

# BALTIC Regional Coordination Group

## Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017

on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008 (recast).

## Commission Delegated Decision (EU) 2021/1167 of 16 July 2021

establishing the multiannual Union programme for the collection and management of biological, environmental, technical and socioeconomic data in the fisheries and aquaculture sectors from 2022

## Commission Implementing Decision (EU) 2021/1168 of 16 July 2021

establishing the list of mandatory research surveys at sea and thresholds as part of the multiannual Union programme for the collection and management of data in the fisheries and aquaculture sectors from 2022

# **BALTIC Regional Work Plan for data collection in the fisheries sectors**

**2025-2027**

Version 1 (to be discussed at RCG Baltic 2023)

2023/MM/DD

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## SECTION 1: GENERAL INFORMATION

### Data collection framework at regional level

*General comment: Use this text box to describe how data collection is organised in the Region (countries involved, contact information)*

This document and the related set of tables form the Regional Work Plan for the period 2025-2027 prepared by RCG Baltic. These two documents contain only elements of data collection which are regionally coordinated and were agreed at RCG Baltic. All coordination initiatives that are under development can be found on the RCG internet webpage (<https://www.fisheries-rcg.eu/level-of-ambitions/>).

The countries contributing to the data collection activities in the Baltic region are Denmark, Sweden, Finland, Latvia, Estonia, Lithuania, Poland, Germany.

The RWP Baltic 2025-2027 contains the following textboxes and tables:

- **Section 1: General information**
  - Textbox 1A: Test studies description
  - Textbox 1B: Other data collection activities
    - Table 1.2: Regional and International coordination
    - Table 1.3: Bilateral and multilateral agreements
- **Section 2: Biological data**
  - Table 2.1: List of required species/stocks
  - An addition of a control table is proposed for countries to compare declared landings in the RDB and in EUROSTAT; this is only for information purpose.
  - Textbox 2.3: Diadromous species data collection in freshwater
  - Textbox 2.4: Recreational fisheries
  - Textbox 2.5: Sampling plan description for biological data
    - Table 2.5: Sampling plan description for biological data
  - Textbox 2.6: Surveys at sea
    - Table 2.6: Surveys-at-sea
- **Section 3: Fishing activity data**
  - Textbox 3.1: Fishing activity variables data collection strategy
  - Textbox 3.2: Fishing activity variables data collection strategy (for inland eel commercial fisheries)
- **Annex 1.1: Quality report for biological data sampling scheme**
  - Baltic SPF regional

#### Process for filling NWP

As a general rule, the information relevant to a given country (use the filter on the column MS to select your country) in the tables need to be copied and paste to the relevant tables of the NWP. The information given in textboxes and annexes are to be referenced in the relevant textboxes and/or tables of the NWP and should not be duplicated. Specificities regarding some Tables and Text boxes are given as follows:

Table 1.3 (bilateral and multilateral agreements), the agreements listed are a compilation of the available agreements presented in the National Workplans and relevant for the Baltic region. MS should check if the agreements are valid for 2025-27 RWP and if more agreements need to be included in this table.

Table 2.1 (list of required stocks), is not currently available but planned to be included in the RWP 2025-27 with the most recent reference years, i.e. 2020-2022. The work initiated in Fishn'Co, for the RWP Baltic test run 2022, has continued and is about to be finalised in a tool ([https://github.com/ices-eg/RCGs/tree/master/NWPtools/table\\_2\\_1](https://github.com/ices-eg/RCGs/tree/master/NWPtools/table_2_1)) which will enable full transparency and easiness of maintenance and implementation.

Textbox 2.6 (research surveys at sea), the information given in the RWP relates to the internationally coordinated elements of the surveys. The National specificities and the relevant Annexes 1.1 remain to be described in MS NWP.

Table 2.6 (research surveys at sea), only the number of days are given; All other quantitative indicators remain to be presented in MS NWP.

### **Text Box 1a: Test studies description**

*General comment: This text box fulfils Chapter II, section 1.2 of the EU MAP Delegated Decision annex. This text box applies to the work plan and the annual report.*

The following case studies are still under development and not expected to be finalised at the start of the 2025-2027 3-year period. They are given here as information for preparing the ground for future updates of the RWP.

#### **PETS, Harbour porpoise (*Phocoena phocoena*) bycatch case study**

##### 1. Aim of the test study

A first meeting was held during 2022 by experts from the different institutes involved in this case study. Although the objective was to discuss all issues related to bycatch in the Baltic, the main focus is on the harbour porpoise. In this meeting first actions and decision were taken to improve this coordination and work will continue over the coming months in the Baltic sub-group set up for this purpose in connection with ICES/WGBYC and ICES/WKPETSAMP.

##### 2. Duration of the test study

To be confirmed. Case study in early stages of development.

##### 3. Methodology and expected outcomes of the test study

To be confirmed. Case study in early stages of development.

#### **Baltic cod (*Gadus morhua*) marine recreational fisheries sampling**

##### 1. Aim of the test study

Work is already underway by several MS (Denmark, Germany and Sweden) that share this stock, so that data collected from marine recreational fisheries can be incorporated into the assessment groups. Work continues in a coordinated manner by these MS, with the aim of improving the collection of data from this stock and

also its quality.

2. Duration of the test study

To be confirmed. Case study in early stages of development.

3. Methodology and expected outcomes of the test study

To be confirmed. Case study in early stages of development.

**Assessment of the relative risk of bycatch for the different gear types and/or metiers**

Within the FishPi projects<sup>1</sup> and adopting the methodology used by the ICES WGBYC group (ICES 2022), a first assessment was carried out, identifying the fishing gears with the highest risk of PETS bycatch, and adding the sampling coverage of these fisheries. This assessment has been updated by the ISSG PETS in recent years. In addition, the ICES WGBYC group has also been working on this risk assessment, introducing improvements, including the potential risk of each of the species groups or PETS species at high risk of overlap in each of the ecoregions both temporally and spatially, crossing the effort exerted by the different fisheries in those ecoregions.

This assessment makes it possible to identify the high-risk fisheries from PETS bycatch, but also the coverage of these fisheries, taking into account the effort exerted by these fisheries. The information obtained through this assessment at regional level should allow the RCGs to identify which are the main fisheries that should be sampled at regional level based on the needs of the main end-users.

*[Note] During the RCG 2023 technical meeting, the high-risk fisheries by ecoregion and by species or group of PETS species will be presented. The aim is for the RCG to be able to identify the fisheries that need to be targeted and to be able to prioritise sampling programmes based on the needs of the main end-users. Currently, there is already a table identifying the most high-risk fisheries by ecoregion, their sampling coverage and recommendations on which fisheries should be increased in terms of sampling effort and which may be oversampled (ICES 2023).*

**Text Box 1b: Other data collection related activities**

*General comment: This text box applies to the work plan and the annual report. Use this text box to provide information on other data collection activities that relate to your EMFAF operational programme and need to be included in the work plan and the annual report. Describe activities that are funded by the DCF but fulfil objectives under other EMFAF priorities, like marine knowledge, or activities funded by the DCF, but without a direct link to the EU MAP specific requirements or WP template tables, like freshwater fisheries. You can also include one-off specific studies for a particular end-user need that do not enter the regular data collection.*

**RCG's Secretariat**

1. Aim of the activity

Support the operation and functioning of the RCG's Secretariat for a fluent regional coordination of data collection activities as stipulated by Article 9 of the DCF Regulation (EU) 2017/1004.

## 2. Duration of the activity

2025-2027

## 3. Methodology and expected outcomes of the activity

The Secretariat's organizational structure has been set up and pilot tested throughout the SecWeb project (MARE/2020/08 grant). The key functions of the RCG's Secretariat have been determined in close collaboration with all RCGs, in particular with RCG and Intersessional Subgroups (ISSGs) chairs. A business model has been developed. In addition, good practices in communication within and among the RCGs have been promoted and installed. The overall capacity to reach out to a wider public and increase the visibility of the work and output of the RCGs has been boosted with the development of a dedicated website and the consolidation of a visual identity.

RCG chairs and the RCG's network have acknowledged the added value of having an RCG's Secretariat to the overall aim of improving data collection activities.

Based on the SecWeb project outputs the proposed data collection activity will connect the whole RCG network and stakeholders to work together on common goals. The Secretariat provides fluent administrative and coordination support for more efficient regional coordination liberating national experts involved in data collection activities from heavy burden administrative tasks.

Overall expected outcomes:

- A full-time dedicated Secretariat support service for the RCGs enables a consistent approach to administering RCG activities, facilitates communication, and enhances the intersessional work, supporting also the work of sub-groups.
- A dynamic and permanently updated website (<https://www.fisheries-rcg.eu/>) will be kept available including as features:
  - Integration – allowing seamless synchronization with third-party information needs and requests;
  - Responsive display – to serve content across multiple devices, screens, and browsers;
  - User experience- maintaining a satisfactory user experience throughout the website sections;
  - Accessibility – To any interested visitor in a user-friendly way across the website sections;
  - Retention- keeping visitors coming back to the website;
  - Links to relevant restricted access sites and virtual environments.

The Visual identity for the RCGs is increasingly consolidated and visibility and understanding of the work by the RCGs is enhanced for the relevant stakeholder groups.

A regularly updated Stakeholders' database improves the communication function among the RCGs' experts and the stakeholders' community.

Internal communication protocols and help-desk in place makes it easier for any new comer to efficiently join, adopt responsibilities, and contribute to the RCGs objectives and work commitments.

The public description of the secretariat functions, operational working protocols and commitments will build trust and enhance the whole network transparency and accountability.

## **Regional data base and estimation System (RDBES)**

### 1. *Aim of the activities*

To contribute to the development and operation of the Regional Database and Estimation System (RDBES)

## 2. *Duration of the activity*

2025 – 2027

## 3. *Methodology and expected outcomes of the activity*

The RDBES is a fundamental tool for regional coordination. The RDBES gathers in a single data base catch, effort and sampling data for biological variables and PETs together with information on the sampling design. The data models have been agreed regionally. The estimation system is in progress, and will also be coordinated at a regional level. The RDBES is planned to replace both the existing ICES InterCatch and RDB database systems and has an important part to play in increasing transparency and improving the quality of stock assessment within ICES.

This transition to RDBES requires an important dedication by countries:

- To adapt their internal processes to provide data in the RDBES data model;
- To calculate required estimates (discard weight, landed weight of species which are landed together, number at length, number at age) using the RDBES data model;
- To reproduce the data management which used to be done in IC, using the estimates coming from the RDBES;
- To take advantage of the WK designed to give countries support in the transition (ie. WKINTRO, WKRAISE&TAF, WKTAFF);
- To participate in the development of the RDBES through the core group and the different ICES WG and ISSGs giving feedback about different data types and end user needs (including catch and effort data, SSF data, biological variables, MRF, PETs, SSF...)

## **Regional Coordination taking place in ISSGs and pan regional cooperation between RCGs**

### 1. *Aim of the activities*

Intersessional work at the RCG BALTIC

### 2. *Duration of the activity*

2025 – 2027

### 3. *Methodology and expected outcomes of the activity*

Regional cooperation is meant to improve the efficiency of data collection through sharing of expertise, data, best practices, knowledge and collaborative tasks. The RCGs bring together several Member States to coordinate planning and implementation of data collection. Their workplan across the year, from one round of the annual technical meetings to the next, is supported with the setup of the Intersessional Subgroups.

In these subgroups the experts concentrate on specific Thematic Focus Areas, and sometimes they are pan-regional. During the relevant RCG's technical meetings, the different ISSGs present progress and hurdles encountered across the period and propose the update of their Terms of Reference with the tasks and targets for the new intersessional period for approval. The work performed by ISSG is essential for RCG technical meeting preparation and meeting discussions and Member States are invited to name experts in the different ISSG relevant to them and these experts should allocate a significant amount of time (on average 40 hours) for carrying the work during the intersessional year.

The ISSG may change over the years as tasks are completed and new needs are coming up. An updated list of the ISSG operating every year under the umbrella of the RCG BALTIC can be found here: <https://www.fisheries-rcg.eu/rcg-baltic/>



A non-exhaustive list of the ISSG is presented below:

- ✓ ISSG End-user and RCG interaction
- ✓ ISSG RDB catch, effort and sampling overviews
- ✓ ISSG Metier and transversal variable issues
- ✓ ISSG Data Quality
- ✓ ISSG Electronic Monitoring Technologies
- ✓ ISSG Diadromous Fishes
- ✓ ISSG Surveys
- ✓ ISSG Optimized and Operational Regional Sampling Plans
- ✓ ISSG Optimisation of PETS bycatch sampling
- ✓ ISSG Evaluation of the data collected for the Small-Scale Fisheries at EU level
- ✓ ISSG Regionally coordinated stomach sampling
- ✓ ISSG Recreational fishery
- ✓ ISSG Development of Draft Regional Work Plan
- ✓ ISSG National Correspondents

## SECTION 2: BIOLOGICAL DATA

### **Text Box 2.3: Diadromous species data collection in freshwater**

*General comment: This Textbox fulfils Article 5(2)(a), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapter II, point 2.1(b) and point 2.3 of the EU MAP Delegated Decision annex. Use this text box to give an overview of the methodology used to collect data from freshwater commercial fisheries for salmon, sea trout and eel, and from research surveys on salmon and sea trout in freshwater, and on eel in any relevant habitat including coastal waters.*

#### 1 – Methods selected for collecting data

Research surveys on salmon and sea trout in fresh water consist typically of estimation of parr densities by electrofishing, smolts counts by smolt trapping and spawner counts by echo sounding or other electronic counters. Eel recruitment is estimated by trapping and electrofishing (yellow eel). Descending silver eels are counted by echo sounders or other electronic counters, and also by trapping.

The ISSG Diadromous has reported the needs and data used for assessment by end users. The group has also mapped use of electrofishing in Member States. This work aims for harmonising the method and criteria for selecting the fishing sites to make the collect data comparable between countries. Also possibilities to collect other data that are used in assessments (genetics, concentration of chemical substances, parasites, diseases, etc.) in the RWP framework which will be considered in future work.

The ICES Baltic Salmon and Trout Assessment Working group (WGBAST) is the end user for the salmon and sea trout data. The WGBAST salmon assessment model takes in not only parr, smolt and spawner data but also several other data too. The sea trout assessment model uses parr densities. The data collection has been coordinated by the WGBAST. EU countries collect salmon and sea trout data completely or partly in their national programs and submit the data to ICES in data calls. This is seen to work fine. WGBAST will evaluate in March 2023 whether it would be possible for the Baltic Sea riparian MSs to move at least part of the data collection from their NPs into a RWP (e.g. electrofishing, smolt counting and spawner counting).

The joint EIFAAC/ICES/GFCM Working Group on Eels (WGEEL) is end-user for the eel data. In addition, MSs use the data in the execution of the national management plans. A data call for WGEEL was formulated for the first time in 2022. The data call covers Baltic, NANSEA and Mediterranean regions. There is still a

need to further develop an assessment model for the eel stock both in a smaller scale and more holistic pan European scale. These models would be able to provide for estimates on the stock on both Eel Management Units (EMU) (EU) and whole stock level (ICES). Model development is expected to be long process aiming at a first benchmark in 2027.

Work towards regional work plan for salmon, sea trout and eel will mostly take place in the ISSG on diadromous species.

### **Text Box 2.4: Recreational Fisheries**

*General comment: This text box fulfils Article 5(2)(a), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapter II, point 2.2 of the EU MAP Delegated Decision annex. Use this text box to give an overview of the methodology used for the data collected on marine and freshwater recreational catches.*

#### **Selection of species for the different regions in addition to the mandatory species**

Currently, the mandatory species for data collection under the DCF, is very limited to a few species. However, based on the studies conducted, including the pilot studies carried out by several Member States during 2019-2021 (STECF EWG-21-09<sup>1</sup>), it has been found that many species targeted by the MRF are not only those identified in the current regulation as priority species. For these reasons, the species prioritization at regional level for MRF data collection was considered essential by the different RCGs. Because of this need, the ISSG Recreational fishery together with ICES WGRFS, started working on a methodology (ICES 2023), based on criteria, that will allow the identification of these priority species for each of the regions.

The approach is similar to a Productivity Susceptibility Analysis (PSA) (e.g. McCully Phillips et al., 2015). This is based on a ranking system, (from 1 to 3) for 14 questions divided into 4 broad categories: catchability, MRF biological importance, existing regulation, and socio-economic relevance. These had to be separately evaluated and weighted, generating a ranking of species.

*[Note] This methodology will be applied by the ISSG Recreational Fishery, and with ICES WGRFS support, a first exercise will be carried out. This will allow to produce a preliminary list of priority species by region. This preliminary list of priority species by region, will be presented to the RCGs during the technical meeting in June 2023. The aim of this list of species is to promote a discussion by the RCGs to decide which species should be included as mandatory to collect data, together with the species that are mandatory to collect today within the DCF.*

#### **RDBES incorporation of recreational fisheries data**

The incorporation of the Marine Recreational Fisheries (MRF) data to the RDBES is considered as a key tool for the sampling coordination at regional level. As it occurs with the commercial fisheries data, it's essential that marine recreational fisheries (MRF) data are also included in the RDBES data base. Given the characteristics of the current MRF data, the preferred solution is a data base to store raised tonnages and numbers of fish caught and released by area and year, alongside length–frequency distributions.

ICES Working Group on Recreational Fisheries Surveys (WGRFS) revised the data model proposed some

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<sup>1</sup> Scientific, Technical and Economic Committee for Fisheries (STECF) – Evaluation of the 2020 Annual Reports for data collection and Data Transmission Issues (STECF-21-09). Publications Office of the European Union, Luxembourg, 2021, EUR 28359 EN, ISBN 978-92-76-40590-0, doi:10.2760/288263, JRC126126.

years ago for MRF catch and effort data and launch a voluntary test data call during 2022. It was concluded that there were no big problems in providing the data requested in the developed data models. Therefore, it was agreed to use this data model for all member states to incorporate the MRF information in the RDBES.

### **Text Box 2.5: Sampling plan description for biological data**

*General comment: This text box fulfils Article 5 (2)(a) and (b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapter 2, point 2.1(a) and 4.1 of the EU MAP Delegated Decision annex. This text box complements Table 2.5.*

#### **Regional coordination for sampling Small Pelagic in the Baltic**

The regional coordination for sampling Small Pelagic in the Baltic is under development in ISSG on small Pelagic. Additional information on sampling schemes: Annex 1.1 on Baltic SPF regional.

The regional coordination on small pelagic in the Baltic has started improving the coordination on several different aspects such as:

- To have a common sampling program where larger active trawlers targeting small pelagic are probabilistic selected for sampling of the unsorted catches including documentation of refusal and non-responses.
- To have a common protocol defining the minimum amount 5 kg / 50 fish) per sample, minimum 50 fish per species selected for ages and length measured (in scm).
- Ensure a common age reading method and quality insurance for sprat and herring in the Baltic. An age reading intercalibration has been conducted in 2022 and to be conducted at least every 3 years.
- Data will be uploaded in the RDBES as a common sampling program “Baltic SPF regional”
- To use a common estimation tools, developed with in the RCG ISSG which will enable comparison of estimates. The tool is built on design-based estimators developed in ICES WGRDBES-EST.
- To investigate the quality of the landings data in the mixed fisheries, by analysing control samples, observer samples or other alternative sources.
- To on an annual basis evaluate the national contribution to the regional sampling program and discuss improvement on how the landings all MS can be sampled.

### **Text Box 2.6: Research surveys at sea**

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Baltic International Trawl Surveys – BITS\_Q1**

1. Objectives of the survey

The aim of the BITS surveys is to provide fishery-independent fish stocks size indices for the stock assessment, mainly of cod (*Gadus morhua*), flounder (*Platichthys flesus*) and to some extent to sprat (*Sprattus sprattus*) and herring (*Clupea harengus*). In addition, the recorded distribution of less abundant species in the Baltic benthic zone is reflecting the temporal-spatial changes in fish biodiversity. Moreover, materials collected during the BITS surveys are used as the input data for analysis fluctuation of Baltic fish year-classes abundance, including recruits. Hydrographical parameters like seawater temperature, salinity and oxygen content are sampled to analyse the relation between fish temporal distribution and density and current hydrological conditions.

Additionally, following data are collected during BITS surveys:

1. *Gadus morhua* stomachs are sampled to analyse the food components,
2. Data on marine litter per haul,
3. Presence of PETS.

National parts of the BITS\_Q1 surveys should be carried out in the first quarter, between 1 February and 31 March (winter/spring survey).

2. Description of the survey design and methods used in the survey for each type of data collection as listed in Table 2.6 for this specific survey.

Description of the survey design and methods used in the survey can be found in the “ICES. 2017. *Manual for the Baltic International Trawl Surveys (BITS). Series of ICES Survey Protocols SISP 7 - BITS. 95 pp.* <http://doi.org/10.17895/ices.pub.2883><http://doi.org/10.17895/ices.pub.2883>”

3. For internationally coordinated surveys, describe the participating Member States/vessels.

BITS surveys are coordinated by the ICES Working Group on Baltic International Fish Survey (WGBIFS). MS participating in BITS\_Q1 surveys: DEU (rv Solea); DNK (rv Havfisken, rv Dana); LTU (commercial vessel); LVA(chartered vessel); POL (rv Baltica); SWE (rv Svea)

4. Where applicable, provide more details on the type of participation and/or threshold agreement applied.

The ICES survey planning group (WGBIFS) assigns the tasks to the survey participants (e.g. coverage of certain areas in a certain time frame). Each participating country is responsible for the activities conducted on its national part of the international survey.

Cost sharing: There is currently no cost sharing agreement in place for this survey.

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Baltic International Trawl Surveys – BITS\_Q4**

1. Objectives of the survey

The aim of the BITS surveys is to provide fishery-independent fish stocks size indices for the stock assessment, mainly of cod (*Gadus morhua*), flounder (*Platichthys flesus*) and to some extent of sprat

(*Sprattus sprattus*) and herring (*Clupea harengus*). In addition, the recorded distribution of less abundant species in the Baltic benthic zone is reflecting the temporal-spatial changes in fish biodiversity. Moreover, materials collected during the BITS surveys are used as the input data for analysis fluctuation of Baltic fish year-classes abundance, including recruits. Hydrographical parameters like seawater temperature, salinity and oxygen content are sampled to analyse the relation between fish temporal distribution and density and current hydrological conditions.

Additionally, following data are collected during BITS surveys:

1. *Gadus morhua* stomachs are sampled to analyse the food components,
2. Data on marine litter per haul,
3. Presence of PETS.

National parts of the BITS\_Q4 surveys should be carried out in the fourth quarter, between 1 and 30 November (autumn survey).

2. Description of the survey design and methods used in the survey for each type of data collection as listed in Table 2.6 for this specific survey.

Description of the survey design and methods used in the survey can be found in the “ICES. 2017. *Manual for the Baltic International Trawl Surveys (BITS). Series of ICES Survey Protocols SISP 7 - BITS. 95 pp.* <http://doi.org/10.17895/ices.pub.2883><http://doi.org/10.17895/ices.pub.2883>”

3. For internationally coordinated surveys, describe the participating Member States/vessels.

BITS surveys are coordinated by the ICES Working Group on Baltic International Fish Survey (WGBIFS). MS participating in BITS\_Q4 surveys: DEU (rv Solea); DNK(rv Havfisken, rv Dana); EST (commercial vessel); LTU (commercial vessel); LVA (chartered vessel); POL (rv Baltica); SWE (rv Svea).

4. Where applicable, provide more details on the type of participation and/or threshold agreement applied.

The ICES survey planning group (WGBIFS) assigns the tasks to the survey participants (e.g. coverage of certain areas in a certain time frame). Each participating country is responsible for the activities conducted on its national part of the international survey.

Cost sharing: There is currently no cost sharing agreement in place for this survey.

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Baltic International Acoustic Surveys – BIAS**

1. Objectives of the survey

Target species are small pelagic fish species, mainly Baltic herring, sprat and additionally European anchovy and pilchard. The main aim is to provide information on stock parameters of small pelagics in the Baltic Sea. Target data are biomass, weight and length distributions and length- weight-age-sex-maturity of small pelagic target species in the Kattegat and western Baltic Sea including Belt Sea, Sound and Arkona Sea as well as hydrographic data (temperature, salinity and oxygen). The data are saved in a national SQL database and storage in the ICES Acoustic Trawl Database has been implemented. The survey is conducted annually in September-October.

2. Description of the survey design and methods used in the survey for each type of data collection as

listed in Table 2.6 for this specific survey.  
Data collected include 1nm NASCs (aggregated), age and length distribution incl. maturity at age for all clupeids in the investigation area, plus additional samples of cod.  
see survey manual:

[Manual of International Baltic Acoustic Surveys \(IBAS\) \(ices.dk\)](#)

3. For internationally coordinated surveys, describe the participating Member States/vessels.  
Denmark (RV “Dana”) and Sweden (RV “Dana”), Finland (RV “Aranda”), Germany (FRV “Solea”), Lithuania (RV “Darius”), Latvia (RV “Baltica”), Poland (RV “Baltica”) and Estonia (RV “Ulrika”). ICES WGBIFS/WGIPS are coordinating the planning of this survey.

4. Where applicable, provide more details on the type of participation and/or threshold agreement applied.

The ICES survey planning group (WGBIFS) assigns the tasks to the survey participants (e.g. coverage of certain areas in a certain time frame). Each participating country is responsible for the activities conducted on its national part of the international survey.

Cost sharing: There is currently no cost sharing agreement in place for this survey.

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Sprat Acoustic Surveys – SPRAS**

1. Objectives of the survey

The main aim of the SPRAS surveys is an estimation of the abundance indices of *Sprattus sprattus* in May, with the use of standardized survey design, acoustic measurements, fishing method and data analysis for stock assessment purposes. Hydrographical parameters like seawater temperature, salinity and oxygen content are sampled to analyse the relation between fish temporal distribution and density and current hydrological conditions. Additionally, observation of presence of PETS is conducted.

2. Description of the survey design and methods used in the survey for each type of data collection as listed in Table 2.6 for this specific survey.

Description of the survey design and methods used in the survey can be found in the “ICES. 2017. Manual for the International Baltic Acoustic Surveys (IBAS). Series of ICES Survey Protocols SISP 8 - IBAS. 47 pp. <http://doi.org/10.17895/ices.pub.3368>”

3. For internationally coordinated surveys, describe the participating Member States/vessels.

SPRAS surveys are coordinated by the ICES Working Group on Baltic International Fish Survey (WGBIFS). MS participating in SPRAS surveys: DEU (rv Walther Herwig III); EST(rv Baltica - chartered); LTU (commercial vessel); LVA (chartered vessel); POL (rv Baltica); SWE (rv Svea).

4. Where applicable, provide more details on the type of participation and/or threshold agreement applied.

The ICES survey planning group (WGBIFS) assigns the tasks to the survey participants (e.g. coverage of certain areas in a certain time frame). Each participating country is responsible for the activities conducted on its national part of the international survey.

Cost sharing: There is currently no cost sharing agreement in place for this survey.

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Rügen Herring Larvae Survey (RHLS DEU)**

1. Objectives of the survey

Target species is the western Baltic spring-spawning herring. The main aim is to monitor spawning activity and reproductive success of the spring-spawning herring of the Western Baltic Sea in its main spawning area, the Greifswald Bay. Target data are high-resolution spatial and temporal records of the larval abundance during the entire spawning period as well as hydrographic data (temperature, salinity and oxygen). The collected data are stored nationally and in the ICES Fish Eggs and Larvae database. The survey is conducted annually in February to June and November. From the weekly abundance combined with growth metrics for larval herring, an annual index is calculated providing an important input variable for recruitment. Data are used in assessment models by the ICES Herring Assessment Working Group (HAWG) and are quality checked annually by the ICES working group for Ichthyoplankton surveys in the North Sea and adjacent seas (WGSINS.)

2. Description of the survey design and methods used in the survey for each type of data collection as listed in Table 2.6 for this specific survey.

Detailed descriptions of the survey design are provided in:

Polte P (2013) Rügen herring larvae survey and N20 larval index. Working Document WKPELA. Benchmark Workshop on on Pelagic Stocks (WKPELA): 4-8 February 2013. Copenhagen: ICES, 10 p  
Polte P, Kotterba P, Hammer C, Gröhsler T (2014) Survival bottlenecks in the early ontogenesis of Atlantic herring (*Clupea harengus*, L.) in coastal lagoon spawning areas of the western Baltic Sea. ICES J Mar Sci 71(4):982-990, doi:10.1093/icesjms/fst050  
Oeberst R, Klenz B, Gröhsler T, Dickey-Collas M, Nash RDM, Zimmermann C (2009) When is year-class strength determined in western Baltic herring? ICES J Mar Sci 66(8):1667-1672, DOI:10.1093/icesjms/fsp143

3. For internationally coordinated surveys, describe the participating Member States/vessels.

Not applicable - DEU only

4. Where applicable, provide more details on the type of participation and/or threshold agreement applied.

Not applicable - DEU only

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Fehmarn Juvenile Cod Survey (FEJUCS)**

1. Objectives of the survey

Target species is the western Baltic cod. The main aim is to monitor the cohort strengths of age-0 and age-1 cod during autumn in the Western Baltic Sea. Target data are length-frequency distributions of undersized cod caught in commercial pound nets located near Fehmarn (the centre of the main spawning area of western

Baltic cod). The collected data are stored and processed nationally. The survey is conducted annually in September to December.

2. Description of the survey design and methods used in the survey for each type of data collection as listed in Table 2.6 for this specific survey.

The method is described in the Working Document Number 18, p. 293-310 of ICES 2019, Benchmark Workshop on Baltic Cod Stocks (WKBALTCOD2). ICES Scientific Reports. 1:9. 310 pp. <http://doi.org/10.17895/ices.pub.4984>.

3. For internationally coordinated surveys, describe the participating Member States/vessels.  
Not applicable - DEU only

4. Where applicable, provide more details on the type of participation and/or threshold agreement applied.  
Not applicable - DEU only

*General Comment: This Text box fulfils Article 5 (1)(b), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapters I and II of the EU MAP Implementing Decision. It is intended to specify which research surveys at sea set out in Table 2 of the EU MAP Implementing Decision will be carried out. Member States shall specify whether the research survey is included in Table 2 of the EU-MAP Implementing Decision or whether it is an additional survey.*

Name of the research survey: **Gulf of Riga Acoustic Herring Survey (GRAHS)**

1. Objectives of the survey

Survey is included in Table 2 of the EU-MAP Implementing Decision. The aim of the survey is to obtain fisheries-independent information for tuning analytical stock assessment models for Baltic herring in the Gulf of Riga (Gulf of Riga herring). Target data are biomass, weight and length distributions and length-weight-age-sex-maturity of Baltic herring, as well as hydrographic data (temperature, salinity and oxygen). The information obtained during the survey is used by the Baltic Fisheries Assessment Working Group of the ICES (WGBFAS).

Survey takes place in July/August.

2. Description of the survey design and methods used in the survey for each type of data collection as listed in Table 2.6 for this specific survey.

Survey will be carried out following the agreed Manual of International Baltic Acoustic Surveys (IBAS)

[https://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Survey%20Protocols%20\(SISP\)/SISP%208%20-%20Manual%20of%20International%20Baltic%20Acoustic%20Surveys%20\(IBAS\).pdf](https://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Survey%20Protocols%20(SISP)/SISP%208%20-%20Manual%20of%20International%20Baltic%20Acoustic%20Surveys%20(IBAS).pdf)

The surveys are coordinated and the results are discussed by the ICES WGBIFS annually. The survey is carried out in July-August annually in order to cover the period after main spawning season when most of the stock has left the near-coast spawning grounds.

3. For internationally coordinated surveys, describe the participating Member States/vessels.

The survey is carried out jointly by the Latvian and Estonian scientists on the chartered Latvian fishing vessel.

4. Where applicable, provide more details on the type of participation and/or threshold agreement



applied.

Estonia and Latvia share the tasks of work and also the survey costs on this joint survey.

## SECTION 3: FISHING ACTIVITY DATA

### **Text Box 3.1: Fishing activity variables data collection strategy**

*General comment: This text box fulfils Article 5 (2)(c), Article 6 (3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapter II point 3.1 of the EU MAP Delegated Decision annex. It is intended to describe the method used to derive estimates on representative samples where data are not to be recorded under the Control Regulation (EC) No 1224/2009 or where data collected under Regulation (EC) No 1224/2009 are not at the right aggregation level for the intended scientific use. Text Box 3.1 should be filled only in case complementary data collection is planned*

#### **Small Scale Fisheries (SSF) data models for RDBES**

ICES WGCATCH is discussing the development of RDBES database for the proper integration of SSF data and their specificities into the RDBES. In 2021 based on the changes suggested by this ICES group and also agreed by the ISSG SSF, were implemented in the RDBES CE and CL formats. In 2022 WGCATCH recommended the introduction of a new table that describes the number of active and inactive vessels (capacity table) by vessel length class to better describe the fleet. In addition, such a table could feed into the capacity table of the FDI data call. Furthermore, WGCATCH has developed a risk assessment data quality methodology to assess the potential risk of data incompleteness issue especially focused of fishing activity data collected by a census approach and such table constitute a first step to implement it (ICES 2023).

*[Note] These improvements will be revised and tested by the ISSG SSF during 2023. In this way, all Member States will be able to upload all SSF information following the data formats agreed for the RDBES. This would allow to improve the knowledge of the activity of these SSFs, but also to be able to analyse in some way the quality of the data incorporated into the RDBES at regional level. This information is essential to improve both national and regional sampling for these fisheries.*

#### **Transversal variables for all fisheries**

*[Note] ISSG on Metier assignment and Transversal variables (effort estimates) inputs here expected by June 2023 in the RCG Technical Meetings.*

### **Text Box 3.2: Fishing activity variables data collection strategy (for inland eel commercial fisheries)**

*General comment: This text box fulfils Article 5(2)(c), Article 6(3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapter II point 3.2 of the EU MAP Delegated Decision annex. It is intended to describe the methods and data sources used to estimate fishing capacity, effort and landings data.*

**No information**



## SECTION 4: IMPACT OF FISHERIES ON MARINE BIOLOGICAL RESOURCES

### **Text Box 4.2: Incidental catches of sensitive species**

*General Comment: This text box fulfils Article 5(2)(a) and (b), Article 6(3)(a), (b) and (c) of Regulation (EU) 2017/1004 and Chapter 2 point 4.1 of the EU-MAP Delegated Decision annex. This text box complements Table 2.5.*

**No information**

### **Text Box 4.3: Fisheries impact on marine habitats**

*General comment: This text box fulfils Article 5 paragraph 2(a) and 2(b), Article 6 paragraph 3(a), 3(b) and 3(c) of Regulation (EU) 2017/1004 and Chapter 2, section 4.2 of the EU MAP Delegated Decision annex. It contains information on additional studies on the fisheries impact on marine habitats. This text box applies to the work plan and the annual report.*

**No information**

## SECTION 5: ECONOMIC AND SOCIAL DATA IN FISHERIES

### **Text Box 5.2: Economic and social variables for fisheries data collection**

*General comment: This text box fulfils Article 5(2)(e), Article 6(3)(a), (b) and (c) of Regulation (EU) 2017/1004, and Chapter II point 6 of the EU MAP Delegated Decision annex. It is intended to specify data to be collected under Tables 10 and 11 of the EU MAP Delegated Decision annex.*

**Information on regional agreements on economic and social variables for fisheries data collection are developed in the RWP on economic issues**

## SECTION 6: ECONOMIC AND SOCIAL DATA IN AQUACULTURE

### **Text Box 6.1: Economic and social variables for aquaculture data collection**

*General comment: This text box fulfils Article 5(2)(e), Article 6(3)(a), (b) and (c) of Regulation (EU) 2017/1004, and Chapter II point 6 of the EU MAP Delegated Decision annex. It is intended to specify data to be collected under Tables 10 and 11 of the EU MAP Delegated Decision annex.*

**Information on regional agreements on economic and social variables for aquaculture data collection are developed in the RWP on economic issues**

## SECTION 7: ECONOMIC AND SOCIAL DATA IN FISH PROCESSING

### **Text Box 7.1: Economic and social variables for fish processing data collection**

*General comment: This text box fulfils Article 5(2)(f), Article 6(3)(a), (b) and (c) of Regulation (EU) 2017/1004, and Chapter II point 7 of the EU MAP Delegated Decision annex. MS should provide justification for complementary data collection for fish processing.*

**Information on regional agreements on economic and social variables for fish processing data collection are developed in the RWP on economic issues**

ANNEX 1.1 - QUALITY REPORT FOR BIOLOGICAL DATA SAMPLING SCHEME

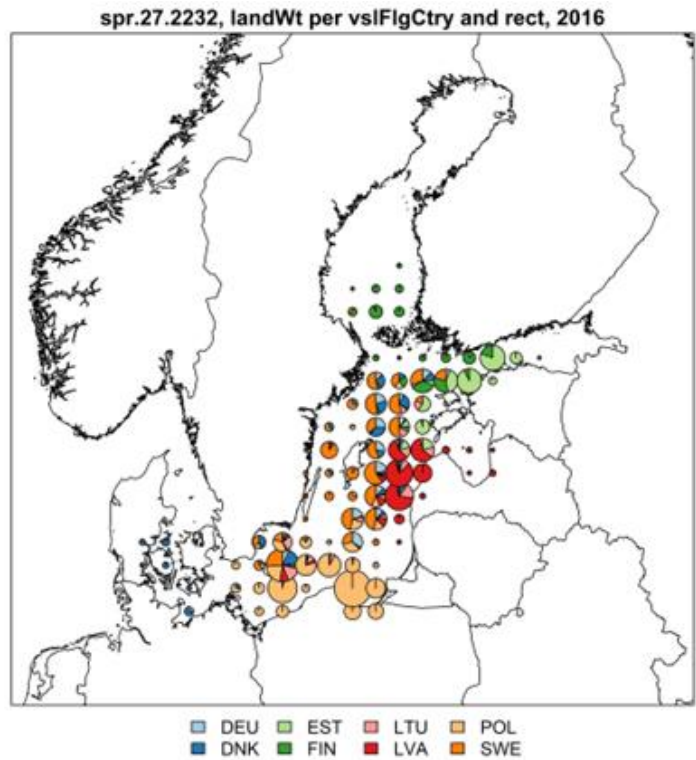
*The quality report fulfils Article 6(3)(d) of Regulation (EU) 2017/1004. This document is intended to specify data to be collected under Chapter II, point 2 of the EU MAP Delegated Decision annex: Biological data on exploited biological resources caught by Union commercial and recreational fisheries. Use this document to state whether documentation in the data collection process (design, sampling implementation, data capture, data storage, sample storage and data processing) exists and identify where this documentation can be found. Names of sampling schemes and strata shall be identical to those in Tables 2.2, 2.3, 2.4, 2.5, 2.6 and 4.1 of the WP/AR. In case of quality information on scientific surveys, use the survey acronym as a sampling scheme identifier. For mandatory surveys, refer to Table 1 of the EU MAP Implementing Decision annex, see also MasterCodeList ‘Mandatory survey at sea’.*

<b>MS:</b> DNK, EST, FIN, LAT, LIT, POL, GER, SWE
<b>Region:</b> Baltic region
<b>Sampling scheme identifier:</b> Baltic SPF regional
<b>Sampling scheme type:</b> Commercial fishing trip
<b>Observation type:</b> Not coordinated
<b>Time period of validity:</b> 2023-2024
<p><b>Short description:</b></p> <p>This is a regional sampling program to collect length and age samples from the mixed sprat and herring fishery conducted by commercial vessels operating in ICES Subareas 27.3 using self-sampling, observer sampling or sampling on shore. The aim is to estimate length-composition, catch in numbers by age, and mean weight of fish by age, caught by commercial trawlers by quarter and subdivision.</p> <p>The sampling program is still a trial to test what and how much it is possible to standardize regional sampling and therefore in most countries run in parallel with national sampling programs covering the same fleet / stocks</p> <p>At the moment the sample selection method varies between countries, mainly due to practicalities, but the countries have agreed on standardized protocols for sub-sampling of biological parameters.</p>
<b>Description of the population</b>
<p><b>Population targeted:</b></p> <p>Pelagic trawlers participating in the herring and sprat fisheries of Subareas 27.3 the sampling area is the Baltic Sea from Kattegat to northern Baltic: 27.3.a-d.20-29+32.</p> <p>All herring and sprat commercially caught in the Baltic Sea for which estimates of length or age composition is required</p>

**Population sampled:**

The scheme samples fishing trips from the most important Baltic trawlers participating in consumption and industrial small-pelagic fisheries for herring and sprat.

In principle all herring stocks and the one sprat stock in the Baltic can be sampled in this sampling program, however, in reality not all MS fleets are covering all the areas, as is indicated in Figure 1.



**Figure 1** Catch of sprat in the Baltic in 2016 by MS

Stocks covered by MS participating in the Baltic SPF regional program:

Stock	MS
her.27.20-24	DK/SE
her.27.25-2932	DK/FI/EE/LT/LV/PL/SE
her.27.28	LV/EE
her.27.3031	FI/SE
spr.27.22-32	DK/PL/SE/FI/EE/LT/LV

With some national adaptations, the vessel included in 2021 were larger trawlers fishing sprat and herring in the Baltic:

Country	Number of vessels included in the sampling frame
DK	8
SE	15
PL	30
FI	17

LT	13 (5 landing in LT)
EE	24
LV	40
GE	17

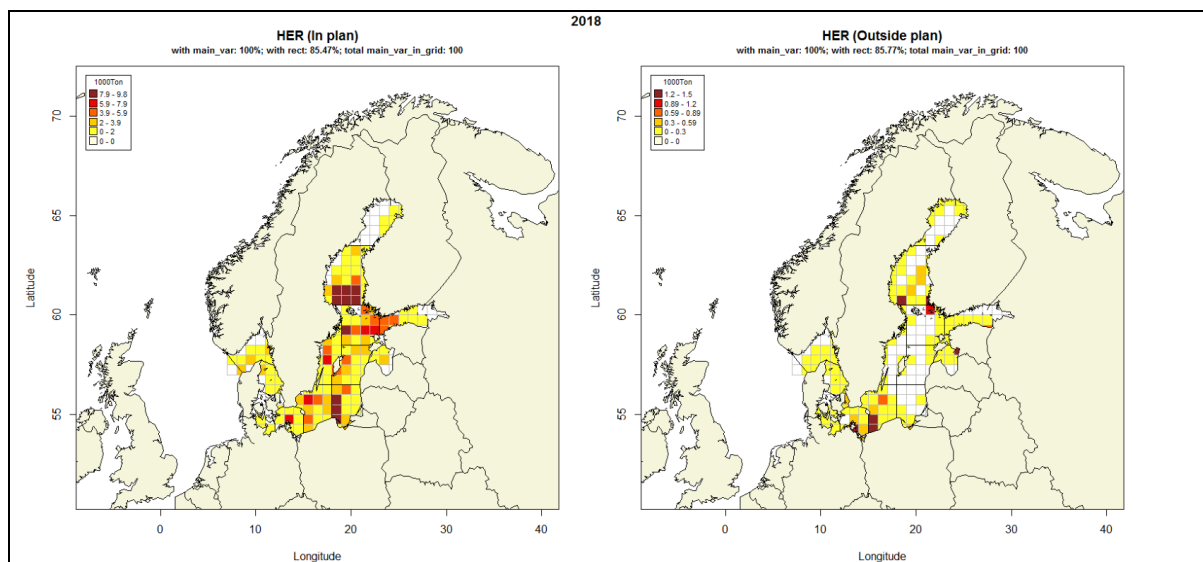
In general (with some national adaptations), all vessels below 25 meters, gillnetters landing herring or vessels with a very mixed fishery are **not** covered in this regional program but are instead targeted in national On-Shore sampling programs. This includes gillnetters and smaller trawlers.

The following table gives the identifiers the present national sampling programmes – details can be found in the relevant national workplan <https://datacollection.jrc.ec.europa.eu/wp-np-ar>

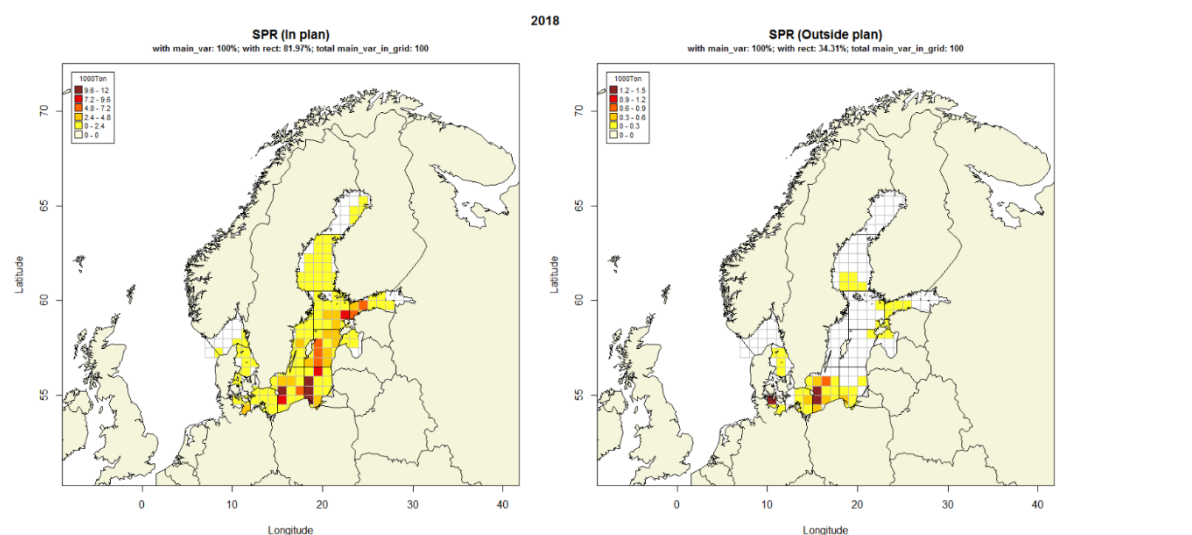
MS	Sampling scheme identifier	Sampling frame identifier
DEU	OF Self-Sampling	Baltic herring active 2224
DEU	OF Self-Sampling	Baltic sprat
DNK	Baltic small pelagic RSP	Sprat
EST	OnShoreCommercialPelagic	OSF PEL
EST	OnShoreCommercialPelagicGOR	GOR PEL
FIN	On shore sampling program targeting pelagic trawl fishery of herring and sprat	OTM_SPF
LTU	SO-SEA-COM-SS	BS-TR
LTU	SO-SHORE-COM-SS	BS-TR
LVA	GOR PEL-1 (SciObsAtSea)	GOR PEL-1
LVA	GOR PEL-1 (SelfAtSea)	GOR PEL-1
LVA	OSF PEL-1 (SciObsAtSea)	OSF PEL-1
LVA	OSF PEL-1 (SelfAtSea)	OSF PEL-1
POL	Baltic small pelagic RSP	Pelagics_RSP
SWE	CommSelfAtSea - Selected species/stocks	Active SmallPelagics HER, SPR - 27.3.a-d.20-29, 27.4
SWE	CommSelfAtSea - Selected species/stocks	Active SmallPelagics HER, SPR - 27.3.d.24-29

For information the figures below compare herring and sprat landings from 2018 that would be considered in-frame and out-of-frame.





**Figure 2** Herring landings inside and outside the regional sampling plan by ICES square based on 2018 data.



**Figure 3** Sprat landings inside and outside the regional sampling plan by ICES square based on 2018 data.

### Stratification:

Primary sampling unit are vessel, vessel\*trip, weeks or vessel\*month, depending on the MS (see details under WGCATCH sampling template). [\(Add link to WGCATCH sampling template.\)](#)

The program is stratified into national lists of vessels. The stratification aims to achieve good spatial coverage over the broad geographical range of the fisheries as well as adequate number of samples and representation of fishing for human consumption and industrial uses. Detailed information on strata by MS can be found the “WGCATCH sampling template”.

Presently there is no consensus on effort allocation. However, based on the 2018 data the table below gives an overview of how many samples by MS could be inside and outside the plan.

**Numbers of samples in 2018 by MS. 552 samples were used in the allocations**

	<b>Initial (2018)</b>	<b>In-frame</b>	<b>Out-of-frame</b>
DEU	41	7	34
DNK*	74	0	74
EST	106	8	98
FIN	86	2	84
LTU	8	0	8
LVA	91	7	84
POL	36	12	24
SWE	147	1	146
TOTAL	589	37	552

\*Danish samples include landings by other flag countries

**Sampling design and protocols**

**Regional level of ambition:** 3 - “*Common monitoring strategy*”

**Present regional level:** 1 - “*Coordinated data reporting*”

**Sampling design description:**

- Probabilistic sampling design – varies by MS.
- Active trawlers targeting the sprat/ herring fishery.
- The sampling frame is stratified into national vessel lists
- Minimum sampling size (3-5 kg)
- Minimum number of fish per sample for biological analysis (50/species)
- Vessels outside the regional program are covered by national program

See the WGCATCH sampling template for a more detailed description. (*Add link to WGCATCH sampling template.*)

**Biological sampling protocols:**

- A 5 kg random sample is provided from a trip with information on the given haul the sample has been taken from.
- All 5 kg is sorted into species (mainly herring and sprat but other species can be present).
- Random sample of approximately 50 individuals by species is selected for length, weight and age analysis. In some countries, the selection is conducted by measuring the weight of 10 individuals and add fish until the weight of the 10 individuals x 5 has been reach. The length is measured in scm.
- The same individuals as were selected for length are selected for weight measurement. The weight is measured in g. (non-stratified)
- The same individuals as were selected for length are selected for age measurement (non-stratified)
- It is not mandatory in the regional sampling program to collect other biological parameters however, some MS are collecting information on sex, maturity, stomach fullness, parasites

and genetics.

**Is the sampling design compliant with the 4S principle?**

Yes, although this varies-by MS

**Regional coordination:**

Strata of small pelagic sub-scheme that targeting the herring and sprat fisheries with active gears in the Central Baltic: Y

**Link to sampling design documentation:**

[Add Link to WGCATCH sampling template.](#)

**Some additional information:**

**Danish sampling program** was before 2020 an ad hoc sampling program where control agency sampled vessels based on a quota system to cover the main part of the landings. As the main part of the Danish landings in the Baltic are conducted in a few but very large trips this was not the optimal ways of sampling. Since 2020 Denmark has sampled the small pelagic in the Baltic according to the new regional design. This indicates that all larger trawlers > 25 meters are included if they have more than 95% sprat/herring landings. These vessels are all asked to take 1 sample per trip. Further, an additional at land sampling program has been sat in place covering all vessel length. Not all sampling sites are cooperating and refusal rates on landing sites are therefor included. Further species misreporting has occurred back in time, mainly with over reporting of herring and underreporting of sprat. This has been partly compensated for in the data delivery for stock assessment as Denmark for some years used corrected data based on control samples used by month and area on the fleet. It has however not been done systematically back in time. In April 2020 a new and very detailed control system has been emplaced for all industrial landings in Denmark with a very large sampling intensity conducted on every landing, this has improved the quality of the data.

**Latvia sampling program.** Each year the Fisheries department of the Latvian Ministry of Agriculture prepares the list of vessels and companies that have the fishing permit in the Baltic Sea and the Gulf of Riga. The vessel list consists of information on vessel name, fish species and fishing subdivisions. The vessel list is sorted by fishing type and subdivision to create three segments:

- Pelagic fishery in the Central Baltic (34 vessels in 2021);
- Pelagic fishery in the Gulf of Riga (22 vessels in 2021);
- Demersal fishery (31 vessels in 2021).

Each vessel can be included in one or several segments. Not all vessels that have fishing rights participate in the actual fishery. In the pelagic fishery, six biological samples are collected each month – three samples from the pelagic fishery in the Central Baltic and three samples from the pelagic fishery in the Gulf of Riga. For each segment, fishing vessels are randomly selected from the initial vessel list using Simple Random Sampling Without Replacement (SRSWOR). After the vessel selection, it is checked whether the vessel is active and participates in the fishery of interest. If the vessel is active (according to electronic logbooks), a call is made to the company owner or other contact person to arrange the biological sample or observer participation for the next trip. If the vessel doesn't participate in the fishery of interest or doesn't fish for other reasons, the next vessel is selected according to the same principles. In case when the random selection of vessels shows the vessel that was already selected in a given quarter, this vessel is ignored and the

procedure is repeated. The vessel selection process is documented to ensure the traceability of the process.

**The Swedish sampling program** was before 2020 a sampling program that relied on quota sample to obtain samples from each subdivision, quarter and fishery type (consumption, industrial) from control and market sources. Given the lack of scientific control over the sampling and uncertainty in the raising totals (possible bias in species position of fleet level totals; alongside possible bias in totals considered as consumption and industrial), bias and precision of final estimates have remained largely non-investigated. Since 2020 Sweden has sampled the small pelagic in the Baltic according to the new regional design, that now is based on probabilistic vessel and trip selection and self-sampling. The <2020 sampling design remained in place but is only used as a last-resort back-up to secure data if refusals threaten data collection itself. The move towards the regional design is expected to significantly improve the quality of the data but its emphasis on the larger industrial vessels now requires special consideration of some smaller vessels fishing for consumption.

**Estonia sampling.** Is an ad hoc sampling program which aims to collect samples from all active trawlers from each subdivision during active fishing period. During the pilot program in 2020 and 2021 probabilistic sampling scheme was tried (probabilistic selection of vessel), however due to the nuance rich fisheries behaviour it was difficult to guarantee that all subdivisions were covered with enough samples. The difficulty laid in the fact that it was hard to predict which vessels were going to fish in which area/stock, especially as subdivision 28.1 (Gulf of Riga) comprises of a separate herring stock. Same vessels can fish both in open sea or in Gulf of Riga, and the fishing location is determined by many variables. Within the framework of regional sampling Estonia will continue to find solutions on how to move to probabilistic vessel selection.

**German sampling program.** The declining number of vessels in the German pelagic fishing fleets and more automated catch handling processes onboard led to a switch from observer trips to self-sampling in the last few years. Fishermen are providing mixed catch samples following an agreed sampling protocol onboard. Germany is collecting around 20-25 catch samples per year from the relevant fleets, where one sample contains around 50kg of fish. Neither the vessels nor the sampling time however are chosen randomly. Sprat samples are provided by 1-2 trawler, herring is provided by less than 10 trawler that are usually pair-trawling in the main herring distribution areas, thus missing smaller herring populations and fishing areas. Sampling times are fixed to two times per week, but extra samples might be added opportunistically.

**Polish sampling program.** In 2017 Poland implemented a new sampling design plan, moving gradually from metier based and purely opportunistic sampling towards the plan based on statistics. The sampling scheme for the Baltic Sea region was based on the main types of fisheries exploiting fish stocks subject to sampling requirements, with the use of a combination of at-sea and on-shore schemes, e.g. “Demersal at sea and on shore”, “Pelagic at sea and on shore”, etc. After three years, in 2020 Poland improved the design and the following approach was applied to a new sampling plan. The stratification has been specified based on vessels' length category now. To define the sampling intensity per each stratum per quarter, half of the total annual number of samples was distributed proportionally to the quarterly distribution of landings. The second half of the total number of samples was distributed proportionally to the total number of trips. Moreover, Poland has carried out an additional sampling of small pelagics, according to the methodology agreed by the regional subgroup.

**Lithuania sampling program.** Selection procedure: direct contact with vessel owner to discuss possibility of accepting of observer. 0 (zero) landings in Lithuania, so only sampling at sea possible. Embarking and disembarking of observer in the ports out of Lithuania, therefore logistics

(observers travelling) was main limitation for conducting the sampling. Due to travel restrictions in 2020 none of the vessel was selected for sampling. Number of vessels fishing for small pelagic is very small (in 2021 only 13 and only 5 of them have made landings in Lithuania). It makes sampling probability very unequal. Most sprat is landed in Demark, so samples were collected by Danish observers according to the agreement. Since 2021 this agreement started to be replaced by coordinated actions in the framework of this pilot study.

Only landings of herring and sprat for human consumption are made in Lithuania. These fishes are caught by trawls with mesh size more than 32 mm. However, majority of sprat and significant part of herring are landing for industrial purposes out of Lithuania. These fishes are caught by trawls with mesh size 16 -20 mm. Due to it, data on length distribution collected from landings in Lithuania may be different from average total.

Target population is midwater trawlers targeting spart and/or herring. The sampling scheme for herring caught by small scale coastal fleet is running in parallel.

**Finnish sampling program.** Finnish sampling is based on on-shore sampling program targeting pelagic trawl fishery of herring and sprat. The stocks for sampling are Central Baltic Herring (SD 25-29, 32), Bothnian Sea Herring (SD 30) and Bothnian Bay Herring (SD 31) – the latter two have always belonged to same management unit and to same assessment unit since 2017 as well as the Baltic Sprat stock. Biological data are collected mostly from sampling of commercial trawl fisheries (OTM\_SPF and PTM\_SPF). Sampling of Herring (and sprat) is based on length stratified sub-sampling scheme, where target number of specimen for biological data is 1/ 0.5 cm length-class/sampled trip (the number of specimens is increased for maturity sampling in spring before spawning time). The herring stock-related biological data (i.e. age-length relation) is used also with the trap-net length distributions – and vice versa.

Finland has started the statistically sound sampling scheme (4S) from the trawl fisheries targeting herring and sprat, where it has been in force from the beginning of year 2019. The selection of PSU for herring (and sprat) is to do random sampling from a draw list, where probability of a fishing unit to be selected for sampling in certain SD and quarter is weighted by its previous years' combined catch of herring and sprat in the same SD and Q. During each quarter the sampling personnel go through the draw list in free order, recording all relevant info (sampling, refusal, out of area, etc.) of the interaction into our sampling database SUOMU, which also has the lottery function needed in the process. Additional lottery draw of PSU's will be done to reach the sampling target if there is a deficit.

### **Risks and mitigations for the regional sampling program**

Different local issues have been presented from different MS. For Lithuania landing sites are often abroad and not easily accessible for observers, this has given some challenges in respect to receive the samples. Further it has not been possible to ask the fisherman to bring the sample back to the home harbour.

In Finland the self-sampling was not possible due to the storing issues onboard the vessels which cause the sample quality to be very poor. Therefore, the Finnish sampling program has been slightly changed to have a similar selection procedure but the sample is taken from the unsorted landings on shore. In Estonia the self-sampling is also not possible due to storing issues onboard the vessels and harbors. In addition, some vessels frequently use abroad landings sites from where it's a challenge to receive a sample.

In Sweden a reduction in sampling of catches for consumption was observed when the regional program was implemented. This reduction was partially related to the sampling frame being

dominated by large vessels that fish essentially for industrial purposes. Improved stratification will be implemented in 2022 to reduce this aspect and improve coverage of smaller vessels that remain in the target area and fish for consumption.

**A brief summary of the existing time-series:**

<b>Time period</b>	<b>Description Denmark</b>
1994 - 2019	Ad Hoc Sampling (NPAH)
2020 – present	Simple Random Sampling Without Replacement (SRSWOR)
	<b>Description Estonia</b>
- present	Ad Hoc Sampling (NPAH)
	<b>Description Latvia</b>
-2016	Ad Hoc Sampling (NPAH)
2017-present	Simple Random Sampling Without Replacement (SRSWOR)
	<b>Description Finland</b>
1974-1997	Simple random sampling on ad hoc basis
1998-2019	Length-stratified random(quota-) sampling on ad hoc basis
2019-2020	Length-stratified random(quota-) sampling on probabilistic basis
2021-present	Simple random sampling on probabilistic basis
	<b>Description Germany</b>
1992 - present	Non-Probabilistic Judgement Sampling (NPJS)
	<b>Description Lithuania</b>
2004-2016	Ad Hoc Sampling (NPAH)
2017-present	Simple Random Sampling With Replacement (SRSWR)*
	<b>Description Poland</b>
2004-2016	Ad Hoc Sampling (NPAH)
2017-present	Simple Random Sampling Without Replacement (SRSWOR)
	<b>Description Sweden</b>
-2019	Ad Hoc Sampling (NPAH)
2020 – present	Simple Random Sampling Without Replacement (SRSWOR)

**Further information**

More information on this regional sampling program can be found in the 2021 and 2022 RCG reports:

RCG NANSEA RCG Baltic 2022. Regional Coordination Group North Atlantic, North Sea & Eastern Arctic and Regional Coordination Group Baltic. 2022. Part I Report, 101 pgs. Part II Decisions and Recommendations, 13 pgs. Part III, Intersessional Subgroup (ISSG) 2021-2022 Reports, 159 pgs. (<https://datacollection.jrc.ec.europa.eu/docs/rcg>)

RCG NA NS&EA RCG Baltic 2021. Regional Coordination Group North Atlantic, North Sea & Eastern Arctic and Regional Coordination Group Baltic. 2021. Part I Report, 78 pgs. Part II Decisions and Recommendations, 16 pgs. Part III, Intersessional Subgroup (ISSG) 2020-2021 Reports, 350 pgs. (<https://datacollection.jrc.ec.europa.eu/docs/rcg>)

**Compliance with international recommendations:**

Yes

**Link to sampling protocol documentation:**

Online documentation accessible to public will be prepared during 2022-2024.

**Some additional information:**

RCG NANSEA RCG Baltic 2022. Regional Coordination Group North Atlantic, North Sea & Eastern Arctic and Regional Coordination Group Baltic. 2022. Part I Report, 101 pgs. Part II Decisions and Recommendations, 13 pgs. Part III, Intersessional Subgroup (ISSG) 2021-2022 Reports, 159 pages <https://datacollection.jrc.ec.europa.eu/docs/rcg>

RCG NA NS&EA RCG Baltic 2021. Regional Coordination Group North Atlantic, North Sea & Eastern Arctic and Regional Coordination Group Baltic. 2021. Part I Report, 78 pgs. Part II Decisions and Recommendations, 16 pgs. Part III, Intersessional Subgroup (ISSG) 2020-2021 Reports, 350 pages <https://datacollection.jrc.ec.europa.eu/docs/rcg>

**Compliance with international recommendations:**

Yes

**Sampling implementation**

**Regional level of ambition:** 3 - “Common monitoring strategy”

**Present regional level:** 1 - “Coordinated data reporting”

**Recording of refusal rate:**

Yes

Refuses and non-responses are recorded. However, as this program is based on self-sampling it is not always straightforward to record if a given sample was collected on the selected trip or from another trip/ haul. Different MS are receiving different refusal rates.

Member state	Vessels in the frame	Refusal rate
DK	8	38%
SE	15	
PL	30	
FI	17	0% (12% couldn't be reached)
LT	5 (landing in LT)	0% only on-shore sampling
EE	24	
LV	40	0%
GE	17	50%

**Monitoring of sampling progress within the sampling year:**

Routine follow-up meetings are organized between MS are organized minimum 2 a year. At this meeting both the sampling protocols, are reading workshop, species misreporting etc. are discussed.

**Data capture**

**Regional level of ambition:** 1 - *“Coordinated data reporting”*

**Present regional level:** 0 - *“No coordination or not relevant”*

**Means of data capture:**

Is presently not coordinated

**Data capture documentation:**

Is presently not coordinated

**Quality checks documentation:**

Is presently not coordinated, however is planned to be part of the coordination.

Regular international age reading workshops are held but presently no other international data checks are conducted.

**Data storage**

**Regional level of ambition:** 4 - *“Joint data collection”*

**Present regional level:** 2 - *“Agreed guidelines”*

**National database:**

Database name	Location (e.g. host institute)	Format (database / spreadsheet)	Years of data stored
Fiskeline	DTU Aqua	database	1990-present
Fiskdata 2	SLU Aqua	database	
NPZDR	NMFRI (MIR)	database	2004-present
DMAR-01	Thünen-OF	database	2002-present
BIODATA	BIOR	database	2003-present
SUOMU	LUKE	database	2009-present
	EMI-UT	database	

**International database:**

Small pelagic scheme targeting the herring and sprat fisheries: RDB/RDBES at ICES uploaded as



common name “Baltic SPF regional” to the RDB-ES

Database name	Location (e.g. host institute)	Format (database / spreadsheet)	Years of data stored
RDBES	ICES	database	2021-present

**Quality checks and data validation documentation:**

Common documentation and agreement on relevant national data checks based on RDB-ES format. (RCG/ FishnCo/ ICES) will be developed

**Sample storage**

**Regional level of ambition:** 0 - “No coordination or not relevant”

**Present regional level:** 0 - “No coordination or not relevant”

**Storage description:**

Is presently not regionally coordinated

**Sample analysis:**

Is presently not regionally coordinated

**Additional information:**

**Data processing**

**Regional level of ambition:** 4 - “Joint data collection”

**Present regional level:** 1 - “Coordinated data reporting”

**Evaluation of data accuracy (bias and precision):**

Scripts will be developed based on the RDBES data format that make use of common functions being developed by groups such as the ICES WGRDBES-EST.

Age reading comparison. It has been agreed to quality ensure the age reading on a regional level regular and as a minimum before benchmarks. Dates for last regional age reading exercise via SmartDots indicted in the table per stock

Stock	year	MS
her.27.20-24	2018	Reported in WGBIOP 2018, Annex 3, p 46-47
her.27.25-2932	2022	DK, POL, SWE, GER, LV, LT, EE & FIN
her.27.28	2015	WGBIOP 2017 Report, Annex 5, p 75
her.27.3031	2019	SWE, FIN
spr.27.22-32	2022	DK, POL, SWE, GER, LV, LT, EE

**Editing and imputation methods:**

A design-based estimator is under development. Documentation will be available in RDBES scripts and outputs when that system is in production.

**Quality document associated to a dataset:**

Documentation will be available in RDBES scripts and outputs when that system is in production.

**Link to estimation documentation;**

Documentation on estimation will be made available using the WGCATCH common estimation template

[https://github.com/ices-eg/wg\\_WGCATCH/blob/master/templates/WGCATCH\\_estimation\\_template.xlsx](https://github.com/ices-eg/wg_WGCATCH/blob/master/templates/WGCATCH_estimation_template.xlsx)

**Validation of the final dataset:**

Final validation takes place when data is compiled at ICES stock coordination level.