future pilot study, as well as to anticipate possible industry refusals to sampling.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

#### Description of IEO-CSIC on shore sampling plan

The onshore sampling plan of IEO-CSIC selects its Primary Sampling Unit (PSU), defined as port/day, based on historical knowledge of the target fisheries. The plan aims to cover the main national ports while maintaining temporal consistency throughout the year, typically following a weekly schedule to ensure robust quarterly length distribution estimates. Accordingly, the design of this sampling scheme is classified as Fixed Sample (FIXED).

The sampling plan is implemented across Spanish ports located along the coasts of Cantabria, Asturias, Galicia, and the Gulf of Cádiz. Specifically, it encompasses 15 ports in the Northwest Cantabrian Sea and 6 ports in the Gulf of Cádiz. Due to logistical constraints, all métiers except the trawler fleet are sampled in the six ports of the Gulf of Cádiz; as a result, this fleet is not represented in the onshore sampling plan for this region.

Once a PSU is selected, the Secondary Sampling Unit (SSU), defined as the landing event ensuring full-trip coverage, is chosen through a sequential random selection process from the list of target sampling strata (métiers) available on the day of the visit. The selection of the SSU is classified as Simple Random Sampling Without Replacement (SRSWOR). Landed species are then sampled by commercial category under concurrent coverage.

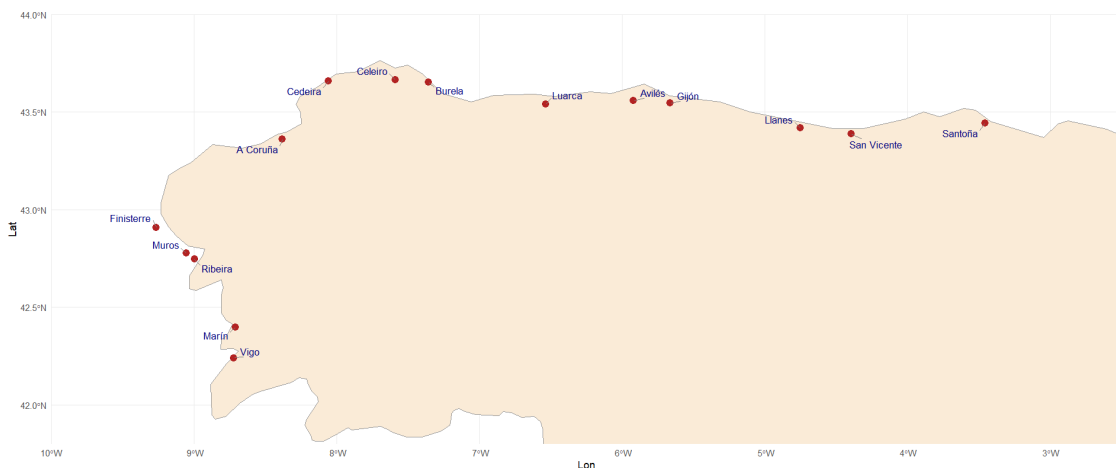


Figure 9. 1. Geographical distribution of Spanish ports included in the IEO-CSIC Sampling Program.

#### Implementation of the pilot survey

The scientific observers hired by IEO-CSIC within the current national work plan of Spain for on shore sampling of landings in Spanish ports of ICES divisions 27.8.c and 27.9.a [only in North (Spanish Galician waters)] were instructed to add the following steps to their regular protocol. During port visits, samplers performed sequential random selection of available fishing trips (with not all métiers sampled in all ports). If a foreign landing was randomly selected for sampling, the scientific observer noted it as an observer refusal, and did not perform any sampling, and asked the vessel crew/captain if they would be willing to accept sampling of those landings. This made it possible to register the presence of Portuguese vessels landing in Spanish ports to assess its occurrence within the framework of the random sampling process, as well as to register the possibility of those landings being sampled.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

#### Results of the pilot survey

In 2024, among the 15 ports monitored in the Northwest Cantabrian Sea, 182 fishing trips of Spanish trawlers were sampled by IEO-CSIC under the national work plan of Spain (out of a total of 4578 trips performed by the Spanish fleet). This corresponds to stratum BACA\_CN (OTB\_DEF) with 99 fishing trips sampled out of 3204 total fishing trips in 2024, and stratum JURELERA\_CN (OTB\_MPD) with 83 fishing trips sampled out of 1374 total fishing trips in 2024. During port days when the sampling of national work plan of Spain was implemented by IEO-CSIC, landings from the Portuguese trawler fleet were confirmed at only four ports: A Coruña, Avilés, Ribeira, and Vigo. Two trips from Portuguese trawlers were documented during this period - one in A Coruña and one in Avilés. Although landings from Portuguese trawlers were known to occur in Ribeira and Vigo, no trips coincided with the randomly selected sampling days at these ports.

According to feedback provided by field samplers, no objections or operational difficulties are anticipated from the Portuguese trawler fleet if sampling were to be conducted at ports such as Avilés, A Coruña, or Ribeira. However, in Vigo, the inclusion of the Portuguese fleet in the sampling program may encounter logistical or operational constraints.

**Table 9. 1.** Summary of foreign landings of Portuguese trawlers landing at the monitored Spanish ports, in the pilot survey of 2024.

LOCODE	Port	Foreign Fleet from Portugal known to land in the Spanish port*	Foreign Fleet from Portugal detected landing during the survey	Number of Vessels from Portugal detected landing during the survey	Possibility to sample landings of vessels from Portugal
<b>ESAVS</b>	Avilés	yes	yes	1	yes
<b>ESBRL</b>	Burela	no	no	-	-
<b>ESCED</b>	Cedeira	no	no	-	-
<b>ESCIO</b>	Celerio	no	no	-	-
<b>ESFNE</b>	Finisterre	no	no	-	-
<b>ESGIJ</b>	Gijón	no	no	-	-
<b>ESLCG</b>	A Coruña	yes	yes	1	yes
<b>ESLNS</b>	Llanes	no	no		-
<b>ESLUA</b>	Luarca	no	no		-
<b>ESMPG</b>	Marin	no	no		-
<b>ESMRS</b>	Muros	no	no		-
<b>ESSNI</b>	Ribeira	yes	no	0	yes
<b>ESSNN</b>	Santoña	no	no		-
<b>ESSVB</b>	San Vicente	no	no		-
<b>ESVGO</b>	Vigo	yes	no	0	no

Results are preliminary and must be validated against the official landing data for the Iberian trawler fleet, as presented next in a new task presented next.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

#### 2 New Task “Summary information on Portuguese bottom otter trawl vessels landing in Spanish ports”

Logbook data from Portuguese vessels (2021–2024) were analysed by IPMA (PRT) to summarize the number of trips performed by Portuguese bottom otter trawl vessels landing in Spanish ports. This data source was used since recent landings and effort data from Portugal for these years was not available at the RDBES in time for the work of the ISSG.

This information supports analysis of potential onshore sampling coverage in Spanish ports. For this purpose, catch composition of the trips was used to help classifying the trips by metier (OTB\_DEF which is BACA in the sampling plan of IEO-CSIC; OTB\_MPD which is JURELERA in the sampling plan of IEO-CSIC; and OTB\_CRU). The results presented include the number (and mean number) of trips, number (and mean number) of vessels, mean number of species and catches landed by year, port and metier. In this case, the Portuguese OTB\_CRU fleet that usually land their catches in the southern Spain was included in the analysis, even though it is not currently considered for inclusion in the future pilot study.

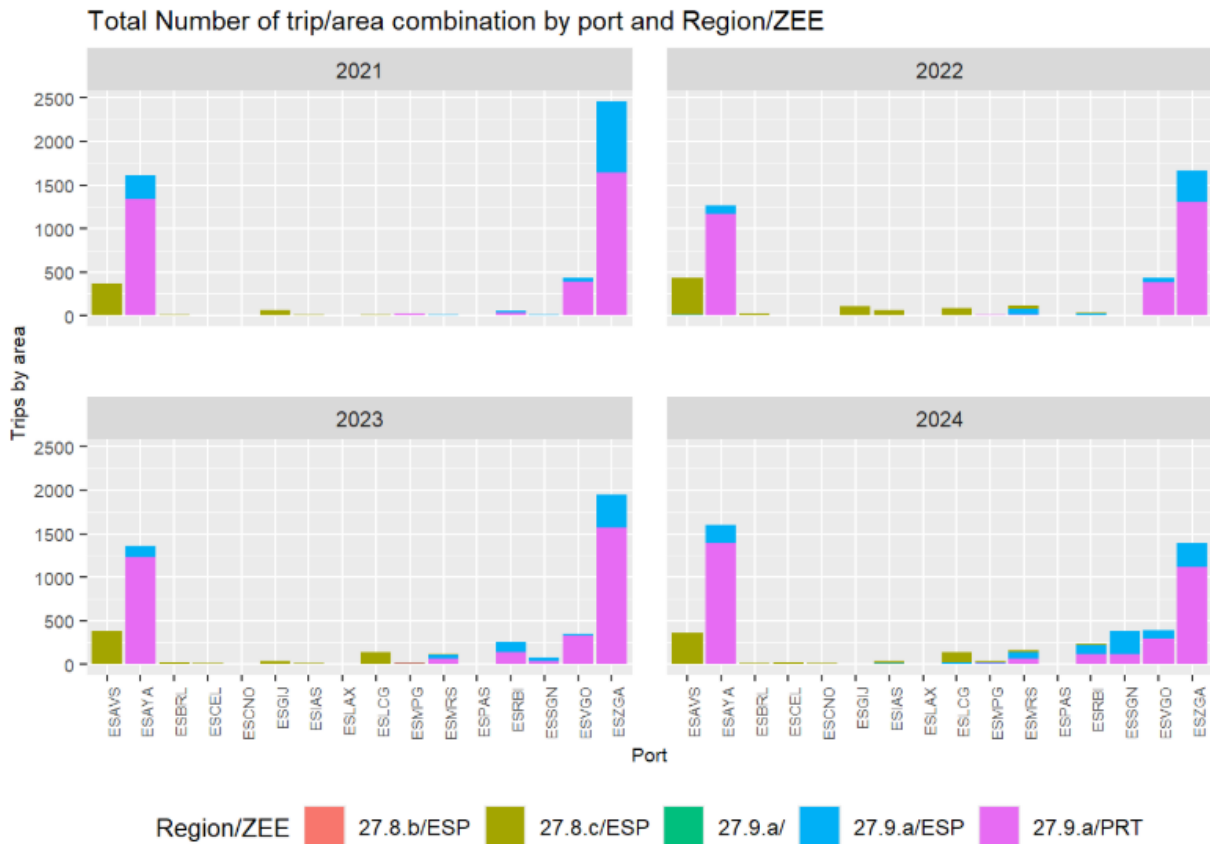
The target population was defined using the arrival port reported in the logbooks for the period 2021-2024, and so all trips arriving in Spanish ports and using OTB were included in the data analysis. In order to link the Portuguese OTB metiers with the Spanish ones, and because logbooks only include gear information, catch composition of the trips was used to classify the trips by métier level 5 (OTB\_DEF - BACA; OTB\_MPD - JURELERA; and OTB\_CRU). To allocate the metier at trip level, each species present in the trip catches was assigned a target assemblage (e.g. DEF, SPF, CRU, etc). Then, for each trip, and taking into account the total weight of each target assemblage, the metier (level 5) of each trip was identified. Three main groups of target assemblage were used to classify the trip metiers [SPF -> OTB\_MPD; CRU -> OTB\_CRU; all the other (e.g. CEP, MOL, DEF, DES) -> OTB\_DEF], also taking into account expert knowledge on the Portuguese fleet behaviour.

The areas considered in the analysis were 27.9.a, and 27.8 (.a, .b, .c), and the EEZ PRT (Portuguese waters) and ESP (Spanish waters). All the combinations for area/EEZ of the beginning and end of the fishing events performed in the trips were considered, to have an overview of spatial distribution of the fishing operations. Figures 9.2. and 9.3 below present the number and proportions of trip/area combinations by year and port of trip arrival, reported in the logbooks.



RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters



**Figure 9.2.** Number of trips performed by Portuguese vessels, arriving in Spanish ports (2021-2024), per fishing area and metier and port, based on logbook data from Portugal analysed by IPMA (PRT). If a given trip had fishing operations in more than one area, then all areas recorded in one trip are considered.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

#### Proportion of trip/area combination by port and Region/ZEE



**Figure 9.3.** Proportion of trips performed by Portuguese vessels, arriving in Spanish ports (2021-2024), per fishing area and metier and port, based on logbook data from Portugal analysed by IPMA (PRT). If a given trip had fishing operations in more than one area, then all areas recorded in one trip are considered.

Figures 9.4 and 9.5 present the number of trips performed by Portuguese vessels, arriving to Spanish ports, as well as the number of vessels.

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

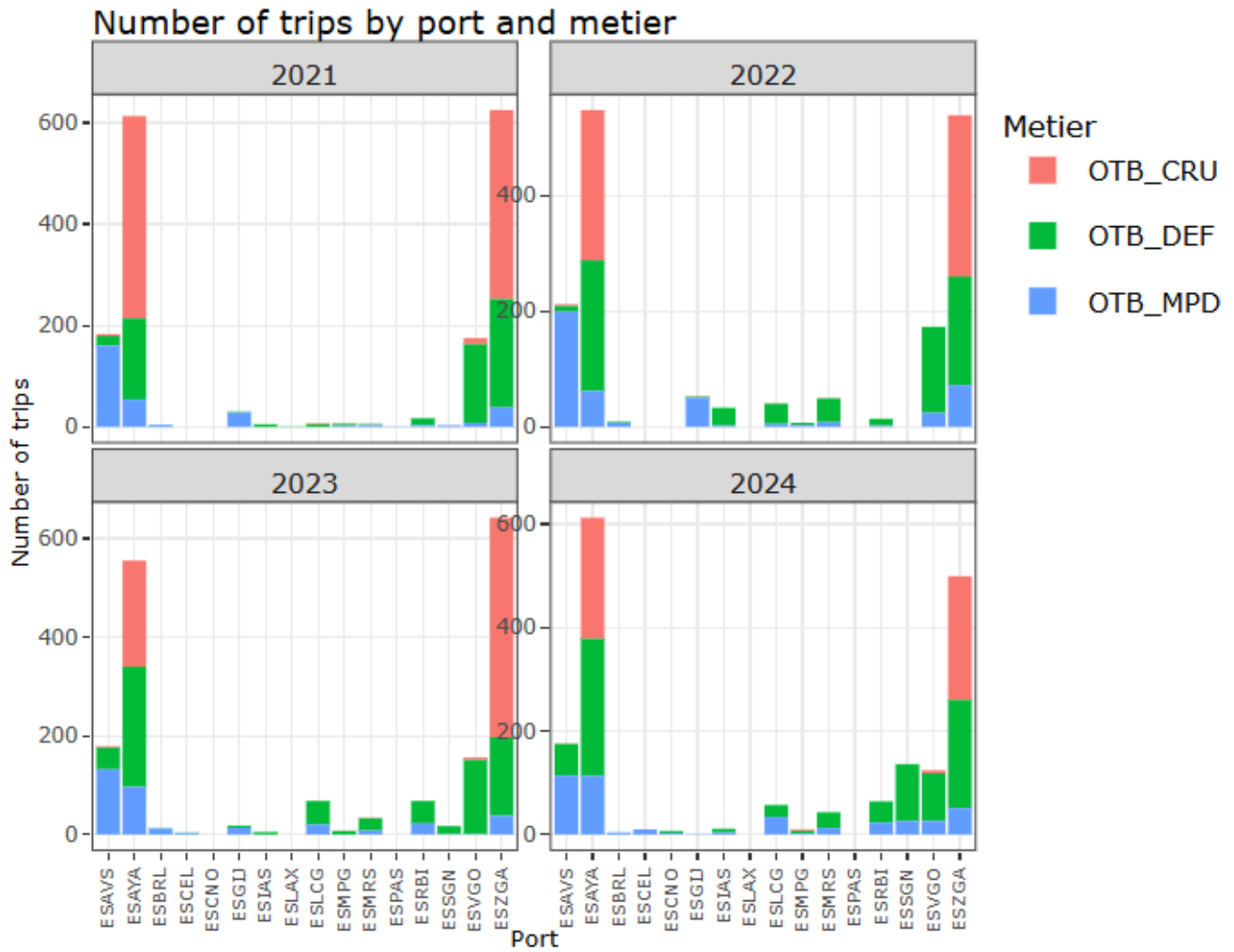


Figure 9.4. Number of trips performed by Portuguese vessels, arriving in Spanish ports (2021-2024), per port and métier, based on logbook data from Portugal analysed by IPMA (PRT).

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

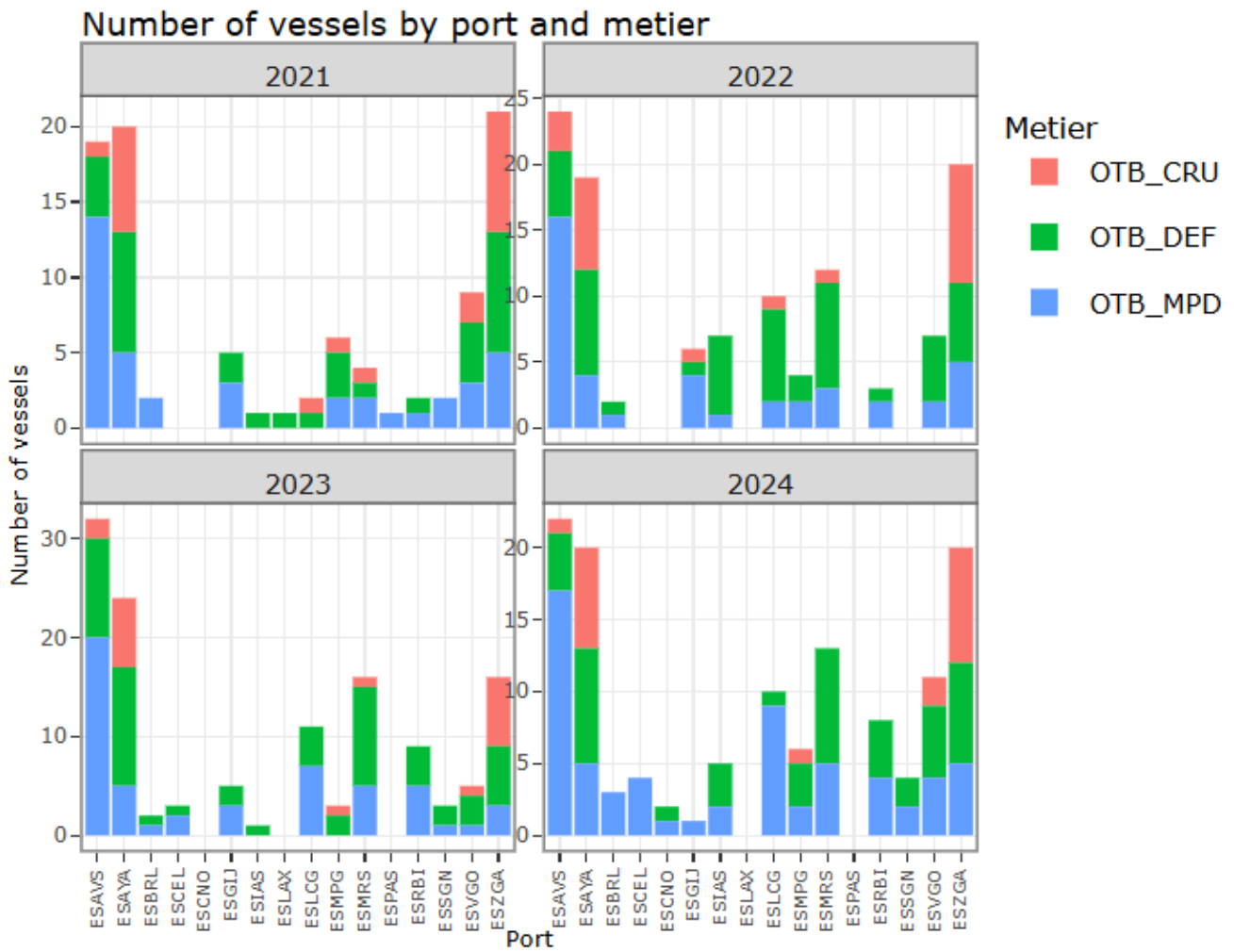


Figure 9.5. Number of Portuguese vessels arriving in Spanish ports (2021-2024), per port and métier, based on logbook data from Portugal analysed by IPMA (PRT).

Figures 9.6 and 9.7 present the mean number of trips per year performed by Portuguese vessels, arriving to Spanish ports, as well as the mean number of vessels per year.

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

Mean number of trips by port and metier

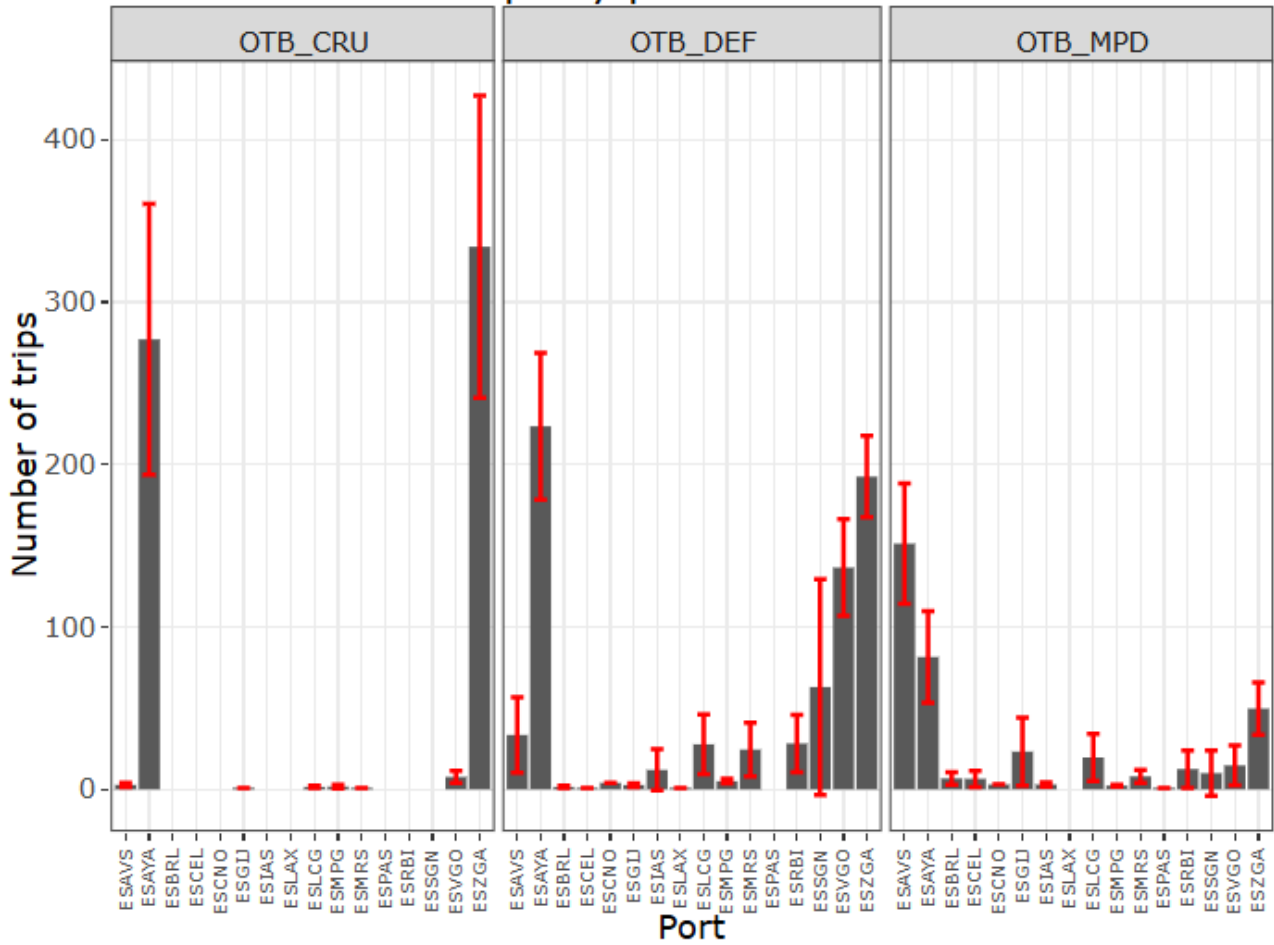


Figure 9.6. Mean number of trips performed by Portuguese vessels, arriving in Spanish ports (2021-2024), per port and metier, based on logbook data from Portugal analysed by IPMA (PRT).

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

Mean number of vessels by port and metier

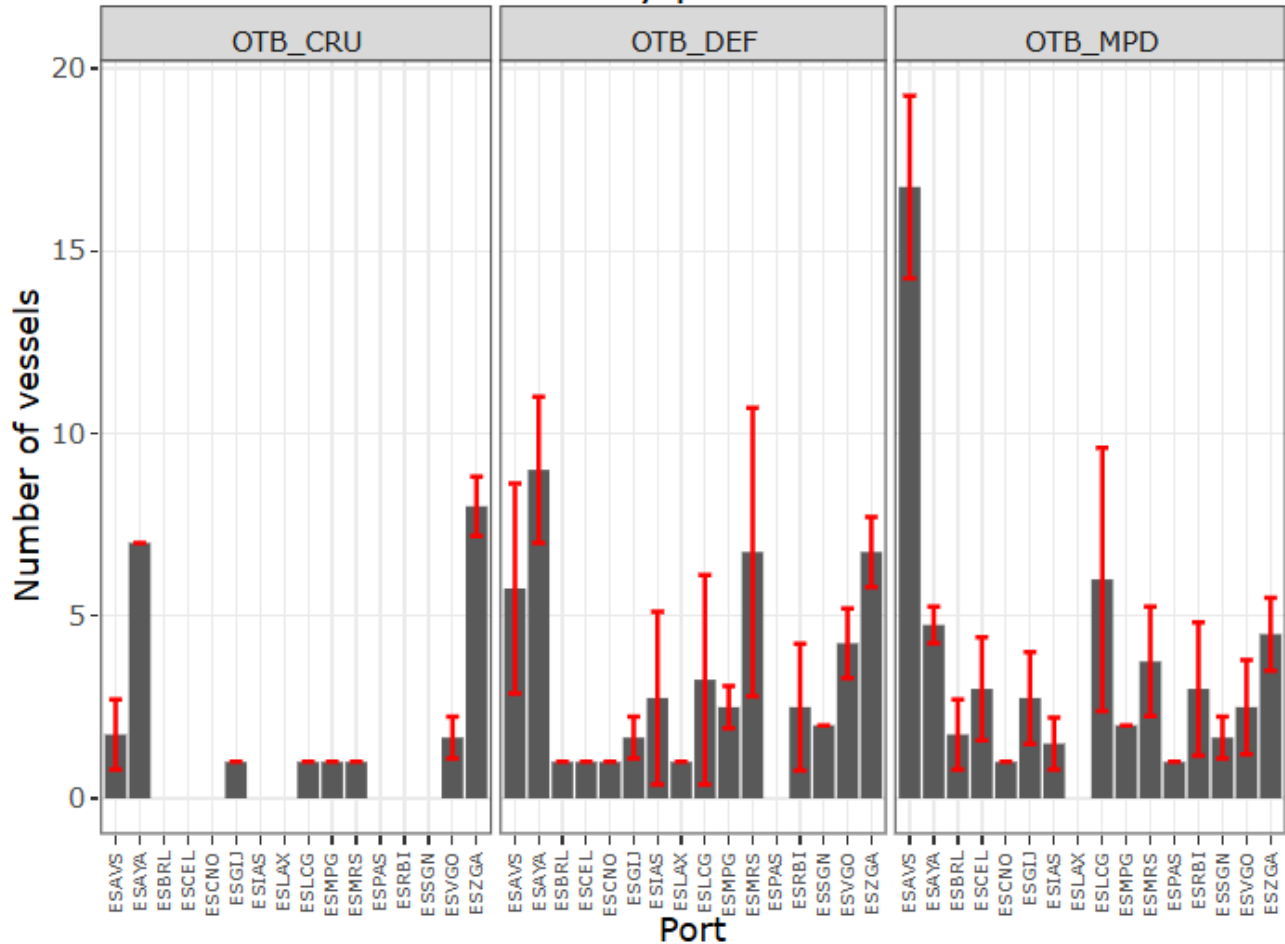


Figure 9.7. Mean number of Portuguese vessels arriving in Spanish ports (2021-2024), per port and metier, based on logbook data from Portugal analysed by IPMA (PRT).

Table 9.2 presents the top 10 (based on number of trips) of Spanish ports in which Portuguese vessels arrived.

Table 9.2. Top 10 (based on number of trips) of Spanish ports (per year) in which Portuguese vessels arrived (2021-2024), based on logbook data from Portugal analysed by IPMA (PRT).

Year	Port LOCODE	Port name	Number of trips	Number of vessels	Mean number of species	Mean catch weight
2021	ESZGA	Isla Cristina	625	8	4.8	605.3
2021	ESAYA	Ayamonte	613	9	5.4	714.8
2021	ESAVS	Aviles	183	14	2.2	17992.6
2021	ESVGO	Vigo	175	4	11.4	3896.9
2021	ESGIJ	Gijón	30	4	1.3	18631.5
2021	ESSNI	Ribeira (Santa Uxia)	17	1	5.6	7461.5

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### 9. ISSG Towards a regional sampling plan - Case Study of the trawl fishery in Iberian Waters

Year	Port LOCODE	Port name	Number of trips	Number of vessels	Mean number of species	Mean catch weight
2021	ESLCG	La Coruña (A Coruña)	7	1	7.3	5818.3
2021	ESMPG	Marin, Pontevedra	7	3	9	2878
2021	ESMRS	Muros	6	3	2	3216.3
2021	ESIAS	Camariñas	5	1	5.2	10360.8
2022	ESAYA	Ayamonte	548	8	5.5	985.6
2022	ESZGA	Isla Cristina	539	9	5.7	1049.7
2022	ESAVS	Aviles	212	17	1.6	12197.6
2022	ESVGO	Vigo	173	5	11.9	4225.8
2022	ESGIJ	Gijón	53	4	1.8	9067.6
2022	ESMRS	Muros	50	8	1.4	5588.2
2022	ESLCG	La Coruña (A Coruña)	41	7	2	6697.8
2022	ESIAS	Camariñas	33	6	1.6	5304.6
2022	ESSNI	Ribeira (Santa Uxia)	14	2	3.1	2071.6
2022	ESBRL	Burela	9	1	4.7	6999.4
2023	ESZGA	Isla Cristina	642	7	5.7	761.8
2023	ESAYA	Ayamonte	555	13	5.9	840.6
2023	ESAVS	Aviles	179	20	2.5	7371.1
2023	ESVGO	Vigo	156	3	12	4006.1
2023	ESLCG	La Coruña (A Coruña)	68	9	3.7	5363.2
2023	ESSNI	Ribeira (Santa Uxia)	68	5	4.2	3485
2023	ESMRS	Muros	34	11	2.4	3931.6
2023	ESGIJ	Gijón	18	3	2.8	6256.6
2023	ESSGN	NA	17	2	3.7	6443.1
2023	ESBRL	Burela	13	1	3.9	4778.6
2024	ESAYA	Ayamonte	612	9	5.9	679.1
2024	ESZGA	Isla Cristina	499	8	6.2	913.4
2024	ESAVS	Aviles	176	17	3.5	6354.9
2024	ESSGN	NA	136	2	2.4	6290.9
2024	ESVGO	Vigo	124	5	11.4	3694.3
2024	ESSNI	Ribeira (Santa Uxia)	64	4	3.9	4265.2
2024	ESLCG	La Coruña (A Coruña)	57	9	3.2	8544.8
2024	ESMRS	Muros	43	10	2.9	3417.7
2024	ESIAS	Camariñas	11	4	3.2	6526
2024	ESCIO	Celerio	10	4	1	8421

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Table 9.3 presents an overall summary of the annual top 10 ports (presented in Table 9.2) together with considerations about sampling in those ports (different types of situations are written in different colours in the table).

Port LOCODE	Port name	Mean of annual number of trips	Mean of annual number of vessels	Mean of annual mean number of species	Mean of annual mean catch weight	Considerations about sampling	Result from 2024 survey
<b>ESAVS*</b>	<b>Aviles**</b>	187.5	17.0	2.5	10979.1	Included in IEO-CSIC sampling program. No known sampling difficulties.	**Foreign landings detected, and it is potentially possible to sample them.
ESAYA	Ayamonte	582.0	9.8	5.7	805.0	Located in the Gulf of Cádiz. Trawling fleets cannot be sampled by IEO-CSIC in this port.	-
ESBRL	Burela	11.0	1.0	4.3	5889.0	Included in IEO-CSIC sampling program. No known sampling difficulties.	-
ESCIO	Celeiro	10.0	4.0	1.0	8421.0	Included in IEO-CSIC sampling program. No known sampling difficulties.	-
ESGJ	Gijón	33.7	3.7	2.0	11318.6	Included in IEO-CSIC sampling program. No known sampling difficulties.	-
ESIAS	Camariñas	16.3	3.7	3.3	7397.1	Not included in IEO-CSIC sampling program.	-
<b>ESLCG*</b>	<b>La Coruña (A Coruña) **</b>	43.3	6.5	4.1	6606.0	Included in IEO-CSIC sampling program. No known sampling difficulties.	**Foreign landings detected, and it is potentially possible to sample them.
ESMPG	Marin, Pontevedra	7.0	3.0	9.0	2878.0	Included in IEO-CSIC sampling program. No known sampling difficulties.	-
ESMRS	Muros	33.3	8.0	2.2	4038.5	Included in IEO-CSIC sampling program. Trawlers landing here do not sell their catch locally.	-
<b>ESSNI</b>	<b>Ribeira (Santa Uxia) *</b>	40.8	3.0	4.2	4320.8	Included in IEO-CSIC sampling program. No known sampling difficulties.	*Foreign landings not detected in survey, but it is potentially possible to sample them.
ESSGN	NA	76.5	2.0	3.1	6367.0	Unknown port	-
<b>ESVGO</b>	<b>Vigo*</b>	157.0	4.3	11.7	3955.8	Included in IEO-CSIC sampling program. However, difficulties are expected due to shipowners' refusal.	*Foreign landings not detected in survey, and it may be difficult to sample them.
ESZGA	Isla Cristina	576.3	8.0	5.6	832.6	Located in the Gulf of Cádiz. Trawling fleets cannot be sampled by IEO-CSIC in this port.	-



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#### 3 Task “update allocation of sampling effort to ports based on recent data from trawl fisheries in the Atlantic Iberian waters”

This task was not implemented since it is no longer needed for the pilot study, as is explained in the next task.

#### 4 Task “define the sampling plan to be implemented in the pilot study and prepare changes/additions to contracts”

### Contracts

IEO-CSIC has a contract with an external company until the end of 2025 for the implementation of the onshore sampling in ports of Spain as planned in the national work plan of Spain. Conditions set in this contract do not allow for sampling of foreign landings. The new contract that will start in the beginning of 2026 no longer presents restrictions about the country of the vessels landing in ports. This change makes it possible to implement a pilot study in which foreign landings of Portuguese vessels landing in Spanish ports can be sampled.

### National work plan of Spain 2025-2027

The sampling protocol of Portugal (implemented by IPMA) and of Spain (implemented by IEO-CSIC and AZTI) was described in the RCG Report 2021. In the national work plan of Spain 2025-2027, some changes have been done, by IEO\_CSIC in the onshore sampling protocol (ESP\_IEO\_PI\_OnShore), namely:

- ICES Regional Database & Estimation System (RDBES) Upper Hierarchy: In the current onshore national sampling programme ESP\_IEO\_PI\_OnShore implement Upper Hierarchy “5”.
- Sampling frame: The targeted ports for sampling by geographic region include 15 ports in northwest Spain (A Coruña, Avilés, Burela, Cedeira, Celeiro, Fisterra, Gijón, Llanes, Larca, Marin, Muros, Santa Uxía de Ribeira, Santoña, San Vicente de la Barquera, Vigo).
- Selection methods: The previous protocol defined a different list of métiers by port. According to ESP\_IEO\_PI\_OnShore, any métier is eligible for sampling at any port included in the sampling program.
- Species selection strategy: IEO-CSIC implements a concurrent sampling strategy for length sampling.

### Regional sampling plan to be implemented in pilot study in 2026

Considering the very low number of trips of Portuguese vessels that was selected for sampling (but not sampled) in the survey of 2024, two main options are proposed for the future pilot study in 2026:

- Option 1: Not include vessel country as a stratum of on shore sampling of IEO-CSIC but include foreign vessels in the sampling frame. This is likely to cause minimal impact in the observer work (since the expected number of foreign trips is very low and the total number of trips is not changed) and is likely to result in a very low number of foreign trips sampled.
- Option 2: Include vessel country as a stratum of on shore sampling of IEO-CSIC and define a number of trips to be sampled (and its spatio-temporal distribution per ports and quarters).

To decide on the option to implement, we considered: the expected outcome from each option in terms of number of foreign trips, as well as the implications in terms of additional sampling work for IEO-CSIC. In addition, we also considered that in the national work plan of Portugal 2025-2027, a new sampling scheme at sea is included for sampling Portuguese vessels operating with bottom otter trawl and starting and ending trips in Spain in 27.8c. This sampling scheme will be implemented with a sampling effort of 4 trips per year. Based on these considerations, we decided to implement Option 1 for the 2026 pilot study. Although it is





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expected to result in fewer trips compared to Option 2, it will likely require minimal additional sampling effort from the IEO-CSIC. Furthermore, data on catches - including landings and discards - will be collected through at-sea sampling by scientific observers

#### 5 Task “consider and conceptually prepare the inclusion of the data from the regional sampling plan into the RDBES”

This task was postponed and will be developed during the intersessional period 2025-2026.

### Roadmap/follow-up

#### 1. June 2025-May 2026:

- June 2025-December 2025: consider and conceptually prepare the inclusion of the data from the regional sampling plan into the RDBES.
- calendar year of 2026: implementation of the pilot study

#### 2. June 2026-May 2027 and June 2027-May 2028:

- calendar year of 2026: implementation of the pilot study
- June 2027-May 2028: analyse results of the pilot study (data for 2026, available in April 2027).
- define future steps.

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## 10 ISSG Evaluation of the Data Collected for SSF at EU level

### Progress during 2024/2025

The ISSG held a meeting in February aimed at discussing several points to identify tasks for the coming years and how to approach them. This meeting was organized in conjunction with three other ISSGs (ISSG Metiers, ISSG EMT and ISSG Overviews) that also work on issues related to SSF. In this way, it was also intended to agree on which ISSG would handle certain tasks based on the thematic area, thus avoiding duplication among these subgroups and improving coordination between them.

These were the discussion points:

- ISSG SSF tasks for 2025 and beyond
- Collaboration with other ISSG entities
- Distinguishing ICES tasks from RCG tasks
- Overviews of SSF fishery
- Regional work plans for 2028-2030
- Any other business

Taking this into account these points, the first topic discussed was whether the tasks identified for this period made sense based on the progress achieved during this timeframe in some areas. The tasks defined by the subgroup in the 2024 technical meeting were as follows:

- Providing input for the EU Control Regulation/Implementation Act focusing on SSF
- Reviewing a template for documenting RDBES CE and CL data with a focus on SSF

Regarding the EU control regulation, the timeline for implementing electronic logbooks and vessel tracking devices was reviewed. It was identified that the mandatory implementation of these devices, based on vessel length segments, will begin in 2026. Therefore, it was decided that monitoring this implementation and its impact on improving SSF data will be carried out during the next period.

In line with what was mentioned in the previous section, the National Correspondents will also be asked during the June technical meeting whether the scientific recommendations made by experts regarding the need to make certain fields mandatory when reporting specific variables of this fleet's activity are indeed being considered and applied under the Implementation Act.

The follow-up on these points will be carried out in collaboration with the ISSGs that are also working on tasks related to SSF and mentioned before. However, the ISSG SSF will be responsible for doing this in coordination with the other ISSGs.

Regarding the second task, which involves reviewing the RDBES templates, this review has already been carried out by the ICES WGCATCH group, where many of the experts in this group are also members of this ISSG. Additionally, the ISSG Metiers & Transversal data will test it on selected national data, and a script will be developed to populate as much as possible from data uploaded to the RDBES.

Another important point discussed during the meeting was the collaboration with other ISSGs that, as previously mentioned, also have tasks related to this SSF fleet. The idea is to identify which group will be responsible for each task, thereby avoiding duplication and improving collaboration and cooperation among these ISSGs.

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### 10. ISSG Evaluation of the Data Collected for SSF at EU level

It was decided that the ISSG Metier & Transversa, will mainly handle the task related to estimating the effort of this fleet. This group is already developing specific scripts such as fecR, including the SSF component.

The ISSG Overviews will continue preparing reports based on RDBES data, but the ISSG SSF will primarily collaborate in defining what the main outputs of these reports could be concerning SSF.

Finally, the ISSG EMT will continue working on coordinating the use of new technologies to enhance SSF data collection.

Lastly, the potential overlaps between ISSGs and certain ICES working groups were discussed. It was agreed that ICES expert groups primarily conduct the detailed technical work, and the main role of the ISSGs is coordination and potential improvements regarding data collection specified in the Data Collection Framework that includes at **developing and implementing procedures, methods, quality assurance and quality control for collecting and processing data** with a view to enabling reliability of **scientific advice** to be further improved.

The section on RWPs, being the one that received the most dedication, is detailed in the following point of this report.

#### Regional work plans for 2026-2028 in the case of SSF

The main effort during this period was concentrated mainly on this task, which focused on developing RWPs for monitoring SSF. A detailed summary of this task is as follows:

This action was carried out due to the specific request from ISSG RWP, where the chairs of the different ISSGs were asked to respond to specific questions regarding possible incorporations within the regional work plans of specific actions identified in each ISSG.

Among the main questions raised were what the major challenges are, whether it is truly necessary to maintain each of the ISSGs, and especially what the objectives should be for 2030, etc. Specifically, regarding the ISSG SSF, the following key challenges were identified:

- Improve SSF fishing activity data (e.g. catch and effort data...)
- Better knowledge of SSF activity impacts (e.g. Impact on coastal species, ETP species bycatch, coastal habitats)
- Implementation of “new” methodologies under the SSF sampling programmes
- Full incorporation of SSF data into the RDBES
- Marine Spatial Planning
- Follow up and progress of the EU Control Regulation was also considered.

Given these challenges, it is necessary to maintain this ISSG.

As a main objective for 2030, something that has been pursued in recent years is:

- To achieve and monitor significant progress in all the challenges mentioned earlier.
- Understanding of SSF should be equivalent to that of LSF.

As main actions to improve coordination, the importance of enhancing collaboration and cooperation was highlighted, especially with the RCG MED & BS, as it has a significant component related to this SSF fleet.



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### 10. ISSG Evaluation of the Data Collected for SSF at EU level

Finally, the idea is that during the annual RCG meeting in June 2025, a specific session will be held, primarily focusing on identifying elements that can be incorporated into future RWPs, as well as determining the desired level of ambition to achieve.

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### II. ISSG Identification of case studies for ETP species bycatch monitoring

## II ISSG Identification of case studies for ETP species bycatch monitoring

### Background

Interactions between fisheries and non-target species such as protected, endangered and threatened species (ETP), including cetaceans, seabirds, turtles, some elasmobranchs, and rare fish species, can be frequent and widespread. These interactions may lead to levels of incidental bycatch and mortality which, in some cases, could pose a threat to species or population viability. Such interactions can also have an adverse effect on fishing productivity, profitability and crew safety.

Under the previous Data Collection Framework (Council regulation (EC) No. 199/2008), there were no binding obligations for Member States (MS) to collect data on species other than commercial fish species and certain invertebrate species. When the current DCF (Regulation (EU) 2017/1004) came into force in 2017, collection of data on ETP bycatch when scientific observers are onboard became mandatory. Therefore, MS have begun to implement new data collection protocols in their at-sea observer programmes following guidelines developed, among others, by ICES expert Working Groups (WGBYC, WGCATCH) to improve the collection and quality of data on ETP bycatch. However, sampling designs remain focused primarily on active gears being disproportionately higher the coverage in active than passive gears. In addition, under several EU instruments (Regulation 2021/1167, Regulation 2019/1241 on technical measures, Habitats Directive 92/43/EEC, and Birds Directive 2009/147/EC) MS are also required to monitor and report on bycatch of protected species, including cetaceans, seabirds and marine turtles.

The overall aim for RCG NA NS&EA and the RCG Baltic is to review the status of current issues, achievements and developments of regional coordination and identify future needs in line with DCF requirements and the wider European environmental monitoring and management. With this aim in mind several ISSG were created trying to cover different topics related to different needs in line with the DCF requirements, including ETP bycatch issues.

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### Work-plan

ToRs and work plan (specific tasks) for 2024/2025 were:

- **Task 1:** Input for Control Regulation/Implementation Act and Member States implementation follow up in relation to New Control Regulation.
- **Task 2:** Support in relation to Marine Action Plan (DCF work plans to improve data collection, sampling plan and coverage efforts in relation to by-catch of sensitive species.
- **Task 3:** Work Plan development in relation to ETP species sampling programmes.

### Progress during 2024/2025

The main effort during this period was concentrated mainly on Task 3, which focused on developing RWPs for monitoring ETP species bycatch. A detailed summary of each task is as follows:

#### Task 1

Over recent years, recommendations have highlighted the need to enhance key variables, particularly those related to fishing effort. This variable plays a critical role in estimating bycatch. The aim of these recommendations has been to integrate them into the EU Control Regulation, making it mandatory to report specific variables that were previously optional (e.g., soak time, number of nets, hooks, etc.). To achieve this, both National Correspondents and the Commission will be consulted regarding the current status of these implementations, which will be a central topic of discussion at the upcoming technical meeting.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### II. ISSG Identification of case studies for ETP species bycatch monitoring

#### Task 2

The Marine Action Plan received significant attention within the RCG throughout 2023-2024. Consequently, the RCG chairs developed a questionnaire to collect insights on whether and how countries have updated their National Work Plans to address the concerns highlighted in the Marine Action Plan, particularly regarding ETP species. The results of the survey will be presented during the RCG technical meeting, where the ISG will evaluate any further actions necessary for ETP species sampling. It will also be crucial to understand the Commission's perspective on the progress achieved in this specific area.

#### Task 3

The main effort during this period has been focused on this task, largely due to the importance of the forthcoming RWP, which considers the inclusion of regional sampling for ETP species. Below is a summary of the key points regarding the optimization of ETP species bycatch sampling:

- **Challenges for the ISSG:** The bycatch of ETP species is a critical issue due to numerous EU regulations and directives emphasizing the status of ETP species, the need for bycatch mitigation, and accurate bycatch estimates. The aim is to enhance knowledge of fisheries bycatch on ETP species groups, identify sampling needs and coverage gaps, and fully integrate ETP bycatch data into the RDBES. Various methodologies and tools will be implemented to improve the quality of ETP species bycatch data.
- **ISSG Target by 2030:** The ISSG seeks to refine bycatch data for ETP species groups to produce precise estimates, expand coverage in high-risk fisheries, and adopt diverse sampling methods, including electronic monitoring and AI-based identification.
- **Regional Coordination by ISSG:** Certain fisheries may require increased sampling efforts and collaboration between Member States. Existing areas identified through collaboration with other ISSGs will be maintained, and new regions will be pinpointed in coordination with key stakeholders and experts.
- **Concrete Actions by the ISSG:** Proposed measures include pan-regional collaboration among all RCGs, partnerships with key stakeholders involved in bycatch issues, and monitoring outputs from relevant EU projects.

#### Future actions

Regarding potential future actions, monitoring will continue on the implementation of the Control Regulation and its impact on possible improvements in sampling and data related to the bycatch of ETP species. The aim is to assess whether the recommendations made by scientists are being considered and adopted through the Implementing Act by each member state.

Based on the discussions from the technical meeting regarding the Marine Action Plan, observe how the ISG can assist in improving and coordinating sampling efforts to enhance understanding of ETP species bycatch.

The incorporation of data related to the bycatch of ETP species into the RDBES is also a critical point when improving coordination and potential sampling needs. The ISG will work together with the main working groups involved in this topic (e.g. ICES WGRDBESGOV, WGBYC).

Finally, one of the main actions should be to improve coordination with the rest of the RCGs so that these issues are addressed at a pan-regional level. Also to involve the main stakeholders in the process, especially those who, despite being relevant, have had less interaction so far (e.g. ASCOBANS).





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### II. ISSG Identification of case studies for ETP species bycatch monitoring

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## 12 ISSG Diadromous Fishes

### Background

Monitoring and reporting of landings in marine waters for diadromous species (Atlantic salmon, *Salmo salar*; sea trout, *Salmo trutta*; European eel, *Anguilla anguilla*) were included under the DCF in 2001 (EU 2001), though data collection requirements varied by region. Over time, these requirements changed and expanded, including the addition of recreational fisheries data for some species (e.g., sea trout in the Baltic Sea; EU 2016). Biological data collection in inland waters was added later, however some Baltic Sea countries had already been including salmon monitoring and related projects in the national work plans of DCF earlier. The DCF introduced requirements for eel and salmon data collection in 2007 and 2008, respectively, with freshwater sea trout monitoring added later. However, the requested data often fell short of national and international assessment needs. As a result, specific requirements for eel and salmon data were developed during the ICES Workshop on Eel and Salmon DCF Data (WKESDCF) in 2012 (ICES 2012). Outcomes from the 2012 workshop remain the foundation of mandatory data collection for diadromous fishes under the current DCF/EUMAP. However, some data are not yet used in international assessments. Due to their complex life cycles, diadromous species may require unconventional data for stock assessments, covering various life stages across marine, transitional, and freshwater habitats. Consequently, assessment models and data needs vary by species and region and are actively being developed for improvements. While European eel forms one panmictic stock across all relevant regions (NANSEA, Baltic, Mediterranean, Black Sea), salmon and sea trout consist of many distinct river stocks in NANSEA and the Baltic. Developments in assessment methods (performed by ICES end-users) and updates to DCF Multi-Annual Programmes may require the ISSG Diadromous Fishes to review and identify potential needs for improvement in data collection for each species.

The ISSG Diadromous Fishes aims to ensure optimal collection and use of data collected under the DCF. It manages specific areas and coordinates tasks aligned with regional DCF coordination. The group serves as a platform for exchange, discussion, and feedback among Member States, RCGs, and end-users—essential for continuously improvements of management-relevant data. In addition to meeting national needs, the group seeks to harmonise data collection with the requirements of international stock assessments by ICES expert groups, including WGNAS (Working Group on North Atlantic Salmon), WGBAST (Assessment Working Group on Baltic Salmon and Trout) and WGEEL (Joint EIFAAC/ICES/GFCM Working Group on Eels), the primary end-users of DCF data on diadromous species.

Current Co-Chairs of the ISSG Diadromous Fishes are: Josefin Sundin (Swedish University of Agricultural Sciences, Department of Aquatic Resources - SLU Aqua, Sweden), Simon Weltersbach (Thünen Institute of Baltic Sea Fisheries, Germany) and Marko Freese (Thünen Institute of Fisheries Ecology, Germany).

### Work-plan

ToRs and work plan (specific tasks) for 2024/2025:

- 1 Continued efforts to enable diadromous data to be stored in the RBDES database (and maybe DATRAS), alternatively, work towards other solutions for central storage of DCF mandatory data for diadromous species (currently, partial data for diadromous fishes is stored in RDBES).
- 2 Develop Regional Work Plans for next period (2028-2030) for diadromous fishes in applicable regions to further harmonize data collection.
- 3 Improve and harmonize data collection methods for recreational fisheries, electrofishing and eel fishing effort data by fostering exchange and collaboration between relevant ICES EGs such as WGRFS, WGBAST, WGEEL, WGNAS and WGTRUTTA.

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- 4 Share progress and findings so far from the joint DIASPAPA project.
- 5 Serve as a platform to share current work being executed within the relevant WGs.

#### Progress during 2024/2025

The ISSG Diadromous Fishes held its annual meeting in March 10-11, 2025 (virtually) with 22 experts attending. During the meeting, the group discussed several issues and topics associated with diadromous fish data collection that were raised by participating experts or that were derived from RCG-related work and ICES EG workshops and meetings. Data used in assessments, end-user needs and data storage on ICES servers as well as opportunities for regional work plans were topics of high priority. Each WG chair presented their current work, and the current status of the ongoing joint DIASPAPA project was presented.

#### Roadmap/follow-up

- RBDES and databases – continued discussion, information on updates, and work towards storing DCF mandatory data in RDBES or other central storage solution.
- Develop Regional Work Plans (RWPs) for better harmonization in diadromous data collection (WGNAS, WGBAST, and WGEEL). Members have been appointed to lead the work for RWP's for eel, salmon, and sea trout, respectively, for 2028-2030, together forming a core group to achieve this goal.
- Improve recreational fisheries data collection for diadromous species (especially eel) in different regions in cooperation with WGEEL, WGFRS & ISSG Recreational Fisheries.
- Use outcomes from the DIASPAPA project to improve DCF data collection, RWP work, etc.
- Continue work towards better inclusion of MED/BS region in ISSG tasks (coordination/harmonization of DCRF, DCF, GFCM).

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## 13 ISSG Marine Recreational Fisheries

### Background

Recreational fisheries data is collected by individual Member States (MS) according to the Basic Regulation (EU) No 1380/2013 and the multiannual data collection framework (EU) 2016/1251. However, there is no standardization between countries and in general there is no one-size fits all approach due to the diverse nature of the sector and cultural differences. Challenges in recreational fisheries data collection include data gaps (no data collected) mostly due to lacking MS commitment, and cases without a robust methodological framework, regarding, for instance, the periodicity of surveys (no time series) and single instead of multispecies surveys. Also often lacking is governance, economic and social data to evaluate the sectoral contribution.

The intersessional subgroup on recreational fisheries (ISSG Recreational Fisheries) is a pan regional group focusing on the coordination of data collection and advice for regional work plans for marine recreational fisheries (MRF). This includes evaluating end users' needs for MRF data collection, coordinating national surveys of MRF, and defining potential thresholds. Although the current regulation has a pre-defined list of species per region, this is not sufficient as there are several important MRF target species that are not on the list. However, other species may be determined by region based on end-user needs and this is where ISSG Recreational Fisheries can make an important contribution. ISSG Recreational Fisheries aims to harmonize recreational fisheries data collection particularly on a regional level. Another important task of the ISSG Recreational Fisheries is to liaise with RCG LP, RCG Med & BS, ICCAT and RCG ECON as MRF is an integral part of these regions and the thematic areas covered by these groups.

For this subgroup to work properly, it is needed to ensure that the right people are involved, including experts from WGRFS, DCF, and RCG ECON.

Seventeen experts from nine countries attended the group's last meeting (27.03.2025).

The group is co-chaired by Harry V. Strehlow (Thünen, DE) and Eneko Bachiller (AZTI, ES).

### Work-plan 2024/2025

ToRs and work plan (specific tasks) for 2024/2025:

- 1 Develop Regional Work Plans
- 2 Control Regulation 2023/2842 follow up: Regulation impact on MRF data collection
- 3 EUMAP follow-up
- 4 Development of the RDBES to incorporate MRF data
- 5 Pan regional corporation

### Progress during 2024/2025

The introduction of the new Control Regulation was continuously accompanied by several meetings with the European Commission throughout 2024/25. Outreach to RCG Med & BS and RCG LP is expected as intersessional, through contacting their corresponding chairs and, in certain cases, even participating in their meetings for presenting the role of ISSG Recreational Fisheries. More work on and exchange of information concerning the new Control Regulation, including MRF data in stock assessments and progress on the RDBES is expected during the WGRFS meeting in June 2025. The annual meeting of ISSG Recreational fisheries took place on 27.03.2025 online. The main outcomes and topics addressed are presented below:





## I Regional Work Plans

Different key challenges were highlighted during the annual meeting, primarily related to the difficulty of coordinating data collection on MRF across different regions and countries due to varying survey methods and regulations. Unlike commercial fisheries, recreational fisheries lack mandatory data reporting, have diverse surveys and less coordination, making harmonization of data collection methods crucial.

By the end of 2030, the ISSG aims to identify end users, harmonize data collection methods (e.g., including a consolidated data collection species list), and ensure data quality and comparability through Regional Work Plans (RWPs) that lift specific tasks from National Work Plans. New areas of focus include species important for recreational fisheries and stock assessments, such as bluefin tuna, sea breams (e.g., *Diplodus sargus*, *Sparus aurata*), certain diadromous species, and Baltic cod. The group discussed structuring RWPs by species or stocks, rather than by regions, and emphasized the need for closer coordination among Member States for data collection and stock assessment.

Small core groups will be created for different candidate RWPs. For example, a core group will focus on bluefin tuna data collection, involving charter boats, catch-and-release practices, and tagging, and will reach out to groups like ICCAT or RCG Large Pelagic. Similarly, a group will review data collection for sea breams in southern Europe and will contrast the work done by ISSG Recreational in the RCG from the Mediterranean (MED) region. Western Baltic Cod and Baltic plaice are also RPW candidates to follow-up.

The issues discussed and recommendations will be shared at the ISSG RWP Meeting on 22.04.2025, where the outcomes from the ISSG Recreational concerning RWPs will be presented by the chairs. Additionally, the group agreed to work on RWP candidates intersessionally, ensuring continuous progress.

Creating a catalogue of data collection methods used in each country, highlighting the strengths and weaknesses of each method, would help identify areas for improvement and propose ways to harmonize data collection efforts across regions. Clarifying what data is needed and what is missing will be crucial for improving data collection. This task may be considered for future work, with suggestions for a template to inform about the Member States' approach to addressing control regulations. The Quality Assessment Toolkit (QAT), addressed within the ICES WGRFS framework, might also be a useful tool for this purpose. Regardless of whether the RCGs have the legitimacy to endorse them, pilot studies will be proposed for certain species or groups. At the very least, such studies should be treated as case studies to provide insights to future steps.

## 2 Control Regulation 2023/2842 follow-up

### Key points from the CR:

The new Control Regulation (2023/2842) that came into force on 9<sup>th</sup> of January 2024 has several major changes impacting MRF data collection.

By May 10, 2024, MS were asked to specify if they will develop a national system or apply for an EU system for the electronic daily catch reporting to the Commission. A total of 9 MS applied for the EU system, while others are developing national systems.

The registration for sea anglers and the electronic documentation and daily reporting of recreational catches will be mandatory from 10.01.2026. Only anglers fishing for species subject to Union conservation measures, fishing quotas, or management plans will need to register. However, the issue of unwanted bycatch of mandatory species while fishing for other species currently not covered by the control regulation remains unresolved.





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Article 55.2 states that MS must submit annual data by May 31<sup>st</sup> each year, starting in 2027. This data includes species, seas areas, biological data, etc., collected within the national data collection schemes already established under the DCF.

Article 55.3 states that MS must submit aggregated data collected through the mandatory electronic catch reporting systems by the 15<sup>th</sup> of each month, starting in March 2026. The data will be validated and quality-checked by MS before being submitted to the Commission.

The onboarding process for the EU system will start in July 2025, with technical activation in December 2025. A beta version of the EU app (RecFishing) will be available for tests in September 2025. For third-party apps, the regulation allows them to be certified for reporting, providing flexibility for anglers to use commercial fishing apps like Fishbrain, however, it is up to the MS to decide on legal jurisdiction.

From 01.01.2030 the species list for which mandatory catch reporting applies will be extended to those species for which recreational fishing has a significant impact on fishing mortality according to scientific advice.

#### *Discussion and outcomes from the group:*

##### **Species list development:**

A comprehensive species list for recreational fisheries data collection is required.

- WKRFSA (Workshop on Recreational Fisheries in Stock Assessments) performed a Productivity-Susceptibility Analysis (PSA) to identify species in ecoregions where MRF may impact stock sustainability. This list will help to establish species prioritization for data collection and stock assessment and could be the basis for mandatory catch reporting from 2030 onwards. The list is currently being finalized and will be presented later this year at ICES WGRFS.

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##### **Implementation of the CR:**

It remains to be seen if the mandatory catch reporting will have negative adverse effects on scientific data collection (i.e., reporting might be different if fishers know they are reporting for scientific purposes vs. control purposes; fishing trips without catch do not require mandatory reporting; etc.). It is also uncertain how and if the mandatory catch reporting will yield better quality data. The latter could result in a situation where stakeholder groups select those data which best support their arguments. Poor data quality, insufficient data to estimate fishing effort, incomplete registries of sea anglers, fragmentation of data due to several reporting options, deteriorating participation of sea anglers, declining compliance and a threat to the continued funding of EUMAP recreational fisheries data collection are the main issues to be aware of.

The group highlighted the importance of ensuring anglers are aware of the new regulations and the need for MS to conduct awareness and information campaigns, as well as the challenges of implementing the regulation, such as the issue of bycatch of mandatory species and the potential impact on scientific surveys.

##### **Other issues identified:**

- The registration process of marine anglers is unclear; MS still need to define their approach (e.g., opportunity to develop national registries).
- Control aspects and data entry, for example right after capture (on a daily basis) is unclear.
- The reporting of fishing effort and the required metrics are unclear (e.g., will the reporting of the fishing effort be voluntary or mandatory?).
- The reporting of zero-catch is voluntary/optional but should be, at least, foreseen in the EU app.



The group emphasized the importance of validating and quality-checking the data before submission to ensure its accuracy and usefulness for stock assessments.

The group agreed on developing a summary table including all MS, intersessionally, to determine the survey design applied in each case (e.g., multispecies survey or only constrained to mandatory species, national system or EU system, variables included in the survey, etc.). This exercise could be extended then to ICES WGRFS. Including information on the quality assessment of national catch sampling schemes (demonstrated through QATs) might also be highlighted.

### 3 EUMAP follow-up

The European Multiannual Plan (EUMAP) is the data collection mechanism for collecting recreational fisheries data in Europe. The current regulations explicitly highlight that in general multispecies data should be collected in accordance with end user needs. Where otherwise not further specified MS shall collect data for a minimum set of species in different sea regions. As multispecies surveys are still not conducted by MS on a regular basis, the available data is often incomplete due to the focus on a few mandatory species. Here we review species for which data collection should be initiated on a regional basis.

#### *Baltic plaice:*

German recreational data on plaice catches in the Baltic Sea were submitted to the plaice benchmark for inclusion in the assessment and were judged to be a necessary and useful addition. Data requests to Sweden and Denmark revealed that no plaice data are available because these are currently not collected.

ISSG Recreational Fisheries therefore recommended to the RCG Baltic & NANSEA to include plaice as mandatory species for recreational fisheries data collection during the last RCG Annual Meeting 2024. However, no progress has been observed for the moment. To our knowledge, Germany is still the only one collecting such data.

#### *Sea bream (e.g. *Diplodus sargus*):*

As mentioned for the new RWP, part of our group will work on proposing seabreams (specifically *Diplodus sargus* and *Sparus aurata*) to be included in mandatory recreational fisheries data collection. This work will be carried out intersessionally, and a scientific report might be expected as a first step for the next 2025-2026 intersessional period.

### 4 ACOM developments [informative] – not included as a point in the workplan

New insights into stock components will enable more detailed management in the future but pose a challenge to our advisory and data collection mechanisms, especially at regional level (e.g., updated data collection schemes).

ICES is currently working on multi-stock advice guidelines and has recently published an update. Here is one example of upcoming changes:

- Three stock components have been identified for North Sea cod (Northwestern, Southern, and Viking).

This kind of change will require that distinct markers are collected in addition to catch data to enable quantification of recreational stock components and adjustments of sampling frames to the respective multi-stock areas when necessary. It also entails that the advice needs to be amended to account for the different substocks and their assessment. Further this impacts the catch scenarios in the advice sheet.



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#### 5 Development of the RDBES to incorporate MRF data

The Regional Database and Estimation System (RDBES) is operational for commercial fisheries data but has seen little progress so far concerning the hosting of MRF data. The new RDBES roadmap foresees to include MRF data by the end of 2025 so members of ISSG Recreational Fisheries should be prepared for the possibility of specific requests being made.

Also, the core group of RDBES is always seeking new members to support their work. This is a good time to develop a proposal to make the RDBES more accessible and useful for MRF data collection, given that very different datatypes and survey designs are involved here. This follow-up will be carried out intersessionally, but no specific tasks were defined at this stage; those will be defined as detailed information about the RDBES progress on MRF data inclusion is received from the RDBES core group.

#### 6 Pan regional corporation

The ISSG Recreational Fisheries has successfully reached out to the WGRFS, RCG Med & BS, the RCG LP and the ISSG Diadromous. Outreach to RCG ECON and ICCAT still needs to be established. It was mentioned that particularly the species list developed in WKRFSA would be an important issue to flag to the RCG LP and RCG Med & BS.

The group emphasized the importance of cooperation with other RCGs and working groups. In this sense:

- Outreach to RCG ECON, RCG LP, and ICCAT still needs to be established, but the first contact will be established by chairs.
- RCG MED Recreational will be contacted through seabreams RWP case study.
- ISSG Diadromous: direct contact is established through members of this ISSG Recreational Fisheries group.
- Further potential collaborative work with RCG Electronic Monitoring (EMT) will be contrasted this year.
- ICES WGRFS: Most of the members of this group are also members of the WG.

Any possible timeslot offered to ISSG Recreational in any of those groups' meetings will be interesting to share what we are doing with those groups that might be interested. Particularly, the species list developed in WKRFSA during 2023-2015 would be an important issue to flag to the RCG LP and RCG Med & BS. This work will be followed up intersessionally.

#### Roadmap/follow-up

The work on the RWPs will continue intersessional.

One first step will be to finalize the list of candidate species that should be included in RWPs. The second step is to agree on the format drafting a candidate species RWP. Some progress is expected during 2025-2026 regarding data collection on bluefin tuna, seabreams and Western Baltic cod from a regional perspective, at least to be presented as case study proposals. In this sense, creating a catalogue of data collection methods, clarifying data needs, and proposing pilot studies for certain species or groups will help harmonize data collection efforts and improve future steps.

The implementation of the new Control Regulations will be followed up by liaising with the Commission, MS, EAA and WGRFS. One of the co-chairs is also member of the Technical Working Group on Recreational Fisheries which will help to develop the data formats and requirements for the mandatory catch reporting system of the EU. The detailed methodology of the Productivity-Susceptibility Analysis (PSA) to identify species in ecoregions where MRF may impact stock sustainability needs to be provided. It is



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crucial to validating and quality-checking the data before submission to ensure its accuracy and usefulness for stock assessments. In this sense, the group plans to create a summary table of survey designs used by MSs, including quality assessments, which could be extended to ICES WGRFS.

This ISSG recommended including Baltic Sea plaice as mandatory species for the sampling of recreational data in the Baltic Sea in 2024. This still requires following up since no progress has been observed.

The development of RDBES for inclusion of MRF data will be closely followed.

Outreach to the other groups will be continued intersessionally (e.g., ICES WGRFS) and possibly expanded to encompass RCG ECON, RCG LP, RCG EMT, RCG MED - ISSG Recreational fisheries, and ICCAT.

#### Work-plan 2025/2026

The following tasks for the period (2025-2026) were adopted:

- Develop Regional Work Plans. Candidate species/regions.
- Control Regulation 2023/2842 follow up: Regulation impact on MRF data collection. Summary table from MS status.
- EUMAP follow-up. Present Methodology for the PSA developed during WKRFSA (2024) to define the priority species list.
- Development of the RDBES to incorporate MRF data
- Pan regional cooperation with ICES WGRFS, RCG ECON, RCG LP, RCG EMT, RCG MED - ISSG Recreational fisheries, and ICCAT

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## 14 ISSG Regionally Coordinated Stomach Sampling

### Background

Fundamental changes in the importance of natural versus fishing induced mortality have been observed in the North Atlantic while moving towards maximum sustainable yield (MSY) management targets. The reduction of fishing mortality in combination with successive recovery of fish stocks, especially of some larger predatory species, led to an increasing natural mortality as opposed to fishing mortality. Consequently, estimates of natural mortality have become more important for stock assessments and forecasts. In general, information on prey availability, competition and predation processes in fish stomachs are needed to support several policies (e.g., Common Fisheries Policy (CFP), EU Marine Strategy Framework Directive (MSFD)) that envisage an Ecosystem Approach to Fisheries (EAF) and an Ecosystem Based Fisheries Management (EBFM). Assessing trophic relations with detailed stomach contents analysis increases knowledge on suitable stock-recruit models (e.g., density dependent effects like cannibalism), assessment of fish species (e.g., estimates of Natural Mortality), reliable Biological Reference Points (BRP) considering species interactions, all aiming at providing a more appropriate framework for the implementation of multi-annual management plans. New data on predation is also important for providing both tactical and strategic advice for management of marine ecosystems (FAO 2008), since they positively contribute to the quality of the tools used to quantitatively assess their dynamics (i.e. multispecies assessment models, ecosystem models, etc.). A DG MARE tender (Contract No MARE/2012/02-SI2.632887) pilot study on stomach sampling in the North and Baltic Seas was able to demonstrate, in cooperation with the ICES Working Group on Multi Species Stock Assessment Methods (WGSAM), that cost-effective sampling of stomachs is possible during existing surveys. It was possible to analyse stomachs in a cost-effective manner with the help of national labs and/or external contractors. Results of the FishPi project (EU MARE/2014/19) conclude that opportunistic stomach sampling on existing DCF surveys is a promising way forward. However, missing regional coordination was identified a challenge. The lack of coordination leads to unbalanced sampling effort resulting in a lack of statistically sound sampling of all key species needed for food web characterisation and finally to a barrier for moving towards an Ecosystem Approach to Fisheries (EAF).

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The main objective of the ISSG Regionally Coordinated Stomach Sampling is to establish a regionally coordinated stomach sampling program – potentially covering on-board sampling, stomachs analyses in laboratory, data storage and report – in European waters, starting with the North Sea, Skagerrak and Kattegat as a case study.

Chairs: Pierre Cresson (France), Matthias Bernreuther (Germany).

### Work-plan

#### Terms of Reference

- Update the data format description in the RCG stomach sampling manual to match the updated ICES stomach database format.
- Communicate with WGSAM on the end-user needs / define the needs and the purpose of the data
- Update the reference period for the expected stomachs (new reference period: 2019 to 2023) and update the expected stomach numbers by species over the 5-year rolling scheme
- Potential updates of RWPs to be finalized in 2026 for RWPs 2028-2030
- Work on a regional stomach sampling and analysis plan for the Baltic Sea.



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### 14. ISSG Regionally Coordinated Stomach Sampling

#### Progress during 2024/2025

The ISSG met once during the 2024/2025 period (20 March 2025), to discuss the work done on the terms of reference. The meeting was held online and was attended by 19 participants.

#### I Communication with the IBTSWG on the status and future of the stomach sampling during the IBTS

Matthias Bernreuther and Pierre Cresson joined the International Bottom Trawl Survey Working Group (IBTSWG) meeting 2025 physically (Matthias) and online (Pierre) in Belfast (Northern Ireland) on 2 April 2025 to discuss the status, progress and problems or challenges associated with the stomach sampling and storage of the samples. 5 points and requests were discussed:

- 1 A request was made that participants of the IBTS in Q1 and Q3 while uploading the survey data to DATRAS should indicate in the column “StomSamp” for the “CA” data format whether a stomach was taken or not (“Y”, “N” or “-9” if no information is available). Vaishav Soni from the ICES data centre added that when “Y” is indicated in the “StomSamp” column, then it is necessary to also report the fish ID, so that connection from the survey information to the information in the stomach data base may be established. This would make it easier to obtain an overview of the stomachs sampled (Table 13.1).
- 2 A request was made to identify a focal person for stomach sampling in the North Sea (and potentially additional areas), for improving the information and exchange possibilities regarding stomach sampling, analyses, data submission and potential changes or problems with the sampling or funding of the sampling. The collection of names by participating countries was started.
- 3 Based on the discussion in the ISSG Stomach sampling with regards to the offset in the length grouping between the stomach sampling (starting with 15 – 19.9 cm total length, TL) and the IBTS otolith sampling (starting with 16 – 20.9 cm TL), it was decided that the length grouping of the IBTS otolith sampling should also be applied for stomach collection to simplify the on-board sampling procedure.
- 4 Discussion about the ISSG stomach sampling manual. The question arose whether the 2 stomachs out 5 cm length group refer to stomachs with content or with content and empty stomachs. The concern was that during the sampling each stomach has to be cut open to verify whether the stomach is empty or only slightly filled with prey and that this may cause a disruption in the sampling procedure. It was decided that randomly the first stomach should be sampled with no special check for emptiness. However, regurgitated stomachs are not taken into account. This has to be updated in the stomach manual.
- 5 It was discussed whether the ISSG Stomach sampling is considering other areas of the North Atlantic as candidates for a regionally coordinated stomach sampling program. The conclusion was that as a first step the North Sea stomach sampling program should be fully implemented followed by the Baltic Sea sampling program. Other areas e.g. Bay of Biscay, Celtic Sea will be tackled after that.

During the meeting, Harriet Cole, the stock assessor of North Sea haddock (ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK)) asked for the availability of the stomach data for haddock. It was decided that the co-chairs of ISSG Stomach sampling will contact her, when the stomach data are available on the stomach data base.

These discussion points and requests will be included in the IBTSWG report, to be published probably at the end of May 2025.



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

**Table 14.1.** Preliminary numbers of stomachs collected during IBTS, by species, country, year and quarter (Q3 2024 and Q1 2025).

Year	Quarter	Species		Germany	Denmark	France	Netherlands	Norway	Sweden	Scotland	England	Total		
2024	Q3	Plaice	<i>Pleuronectes platessa</i>	104	295				340		27	766		
		Hake	<i>Merluccius merluccius</i>		8				111		23	142		
		Turbot	<i>Scophthalmus maximus</i>	8	14				4		5	31		
		Brill	<i>Scophthalmus rhombus</i>	2	5				8		10	25		
		Pollack	<i>Pollachius pollachius</i>	1					3			4		
		Tusk	<i>Brosme brosme</i>									0		
		Ling	<i>Molva molva</i>		1				3			4		
		Tub gurnard	<i>Chelidonichthys lucerna</i>	6	18				15			39		
		Anglerfish	<i>Lophius piscatorius</i>								27	27		
		Starry ray	<i>Amblyraja radiata</i>						46			46		
		Spurdog	<i>Squalus acanthias</i>						13			13		
		Total Q3 2024:				121	341	0	0	0	543	0	92	1097
		2025	Q1	Haddock	<i>Melanogrammus aeglefinus</i>	380	311	119	549	?	313			1672
				Mackerel	<i>Scomber scombrus</i>	52	72	77	36	?				237
Brill	<i>Scophthalmus rhombus</i>			3	11	1	6		30	2		53		
Turbot	<i>Scophthalmus maximus</i>			7	13	1	16		9			46		
Halibut	<i>Hippoglossus hippoglossus</i>						1					1		
Tun gurnard	<i>Chelidonichthys lucerna</i>				1	20	4		5	3		33		
Blonde ray	<i>Raja brachyura</i>						5					5		
Spotted ray	<i>Raja montagui</i>						32					32		
Cuckoo ray	<i>Leucoraja naevus</i>						3					3		
Smooth-hounds	<i>Mustelus</i>						4					4		
Thornback ray	<i>Raja clavata</i>						8		2			10		
Thorny skate	<i>Amblyraja radiata</i>						1		3			4		
Spurdog	<i>Squalus acanthias</i>			1					2			3		
Pollack	<i>Pollachius pollachius</i>				1				10	1		12		
Tusk	<i>Brosme brosme</i>								3			3		
Ling	<i>Molva molva</i>	3					30	3		36				
Total Q1 2025:				446	409	218	665	43	368	5	0	2154		

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

#### **ToR 1: Update the data format description in the RCG stomach sampling manual to match the updated ICES stomach database format.**

During 2023 and 2024, the ICES stomach content data base (<https://stomachdata.ices.dk>) was revised and the data format was updated. For this reason, the format description in the RCG at-sea sampling manual and the RCG laboratory stomach analysis manual ([https://www.fisheries-rcg.eu/wp-content/uploads/2023/08/2023\\_RCG-NANSEA-RCG-Baltic-TM\\_Rpt-Part-III.pdf](https://www.fisheries-rcg.eu/wp-content/uploads/2023/08/2023_RCG-NANSEA-RCG-Baltic-TM_Rpt-Part-III.pdf)) had to be adapted. Both manuals were updated and are available as Annex 1 and 2.

A discrepancy between RCG laboratory stomach analysis manual and ICES database was notably identified for the scale quantifying the level of digestion. ICES database rates the stomachs from 0 to 2, with 0 is an undigested prey, and 2 a largely digested prey, while this group use a scale from 1 to 3, 0 being for net feeding preys.

Note: The RCG stomach sampling and analysis manuals can be used in the versions given in Annex 1 and 2 of this report but will be further updated during the technical meeting in Lysekil, Sweden.

#### **ToR 2: Communicate with WGSAM on the end-user needs / define the needs and the purpose of the data**

ISSG Stomach chairs had some email exchanges with WGSAM chairs, but so far nothing more. A request was made to organize a meeting between the chairs of the two groups, but this was not successful due to conflicting agendas. It will be necessary to discuss their needs as end-users regarding data format and their actual use of data in multi-species assessment models. This could be an incentive for the integration of stomach analyses as a mandatory task (see the point below in the discussion about the ToR 4 “Update of the regional work plan”).

#### **ToR 3: Update the reference period for the expected stomachs (new reference period: 2019 to 2023) and update the expected stomach numbers by species over the 5-year rolling scheme**

Up to today, the expected numbers of stomach samples for the nations participating in the quarter 1 (q1) and quarter 3 (q3) International Bottom Trawl Survey (IBTS) was based on the reference period 2015 to 2019. For a more accurate assessment of the samples currently expected per quarter, nation and species, it was necessary to update the reference period. To do this, the relevant IBTS data for 2019 to 2023 was downloaded from ICES DATRAS database and used according to the theoretical evaluation and sampling routines as described in RCG NA NS&EA RCG Baltic 2021 – Part III (chapter 15), sampling 2 stomachs per 5 cm length class for the “main” species. The less abundant species (“minor” species) were sampled on every occasion based on sampling routine. For the estimation of the expected stomach samples, the elasmobranchs (sharks, rays and skates) were only sampled when the assessment of the specimen was that it was dying and the probability of survival was evaluated as being low. Based on a review paper of Ellis et al. 2017 on the capture and post-release mortality of elasmobranchs, we estimated the numbers of expected stomachs from elasmobranchs based on a mortality rate of 10%.

The number of expected stomach samples decreased or remained at the same level for most main species compared to the 2015 to 2019 reference period. The exception was haddock, where the numbers of expected stomach samples increased using the new reference period 2019 to 2023 (Table 13. 2). The total numbers of expected samples per year range from approx. 3100 stomachs in year 2 sampling cod, horse mackerel and the minor species to approx. 5500 stomachs in year 4 sampling haddock, mackerel and the minor species.

Currently (year 2025), we are in year 4 of the 5-year rolling scheme (Table 13. 2), sampling Haddock and Atlantic mackerel as main species and additionally the minor species and elasmobranchs.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

**Table 14. 2.** Updated numbers of the 5-year rolling RCG stomach sampling plan based on the new reference period 2019 to 2023.

Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor*)	Sum of all stomachs per year and nation (Main + Minor*)
1	1	Whiting	1653	1	505	4135
	3		1293			
	1	Anglerfish	13			
	3		28			
	1	Megrin	55	3	469	
	3		120			
2	1	Cod	697	1	505	3117
	3		743			
	1	Horse mackerel	164	3	469	
	3		540			
3	1	Hake	205	1	505	3442
	3		322			
	1	Plaice	982	3	469	
	3		960			
4	1	Haddock	1502	1	505	5504
	3		1426			
	1	Mackerel	587	3	469	
	3		1016			
5	1	Saithe	181	1	505	3908
	3		431			
	1	Red gurnard	130			
	3		49			
	1	Grey Gurnard	1124	3	469	
	3		1020			

\* Minor species: Turbot, Brill, Atlantic halibut, Pollack, Tusk, Ling, Tub gurnard, elasmobranchs (Starry ray, Cuckoo ray, Thornback ray, Common skate-complex, Spurdog, Tope).

The expected numbers by IBTS participating countries range from a minimum of 174 stomachs for France in year 2 (France only participates in IBTS q1) to 1419 stomachs for Scotland in year 4 (Table 13. 3; Scotland participates in both IBTS q1 and q3).

The overview of the expected stomach sample numbers by country over the 5-year rolling sampling plan is available as Annex 3.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

**Table 14. 3.** Updated numbers of the 5-year rolling RCG stomach sampling plan by country based on the new reference period 2019 to 2023.

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)						
Denmark	I	1	Whiting	156	1	13	412						
		3		179									
		1	Anglerfish	0				3	64				
		3		1									
		1	Megrim	0									
		3		0									
England	I	3	Whiting	313	3	97	447						
		3	Anglerfish	9									
		3	Megrim	30									
France	I	1	Whiting	249	1	104	354						
		1	Anglerfish	1									
		1	Megrim	0									
Germany	I	1	Whiting	377	1	44	569						
		3		84									
		1	Anglerfish	4				3	43				
		3		0									
		1	Megrim	18									
		3		0									
Netherlands	I	1	Whiting	231	1	104	336						
		1	Anglerfish	2									
		1	Megrim	0									
Norway	I	1	Whiting	208	1	31	577						
		3		212									
		1	Anglerfish	2				3	64				
		3		2									
		1	Megrim	19									
		3		40									
Scotland	I	1	Whiting	257	1	80	936						
		3		384									
		1	Anglerfish	3				3	131				
		3		13									
		1	Megrim	18									
		3		50									
Sweden	I	1	Whiting	176	1	129	503						

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)		
		3	Anglerfish	123	3	71			
		1		1					
		3		5					
		1	Megrin	0					
		3		0					
Denmark	2	1	Cod	39	1	13	274		
		3		60					
		1	Horse mackerel	6				3	64
		3		92					
England	2	3	Cod	160	3	97	388		
		3	Horse mackerel	132					
France	2	1	Cod	35	1	104	174		
		1	Horse mackerel	35					
Germany	2	1	Cod	159	1	44	320		
		3		11					
		1	Horse mackerel	25				3	43
		3		39					
Netherlands	2	1	Cod	38	1	104	174		
		1	Horse mackerel	33					
Norway	2	1	Cod	110	1	31	486		
		3		171					
		1	Horse mackerel	21				3	64
		3		90					
Scotland	2	1	Cod	116	1	80	691		
		3		200					
		1	Horse mackerel	17				3	131
		3		147					
Sweden	2	1	Cod	200	1	129	610		
		3		142					
		1	Horse mackerel	28				3	71
		3		41					
Denmark	3	1	Hake	5	1	13	447		
		3		22					
		1	Plaice	130				3	64
		3		213					

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
England	3	3	Hake	53	3	97	361
		3	Plaice	212			
France	3	1	Hake	0	1	104	306
		1	Plaice	202			
Germany	3	1	Hake	61	1	44	410
		3		1			
		1	Plaice	147	3	43	
		3		115			
Netherlands	3	1	Hake	0	1	104	285
		1	Plaice	182			
Norway	3	1	Hake	42	1	31	325
		3		78			
		1	Plaice	48	3	64	
		3		63			
Scotland	3	1	Hake	39	1	80	705
		3		79			
		1	Plaice	136	3	131	
		3		242			
Sweden	3	1	Hake	58	1	129	602
		3		91			
		1	Plaice	139	3	71	
		3		115			
Denmark	4	1	Haddock	149	1	13	567
		3		141			
		1	Mackerel	30	3	64	
		3		171			
England	4	3	Haddock	353	3	97	677
		3	Mackerel	228			
France	4	1	Haddock	117	1	104	279
		1	Mackerel	58			
Germany	4	1	Haddock	421	1	44	819
		3		69			
		1	Mackerel	157	3	43	
		3		87			
Netherlands	4	1	Haddock	112	1	104	282
		1	Mackerel	66			

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
Norway	4	1	Haddock	240	1	31	850
		3		268			
		1	Mackerel	109	3	64	
		3		140			
Scotland	4	1	Haddock	327	1	80	1419
		3		477			
		1	Mackerel	119	3	131	
		3		286			
Sweden	4	1	Haddock	138	1	129	611
		3		120			
		1	Mackerel	49	3	71	
		3		105			
Denmark	5	1	Saithe	3	1	13	373
		3		7			
		1	Red gurnard	0	3	64	
		3		4			
		1	Grey Gurnard	121	3	64	
		3		161			
England	5	3	Saithe	93	3	97	450
		3	Red gurnard	8			
		3	Grey gurnard	253			
France	5	1	Saithe	1	1	104	266
		1	Red gurnard	14			
		1	Grey gurnard	147			
Germany	5	1	Saithe	67	1	44	577
		3		8			
		1	Red gurnard	26	3	43	
		3		0			
		1	Grey Gurnard	289	3	43	
		3		101			
Netherlands	5	1	Saithe	1	1	104	255
		1	Red gurnard	19			
		1	Grey gurnard	131			
Norway	5	1	Saithe	69	1	31	645
		3	Red gurnard	171			
		1	Red gurnard	2			

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
		3		1	3	64	
		1	Grey Gurnard	165			
		3	Grey Gurnard	144			
Scotland	5	1	Saithe	5	1	80	877
		3	Saithe	81			
		1	Red gurnard	69			
		3	Red gurnard	37			
		1	Grey Gurnard	185			
		3	Grey Gurnard	290			
Sweden	5	1	Saithe	36	1	129	465
		3	Saithe	72			
		1	Red gurnard	0			
		3	Red gurnard	0			
		1	Grey Gurnard	86			
		3	Grey Gurnard	72			

\* Minor species: Turbot, Brill, Atlantic halibut, Pollack, Tusk, Ling, Tub gurnard, elasmobranchs (Starry ray, Cuckoo ray, Thornback ray, Common skate-complex, Spurdog, Tope).

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#### ToR 4: Potential updates of RWPs to be finalized in 2026 for RWPs 2028-2030

The ISSG on Regional Work Plans (RWP) submitted a request to our group to discuss and elaborate on specific questions and food for thought regarding the future of the ISSG Stomach sampling in the light of potential updates of the RWPs 2028 – 2030:

#### What are the challenges for the ISSG?

- The work and the decisions taken have direct implications on the participating EU countries, but have no impact on third countries (UK, Norway), participating in the surveys. This is particularly critical for a sufficient coverage of the North Sea region. If the third countries decide not to participate, then this whole stomach sampling program would be incomplete.
- So far, only sampling the stomachs is mandatory in the regional work plan, but not analysing the stomachs and uploading the resulting data to the ICES data base. This may cause a challenge for the end-users to have access to a complete data set for selected predatory fish species.
- The end-users need to be more involved and should be challenged to use the data and provide feedback on the importance of such data. This would also help in making the analyses of the stomachs and the upload of the results of the analyses mandatory.

#### New areas to identify?

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

- It was discussed whether this question was referring to geographical areas or rather thematic areas. If this question would refer to geographical areas, the Bay of Biscay was identified as a promising area for a regionally coordinated stomach sampling program. A new thematic area was not identified.

#### *What do we want to achieve in our work by the end of 2030?*

- The aim is to have well-functioning regionally coordinated stomach programs in several areas of the North Atlantic (North Sea, Baltic Sea, Bay of Biscay...), where all components (stomach sampling, analyses, data upload, data usage by end-users, communication, funding) are defined, agreed, organized and funding guaranteed.
- The coordination of the programs should be intensified. Setting up intercalibration workshops on the stomach content analysis, similar to what is done for otolith reading, would be a priority, to ensure the quality and the comparability of results produced by different countries.

#### *Where can we benefit from regional cooperation?*

- Benefits of regional cooperation: standardization of methods, eco-region level analysis of consistent/comparable data sets allows more robust assessment of the state and trends of trophic relationships and a better management of the fisheries resources in the Northeast Atlantic accordingly.

#### *Do the areas currently identified, need to stay?*

- Since the thematic area of this ISSG is the development and realization of regionally coordinated stomach sampling programs in different geographical areas, the answer was “yes”, this thematic area needs to stay.
- Additionally, the group discussed on the species list of the North Sea stomach sampling program and how the species list can evolve, whether all species are needed in the sampling or if important predatory species are missing. The conclusion was to assess the results of the sampling program at the end of the 5-year sampling scheme and make conclusions and amendments on the program with regards to the species list and stomach numbers to sample if necessary.

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#### *Do we still need this ISSG?*

- The unanimous opinion on this question was yes!

#### *Report back to RWP ISSG on 25 March 2025*

#### **Ideas on actions**

- Organize an intercalibration meeting/workshop on best practice of stomach sampling analysis.
- Incorporate the stomach analysis and data upload to the ICES data base into the upcoming RWP.

#### ***Inclusion of “cool stuff”***

- The discussion on new and innovative sampling and analysis ended without a concrete result.

#### **ToR 5: Work on a regional stomach sampling and analysis plan for the Baltic Sea.**

Max Lindmark and Karolina Wikström (SLU, Sweden) presented their work on the effects of reduced stomach sampling in Baltic cod. This work was conducted in the light of the discussion and recommendation during the meeting of the ISSG Stomach sampling on the cod stomach sampling program in the Baltic Sea in 2024. The recommendation elaborated from the ISSG was to reduce the sampling of cod during the Baltic International

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling

Trawl Survey (BITS) from originally sampling one cod stomach per cm length class on every haul every year, to randomly sample one haul per ICES rectangle with one cod per cm length class.

#### *Effects of reduced stomach sampling on standardized indices of relative predation*

March 2025

Max Lindmark, Karolina Wikström

To evaluate the implications of changing sampling design for standardized indices stomach content data, we conducted a simulation experiment. The experiment is similar to the approach in Anderson et al (2023), and can be described as follows:

1. Assume that all data collected between 1993–2023 was the status quo scenario.
2. Fit spatiotemporal models (Anderson et al., 2024; Lindmark et al., 2025) to individual-level relative prey weight (ratio of prey weight to predator weight) to 5 key prey groups.
3. Estimate area-expanded indices of relative prey weight for these prey groups
4. Define four alternative sampling strategies. For each scenario, randomly subsample the data, assuming that sampling strategy was in place in the entire time series.
5. Replicate previous step 1000 times.
6. For each of the 1000 samples, and for each sampling strategy, refit the same spatiotemporal model and estimate the area-expanded index of predation in the spatial domain.
7. Evaluate how much the coefficient of variation of the annual indices ( $CV_t = \sqrt{\exp(SE_t^2) - 1}$ , where  $SE_t$  is the standard error of the model-based annual index in year t) increase relative to the status quo indices on average over the 30 year time series, for each prey group.

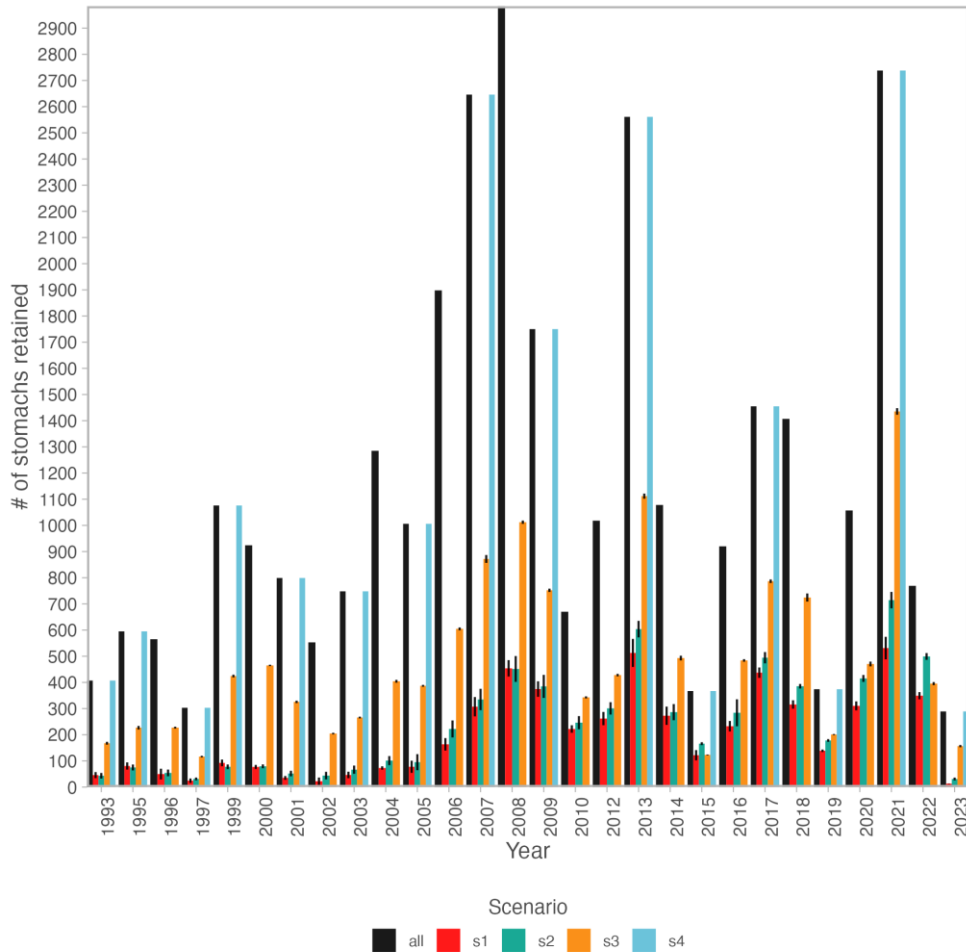
The alternative sampling strategies considered where:

1. S1: One random haul per ICES rectangle, one fish per cm class
2. S2: One random haul per ICES rectangle and strata, one fish per cm class
3. S3: All hauls, two fish from each 5-cm class
4. S4: Current method, i.e. all hauls, one fish per cm-class, but sampling only every other year

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

I4. ISSG Regionally Coordinated Stomach Sampling

Figure 14. 1. Number of stomachs retained in the status quo scenario (black) and the alternative sampling strategies.

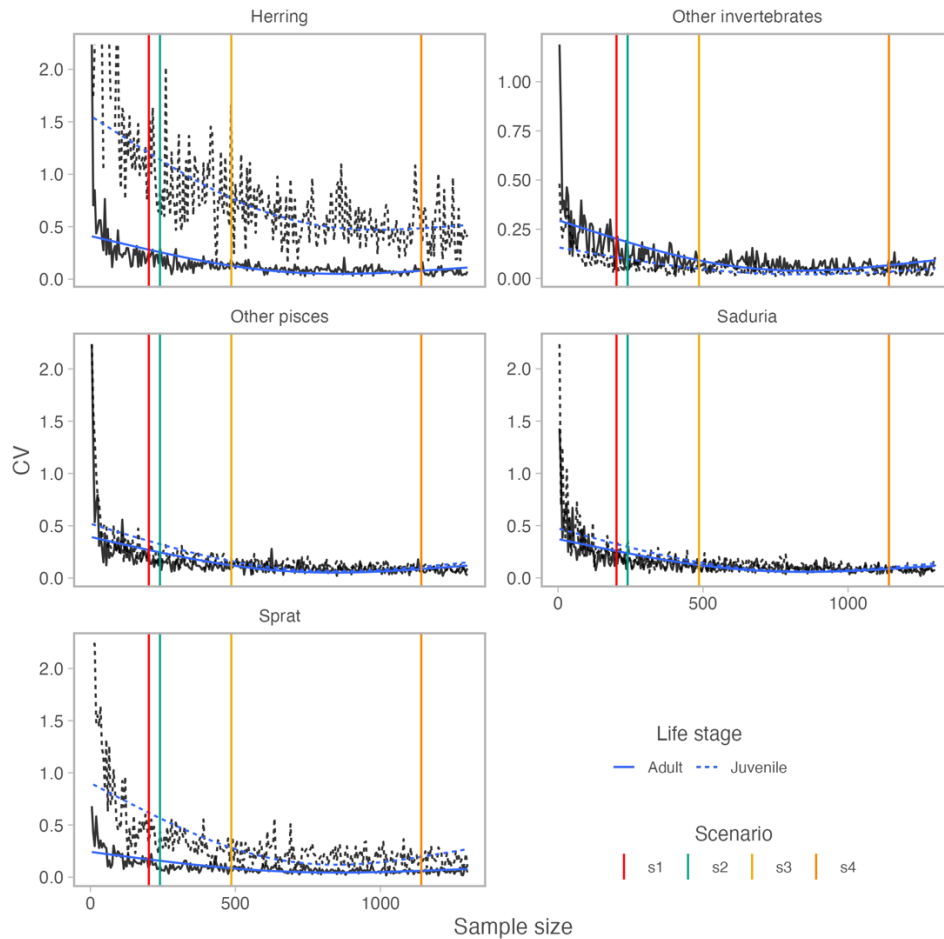


Sampling strategy S1 and S2 result in the lowest sample size, with the number of samples being 5–50% of the status quo. S3 results in more even number of samples by year, with values between 30–55%. S4 results in 50% of data retained, since every other year, it becomes the status quo (Fig. 13.1). The coefficient of variation declines as more samples are taken, but the rate of the decline differs between adults and juveniles, but mainly between prey groups (Fig. 13.2). Partly this is due to the ontogenetic diet shift of cod, because for example the CV (in this case, the ratio of standard deviation to the mean relative prey weight) declines very slowly for juvenile cod feeding on herring, which are not a big part of their diet. It is also clear that scenario S1 and S2, with relatively low sample sizes, in many cases are on the descending part of the CV slope, while strategy S4 results in sample sizes that are well on the flat part of the curve, where the CV has stabilized (Fig. 13.2)

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

I4. ISSG Regionally Coordinated Stomach Sampling

**Figure I4. 2.** Relationship between coefficient of variation of the relative prey weight and the sample size for adults (solid) and juveniles (dotted line) separately. The average sample size of each sampling strategy is indicated with vertical lines.



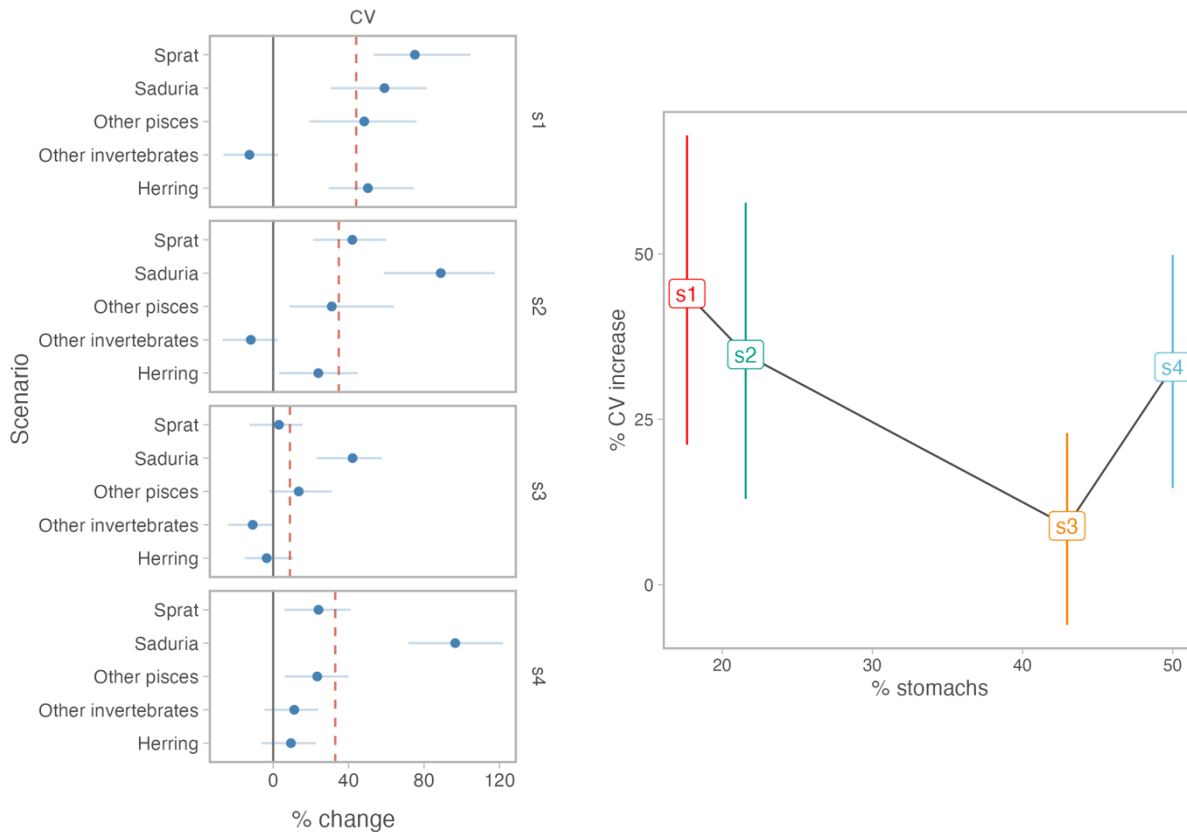
We find that the percent increase in CV varies considerable between prey groups (Fig. 13.3), with Saduria generally seeing large increases in CV, while “Other invertebrates” generally see an increased precision (but note the interval overlaps 0). On average across all prey groups, the precision loss from reduced sampling is smallest in scenario S3 (Fig. 13.3).

In summary, sampling strategy S3 (all hauls, two fish from each 5-cm class) balances loss of precision with a reduction in sampling intensity. On average, one could expect an increase in the CV of 10–12%, while only 40% of stomachs sampled today would be retained. However, the experiment also shows large variability between prey groups. Therefore, it is important that sampling strategies align with research and management goals.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling

**Figure 14.3.** Left: Percent increase in CV of the annual index (blue points and horizontal lines depicting the interquartile range) for each prey group (y-axis) for all sampling strategies (rows). The solid line depicts 0 (no change), and the vertical red dashed line



### References

Anderson, S. C. et al. (2024) Impacts on population indices if scientific surveys are excluded from marine protected areas. ICES Journal of Marine Science fsae009 doi:[10.1093/icesjms/fsae009](https://doi.org/10.1093/icesjms/fsae009).

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### Additional discussions / Miscellaneous

#### Future chairing and internal democracy

One discussion point about the chairing of the group was raised by the chairs. Pierre Cresson and Matthias Bernreuther have been chairing the group since 2020, and they are not willing to monopolize the chairing forever. They are also not aware of the rules regarding duration of chairing.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling

They proposed to engage a discussion about this matter with RCG secretariat. As 2027 will be the first year of the second rolling scheme, it could be an opportunity to promote another person as a co-chair for the group. This should be discussed during 2025/2026 intersessional work cycle.

#### *Stomach sampling contact group*

As stated above, a request was made to the IBTSWG to identify a focal or contact person for stomach sampling in the North Sea, for improving the information and exchange possibilities regarding stomach sampling, analyses, data submission and potential changes or problems with the sampling or funding of the sampling.

Currently, names for this stomach sampling contact group from every IBTS participating country are being compiled. A similar list is also to be compiled for the Baltic Sea.

#### Roadmap/follow-up

##### Future tasks

- Coordinate the stomach sampling program and the stomach content analyses in the North and Baltic Seas.
- Start planning a workshop to intercalibrate and compare stomach contents analysis methods between all the countries involved in the collection and analysis program.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling

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\* Chairs

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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling

#### References

- Ellis, J.R., McCully Phillips, S. R. & Poisson, F. (2017). A review of capture and post-release mortality of elasmobranchs. *Journal of Fish Biology* 90, 653–722.
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- Robb, A.P. (1992). Changes in the gall bladder of whiting (*Merlangius merlangus*) in relation to recent feeding history. *ICES J. Mar. Sci.* 49, 431-436.

Annex I. Step-by-step at-sea sampling manual



DCF Regional Coordination Group North Atlantic, North Sea, and Eastern Arctic (RCG NANSEA) + Baltic (RCG Baltic)

- At-sea Stomach sampling manual -

General

- Stomachs should be selected randomly within 5-cm groups but can be taken from fish sampled for maturity and age determination. The stomachs are frozen individually in plastic bags together with a label describing the sampled fish. Only predators larger than or equal to 15 cm should be sampled as fish below this size are generally not piscivorous. Deviations from this rule could apply to e.g. Atlantic mackerel and Horse mackerel, which may feed on fish larvae and post-larvae at sizes smaller than 15 cm total length (Table 1).
- **For practical reasons, it is strongly recommended to use the length grouping of the IBTS otolith sampling in order to optimize the sampling process and minimize the time required per sample (length groupings: 16 – 20.99 cm total length, TL, 21 – 25.99 cm TL, ....).**
- Data are recorded in the ICES exchange format on the labels used for year, quarter, ship and haul consistent with those used for haul information uploaded to DATRAS (Table 2 and 3). This assures accessibility of further haul details if necessary.
- Note: All photographs were taken by Karolina Wikström (SLU) who owns the copyright.

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Selection of stomachs at sea

The preferred selection of stomachs should be based on the following stomach classification:

1. *Everted stomach*. Some fish have everted stomachs due to the pressure difference between trawling depth and the surface of the sea. Since it is not known whether these stomachs contained food or not, such ones should not be sampled.
2. *Stomach showing evidence of regurgitation*. Some fish have regurgitated all or part of their stomach contents and these stomachs should not be sampled. The number of such stomachs encountered during the examination must however be recorded to ensure that the proportion of feeding fish in the sample is accurately defined. In practice, it is often difficult to tell whether regurgitation has taken place, except in situations of prey remains in mouth or pharynx.
3. *Non-everted stomach showing no evidence of regurgitation* – with or without contents – should be sampled. It should be noted that not all feeding fish have significantly distended stomachs, i.e. feeding does not necessarily mean full.
4. *Empty stomach* is included in the category *Non-everted Stomach of a fish showing no evidence of regurgitation*.

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### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

The stomachs sampled at sea should thus originate from feeding fish showing no evidence of regurgitation (category 3) and from non-feeding fish (empty stomachs; category 4). The sampling should continue until at least two stomachs classified in one of these two categories per length class are obtained.

#### Step-by-step picture sampling guide

##### *Protocol for stomach sampling at sea*

Step 1. Collect predators according to the sampling scheme elaborated for each sea area and predator species (in this case North Sea, Skagerrak and Kattegat; Table 1).

Step 2. Do not sample everted stomachs -> Look into the mouth, if you see the stomach or parts of it, do not sample!

Step 3. Check the individual predators for evidence of regurgitation -> Look into the mouth. If you see prey or prey remains in mouth or pharynx, do not sample, but remember to record them. However, if you see perfectly fresh prey in mouth or esophagus, this could indicate net feeding, and this “prey” should be removed, and the stomach can be sampled.

Step 4. Measure total length below (cm), weigh the fish (in g) and register the information (and the relevant subsequent information) either on paper protocol or in national on-board data system.



Step 5. Stun the fish by a blow to the head and kill it with a cut through the throat. Continue to cut until the esophagus is severed (Fig. 1).

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I



Figure 2



Step 6. Cut the ventral side from throat to anus, but not through it, using knife or scissors (Fig. 2). By keeping the fish on its right side (looking into the abdominal cavity from the left side) the gall bladder is exposed to the viewer which facilitates the stomach removal process.

Step 7. Open the fish and determine the sex and (optionally) the maturity stage.

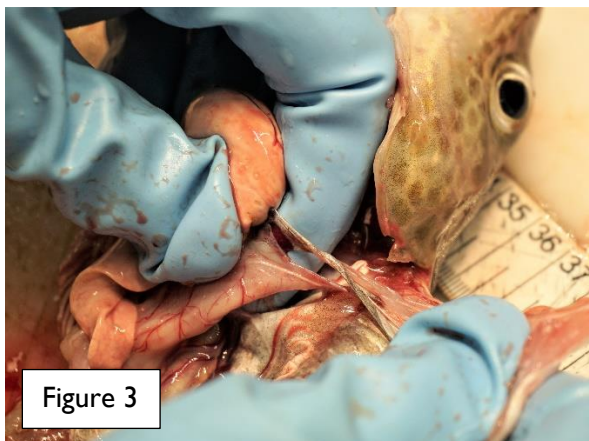
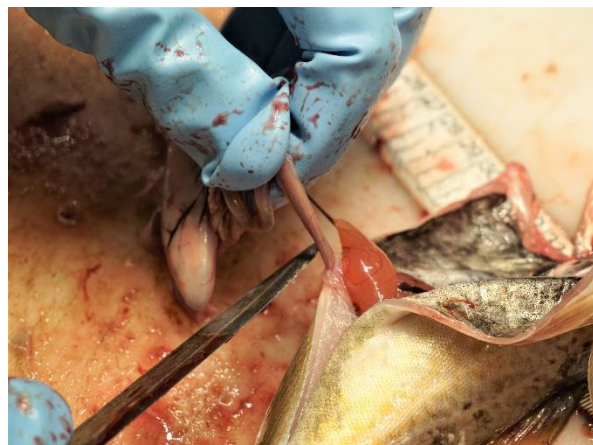


Figure 3



Step 8. The esophagus should already be cut through (or almost), but the liver is still attached to the dorsal side of the fish. Cut or tare the connective tissue to remove it (Fig. 3). Remove intestinal package from the body cavity and cut the colon close to the anus. If the colon is full of runny substance the anus can be left attached to the colon as a natural clamp to keep the contents contained. Gonads should not stay attached to the intestinal package but should be removed from the fish (if they are large and will significantly impact the gutted weight).

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I



Step 9. Carefully cut the liver off the intestinal package, and make sure to leave the gallbladder intact and still attached to the intestinal package (Fig. 4). Note the gallbladder stage (1-4, Table 4, Fig. 1). However, reporting the gallbladder status is not mandatory, but may be useful for gadoids. Place the intestinal package in a labelled plastic bag. Collect all stomachs from the same species and haul in a larger bag and freeze it quickly.



Step 10. Remove heart and gonads from the fish (if not done previously) and note the gutted fish weight (Fig. 5). The kidney should not be removed. Collect otoliths and store in a labelled paper bag.

***For flatfishes (steps 1 to 4 identical to round fishes):***

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I 4. ISSG Regionally Coordinated Stomach Sampling – Annex I



Figure 6



Step 5. Kill the fish before starting the dissection by using a blow to the head. Make a small incision between the ventral fin and the anus to allow for easier access, using knife/scalpel or scissors. Be careful not to cut through the anus. Cut along the abdominal cavity to access the stomach (Fig. 6).

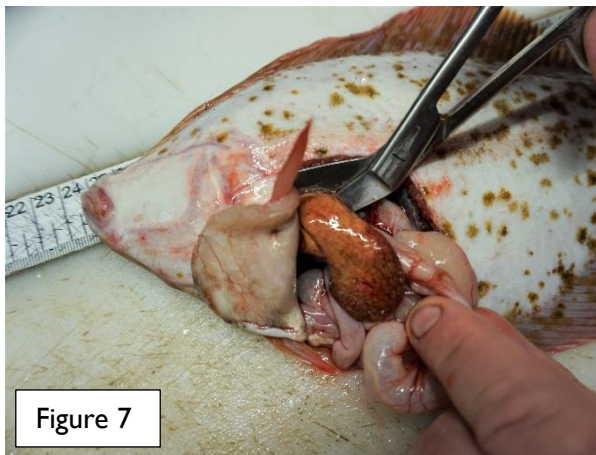


Figure 7



Step 6. Sever esophagus and the connective tissue to the liver (Fig. 7).

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

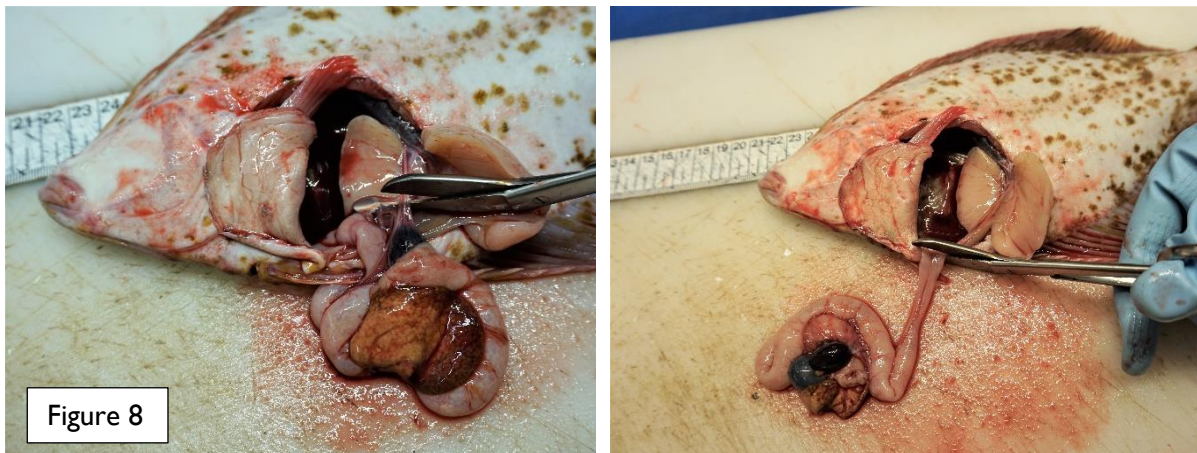


Figure 8

Step 7. Flip the intestinal package out and cut the connective tissue to the gall bladder and the colon close to the anus (Fig. 8). If the colon is full of runny substance the anus can be left attached to the colon as a natural clamp to keep the contents contained.



Figure 9

Step 8. Cut the connective tissue to the liver to remove it, careful not to damage the gallbladder (Fig. 9). Note the gallbladder stage (1-4, Table 4, Figure 1). However, reporting the gallbladder stage is not mandatory. Place the intestinal package in a labelled plastic bag. Collect all stomachs from the same species and haul in a larger bag and freeze it quickly.

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I



Step 9. Be aware: For flatfishes, the gonads are left in the body when noting the gutted weight (Fig. 10).

#### Additional information:

- For minor species (Table 1) it is mandatory to measure length, weight and determine sex (determining maturity, measuring liver weights and taking otoliths for age reading is optional).
- Either analyse the stomach contents at the laboratory or send the frozen stomachs to the stomach analysis centre (SAC) upon arrival (have to be established!).
- It is recommended that the predator (and prey) species are recorded using WORMS' AphiaID codes (<http://www.marinespecies.org/aphia.php>).
- Fallback option: In case of time constraints, entire fish can be frozen, and the sample bags should be labelled accordingly (Table 2).

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#### Tables

**Table 1.** Updated 5-year rolling sampling plan (November 2022)

Year	Quarter	Species	"Minor" species sampled each year	Species to be sampled opportunistically each year (dead specimens; live specimens are generally released)
1	1	Whiting	Turbot	Starry ray
	3			Cuckoo ray
	1	Anglerfish	Pollack	Thornback ray
	3			Spotted ray
	1	Megrin	Tusk	Common skate-complex
	3			
2	1	Cod	Ling	Common skate-complex
	3			

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	1	Horse Mackerel	Tub gurnard	Spurdog  Tope  Halibut
	3			
3	1	Hake		
	3			
	1	Plaice		
	3			
4	1	Haddock		
	3			
	1	Mackerel		
	3			
5	1	Saithe		
	3			
	1	Red gurnard		
	3			
	1	Grey gurnard		
	3			

**Table 2.** Label to be included in each stomach bag

Ship + Cruise/survey-No.

Station/haul number

Date

Species

Total body length (cm)

Wet weight (g)

Sample ID

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

**Table 3.** ICES data exchange format for stomach data (<https://www.ices.dk/data/data-portals/Pages/Stomach-content.aspx>). Note: The code lists in column 4 are available on the ICES-website.

#### FI – File\_information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description
1	RecordType	char(2)		yes	Record type	
2	Country	char(2)	ISO_3166	yes	Country code based on the ISO 3166 standard -	Country of the organisation responsible for data collection and storage
3	Reporting_organisation	char(6)	EDMO	yes	EDMO code of the reporting organisation	
4	CruiseID	char(20)		yes	CruiseID	- Unique cruise ID in the format: Country + EDMO code + Ship code+ year (DA219526D42021)

#### HH – Haul Information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
1	RecordType	char(2)		yes	Record type	
2	Ship	char(4)	SHIPC	yes	SeaDataNet ship code	
3	Gear	char(15)	SMTYP	yes	Sampling gear used	
4	HaulNo	int(6)		yes	Haul number	- sequential numbering by cruise
5	StationNumber	char(10)		yes	Station number by national coding system	
6	Year	char(4)		yes	Year of the cruise	
7	Month	int(2)		yes	Month of the cruise	
8	Day	int(2)		yes	Day of the haul	
9	Time	char(4)		yes	Shooting time (UTC)	(HHMM), 4 digits. E.g. 10:15=1015
10	ShootLat	decimal4(8)		yes	Shoot of gear latitude	
11	ShootLong	decimal4(9)		yes	Shoot of gear longitude	
12	HaulLat	decimal4(8)		no	Haul latitude	
13	HaulLong	decimal4(9)		no	Haul longitude	
14	ICESrectangle	char(4)	StatRec	no	ICES statistical rectangle of the sampling location	
15	Depth	int(4)		no	Average depth during trawling	

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
16	Survey	char(20)		no	Survey code (ICES survey codes) or project name	
17	ICESDatabase	char(1)	YesNoFields	no	Catch and biological data available in other ICES databases, e.g. DATRAS or Acoustic -	Yes or No field
18	Notes	char(100)		no	Any additional information	

#### PI – Predator Information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
1	RecordType	char(2)		yes	Record type	
2	Ship	char(4)	SHIPC	yes	SeaDataNet ship code	
3	Gear	char(15)	SMTYP	yes	Sampling gear used	
4	HaulNo	int(6)		yes	Haul number	- sequential numbering by cruise
5	StationNumber	char(10)		yes	Station number by national coding system	
6	Year	char(4)		yes	Year of the cruise	
7	Month	int(2)		yes	Month of the cruise	
8	Day	int(2)		yes	Day of the haul	
9	Time	char(4)		yes	Shooting time (UTC)	(HHMM), 4 digits. E.g. 10:15=1015
10	FishID	char(20)		yes	Unique fish identification number for predator	
11	AphiaIDPredator	int(10)		yes	WoRMS AphiaID Species reference code of predator	
12	IndWgt	float(5)		no	Weight of predator in grams	

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
13	Number	int(2)		no	Number of species taken for stomach analyses (pooled samples)	
14	MeasurementIncrement	float(2)		no	Measurement increment in cm	
15	Length	float(10)		no	Length of species	
16	AgeSource	char(10)	AGDET	yes	Age reading source material	
17	Age	int(2)		no	Age of predator	
18	Sex	char(1)	SEXCO	no	Sex of predator	
19	MaturityScale	char(6)	AC_MaturityScale	no	Maturity scale	
20	MaturityStage	char(4)	AC_MaturityCode	no	Maturity stage within chosen maturity scale	
21	PreservationMethod	char(8)		no	Storage/preservation method at the time of sampling -	Insert the storage/preservation method used according to ICES vocabulary METST/METFP.
22	Regurgitated	int(4)		no	Number of stomachs regurgitated	
23	StomachFullness	char(1)	StomachFullness	no	Stomach fullness scale	
24	FullStomWgt	float(6)		no	Weight of stomach with prey	
25	EmptyStomWgt	float(6)		no	Weight of stomach without prey	
26	StomachEmpty	int(6)		no	Number of empty stomachs in the sample	
27	GenSamp	char(1)	YesNoFields	no	Stomach content analysed using genetics - Yes or No	
28	Notes	char(100)		no	Any additional information	

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

#### PP – Prey Information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
1	RecordType	char(2)		yes	Record type	
2	Ship	char(4)	SHIPC	yes	SeaDataNet ship code	
3	Gear	char(15)	SMTYP	yes	Sampling gear used	
4	HaulNo	int(6)		yes	Haul number	- sequential numbering by cruise
5	StationNumber	char(10)		yes	Station number by national coding system	
6	Year	char(4)		yes	Year of the cruise	
7	Month	int(2)		yes	Month of the cruise	
8	Day	int(2)		yes	Day of the haul	
9	Time	char(4)		yes	Shooting time (UTC)	(HHMM), 4 digits. E.g. 10:15=1015
10	FishID	char(20)		yes	Unique fish identification number for predator	
11	AphialDPredator	int(10)		yes	WoRMS AphialD Species reference code of predator	
12	AphialDPrey	int(10)		no	WoRMS AphialD Species reference code of prey	
13	IdentMet	char(10)		no	Prey species identification method -	Insert the identification method used according to ICES vocabulary METOA/SampleType.
14	DigestionStage	int(1)	DigestionStage	no	Stage of digestion	

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex I

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
					of prey items	
15	GravMethod	char(5)	PARAM	no	Gravimetric method used	
16	SubFactor	decimal4(9)		no	Subsampling factor	- report 1 if the whole catch was analysed, or report a raising factor if only a part of the catch was analysed.
17	PreySequence	char(10)		yes	Unique prey sequence ID number	
18	Count	int(8)		no	Number of prey	
19	UnitWgt	char(6)	MUNIT	no	Unit of weight measurement	
20	Weight	float(8)		no	Weight, individual or grouped	
21	UnitLngt	char(6)	MUNIT	no	Unit of length measurement	
22	Length	float(10)		no	Length of species	
23	OtherItems	char(100)		no	Other items descriptor	
24	OtherCount	int(10)		no	Number of other items	
25	OtherWgt	float(6)		no	Weight of other items in grams	
26	AnalysingOrg	varchar(6)	EDMO	yes	EDMO code of the organisation in charge of analysing stomach samples	
27	Notes	char(100)		no	Any additional	

RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

14. ISSG Regionally Coordinated Stomach Sampling – Annex I

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
					information	

**Table 4.** Condition of gall bladder, bile and hindgut, which can be used to differentiate between empty and regurgitated stomachs (from Robb 1992).

Stage	Gall bladder	Bile colour	Hind gut	State
1	Shrunken, empty or with small amount of bile	Pale	Contains large amounts of bile and digested food material	Feeding*
2	Elongate	Pale green to light emerald green	Contains some bile and digested food particles	Feeding*
3	Elongate	Dark green	Empty or contains some food particles	Empty
4	Round	Dark blue	Empty	Empty

\*NB: If fish satisfying these criteria are found without food in their stomach, they should be classified as regurgitated

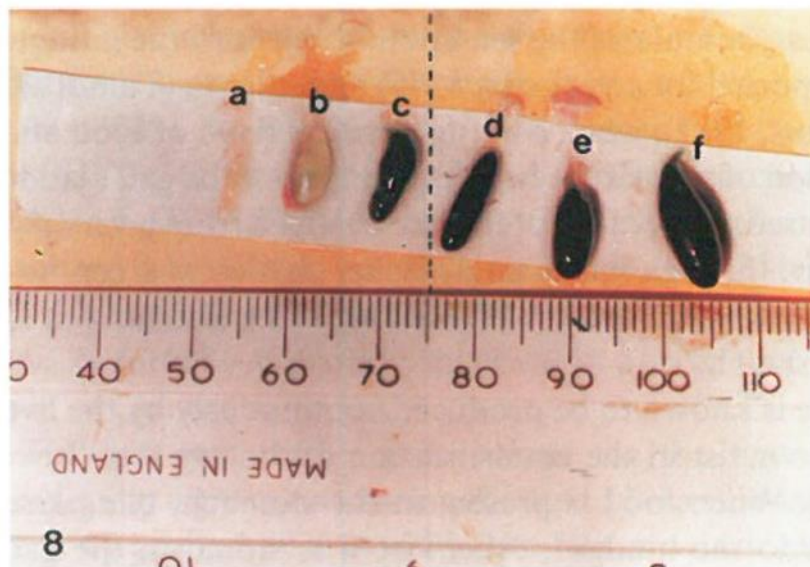


Figure 1. Different gallbladder stages of whiting, indicating a-c feeding fish and d-f non-feeding fish (from: Robb, A.P. (1992). Changes in the gall bladder of whiting (*Merlangius merlangus*) in relation to recent feeding history. ICES J. Mar. Sci. 49, 431-436)

**Annex 2. Step-by-step laboratory stomach analysis manual**



**Regional Coordination Group**  
North Atlantic  
North Sea & Eastern Arctic



**Regional Coordination Group**  
Baltic

**DCF Regional Coordination Group North Atlantic, North Sea, and Eastern Arctic (RCG NANSEA) + Baltic (RCG Baltic)**

**- Laboratory Stomach Analysis Manual -**

***Step-by-Step - Laboratory Stomach Analysis Manual***

**A - Sample Treatment**

Sample types:

- a) Deep frozen stomach
- b) Deep frozen whole fish

Defrost only small numbers of samples because all defrosted samples have to be analysed fast and must not be frozen again!

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**B - Sample information**

Variable names and table sections correspond to protocol below called “DCF Stomach Analysis Protocol” (Table I).

- Every predator fish gets its own Stomach Analysis Record
  - > Record No: 1 of 1
- If there is a need for a second Stomach Analysis Record, due to high numbers of different prey types:
  - > Record No: 2 of 2
- Name of the analysing person
  - > Analysed by: Tom Brady
- Date of first analysis
  - > e.g. Date: 12.02.2022
- Transfer the Sample Card to the Stomach Analysis Record (cross-check with the sampling information from the Station Logs, if available)

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 2

<b>DCF Stomach Analysis</b>			Date :		Analysed by :			Reocrd No:	
<b>Sample information</b>	Vessel	Cruise-No.	Survey	Sampling Date	Station #	Haul #	Gear	Fish	Stomach

- Vessel  
-> G.O. SARS, etc.
- Cruise-No.  
-> Cruise number, e.g. 45 or 22/06
- Survey  
-> use ICES DATRAS acronym (+ quarter if appropriate), e.g. NS-IBTS Q3
- Sampling Date  
-> ddmmyyyy
- Station #  
-> Station number, e.g. 256
- Haul #  
-> Haul number, e.g. 4
- Gear  
-> e.g. GOV, Kabeljauhopper, etc.
- Fish  
-> tick if the sample is the entire fish
- Stomach  
-> tick if the sample is only the stomach

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#### **C - Predator information**

When the sample type is only the stomach, transfer the length and weight values from the onboard sampling protocol.

<b>Predator information</b>	Species								
	Fish ID	Total length (cm)	Predator weight (g)	Gutted weight (g)					

- Species  
-> Predator species in LATIN, e.g. *Gadus morhua*
- Fish ID  
-> use national or survey-specific numbering.
- Total length (cm below). NOTE: if other length measurement is conducted, please indicate.  
-> Total length of predator, accuracy to the nearest cm below.
- Predator weight (g)  
-> Total wet weight of predator, accuracy: 0.1 g
- Gutted weight (g)  
-> Gutted weight of predator, accuracy: 0.1 g, Gutted = remove all organs in the abdominal cavity

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 2

#### **D - Stomach information**

Stomach information	Full stomach weight (g)	Empty stomach weight (g)	Stomach content weight (g)	Stomach Full / Empty

- Full stomach weight (g)
  - > First remove all adherent water with a paper tissue, then weigh the stomach. Preferred weight accuracy: 0.001 g
- Empty stomach weight (g)
  - > Remove stomach content with tweezers and/or the use of water, then weigh the stomach wall. Preferred weight accuracy: 0.001 g
- Stomach content weight (g)
  - > Calculate difference between full and empty stomach (this should preferably be done at a later stage at the computer)
- **Be aware: It is also possible to skip the last three work steps and estimate the total stomach content by adding up the weights of all different prey species or types in the stomach!**
- Stomach Full / Empty
  - > Code to categorise Full / Empty Stomachs
    - 1 = Stomach is empty/or regurgitated
    - 2 = So little content that it is not visible prior to opening the
    - 3 = Content easily visible prior to opening, but stomach is not full
    - 4 = Stomach is full, but not stretched
    - 5 = Stomach is full and stretched thin

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#### **E - Prey information**

Prey information	Stomach ID	Nematodes:		Measurement type	Prey weight (g)	Comments
		Prey Numbers	Prey Size (mm)			
Species / Taxon	Digestion stage					

- Stomach ID (often identical to Fish ID)

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 2

#### ➤ Nematodes

-> Number of nematodes in the stomach

Semi quantitative scale:

- 0 = 0 nematodes
- + = up to 10
- ++ = up to 50
- +++ = over 50

#### ➤ Species / Taxon

-> Fish prey (and relevant invertebrates, Table 2) should be identified to the most detailed level possible (species). Invertebrates are identified to at least larger taxon (mandatory) or if feasible to more detailed (e.g. genus or species) taxon (optional) (see Table Prey Codes in Table 2). All prey species are recorded using WoRMS' AphiaID codes (<http://www.marinespecies.org/aphia.php>).

#### ➤ Digestion Stage (0 – 2 for fish and invertebrates)

-> 0 = Body intact, shiny eyes, body surface at least partially with scales, species easy to identify (FISH); intact prey, species easy to identify (INVERTEBRATES)

1 = Body cavity opened, Head partly digested, Nothing or little left of the body cavity, Spine with muscle tissue, species or groups may be identified (FISH); Partially digested prey, species or groups may be identified (INVERTEBRATES)

2 = Exclusively spine and also other skeletal remains and/or otoliths, only remnants of main groups of prey can be identified (FISH); skeletal material/remains only (INVERTEBRATES)

#### ➤ Prey Numbers

-> Count all fish species and invertebrates (Table 2). Number of fish prey or relevant invertebrate prey organisms (Table 2) with identical digestion stages and sizes!

#### ➤ Prey Size (mm)

-> Measure size only if prey organism is complete (different length measurement types in table below).

- Fish: Total length, TL, below in mm (or Standard length if TL is not possible)
- Crab: Carapace width in mm
- Shrimp: Distance between bases of rostrum and uropods in mm
- Isopod (*Saduria entomon*): Total length (excl. antennae)

#### ➤ Measurement type

-> Indicate what was measured, e.g. Total length (TL), Standard length (SL), etc.

Prey group	Length measured	Code
Vertebrata	Total length from snout to end of tail fin	TL
	Standard length from snout to basis of tail fin	SL
Crustacea	Total length of small crustaceans like and intact <i>Nephrops</i> , shrimps, prawns and <i>Saduria entomon</i> .	TL
	Carapace width of crabs	CW

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling – Annex 2

Cephalopoda	Mantle length	ML
	Beak length in the case of advanced digestion stage.	BL
Others	Total length of complete specimens	TL

➤ Prey weight (g)

-> Digestion stage 0

Individual mass of prey items; Preferred accuracy: 0.001g

-> Digestion stages (1+2)

Weight of group of the same taxon within the same digestion stage; accuracy: Preferred 0.001g

➤ Data are recorded in the ICES exchange format (Table 3).

**Annex 2. Tables**

**Table I. DCF Stomach Analysis Protocol**

<b>DCF Stomach Analysis</b>		Date :		Analysed by :				Reocrd No:	
<b>Sample information</b>	Vessel	Cruise-No.	Survey	Sampling Date	Station #	Haul #	Gear	Fish	Stomach
<b>Predator information</b>	Species	Fish ID		Total length (cm)	Predator weight (g)	Gutted weight (g)			
<b>Stomach information</b>	Full stomach weight (g)	Empty stomach weight (g)	Stomach content weight (g)		Stomach Full / Empty				
<b>Prey information</b>	Stomach ID	Nematodes:							
Species / Taxon	Digestion stage	Prey Numbers	Prey Size (mm)	Measurement type	Prey weight (g)	Comments			

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 2

**Table 2.** Prey codes (Aphia ID)

Taxonomic level	Prey group	Code
Phylum	Ctenophora	1248
Phylum	Cnidaria	1267
Phylum	Annelida	882
Species	<i>Aphrodita aculeata</i> (sea mouse)	231869
Phylum	Mollusca	51
Class	Gastropoda	101
Species	<i>Buccinum undatum</i> (common whelk)	138878
Class	Bivalvia	105
Species	<i>Aequipecten opercularis</i> (queen scallop)	140687
Species	<i>Pecten maximus</i> (king scallop)	140712
Class	Cephalopoda	11707
Phylum	Echinodermata	1806
Phylum	Arthropoda	1065
Subphylum	Crustacea	1066
Order	Mysida	149668
Order	Euphausiacea	1128
Order	Isopoda	1131
Species	<i>Saduria entomon</i>	293511
Order	Amphipoda	1135
Order	Decapoda	1130
Infraorder	Caridea	106674
Family	Crangonidae	106782
Species	<i>Crangon crangon</i> (brown shrimp)	107552
Family	Palaemonidae	106788
Species	<i>Palaemon adspersus</i> (Baltic prawn)	107613
Species	<i>Pandalus borealis</i> (northern prawn)	107649
Infraorder	Astacidea	106672
Species	<i>Nephrops norvegicus</i> (Norway lobster)	107254
Infraorder	Brachyura	106673
Species	<i>Cancer pagurus</i> (edible crab)	107276
Infraorder	Anomura	106671
Species	<i>Pagurus bernhardus</i> (hermit crab)	107232
	Other invertebrates	9990
	Plastic	9991
	Litter other than plastic	9992

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### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 2

**Table 3.** ICES data exchange format for stomach data (<https://www.ices.dk/data/data-portals/Pages/Stomach-content.aspx>). Note: The code lists in column 4 are available on the ICES-webpage.

#### FI – File\_information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description
1	RecordType	char(2)		yes	Record type	
2	Country	char(2)	ISO_3166	yes	Country code based on the ISO 3166 standard -	Country of the organisation responsible for data collection and storage
3	Reporting_organisation	char(6)	EDMO	yes	EDMO code of the reporting organisation	
4	CruiseID	char(20)		yes	CruiseID	- Unique cruise ID in the format: Country + EDMO code + Ship code+ year (DA219526D42021)

#### HH – Haul Information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
1	RecordType	char(2)		yes	Record type	
2	Ship	char(4)	SHIPC	yes	SeaDataNet ship code	
3	Gear	char(15)	SMTYP	yes	Sampling gear used	
4	HaulNo	int(6)		yes	Haul number	- sequential numbering by cruise
5	StationNumber	char(10)		yes	Station number by national coding system	
6	Year	char(4)		yes	Year of the cruise	
7	Month	int(2)		yes	Month of the cruise	
8	Day	int(2)		yes	Day of the haul	
9	Time	char(4)		yes	Shooting time (UTC)	(HHMM), 4 digits. E.g. 10:15=1015
10	ShootLat	decimal4(8)		yes	Shoot of gear latitude	
11	ShootLong	decimal4(9)		yes	Shoot of gear longitude	
12	HaulLat	decimal4(8)		no	Haul latitude	
13	HaulLong	decimal4(9)		no	Haul longitude	
14	ICESrectangle	char(4)	StatRec	no	ICES statistical rectangle of the sampling location	
15	Depth	int(4)		no	Average depth during trawling	
16	Survey	char(20)		no	Survey code (ICES survey codes) or project name	
17	ICESDatabase	char(1)	YesNoFields	no	Catch and biological data available in other ICES databases, e.g DATRAS or Acoustic -	Yes or No field

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Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
18	Notes	char(100)		no	Any additional information	

#### PI – Predator information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
1	RecordType	char(2)		yes	Record type	
2	Ship	char(4)	SHIPC	yes	SeaDataNet ship code	
3	Gear	char(15)	SMTYP	yes	Sampling gear used	
4	HaulNo	int(6)		yes	Haul number	- sequential numbering by cruise
5	StationNumber	char(10)		yes	Station number by national coding system	
6	Year	char(4)		yes	Year of the cruise	
7	Month	int(2)		yes	Month of the cruise	
8	Day	int(2)		yes	Day of the haul	
9	Time	char(4)		yes	Shooting time (UTC)	(HHMM), 4 digits. E.g. 10:15=1015
10	FishID	char(20)		yes	Unique fish identification number for predator	
11	AphialDPredator	int(10)		yes	WoRMS AphialD Species reference code of predator	
12	IndWgt	float(5)		no	Weight of predator in grams	
13	Number	int(2)		no	Number of species taken for stomach analyses (pooled samples)	
14	MeasurementIncrement	float(2)		no	Measurement increment in cm	
15	Length	float(10)		no	Length of species	
16	AgeSource	char(10)	AGDET	yes	Age reading source material	

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Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
17	Age	int(2)		no	Age of predator	
18	Sex	char(1)	SEXCO	no	Sex of predator	
19	MaturityScale	char(6)	AC_MaturityScale	no	Maturity scale	
20	MaturityStage	char(4)	AC_MaturityCode	no	Maturity stage within chosen maturity scale	
21	PreservationMethod	char(8)		no	Storage/preservation method at the time of sampling -	Insert the storage/preservation method used according to ICES vocabulary METST/METFP.
22	Regurgitated	int(4)		no	Number of stomachs regurgitated	
23	StomachFullness	char(1)	StomachFullness	no	Stomach fullness scale	
24	FullStomWgt	float(6)		no	Weight of stomach with prey	
25	EmptyStomWgt	float(6)		no	Weight of stomach without prey	
26	StomachEmpty	int(6)		no	Number of empty stomachs in the sample	
27	GenSamp	char(1)	YesNoFields	no	Stomach content analysed using genetics - Yes or No	
28	Notes	char(100)		no	Any additional information	

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### PP – Prey Information

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
1	RecordType	char(2)		yes	Record type	
2	Ship	char(4)	SHIPC	yes	SeaDataNet ship code	
3	Gear	char(15)	SMTYP	yes	Sampling gear used	
4	HaulNo	int(6)		yes	Haul number	- sequential numbering by cruise
5	StationNumber	char(10)		yes	Station number by	

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### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 2

Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
					national coding system	
6	Year	char(4)		yes	Year of the cruise	
7	Month	int(2)		yes	Month of the cruise	
8	Day	int(2)		yes	Day of the haul	
9	Time	char(4)		yes	Shooting time (UTC)	(HHMM), 4 digits. E.g. 10:15=1015
10	FishID	char(20)		yes	Unique fish identification number for predator	
11	AphialDPredator	int(10)		yes	WoRMS AphialD Species reference code of predator	
12	AphialDPrey	int(10)		no	WoRMS AphialD Species reference code of prey	
13	IdentMet	char(10)		no	Prey species identification method -	Insert the identification method used according to ICES vocabulary METOA/SampleType.
14	DigestionStage	int(1)	DigestionStage	no	Stage of digestion of prey items	
15	GravMethod	char(5)	PARAM	no	Gravimetric method used	
16	SubFactor	decimal4(9)		no	Subsampling factor	- report 1 if the whole catch was analysed or report a raising factor if only a part of the catch was analysed.
17	PreySequence	char(10)		yes	Unique prey sequence ID number	
18	Count	int(8)		no	Number of prey	
19	UnitWgt	char(6)	MUNIT	no	Unit of weight	

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Start	FieldCode	Datatype	Code List	Mandatory	Header	Description / Additional Information
					measur ment	
20	Weight	float(8)		no	Weight, individual or grouped	
21	UnitLngt	char(6)	MUNIT	no	Unit of length measureme nt	
22	Length	float(10)		no	Length of species	
23	OtherItems	char(100)		no	Other items descriptor	
24	OtherCount	int(10)		no	Number of other items	
25	OtherWgt	float(6)		no	Weight of other items in grams	
26	AnalysingOrg	varchar(6)	EDMO	yes	EDMO code of the organisatio n in charge of analysing stomach samples	
27	Notes	char(100)		no	Any additional informatio n	

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 3

**Annex 3. Updated numbers of the 5-year rolling RCG stomach sampling plan based on the new reference period 2019 to 2023. Numbers presented by participating country.**

#### a) Denmark (IBTS Q1 and Q3)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)		
Denmark	1	1	Whiting	156	1	13	412		
		3		179					
		1	Anglerfish	0					
		3		1					
		1	Megrin	0				3	64
		3		0					
Denmark	2	1	Cod	39	1	13	274		
		3		60					
		1	Horse mackerel	6					
		3		92					
Denmark	3	1	Hake	5	1	13	447		
		3		22					
		1	Plaice	130					
		3		213					
Denmark	4	1	Haddock	149	1	13	567		
		3		141					
		1	Mackerel	30					
		3		171					
Denmark	5	1	Saithe	3	1	13	373		
		3		7					
		1	Red gurnard	0					
		3		4					
		1	Grey Gurnard	121				3	64
		3		161					

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#### b) England (IBTS Q3)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
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### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 3

<b>England</b>	1	3	Whiting	313	3	97	447
		3	Anglerfish	9			
		3	Megrim	30			
<b>England</b>	2	3	Cod	160	3	97	388
		3	Horse mackerel	132			
<b>England</b>	3	3	Hake	53	3	97	361
		3	Plaice	212			
<b>England</b>	4	3	Haddock	353	3	97	677
		3	Mackerel	228			
<b>England</b>	5	3	Saithe	93	3	97	450
		3	Red gurnard	8			
		3	Grey gurnard	253			

#### c) France (IBTS Q1)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
<b>France</b>	1	1	Whiting	249	1	104	354
		1	Anglerfish	1			
		1	Megrim	0			
<b>France</b>	2	1	Cod	35	1	104	174
		1	Horse mackerel	35			
<b>France</b>	3	1	Hake	0	1	104	306
		1	Plaice	202			
<b>France</b>	4	1	Haddock	117	1	104	279
		1	Mackerel	58			
<b>France</b>	5	1	Saithe	1	1	104	266
		1	Red gurnard	14			
		1	Grey gurnard	147			

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#### d) Germany (IBTS Q1 and Q3)

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Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)				
Germany	1	1	Whiting	377	1	44	569				
		3		84							
		1	Anglerfish	4				3	43		
		3		0							
		1	Megrin	18						3	43
		3		0							
Germany	2	1	Cod	159	1	44	320				
		3		11							
		1	Horse mackerel	25				3	43		
		3		39							
Germany	3	1	Hake	61	1	44	410				
		3		1							
		1	Plaice	147				3	43		
		3		115							
Germany	4	1	Haddock	421	1	44	819				
		3		69							
		1	Mackerel	157				3	43		
		3		87							
Germany	5	1	Saithe	67	1	44	577				
		3		8							
		1	Red gurnard	26				3	43		
		3		0							
		1	Grey Gurnard	289						3	43
		3		101							

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#### e) The Netherlands (IBTS Q1)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
Netherlands	1	1	Whiting	231	1	104	336
		1	Anglerfish	2			
		1	Megrin	0			
Netherlands	2	1	Cod	38	1	104	174

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### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 3

		I	Horse mackerel	32.5			
Netherlands	3	I	Hake	0	I	104	285
		I	Plaice	182			
Netherlands	4	I	Haddock	112	I	104	282
		I	Mackerel	66			
Netherlands	5	I	Saithe	1	I	104	255
		I	Red gurnard	19			
		I	Grey gurnard	131			

#### f) Norway (IBTS Q1 and Q3)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)				
Norway	1	I	Whiting	208	I	31	577				
		3		212							
		I	Anglerfish	2				3	64		
		3		2							
		I	Megrim	19						3	64
		3		40							
Norway	2	I	Cod	110	I	31	486				
		3		171							
		I	Horse mackerel	21				3	64		
		3		90							
Norway	3	I	Hake	42	I	31	325				
		3		78							
		I	Plaice	48				3	64		
		3		63							
Norway	4	I	Haddock	240	I	31	850				
		3		268							
		I	Mackerel	109				3	64		
		3		140							
Norway	5	I	Saithe	69	I	31	645				
		3		171							
		I	Red gurnard	2				3	64		
		3		1							
		I	Grey Gurnard	165						3	64
		3		144							

## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 3

#### g) Scotland (IBTS Q1 and Q3)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)				
Scotland	1	1	Whiting	257	1	80	936				
		3		384							
		1	Anglerfish	3				3	131		
		3		13							
		1	Megrin	18						3	131
		3		50							
Scotland	2	1	Cod	116	1	80	691				
		3		200							
		1	Horse mackerel	17				3	131		
		3		147							
Scotland	3	1	Hake	39	1	80	705				
		3		79							
		1	Plaice	136				3	131		
		3		242							
Scotland	4	1	Haddock	327	1	80	1419				
		3		477							
		1	Mackerel	119				3	131		
		3		286							
Scotland	5	1	Saithe	5	1	80	877				
		3		81							
		1	Red gurnard	69				3	131		
		3		37							
		1	Grey Gurnard	185						3	131
		3		290							

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#### h) Sweden (IBTS Q1 and Q3)

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
Sweden	1	1	Whiting	176	1	129	503
		3		123			

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### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 3

Nation	Year	Quarter	Main species	expected number of stomachs (Main)	Quarter	expected number of stomachs (Minor)	Sum of all stomachs per year and nation (Main + Minor)
		1	Anglerfish	1	3	71	
		3		5			
		1	Megrin	0			
		3		0			
Sweden	2	1	Cod	200	1	129	610
		3		142			
		1	Horse mackerel	28			
		3		41			
Sweden	3	1	Hake	58	1	129	602
		3		91			
		1	Plaice	139			
		3		115			
Sweden	4	1	Haddock	138	1	129	611
		3		120			
		1	Mackerel	49			
		3		105			
Sweden	5	1	Saithe	36	1	129	465
		3		72			
		1	Red gurnard	0			
		3		0			
		1	Grey Gurnard	86	3	71	
		3		72			



## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling – Annex 4

#### Annex 4. Minutes from the ISSG “Stomach sampling” virtual meeting 20 March 2025.

##### Participants

Chairs: Pierre Cresson (FR), Matthias Bernreuther (DEU)

Karolina Wikström (SWE), Max Lindmark (SWE), Kai Wieland (DK), Sieto Verver (NL), Athanasios Geropoulos (GRE), Margarita Venslovaitė (LT), Antonios Geropoulos (GR), Léa Joly (FR), Clémence Couvreur (Fr), Rémy Cordier (Fr), Joanna Pawlak (POL), Marzenna Pachur (POL), Ralf van Hal (NL), Aare Verliin (EE), Hugo Mendes (PRT), Susana Garrido (PRT)

Deadline for comments on the draft report: April 30

Introduction of all participants

##### 09:20-10:15 TORs I - 3

##### *ToR 1: Short presentation on updated sampling manual*

2 questions came up doing this work

-> dry or wet weight in the database - wet weight in Poland and so Sweden, France, Greece, Germany

Ask ICES contact person to add a field in the database to specify the type of weigh - Adding a field is not that simple

- Discussion on digestion stages
- ➔ discrepancy in digestion stages (0,1,2 for ICES; 1,2, 3 for us, but 0 is for net feeding)
- Discussed in the group 2 years ago notably for Poland but they do not use 0 for invertebrates
- Germany use ICES scale
- Karolina: what type of identification (visual or magnification) - what type of fish measurement (total/standard length, gutted weighed) <- no such fields in the ICES data base format
- Also, no auto flagging for errors in length (mm/cm)
- Ask ICES to change their scale because already uploaded data would be wrong and to transform????
- Add the ICES scale in the manual???

##### *ToR 2: Outcome of the meeting with WGSAM chairs*

Some exchange with WGSAM but they are busy and hard to catch - so far not so much. To be done

RvH: did they use the data from the sampling program? MB: rumours of use but to be confirmed

RvH: pretty old data, recent one to be uploaded

Max: doubt they use data because no recent data was uploaded - who will be uploading the data

RvH: Cinea data has to be uploaded. part is there but no obligations, even to analyse the stomach

MB: discussion with chairs on when to upload the data





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling – Annex 4

#### **ToR 3: Presentation of expected stomachs with new reference period**

The updated numbers for most target species are lower, some species with similar numbers, haddock increase ==> total number declined in all year but year 4.

To get the numbers by year and country: check the report on the SharePoint.

Information on expected/actual numbers is useful, but numbers wrote in the preliminary table are still used to estimate budgets so having good numbers is still useful.

10:15-10:30 Coffee break

10:30-11:15 **TOR 4: Potential updates of RWPs to be finalized in 2026 for RWPs 2028-2030**

See the chapter on Tor 4 above!

#### **11:15-12:00 Information flow**

- Tour de table in 2024 and 2025 sampling and analyses: How did it go for you? Did you face some difficulties?

Germany/Matthias: sampling went well - part-time technician analysing stomachs. Most of the samples are analysed, late in uploading but to be done in May potentially. Sampling program is not a problem, fall back if not enough time freezing fishes. Up and running.

Analyses show that in Q1 the Mackerels almost empty, few crustaceans.

DK/Kai: a lot of mackerel and haddock in Q3 too much individuals - mackerels almost all empty

NL/Ralf: similar story, sampling on board not an issue, haddock ~700 estimated /~1000 actually; issue with determining regurgitation - lot of empty stomachs in winter or benthic organism - issue with the small number of fish items in the stomachs to be measured. The same for haddock eating mostly benthic organism

--> was inclusion of mackerel Q1 a good idea?

SWE/Karolina: 2024 all intended species were collected. 1/3 of hakes with everted stomachs -> out of the sampling. Miscommunication between stomach and IBTS groups-> mackerel was not in the IBTS manual and so not sampled, but few mackerels and out of few size groups so not a big issue; will be taken during Q3

BITS: did not follow the new recommendation but 1 stomach/cm/haul; oversample but can analyse less stomachs.

FRA/Pierre: mackerel and haddock collected during Q1: a lot! Trouble with collecting mac otoliths, took time! Discussion on harmonization of stomach and otolith sampling - it would be very feasible to sample otoliths and stomach on same fish. Algorithm "decides" which fish to sample for what. Content analyses have not started yet from 2025 samples.

POL/Joanna: cod in the Baltic in 2025; turbot in previous years; analysed, no difficulties with sampling on board, analyses went well - more benthic organisms than sprat or herring.





## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### 14. ISSG Regionally Coordinated Stomach Sampling – Annex 4

SCO/Ralf: 2 weeks on the RV Scotia - collected stomachs of minor species (turbot, other ones) not collected the main species because they have no funding for freezing it. Not analysing yet, looking to do so or send it somewhere else.

Update on numbers of stomachs collected and analysed

2024 Q1 and 2023 Q3 available in the IBTSWG report.

But numbers not included in DATRAS so is an issue. There is a "stomach" column in DATRAS, but not all countries are using it. To be discussed during IBTSWG

Request from this group to the IBTSWG could be to make the use of this column mandatory. Matthias will join IBTSWG and will encourage members to use this column and this should become mandatory. Would help IBTS coordinators to report the numbers.

RCG NANSEA Baltic is another way to encourage this action through an official demand from the RCG chairs.

#### 12:00-13:00 Lunch break

#### 13:00-14:00 *TOR 5 – Stomach sampling plan for the Baltic Sea*

See chapter on Tor 5 for background information and presentation of modelling work.

Minutes:

Agreement with WGBIFS to start Q4 sampling?

Karolina: small group decided to reduce the number of stomachs in the Baltic. Sweden thought it was not correct. If stomachs to be reduced, to be done correctly to keep enough info -> Max did the analysis and test sampling design to reduce the numbers of sample but conserve enough data for end user but not only keep in mind the will of person doing the onboard sampling.

Max: use the actual dataset, subsample in it and see what change

looking at the coefficient of variation

Sampling strategies: (1) 1 haul per rectangle, 1 fish per cm per haul (2) 1 random haul per rectangle and depth strata, 1 fish per cm per haul / (3) All hauls, 2 fish per 5-cm size class/ (4) Same as now: all haul, 1 individual per cm but only every other year

Scenario 1 was the one recommended during the Baltic meeting.

Sc1&2 -> 40% higher variation

Scenario 3: low increase, U shape pattern - scenario 4 a lot of stomachs but the CV also increase

40% less stomachs but with a limited loss of information

MB: change of protocol, was it a decision or a recommendation?

Karolina: strong recommendation, and do it directly; no idea if other countries did it

Max presentation at the BIFS WG

Karolina: who would be the end user of data collected in the Baltic?



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## RCG NANSEA AND RCG BALTIC 2025 REPORT - Part III

### I4. ISSG Regionally Coordinated Stomach Sampling – Annex 4

Karolina: what do we do now? Do we stick to the new or old protocol?

The topic will be discussed during the BIFS meeting as we cannot reach a decision here. But the fact that this meeting cannot reach a formal decision on it.

#### **14:00-14:15 Coffee break**

14:15-15:00 Democracy and the future

- Pierre and Matthias have been chairs of this ISSG for some years now
- o Do we need a change in the chairmanship?
- o Volunteers?

Ask the secretariat if rules exist on this question.

Make this point known by all members and organize a consultation on it.

#### **Next steps**

Open questions

Karolina: discrepancy in the size class

Kai and Matthias: ok to apply the otoliths size class - and update the stomach manual

Report writing – SharePoint (first draft: ~ 28 March on SharePoint - deadline for comments: 30 April)

Deadline for ISSG report: 1 May 2025

15:00 End of the meeting

General comments during the meeting:

Karolina W: one meeting a year is not enough

Kai: not enough money from EU- we need to prioritize - sampling is mandatory but not the numbers nor the analysis but we can collect one stomach and say the job is done

Sieto: end user needs is the major driver

Embrace on technical advancement

Organize intercalibration workshops on stomach analysis for quality assurance

What if we use the same protocol than otoliths? All fish have otoliths, but not all stomachs are full. But an empty stomach is a result. Is this result useful for WGSAM?

Length groups: adopt otoliths length group definition to simplify sampling -> 2025 TOR?