National Marine Fisheries Research InstituteNational

Commission Implementing Decision (EU) 2016/1701

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 Implementing Decision (EU) 2016/1251 of 12 July 2016

adopting a multiannual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017-2019.

Commission Implementing Decision (EU) 2016/1701

laying down rules on the format for the submission of work plans for data collection in the fisheries and aquaculture sectors.

Commission Implementing Decision (EU) ****/*****

POLAND

Annual Report for data collection in the fisheries and aquaculture sectors

2017

Version 1

[Gdynia, 17 May 2018]

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Text Box 1C: Sampling intensity for biological variables

General comment: This box fulfils paragraph 2 point (a)(i)(ii)(iii) of Chapter III, Chapter IV of the multiannual Union programme and Article 2, Article 4 paragraph 1 and Article 8 of the Decision (EU) 2016/1701. This box is applicable to the Annual Report.

Member State should provide by Region/RFMO/RFO/IO:

1. Evidence of data quality assurance

Quality evaluation can only be carried out if the information coming from Table 5A is available. If this is not the case, Member State shall provide an overview by giving information on the methodology used to assure the quality of the data collected.

e.g.:
The sampling design and protocols follow the outcomes of sampling expert groups.
Use of common standard criteria agreed with other countries/groups.
Use of special packages or tools (e.g. COST ...) for calculations.
Use of sampling protocol for storage of data.
Use of sampling protocol for processing of data.
Use appropriate exploratory statistical techniques to detect outliers and anomalous registers.

All Region/RFMO/RFO/IO

For the overview of the equality assurance methodology used, see Table 5A and Text Box 5A

2. Deviations from the Work Plan

MS to list the deviations (if any) in the achieved data collection compared to what was planned in the Work Plan and explain the reasons for the deviations. The threshold for deviation follow those set in the former AR: <90 % and >150 %.

Explain any deviation from the proposed:

- *sampling intensity,*
- *methods used for collecting data.*
- *methods used for estimating the parameters.*

General reasons for deviations from the Work Plan in terms of planned vs. achieved should be summarised in this section, while detailed comments on deviations on particular species/stocks should be included in the AR Comments column in Table 1C.

In case of Member State adding new species not included in the WP, this should be clearly explained and justified.

Sampling Design described in the WP, does not provide for planned minimum of individuals to be measured expressed in absolute numbers but explains the methodology of sampling. In order to compare the achieved number of individuals measured at the national level with the planned number according to WP, the "AR Comments" column in Table 1C contains method of calculation of what the planned number should be.

Baltic Sea

No deviations from sampling methods used. Only few deviations in sampling intensity were encountered.

Oversampling:

Salmon (*Salmo salar*) was sampled in excess of the planned level in terms of biological parameters due to its abundance in observed trips, from which almost all fish measured for length were also sampled for biological data.

Sprat (*Sprattus sprattus*) was oversampled for length in commercial fishery by 60% (10% above the threshold). This oversampling is mainly caused by the intensive sampling at sea. When the measurements are taken by an observer during the trip at sea, the reason for over-sampling is often that all fish chosen randomly as a subsample have to be measured in order to calculate the retained and discarded portion of the whole catch.

Sprat was also oversampled (by 85%) in case of biological data during surveys mainly due to the fact that higher number of individuals per 0,5 cm length class from the range 5-10 were taken for sampling.

Undersampling:

Although European eel (*Anguilla Anguilla*) was slightly undersampled for biological parameters, but it does not affect the results of the stock dynamics model as the total number of sampled eels is sufficient for modeling purposes (see more detailed comments in Text Box 1E).

Herring (*Clupea harengus*) in SD 22-24 were slightly undersampled for length during surveys due to very low abundance of this species in BITS surveys (which are not dedicated to pelagic stocks).

Sprat (*Sprattus sprattus*) was undersampled only by 2% below the threshold.

Cod (*Gadus morhua*) in commercial fishery was undersampled due to insufficient number of sampling trips, particularly in GNS fishery, caused by dramatic decline in cod fishery in SD 25-32 (by 46%) and high level of non-responses and refusals to take observers onboard.

Flounder (*Platichthys flesus*) was also undersampled in commercial fishery for biological parameters due to low number of sampling trips, caused by high level of non-responses and refusals to take observers onboard.

Both Plaice (*Pleuronectes platessa*) and Turbot (*Psetta maxima*) were undersampled for the same reason as flounder and cod (high level of refusals) as those species are by-catch in cod and flounder fisheries.

Sea trout (*Salmo trutta*) was undersampled (by 23%) due to the fact that it was not possible to obtain sufficient number of fish, both from self-sampling or from the market, to achieve the target.

Pike perch (*Sander lucioperca*) was significantly undersampled because of dramatic decline in fishery (by 46%). Additionally, the on shore samples are purchased from fishermen by weight and are presented in boxes, with unknown number and size/weight of individual fish in a box.

Other Regions - North Sea and Eastern Arctic

There were only slight shortfall in sampling for cod stock (*Gadus morhua*) due to the fact that during the one trip planned to sample this stock in WP the vessel changed fishing ground and target species. This was also the reason for undersampling of *Melanogrammus aeglefinus* and *Pollachius virens*, which are by-catch species in cod fishery.

Other Regions – CECAF

No deviations from WP

Other Regions – SPRFMO

Based on a new multilateral agreement between DEU-LTU-NLD-POL, from 2017 Poland is coordinating joint sampling program for biological data collection on board EU fishing vessels engaged in the fishery for small pelagic fish in the SPRFMO area (South-East Pacific).

Biological sampling in this Region in 2017 was conducted in line with the SPRFMO Data Standards (CMM 02-2017) and the requirements of the SPRFMO Conservation and Management Measure for *Trachurus murphyi* (CMM 01-2017).

3. Actions to avoid deviations.

Member State to describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section is not applicable.

Baltic Sea

The main reason for deviations in sampling intensity was high level of non-responses and refusals to take observers onboard. Actions to avoid or mitigate deviations were already taken during the sampling year.

A dedicated web application was developed to support sampling process management. The application provides three types of user roles:

- Administrator – management of PSUs groups, vessels and trips. Access to fishery statistics, drawing of vessels, assigning coordinators to groups.
- Coordinator – partial permission for trips' management within the assigned groups. Assigning observers to trips.
- Observer – restricted access to trips with a possibility to view assigned trips.
-

In November 2017 a module for contact's details management was successfully implemented. Contact details to vessel owners were intensively collected from many sources.

The new sampling design and the application mentioned above were presented during the WGCATCH meeting, 06-10.11.2017 in Kavala, Greece. The content of the presentation was widely discussed and feedback from experts was registered. The recommendation from the WGCATCH was to examine the stratification of the sampling program and consider lower number of groups of PSUs in order to avoid having stratums with small number of samples. Another suggestion was to consider having one annual list of randomly selected PSUs instead of four quarterly lists. In 2018 it was decided to have one list of PSUs instead of two separate lists for at-sea and on-shore sampling. It was also agreed that at-sea samples have higher priority than on-shore samples. Taking into account the feedback from WGCATCH further modifications will be considered in 2018.

Other Regions – NS&EA, CECAF and CECAF

No action needed.

(max. 1000 words per Region/RFMO/RFO/IO)

Text Box 1D - Recreational fisheries

General comment: This box fulfills paragraph 2 point (a) (iv) of Chapter III of the multiannual Union programme and Article 2, Article 3 and Article 4 paragraph 1 of the Decision (EU) 2016/1701. This box is applicable to the Annual Report. This box is intended to provide information on the design, implementation and analysis of all components of sampling schemes/ surveys that are listed in Table 1D.

1. **Description of the target population**

The target population and the elements of this target population accessibility, need to be defined and described in this section. In the case of Recreational Fisheries, the target population could be whole population of resident anglers, charter boats etc. This will permit to evaluate if all sectors contributing to the total catch, are included in the survey.

In Poland there is a dedicated fleet segment of charter boats adapted to cod recreational fishery – angling with fishing rods (LHP). For the purpose of sampling this segment under DCF, the Primary Sampling Unit is vessel/trip and the target population was defined as the total number of recreational sea-going trips targetting cod. The size of this target population varies between years with decreasing trend over the last years. Total number of cod angling trips in 2014 was 11217, in 2015 was 10158, and in 2016 was 9373 (data for 2017 are under processing and final figures are not availabe yet).

2. **Type of survey**

In Table 1D, the methodology or type of survey used must be included, but any information about the design is missing.

Table 5A in the Work Plan allows to identify if the sampling design is documented and where it can be found. Are the surveys identified correctly in table 5A and information about sampling design provided under this table?

If the answer is No: information on the design should be included in this section of the Annual Report (e.g.: stratification, selection of PSU, is sampling probability base etc.).

The recreational fishery for cod (*Gadus morhua)* in Poland is monitored using effort information (number of angling trips in sampling frames - ICES Subdivision and quarter) provided by Harbour Master Offices and mean weight of cod per trip in the given sampling frame calculated from on-board observed trips.

Four types of data were collected in order to monitor the development of *Gadus morhua* recreational fisheries and to estimate the catch level.

1. Data on the number of recreational sea-going trips and the number of anglers participating at those trips were collected from Harbour Master Offices' registers.
2. Data on total weight of fish caught and biological data (length, weight, sex, maturity and age) were collected and processed from angling trips with observers on-board.
3. Daily reports of recreational catch delivered to regional inspectorates of marine fisheries by owners of charter boats (mandatory catch reporting since March of 2015).
4. Interviews with anglers (questionnaires' survey) during on-board observer trips.

Data on number of recreational sea-going trips and the number of anglers participating at those trips collected from Harbour Master Offices' registers are the comprehensive data source on marine recreational fisheries status. Each angling vessel's departure, including number of anglers on-board, is recorded in Harbour Master Offices' documents. However, data on number of recreational fishing

trips in the whole 2017 can be collected from Harbour Master Offices in 2018. At the time of preparation of this AR, data on total number of these trips in 2017 were incomplete. Nevertheless, preliminary data for 2017 indicate that the total number of recreational fishing trips continues to decline.

Main purpose of on-board observed trips was to measure the length and weight of each fish caught in order to determine catch composition and the whole catch of fish during given trip (part of the catch was also sampled for other biological data - sex and age). This allows for estimating the total catch applying raising method by number of trips recorded by Harbour Master Offices. In order to obtain uniform coverage of biological data sampling over the year and ICES Subdivision, the number of planned and executed observed sea-going trips in 2017 was increased to 24 (as compared to 12 in 2016), with the aim of having 6 observed trips in each quarter (2 observed trips per month).

3. **Data Quality**

Information about non-responses and refusals is found in the Work Plan, Table 5A. Are non-responses and refusals recorded in table 5A?

If the answer is No: information on recordings of non-responses and refusals should be included in this section of the Annual Report.

Non-responses and refusals are recorded for questionnaires' survey. At-sea biological sampling is not fully randomized but based on vessels' availability (drawing from the vessel list).

In order to reduce the potential bias regarding data quality, the monitoring of the *Gadus morhua* recreational fisheries was extended by supplementary questionnaires' survey and recreational catch data from charter boats' daily reports.

4. **Data Analysis and processing**

Information about data processing is found in the Work Plan, Table 5A. Are the editing and imputation methods documented and identified?

If the answer is No: information on estimation procedures should be included in this section of the Annual Report, following the questions below:

Does the estimation procedure follow the survey design?

Has the precision of the estimates been calculated and documented?

No – neither editing and imputation methods nor the precision of the estimates are documented yet. Imputation is not performed at national level. Hence, no documentation on imputation methods.

The estimation procedure follow the survey design. By raising sample mean weight of the anglers catch from observed trips in a given stratum by the known number of trips at the population level, the total recreational catch of *Gadus morhua* is obtained.

(max. 900 words per survey)

SECTION 1: BIOLOGICAL DATA

Pilot Study 1: Relative share of catches of recreational fisheries compared to commercial fisheries

General comment: This box fulfils paragraph 4 of Chapter V of the multiannual Union programme and Article 2 and Article 4 paragraph (3) point (a) of the Decision (EU) 2016/1701.

General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study.

1. **Aim of pilot study- marine waters**

Development of a map of the Polish Exclusive Economic Zone with spatial and temporal distribution of salmon, seatrout and eel recreational fisheries by species and fishing techniques, which will serve to design an appropriate monitoring and sampling programme.

2. Duration of pilot study

Based on the recent observations, depending on the target species and fishing techniques used in recreational fisheries in the Polish maritime waters, the pilot study should cover period from late winter to late autumn. It is planned to conduct pilot study in 2017 and it is anticipated that it will last 10-11 months. In case the results of a survey are unsatisfactory, i.e. planned goal is not achieved, it is anticipated that a new or modified pilot study, based on the experience gained in 2017, will be conducted for another 10-11 months in 2018.

3. Methodology and expected outcomes of pilot study

Due to the differences in time and techniques of recreational fisheries targeting salmon, seatrout and eel, study is divided into two main modules.

Module 1
This module is dedicated to monitoring of recreational fisheries of salmon and trout conducted at sea with the use of trolling technique (trolling boats), over the periods from late winter to early spring and in the autumn.
There are two basic categories of trolling boats active in this fisheries:
Commercial boats, for which the recreational fishery is an official commercial activity. Such boats take on board up to 4-6 recreational fishermen who are fishing under the interim or full-year permit/license purchased by the boats' owners,
Other boats, taking occasionally on board recreational fishermen holding individual fishing permits.
Three main methods will be applied to monitor the composition of the fleet engaged in the recreational fishery and fishing effort:

- remote CCTV cameras installed in ports known as the most important for salmon and seatrout recreational fishery (Gdynia, Hel, Jastarnia) and at least small harbour equipped with facilities for launching boats and pontoons;
- on-site and off-site questionnaire interviews,
- entering into contracts with trolling boats' skippers/owners for filling an annual fishing logbooks.

Preliminary results of the study on the use of remote CCTV cameras for monitoring of recreational salmon trolling fishery effort (presented at the 2016 ICES Annual Science Conference) revealed that remote cameras proved to be a cost-efficient method providing accurate fishing effort estimates helping to reduce bias in recreational catch estimates.
In order to determine catch composition and to collect basic biological data, observers from National Marine Fisheries Research Institute (NMFRI) will participate in trolling cruises targeting salmon and seatrout.
Onboard observations at sea, on-site interviews and data collected through the CCTV cameras will serve to verify the reliability/accuracy of the catch volumes estimates based on the off-site questionnaire interviews.

Fisheries Inspectorates along the Polish coast will be contacted and/or visited in order to collect data on the number of recreational fishing permits/licenses issued and on structure of those permits/licenses (interim or full-year).

Module 2
This module is dedicated to monitoring of coastal (from the shore) recreational fisheries of eel and seatrout from the shore with the use of fishing rods, over the periods from late winter and early spring to late summer. The main methods applied to monitor this segment of the recreational fishery will be on-site and off-site questionnaire interviews and field observations by the observers from NMFRI. Estimated catch size declared in the off-site questionnaire interviews will be verified by the direct field observations.

Expected outcomes of the Pilot Study include:

- identification of categories of the Polish recreational fisheries,
- estimates of the catch volume and composition and catch per unit effort,
- spatial and temporal distribution of the salmon, seatrout and eel recreational fisheries,
- size and composition of the recreational fishery fleet (the share of the commercial trolling boats in the total number of trolling boats),
- number and structure of the recreational fishing permits issued annually,
- socio-economic information on recreational fishery,
- development of methods for effective monitoring of recreational fisheries, taking into account local conditions.

Aim of pilot study - inland waters
Sea trout is an important angling goal in the coastal rivers. The majority of rivers of this area are located within the Polish Angling Assosiation (PAA) usage range. Currently, the only source of information on the level of angling catches is catch registers maintained by particular PAA districts. Unfortunately, the data obtained from the records are incomplete. This is due to the different level of recovered records in particular districts, the lack of information on catches of visiting anglers and the problem of reliability of data entered into registers. The aim of this pilot study is to implement a set of actions enabling gathering and development of reliable data on angling catches of sea trout and salmon in the selected rivers of the northern Poland.

Duration of pilot study
The pilot study should cover all year period execept closed season.
It is planned to conduct pilot study in 2017 and it is anticipated that it will last 9 months. In case the results of a survey are unsatisfactory, i.e. planned goal is not achieved, it is anticipated that a new or modified pilot study, based on the experience gained in 2017, will be conducted for another 9 months in 2018
Methodology and expected outcomes of pilot study

Three rivers of different size have been selected for a pilot study, i.e. Słupia and Rega which are the Pomeranian rivers (SD 25), and the Ina river that belongs to the Oder catchment area (SD 24). They are all mixed sea trout rivers, where sea trout is also the main object of angling catches. The protection period for sea trout lasts from 1 October to 31 December. The sea trout angling in Poland is focused mainly on catching kelts (January–March). Apart from this period, the months of increased pressure are September and the turn of June and July. The methodology of estimating the angling catches will be based on the following elements:

- Analysis of catch records from the PAA districts of the analyzed rivers. Since the access to data is shifted in time, the time of processing results falls for the next year.
- Involvement of local anglers, one for each of the rivers. Their task will be to collect information about the caught individuals through the so-called angling exchange and direct surveys by the water. During the peak season, a series of questionnaires at the most popular sections of the rivers is expected.
- Analysis of the two most popular angling online forums dedicated to salmonids. Preparation of a questionnaire.
- Confrontation of angling data with information obtained from automated meters (Słupia and Ina - Riverwatcher) and data from the catch points (Rega and Słupia).

Effect/Results of pilot study

- Development of methods for data collection and verification of angling catches on the basis of direct angling surveys and through online queries.
- Calibration of a method based on data from meters and river fish catches.
- Study on the possibility of extending activities to further sea trout rivers in Poland.

Brief description of the results obtained (including deviations from planned and justifications as to why if this was not the case).

Pilot study – marine waters

In 2017, a standardized questionnaires relating to trolling and coastal recreational fishing targeting sea trout salmon and eel have been developed. In addition, an application enabling recording of the interviews' results in the field has been developed (an electronic questionnaires). Because of formal procedures field inquiries only started in August 2017 and were conducted till December 2017. During this work, a development of map with areas having an importance in recreational fisheries (hot spots), including species, method, and catch period has been initiated. Furthermore, work related to preparation of off-site (on-line) questionnaire survey were initiated. This work will be continued in 2018.

Due to formal procedures with getting necessary permits relating to free-access to the marinas and habors a trolling boat counting started in April 2017 and continued in November-December 2017. This periodicity has been determined by specifics of trolling fishing. This work provides information about activity of trolling fishery in different part of fishing season and will be continued in 2018.

In the first half of 2017, a formal procedures were initiated to get permits regarding the installation of CCTV monitoring in harbors known as the most important for trolling fishery and at least small harbour equipped with facilities for launching boats and pontoons. Due to the prolongation of formalities the CCTV sets were installed late in December 2017 and only a trial records were conducted. For technical reasons, only two CCTV sets were instaled in two harbors (Hel and Gdańsk-Górki Zachodnie) for providing accurate fishing effort estimates helping to reduce bias in recreational catch estimates. This element of the Pilot Study will be continued in 2018 covering winter, spring and autumn seasons.

As a part of Pilot Study, a special fishing logbook (diaries) has been prepared for monitoring the activity of trolling fishing and for evaluation of potential catch per unit effort defined as a catch per day per boat. Starting from November 2017, a trolling boats' skippers are invited to fil in an annual fishing logbooks on a voluntary basis. This work will be continued in 2018.

In addition, starting in November 2017 a direct on-board observations of trolling catches have been conducted to verify estimated catch size declared in the off-site questionnaire interviews. Presence of Observers on board trolling boats, enables better understanding of the specifics of trolling fishery and anglers society.

4. Achievement of the original expected outcomes of pilot study and justification if this was not the case.

- identification of categories of the Polish recreational fisheries – **High;**
- estimates of the catch volume and composition and catch per unit effort – **Moderate** (more observations are needed including fishing seasons and fish species);
- spatial and temporal distribution of the salmon, seatrout and eel recreational fisheries – **Moderate** (more observations are needed including fishing seasons and fish species);
- size and composition of the recreational fishery fleet (the share of the commercial trolling boats in the total number of trolling boats) – **Moderate** (more observations are needed to define size and composition of the trolling fishery fleet);
- number and structure of the recreational fishing permits issued annually – **Low** (task postponed for 2018);
- socio-economic information on recreational fishery – **Moderate** (more observations are needed separetly for particular group of anglers targeting different fish species);
- development of methods for effective monitoring of recreational fisheries, taking into account local conditions – **Moderate** (more observations are needed for particular types of recreational fisheries targeting different fish species).

5. Incorporation of results from pilot study into regular sampling by the Member State.

Not applicable yet.

Pilot study – inland waters

According to the Work Plan, in 2017 a monitoring of recreational fishery targeting sea trout and salmon was conducted on three rivers: Słupa, Rega, Ina. During this work a catch reports from the Polish Angling Association districts were analyzed for years 2013-2015 (Rega R. and InaR.) and 2003-2015 for Słupia R. Furthermore, on-site interviews were conducted in 2017 using standardized questionaires. As a complementary method, catch data from two most popular angling online forums dedicated to salmonids were analysed. Data from automatic fish couters (Słupia and Ina - Riverwatcher) and data from the catch points (Rega and Słupia) were collected.

Angling data were initially verified.

4. Achievement of the original expected outcomes of pilot study and justification if this was not the case.

- Development of methods for data collection and verification of angling catches on the basis of direct angling surveys and through online queries – **Moderate** (more observations are needed divided into fishing seasons to evaluate monitoring methods suitable for this type of fishing);
- Calibration of a method based on data from fish counters and river fish catches – **Moderate** (more catch data are needed - this task is postponed for 2018)
- Study on the possibility of extending activities to further sea trout rivers in Poland – **Moderate** (more observations are needed to develop monitoring methods suitable for this type of fishing)

5. Incorporation of results from pilot study into regular sampling by the Member State.

Not applicable yet.

(max 900 words)

Text Box 1E: Anadromous and catadromous species data collection in fresh water

General comment: This box fulfills paragraph 2 points (b) and (c) of Chapter III of the multiannual Union programme and Article 2 of the Decision (EU) 2016/1701.

General comment: This box is applicable to the Annual Report.

1. Method selected for collecting data.

European eel

Already since 2010 WGEEL has been indicating the need of an assessment of biomass and mortality indicators in management as well as scientific reference points to ultimately result in a scientific advice framework that works in line with the ICES precautionary approach (RCM Baltic 2016). The sampling design will provide relevant data for biomass assessment to WGEEL to perform the approach for international stock assessment.

As required by DECISION (EU) 2016/1251 data collection for two Polish EMU`s (Oder and Vistula) will consist of:

- catch quantities derived from inland and marine commercial fisheries (logbooks and official statistical questionnaires)
- biological variables – age, length, weight, sex and life stage.
- the abundance of recruits – catch data obtained from eel ladders set in Pomeranian rivers, data on stocking from statistical questionnaires and resellers.
- the abundance of the standing stock – calculated by mathematical modelling, supplemented by data from scientific non selective fyke nets set in lagoons and electrofishing in lakes.
- the number of emigrating silver eels will be calculated by mathematical modelling.
- the stock dynamics of eel for both EMU's is estimated using a version of CAGEAN model (Deriso et al., 1985),

Salmon and sea trout

Data about volume of commercial catches will be obtained from logbooks (marine waters) and special questionnaires (inland waters).

Stock related variables will be collected during at-sea monitoring of commercial catches and landings in marine and inland waters.

Information on abundance of salmon smolt and parr and number of ascending individuals is not relevant. There are no wild salmon rivers in Poland. At the moment the estimation of stock status is made by executing the assessment model for 17 wild salmon stocks and by expert evaluation in 25 wild salmon rivers. Accidental catch of salmon parr will be noted during sea trout electrofishing survey.

The present EU MAP regulation does not recognize the need of sea trout parr density data that is obtained by electrofishing surveys in rivers. By now, these surveys are in many countries conducted outside the EU data collection. However, as these data gives the basis for the ICES advice, a solid foundation for the relevant river surveys should be established in the EU MAP in order to guarantee the continuation of parr density data series at least in a minimum scale in each assessment unit (RCM 2016). Poland will perform standard electrofishing surveys in 30 sites on 13 rivers. Data will be delivered to WGBAST annually.

(max 250 words per Area)

2. Were the planned number achieved? Yes/ No

European eel

Regarding fishery dependent data, planned number was not achieved in case of yellow life stage in the area "Oder EMU" (81%). For other EMUs and life stages the achievement was higher than planned (between 108% and 130%).

Reason for non-conformity of freshwater commercial catches eel sampling:

Eels were purchased from commercial fishery, targeting both stages (yellow and silver) on fyke nets. For analysis, individuals were chosen after visual observation (based on the coloration), simultaneously measuring all the parameters necessary to determine classification based on Durif *et al. 2005.*

After calculating the Durif index, some individuals were re-classified to a different stage than those resulting from visual observation. However, this does not affect the results of the stock dynamics model, which does not require separation of stages. Total number of sampled eels is sufficient for modeling purposes.

Reference: *DurifC. DufourS. EliePP., 2005. The silvering process of Anguilla anguilla: a new classification from the yellow resident to the silver migrating stage. J. Fish Biol. 66:1025-1043.*

Regarding fishery independent data, the number of traps and electrofishing sites in inland lakes and in Pomeranian rivers were increased as compared to the numbers originally planned in order to evaluate the "quality" of potential sites and to determine the most representative sites for future sampling.

Salmon and sea trout

Yes – the planned number was achieved

If answer is No, Member State shall explain why not, and what measures were taken to avoid non-conformity.

(max 500 words per Area)

Text box 1F: Incidental by-catch of birds, mammals, reptiles and fish

General Comment: This box fulfils paragraph 3 point (a) of Chapter III of the multiannual Union programme and Article 2 of the Decision (EU) 2016/1701. This box is applicable to the Annual Report. This box is applicable only for those sections where Member States have reported that they have been carrying out regular sampling. Results and deviations for Pilot studies should be reported under Pilot Study 2.

1. Results

Member States shall fill in Table 1F and provide additional information, if available, in this text box. For example, species (or family) identification, number of samples, and the state of the animals incidentally by-caught (i.e. were they released alive, dead, or collected for sampling).

For all sampling and observation activity of commercial fishery in 2017, only one specimen of *Alosa fallax* was recorded in March, in ICES SD 25 in the stratum "Baltic sprat trawlers" using OTM.

During BITS research survey in September 2017, the following fish were by-caught in control hauls:

- in ICES SD 25 - two individuals of *Lumpenus lampretaeformis*, and two individuals of *Alosa fallax*;
- in ICES SD 26 – 17 individuals of Alosa fallax and one individual of Liparis liparis

During BIAS research survey in September 2017, five individuals of *Lampetra fluviatilis* were by-caught in control hauls - three in ICES SD 24 and 2 in ICES SD 26.

2. Deviations from Work Plan

As indicated in Text Box 4A, in addition to what was planned in WP:

- one trip was observed in stratum POL SAN (fishing for *Ammodytidae*). There were no such fishery recorded in the reference period (2013-2015) but this fishery was observed in short periods in 2016 and 2017 and is locally important.
- one trip was observed in stratum POL LLS (targeting *Gadus morhua*).

NA - No other deviations from WP.

3. Data quality

Member States shall provide information on sampling protocols and sampling design for incidental by-catch data collection.

Questions to be addressed are listed below:

- Does the onboard observer protocol contain a check for rare specimens in the catch at opening of the codend? If YES is the observer instructed to indicate if the codend was NOT checked in a haul?

YES – observers are instructed and obliged to record results of observation of the incidental by-catch of protected species from all observed hauls (in longer fishing trips with many hauls, observer must record the number of hauls observed and not observed).

- In gill nets - and hook-and-line fisheries: does the onboard observer protocol instruct the observer to indicate how much of the hauling process has been observed for (large) incidental bycatches which never came on board (because they fall out of the net)? In large catches: does the protocol instruct to check for rare specimens during

sorting of the catch (i.e. at conveyor belt)? Is the observer instructed to indicate what percentage of the sorting or hauling process has been checked at "haul level"?

Standard procedure is that observer is obliged to observe whole hauling-in and sorting processes and to record all by-catch, including by-catch of protected species, and to determine both the main catch and by-catch composition (with length measurement). Additionally, observer is specifically requested to document (including taking photos) by-catch of protected species.

-Does the onboard observer protocol instruct to report on the use of mitigation (i.e. Escape Devices or Acoustic Deterrent Devices)?

In some but not all sampling schemes observer protocol includes requirement to report the use of mitigation device. Observer protocols for all sampling schemes will be revised to include this requirement in the future.

- Does the sampling design and protocol follow the recommendations from relevant expert groups? Provide appropriate references. If there are no relevant expert groups, the design and protocol have to be explained in the text.

There are not recommendations from the relevant expert groups on sampling design regarding by-catch observations yet. The ICES WGBYC started discussion on that issue but it is still at the initial stage.

Before each at-sea trip, observers are provided with written instruction specifying sampling requirements adapted to the type of fishing activity she/he is going to observe.

- Are data quality issues taken into account?

YES

- How are data (and samples) stored

In national database (NPZDRpl)

(max 900 words)

SECTION 1: BIOLOGICAL DATA

Pilot Study 2: Level of fishing and impact of fisheries on biological resources and marine ecosystem

General comment: This Box fulfills paragraph 3 point (c) of Chapter III of the multiannual Union programme and Article 2 and Article 4 paragraph (3) point (b) of the Decision (EU) 2016/1701.
General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study.
1. Aim of pilot study **NA** 2. Duration of pilot study NA 3. Methodology and expected outcomes of pilot study **NA** *(max 900 words)*
Brief description of the results obtained (including deviations from planned and justifications as to why if this was not the case). 4. Achievement of the original expected outcomes of pilot study and justification if this was not the case **NA** 5. Incorporation of results from pilot study into regular sampling by the MS **Not applicable – no Pilot Study 2 planned in WP** (max 900 words)

Text Box 1G: List of research surveys at sea

General comment: This box fulfills Chapter IV of the multiannual Union programme and Article 2 and Article 7 paragraph (3) of the Decision (EU) 2016/1701. It is intended to specify which reseach surveys at sea set out in Table 10 of the multiannual Union programme will be carried out. Member States shall specify whether the research survey is included in Table 10 of the multiannual Union programme or whether it is an additional survey.

General comment: This box is applicable to the Annual Report. This box should provide complementary information on the performance of the surveys, the results and their main use.

Baltic International Trawl Surveys – BITS-1Q and BITS-4Q

The research surveys are included in Table 10 of the multiannual Union programme.

1. Objectives of the survey

An evaluation of *Gadus morhua* and *Platichthys flesus* and, to some extent, *Sprattus sprattus* and *Clupea harengus* recruiting year classes strength (abundance index) and analysis of their distribution during winter (BITS-1Q) and autumn (BITS-4Q) in the bottom zone of the southern Baltic.

2. Description of the methods used in the survey. For mandatory surveys, link to the manuals. Include a graphical representation (map)

A set of control hauls (with the use of a standard bottom trawl) and hydrological parameters measurements at randomly selected stations.

ICES Manual for BITS surveys : *ICES. ADDENDUM 1: SERIES OF ICES SURVEY PROTOCOLS; SISP manual for the Baltic International Trawl Surveys (BITS); March 2014; Gdynia, Poland*
(http://dcf.mir.gdynia.pl/?page_id=367)

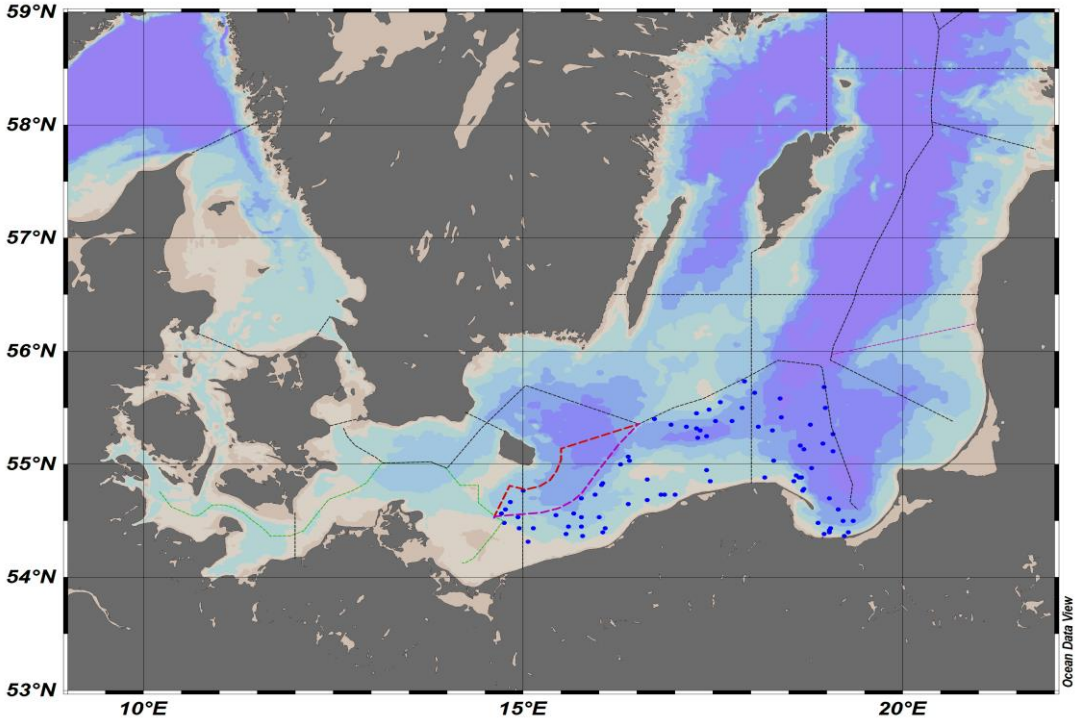


Fig. 1.1. *Location of the bottom trawl hauls and the hydrological standard stations to be performed by the r.v. "Baltica" during the BITS-1Q survey in the Polish part of the southern Baltic.*

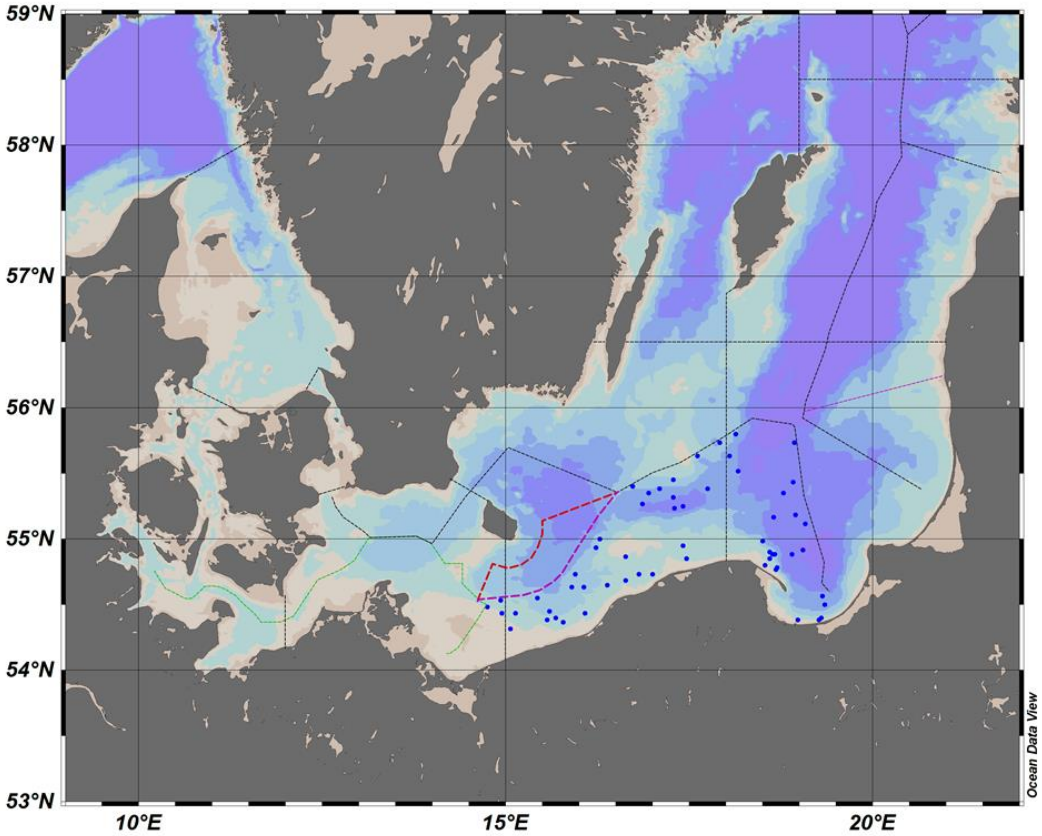


Fig. 1.2. *Location of the bottom trawl hauls and the hydrological standard stations to be performed by the r.v. "Baltica" during the BITS-4Q survey in the Polish part of the southern Baltic.*

3. For internationally coordinated surveys, describe the participating Member States/ vessels and the relevant international group in charge of planning the survey

BITS surveys are coordinated by the ICES Working Group on Baltic International Fish Survey (WGBIFS).
MS participating in BITS-1Q surveys: DEU; DNK; LTU; LVA; SWE
MS participating in BITS-4Q surveys: DEU; DNK; EST; LTU; LVA; SWE

4. Where applicable, describe the international task-sharing (physical and/or financial) and the cost-sharing agreement used

Following recommendations of WGBIFS, each participating MS executes surveys primarily in their respective EEZs. No cost sharing agreements in place yet.

5. Explain where thresholds apply

N.A.

(max. 450 words per survey)

6. Graphical representation (map) showing the positions (locations) of the realized samples.
Member State shall provide maps presenting the spatial distribution of the main sampling types obtained during the survey.

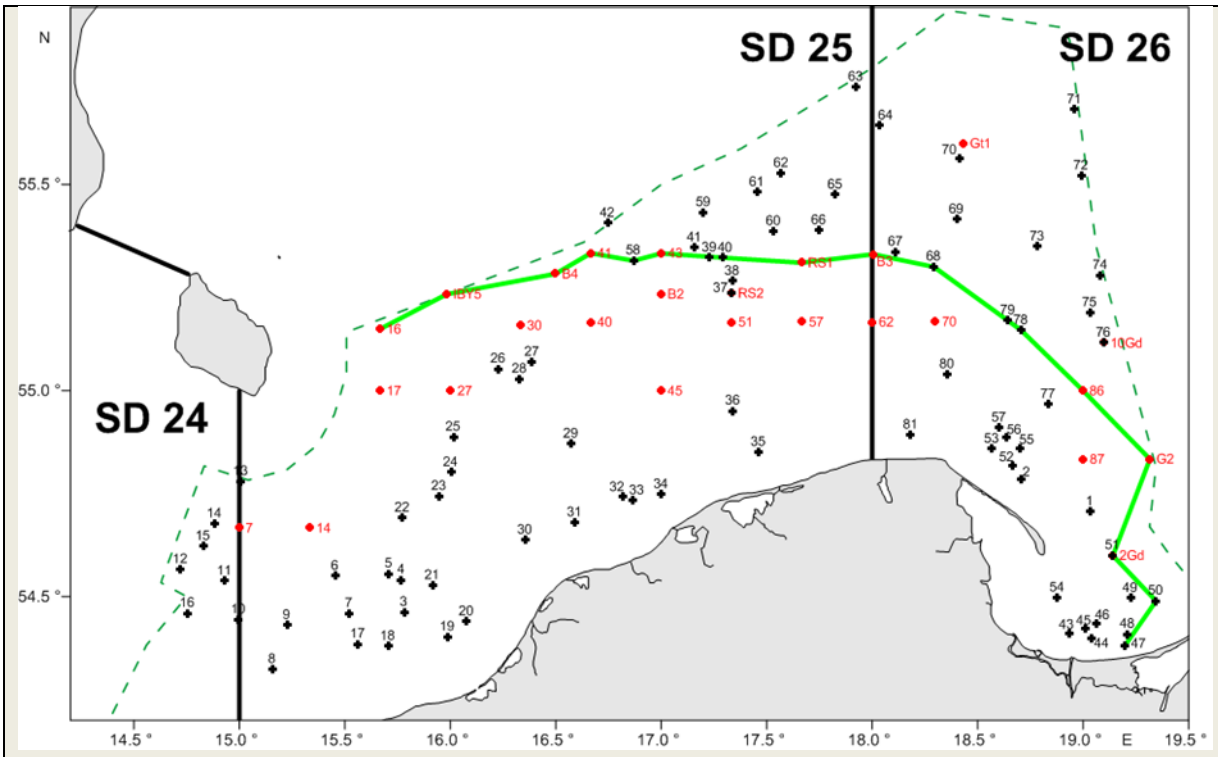


Fig. 1.4. Location of the bottom trawl hauls and the hydrological standard stations performed during the r.v. "Baltica" BITS-1Q 2017 survey in the Polish part of the southern Baltic (black crosses – fish control hauls, red dots – hydrological standard stations, green line – hydrological profile).

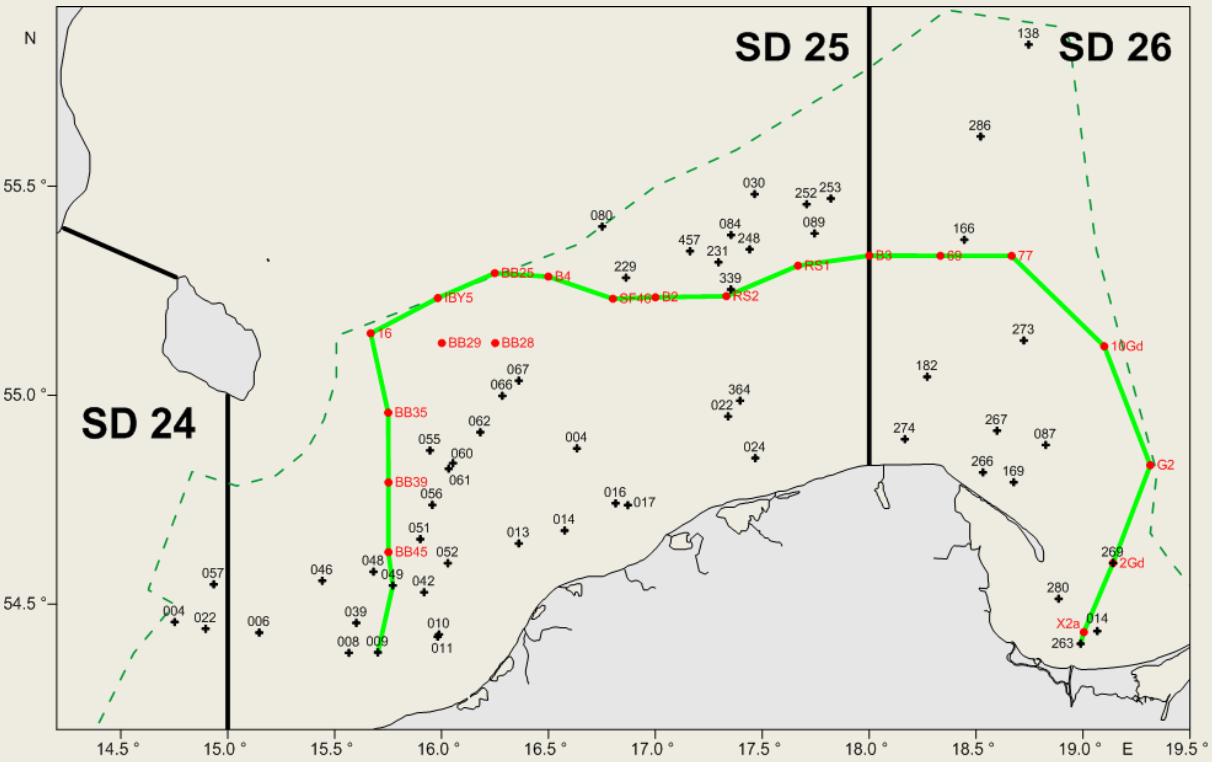


Fig. 1.5. Location of the bottom trawl hauls and the hydrological standard stations performed during the r.v. "Baltica" BITS-4Q 2017 survey in the Polish part of the southern Baltic (black crosses – fish control hauls, red dots – hydrological standard stations, green line – hydrological profile).

7. For internationally coordinated surveys, provide a link to the latest meeting report of the coordination group. Member State shall provide a hyperlink to the meeting report from the body coordinating the survey (ICES, MEDITS coordination group, MEDIAS coordination group etc.). For non-international coordinated surveys, Member State shall refer to any status report (e.g. Cruise report).

http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/SSGIEOM/2017/WGBIFS/WGBIFS%202017.pdf

8. List the main use of the results of the survey (e.g. indices, abundance estimates, environmental indicators). Member State shall specify in which context the results are used (on routine basis), both on an international as well as on a national context.

Survey results are primarily used for stock assessment purposes:
- indices of year-classes abundance of cod and flounder,
- biomass indices of cod (CPUE from BITS surveys).

At national level, survey results are also used as a basis for scientific opinions and description of the actual situation and long term developments in fish stocks status and hydrological conditions in the Baltic – at the request of national fisheries administration agencies.

9. *Extended comments (Tables 1G and 1H)*
If the Member State has extended AR Comments, these can be placed under this section. If this is the case, a reference to this text box should be provided in the corresponding tables.

NA

(max 450 words per survey)

Baltic Acoustic Surveys – SPRAS and BIAS

The research surveys are included in Table 10 of the multiannual Union programme.

The description below refers to two Baltic acoustic surveys of similar scope and methodology: SPRAS - Sprat Acoustic Survey (known also as BASS – Baltic Acoustic Spring Survey) and BIAS - Baltic International Acoustic Survey.

1. Objectives of the survey

The aim of the SPRAS surveys an estimation of the stock indices of *Sprattus sprattus* in May, whereas the aim of the BIAS surveys is an estimation of *Clupea harengus*, *Sprattus sprattus* and, to some extent, *Gadus morhua* stocks resources (biomass and abundance) and analysis of their spatial distribution in the pelagic zone of the southern Baltic during autumn season.

2. Description of the methods used in the survey. For mandatory surveys, link to the manuals. Include a graphical representation (map)

In case of both types of surveys, a set of control hauls (fish catch-stations) with the use of herring small-meshed pelagic trawl is performed as well as echo-integration records (S_A = NASCs; Nautical Area Scattering (Strength) Coefficient) are collected along the pre-selected acoustic transects on the distance of about 830 NM.

BIAS & BASS Surveys Manual: ICES. ADDENDUM 2: SERIES OF ICES SURVEY PROTOCOLS, VERSION 1.02; SISP MANUAL OF INTERNATIONAL BALTIC ACOUSTIC SURVEYS (IBAS); 28-03-2014, GDYNIA, POLAND (http://dcf.mir.gdynia.pl/?page_id=367)

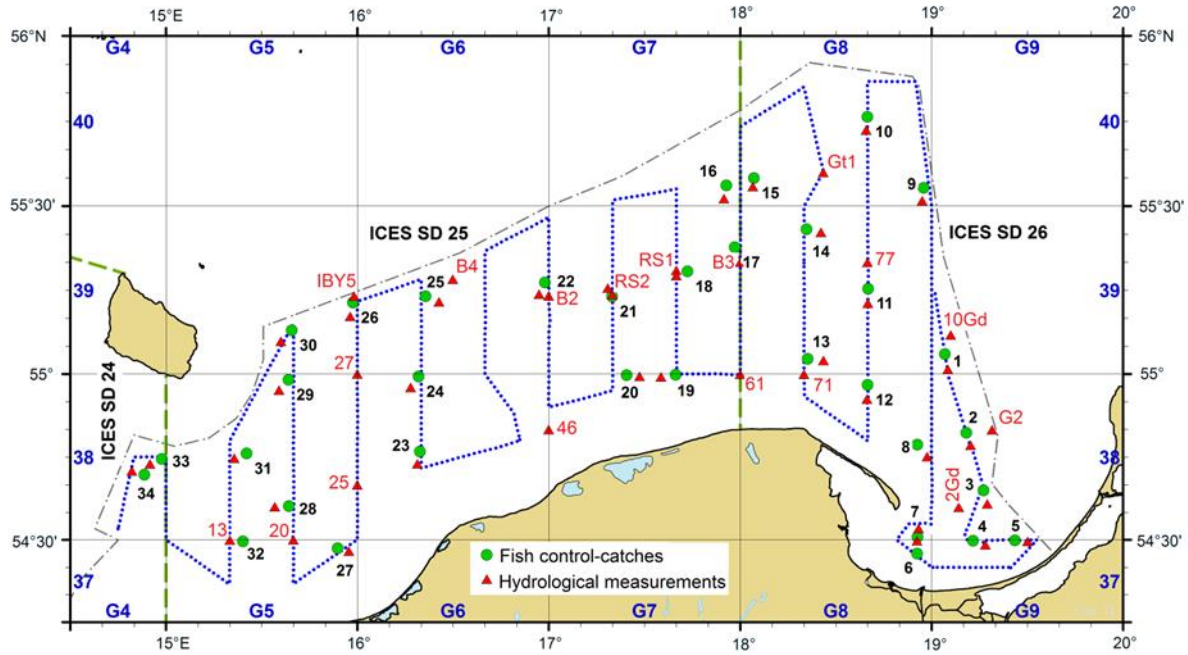


Fig. 1.3. *Location of the echointegration track, pelagic control haul and hydrologic stations during the SPRAS (May) and BIAS (autumn) surveys in the Polish Exclusive Economic Zone on board r/v Baltica.*

3. For internationally coordinated surveys, describe the participating Member States/ vessels and the relevant international group in charge of planning the survey

SPRAS and BIAS surveys are coordinated by the ICES Working Group on Baltic International Fish Survey (WGBIFS).
MS participating SPRAS surveys: DEU; EST; LTU; LVA.
MS participating in BIAS surveys: DEU; DNK; EST; FIN; LTU; LVA; SWE

4. Where applicable, describe the international task-sharing (physical and/or financial) and the cost-sharing agreement used

Following recommendations of WGBIFS, each participating MS executes surveys primarily in their respective EEZs. No cost sharing agreements in place yet.

5. Explain where thresholds apply

N.A.

(max. 450 words per survey)

6. Graphical representation (map) showing the positions (locations) of the realized samples.
Member State shall provide maps presenting the spatial distribution of the main sampling types obtained during the survey.

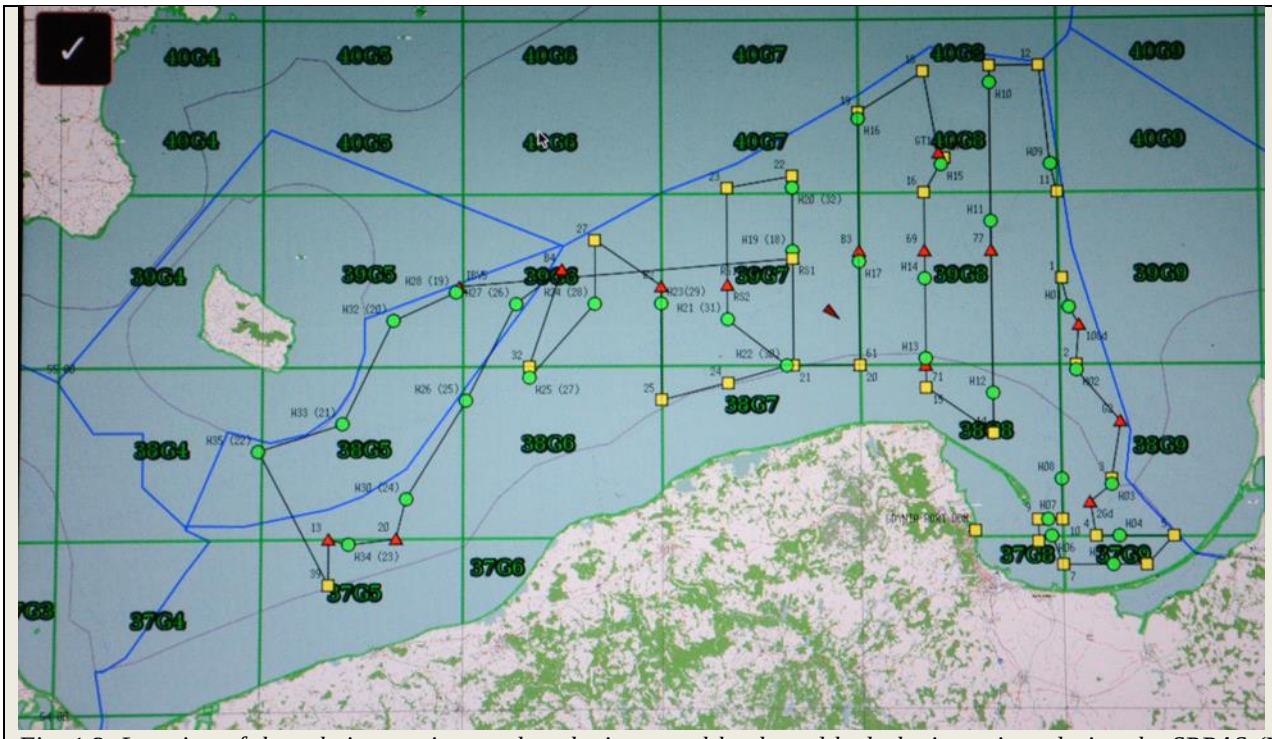


Fig. 1.3. Location of the echointegration track, pelagic control hauls and hydrologic stations during the SPRAS (May 2017) survey in the Polish Exclusive Economic Zone on board r/v Baltica (green dots – pelagic control hauls, red triangles – hydrologic stations, yellow square – turning points of the transects).

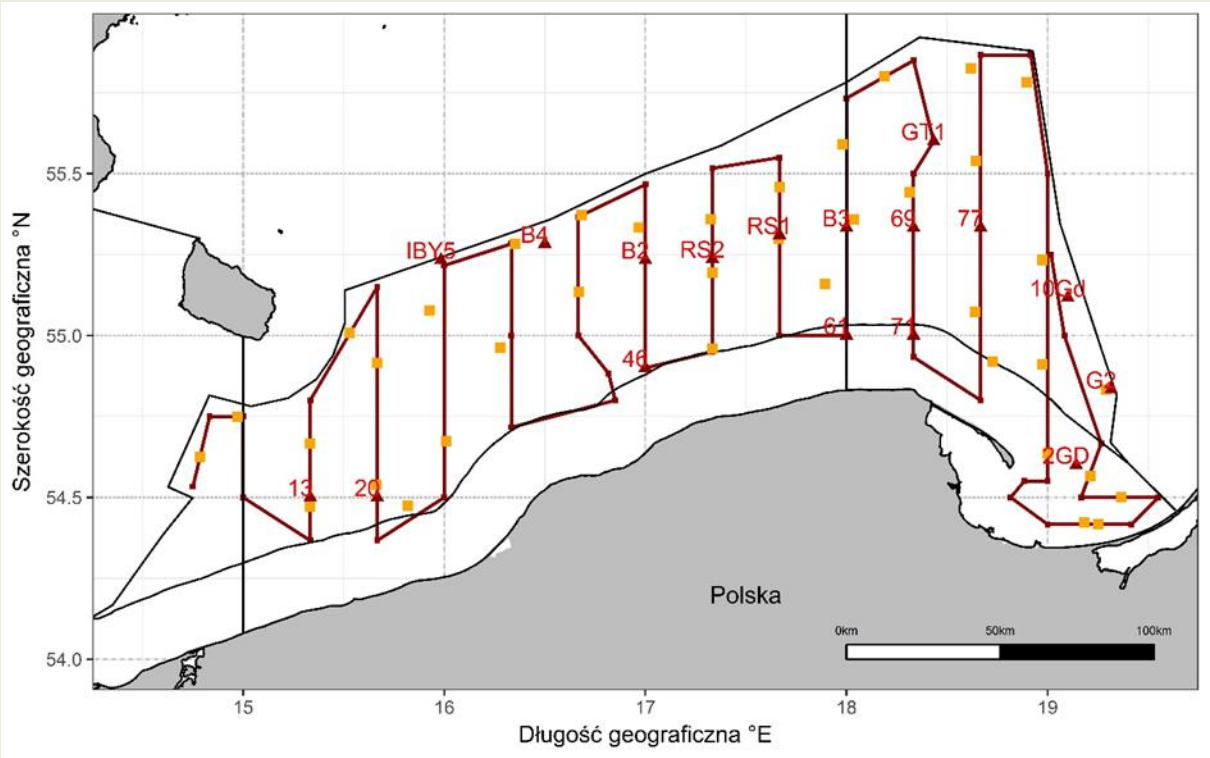


Fig. 1.3. Location of the echointegration track, pelagic control hauls and hydrologic stations during the BIAS (September 2017) survey in the Polish Exclusive Economic Zone on board r/v Baltica (yellow squares – pelagic control hauls, red triangles – hydrologic stations).

7. For internationally coordinated surveys, provide a link to the latest meeting report of the coordination group. Member State shall provide a hyperlink to the meeting report from the body coordinating the survey (ICES, MEDITS coordination group, MEDIAS coordination group etc.). For non-international coordinated surveys, Member State shall refer to any status report (e.g. Cruise report).

http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/SSGIEOM/2017/WGBIFS/WGBIFS%202017.pdf

8. List the main use of the results of the survey (e.g. indices, abundance estimates, environmental indicators). Member State shall specify in which context the results are used (on routine basis), both on an international as well as on a national context.

Acoustic surveys results are primarily used for stock assessment purposes:
- indices of year-classes abundance of sprat and herring,
- biomass estimates of herring, sprat and cod.

At national level, survey results are also used as a basis for scientific opinions and description of the actual situation and long term developments in fish stocks status and hydrological conditions in the Baltic – at the request of national fisheries administration agencies.

9. *Extended comments (Tables 1G and 1H)*
If the Member State has extended AR Comments, these can be placed under this section. If this is the case, a reference to this text box should be provided in the corresponding tables.

NA

(max 450 words per survey)

SECTION 2: FISHING ACTIVITY DATA

Text Box 2A: Fishing activity variables data collection strategy

General comment: This box fulfills paragraph 4 of Chapter III of the multiannual Union programme and Article 2, Article 4 paragraph (2) point (b) and Article 5 paragraph (2) of the Decision (EU) 2016/1701. It is intended to describe the method used to derive estimates on representative samples where data are not to be recorded under Regulation (EU) No 1224/2009 or where data collected under Regulation (EU) No 1224/2009 are not at the right aggregation level for the intended scientific use.
General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the data collection of fishing activity variables of Member States.
1. Description of methodologies used to cross-validate the different sources of data Catch data are compared with the landings data on a trip level in the range of catch composition and catch/landing weight. Fishing locations registered in logbooks are checked with the VMS data. 2. Description of methodologies used to estimate the value of landings The value of landings for each species is estimated for the whole year by multiplying the total landings weight by average price per kg. The average annual exchange rate is used to calculate the value in EUR. 3. Description of methodologies used to estimate the average price (it is recommended to use weighted averages, trip by trip) Average price is obtained from the sales notes data. It is estimated for the whole year for each species by dividing the total value by total weight. 4. Description of methodologies used to plan collection of the complementary data (sample plan methodology, type of data collected, frequency of collection etc) Not applicable. (max 900 words per Region)
5. Deviations from Work Plan methodology used to cross-validate the different sources of data **NA** 6. Deviations from Work Plan methodology used to estimate the value of landings. Sales notes from vessels of length less than 10 meters are stored by the fisheries authorities in a paper form. Due to a limited access to these documents an annual average price is used to estimate the value of landings. In 2018 it will also be considered to include the information on landings weight and value from questionnaires used for economic and social data collection.

7. Deviations from Work Plan methodology used to estimate the average price.

NA

8. Deviations from Work Plan methodology used to plan collection of the complementary data

NA

(max 900 words per Region)

Text Box 3A: Population segments for collection of economic and social data for fisheries

General comment: This box fulfils paragraph 5 points (a) and (b) of Chapter III of the multiannual Union programme and Article 2, Article 4 paragraphs (1), (2) and (5) and Article 5 paragraph (2) of the Decision (EU) 2016/1701. It is intended to specify data to be collected under Tables 5(A) and 6 of the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the fleet socio-economic data collection of Member States.

1. ***Description of methodologies used to choose the different sources of data***

Economic and social data regarding the fishing fleet will come from administrative documents (fishing logs, landing declarations, first sale documents, Fishing Fleet Register) and statistical questionnaires filled out by fishing vessel owners.

2. ***Description of methodologies used to choose the different types of data collection***

The study will be census and questionnaire with economic and social variables will be sent to all active vessels owners. For social variables there will be non-probability survey.

3. *Description of methodologies used to choose sampling frame and allocation scheme*

All data are intend to be collected for a whole population on the basis of census data.

4. ***Description of methodologies used for estimation procedures***

In case of non-responses in census, estimation will be made based on averages for vessels that provided data and information known for a whole population for individual vessels i.e. volume of catches, fishing days, number of vessels within given segment. If there is a lack of information from the whole population (100%), the data are estimated based on the average values of the sample calculated taking into account number of fishing vessels, number of fishing days, number of personnel or catch size (variables known for a whole population).

5. ***Description of methodologies used on data quality***

These data are intend to be complete as they will include information from the whole population. If any fishing vessel owners fail in their obligation to return the statistical questionnaires, the values of the missing parameters for the missing population will be determined based on averaged data from the questionnaires received. Defined as the ratio of number units for which data for at least same variables have been collected to the total number of units designed for data collection.

(max 900 words per Region)

6. Deviations from Work Plan methodology for selection of data source

List the deviations (if any) from the methodology used to select data source compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

No deviation compared to NP proposal took place.

7. Deviations from Work Plan methodology to choose type of data collection

List the deviations (if any) from the methodologies to choose type of data collecton scheme compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

No deviation compared to NP proposal took place.

8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme

List the deviations (if any) from the methodologies used regarding sampling frame and allocation scheme compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

No deviation compared to NP proposal took place.

9. Deviations from Work Plan methodology used for estimation procedures

List the deviations (if any) from the methodologies used for estimation procedures compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

No deviation compared to NP proposal took place.

10. Quality assurance

10.1 Sound methodology

Briefly describe if the data collection follow methodologies, guidelines and best practices agreed in expert groups and whether methodologies are documented and are made publicly available.

In accordance with national regulations, each vessel's owner is legally bound to fill out a questionnaire regarding the economic results of the fishing vessel. In order to ensure the maximum

number of questionnaires is received, similarly to previous years reminders of the obligation to file them were sent by registered mail and phone calls were made to execute the obligation. Recommendations of the Lisbon DCF workshop on "statistical issues related to the collection of economic data within the DCF" (i.e. closer cooperation with PO) were taken into account to deal with the non-response problem. As the number of returned questionnaires did not reach a plan of respond rate, calculations were made, based on the questionnaires received. Economic data received does not usually exceed 70% of respond rate. However all responses were of random character (probability sample), which should ensure the representativeness of the sample. Response rates are provided in an Excel table.

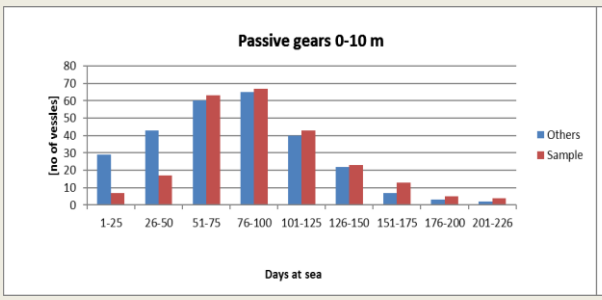
10.2. Accuracy and reliability

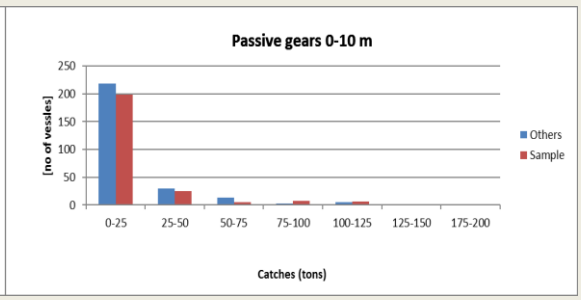
Response rate and Achieved sample rate are provided in Table 3A.

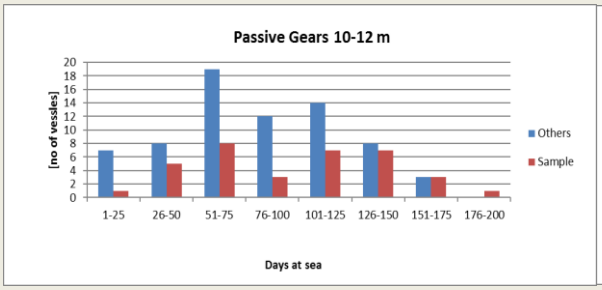
For additional information, briefly describe how raw data inputs, intermediate results and outputs are regularly assessed and validated and how errors are identified, documented and dealt with.

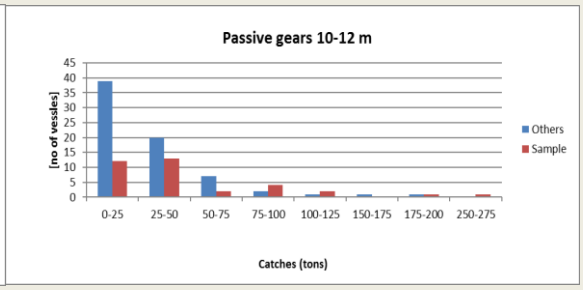
Representativeness

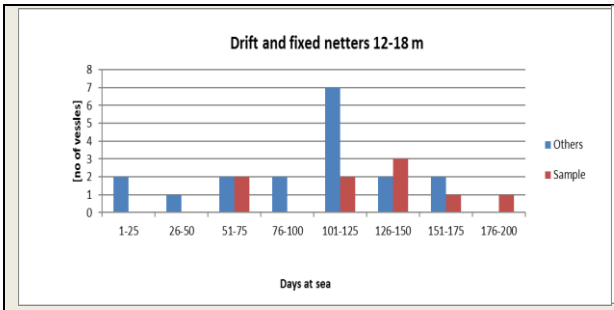
There is no standard approach implemented on how the representativeness of the data can be evaluated. An analysis of the frequency distribution of two variables: volume of catches and effort (days at sea) was performed to check similarity between the sample and the total population. The results presented on graphs below show that there is a little difference between sampled group of vessels and the total population. Species composition of catches by segment confirms also good similarity.

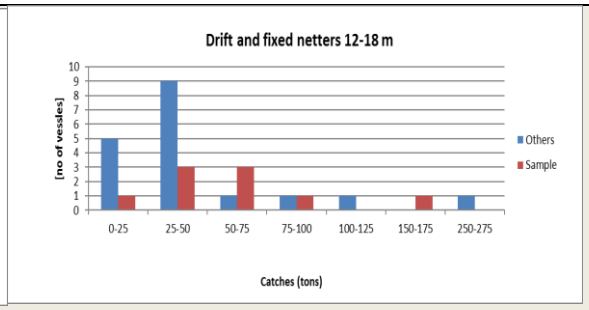


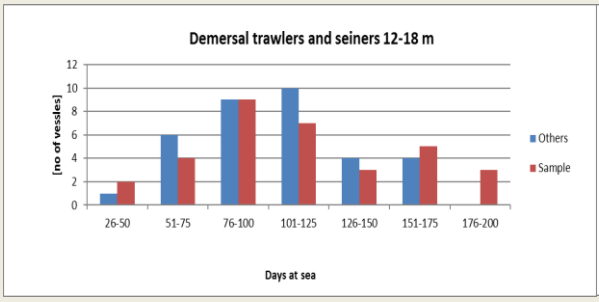


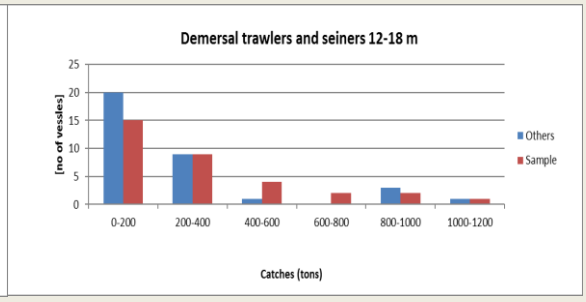


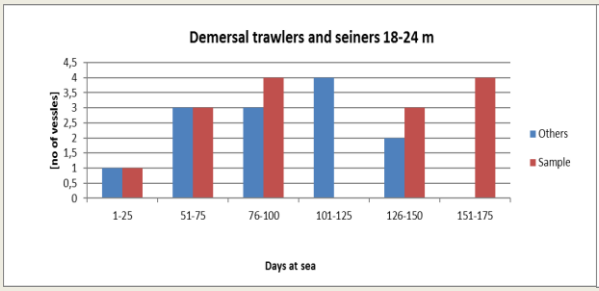


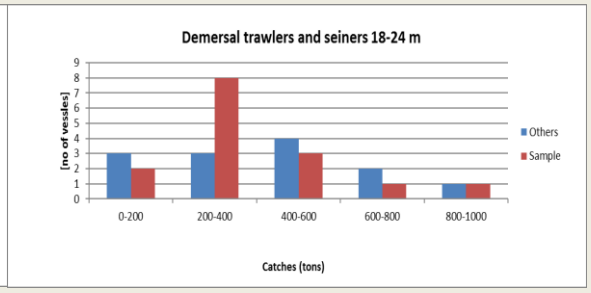

Drift and fixed netters 12-18 m
[no of vessles]
0 1 2 3 4 5 6 7 8
1-25 26-50 51-75 76-100 101-125 126-150 151-175 176-200
Days at sea
Others
Sample

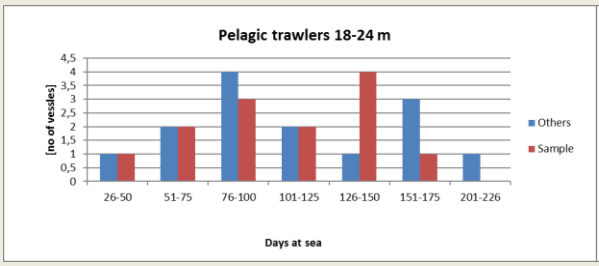

Drift and fixed netters 12-18 m
[no of vessles]
0 1 2 3 4 5 6 7 8 9 10
0-25 25-50 50-75 75-100 100-125 150-175 250-275
Catches (tons)
Others
Sample

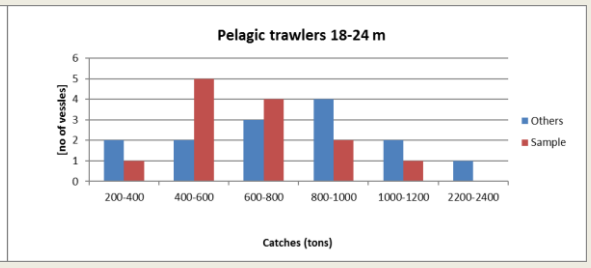

Demersal trawlers and seiners 12-18 m
[no of vessles]
0 2 4 6 8 10 12
26-50 51-75 76-100 101-125 126-150 151-175 176-200
Days at sea
Others
Sample

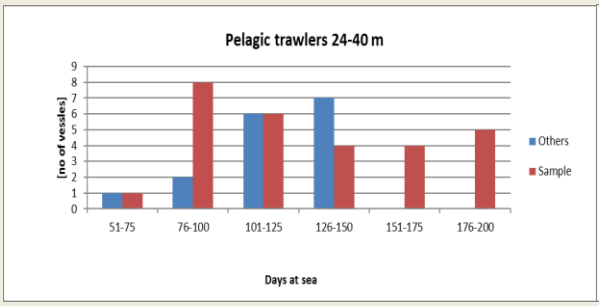

Demersal trawlers and seiners 12-18 m
[no of vessles]
0 5 10 15 20 25
0-200 200-400 400-600 600-800 800-1000 1000-1200
Catches (tons)
Others
Sample

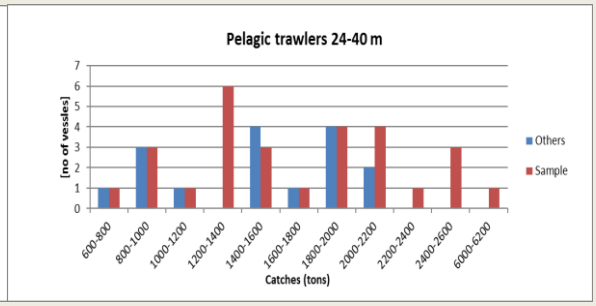

Demersal trawlers and seiners 18-24 m
[no of vessles]
0 0,5 1 1,5 2 2,5 3 3,5 4 4,5
1-25 51-75 76-100 101-125 126-150 151-175
Days at sea
Others
Sample


Demersal trawlers and seiners 18-24 m
[no of vessles]
0 1 2 3 4 5 6 7 8 9
0-200 200-400 400-600 600-800 800-1000
Catches (tons)
Others
Sample

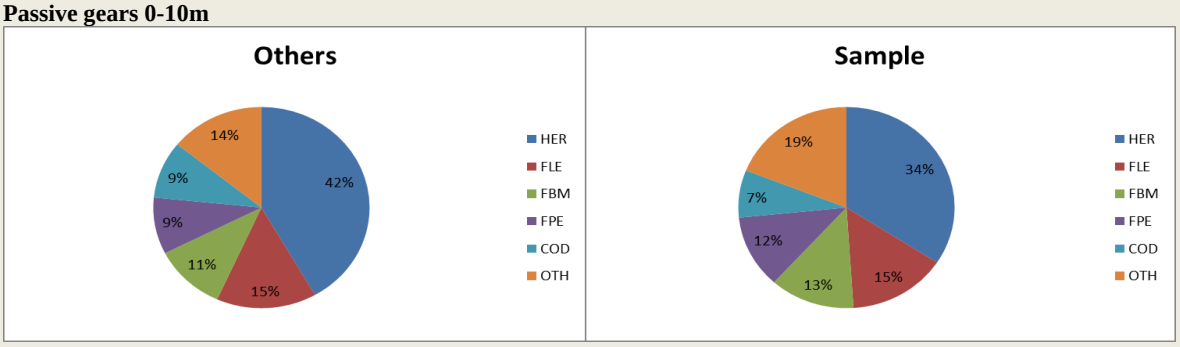

Pelagic trawlers 18-24 m
[no of vessles]
0 0,5 1 1,5 2 2,5 3 3,5 4 4,5
26-50 51-75 76-100 101-125 126-150 151-175 201-226
Days at sea
Others
Sample


Pelagic trawlers 18-24 m
[no of vessles]
0 1 2 3 4 5 6
200-400 400-600 600-800 800-1000 1000-1200 2200-2400
Catches (tons)
Others
Sample

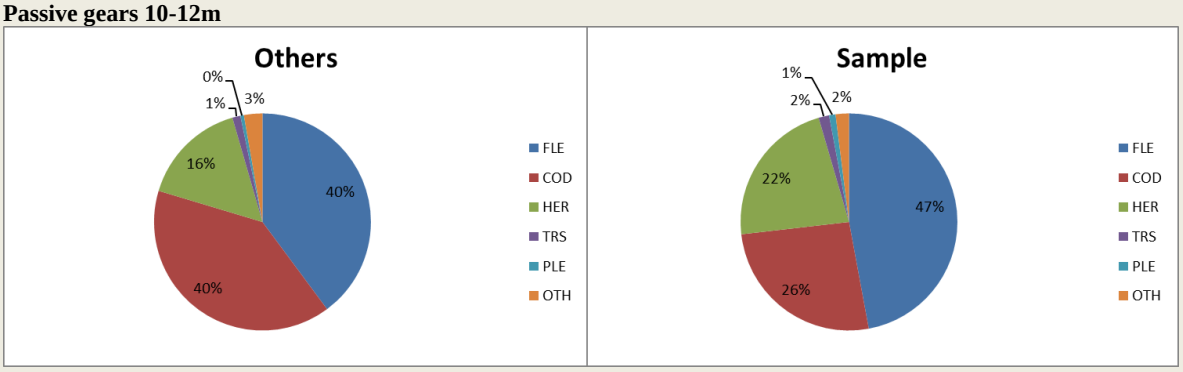

Pelagic trawlers 24-40 m
[no of vessles]
0 1 2 3 4 5 6 7 8 9
51-75 76-100 101-125 126-150 151-175 176-200
Days at sea
Others
Sample


Pelagic trawlers 24-40 m
[no of vessles]
0 1 2 3 4 5 6 7
600-800 800-1000 1000-1200 1200-1400 1400-1600 1600-1800 1800-2000 2000-2200 2200-2400 2400-2600 6000-6200
Catches (tons)
Others
Sample

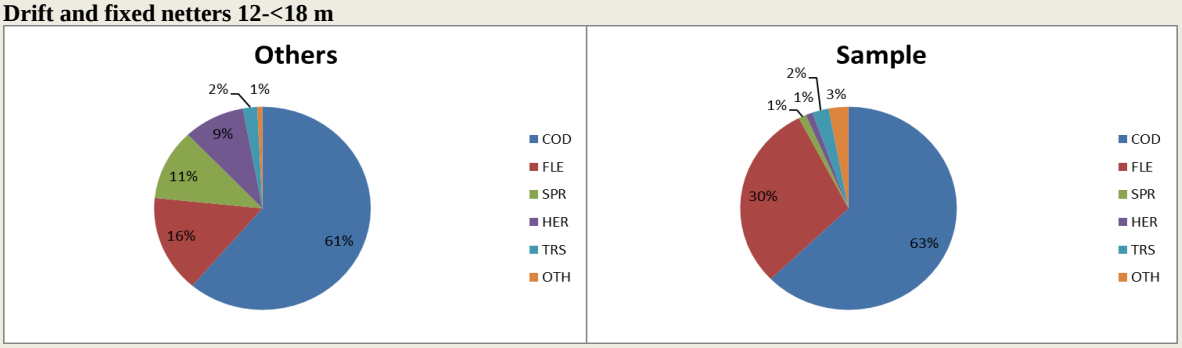
Passive gears 0-10m



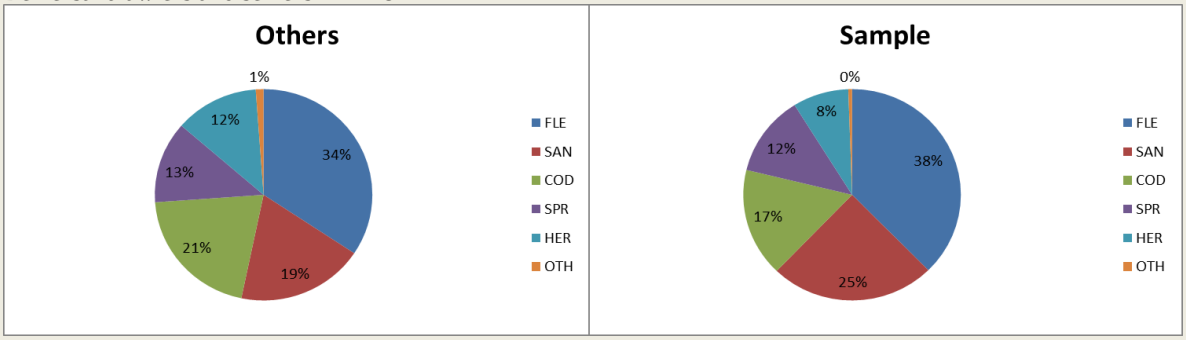
Passive gears 10-12m



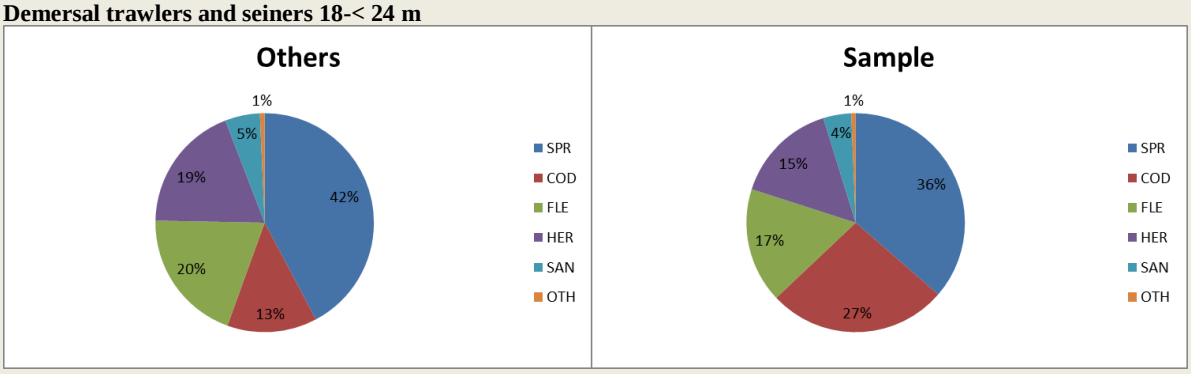
Drift and fixed netters 12-<18 m



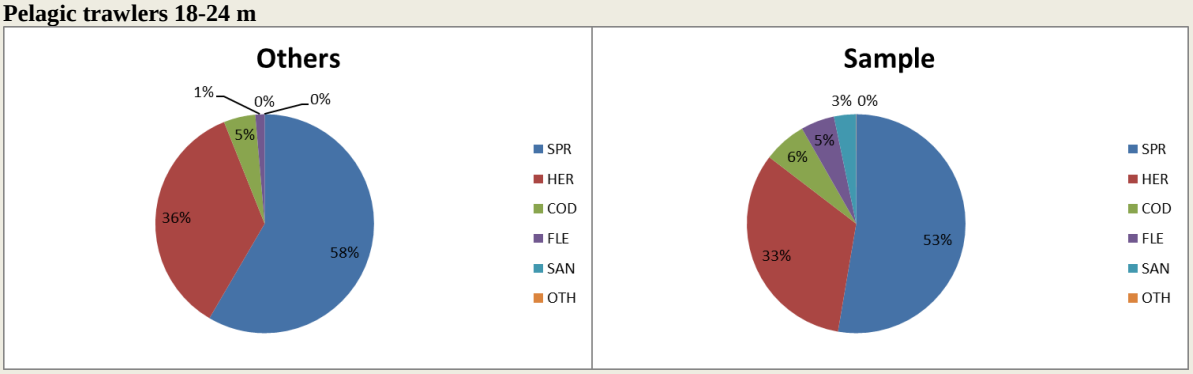
Demersal trawlers and seiners 12-< 18 m



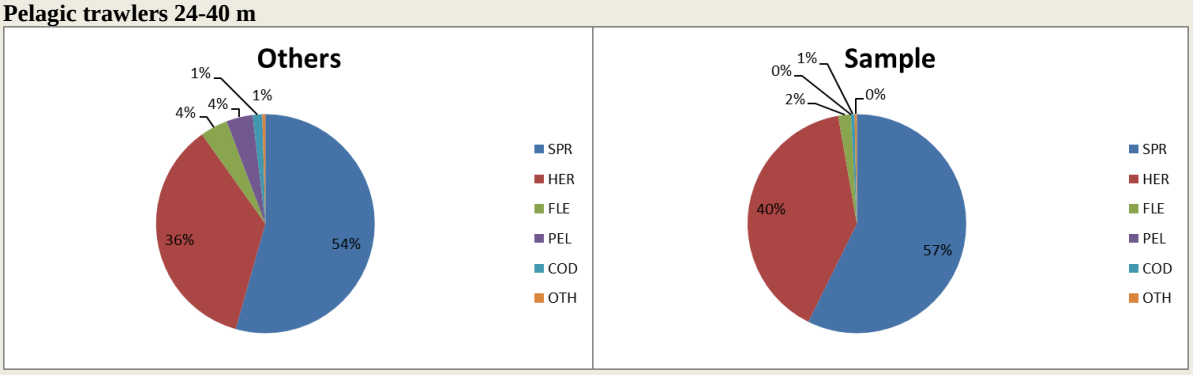
Demersal trawlers and seiners 18-< 24 m



Pelagic trawlers 18-24 m



Pelagic trawlers 24-40 m



Distant-water fleet

Followed previous years, due to confidentiality reasons deep sea trawlers segment (distant-water fleet) were excluded from economic analysis (data were collected but could not be reported). In 2016 this segment consisted of 4 very characteristic vessel, what makes impossible to report data without identifying them and infringe the law on data confidence nor combine them with other vessel's segments. 3 of them were operating in other fishing region (areas 34, 47 and 87) and 1 fishing in North Atlantic. Complete data were collected but cannot be reported.

10.3. Accessibility and Clarity

Indicate with Yes or No

Are methodological documents publicly available?

YES

Are data stored in databases?

YES

Where can methodological and other documentation be found?

Provide the web link, if documentation is publicly available

https://datacollection.jrc.ec.europa.eu/wps

https://datacollection.jrc.ec.europa.eu/documents-links

(max 1000 words)

Pilot Study 3: Data on employment by education level and nationality

General comment: This box fulfills paragraph 5 point (b) and paragraph 6 point (b) of Chapter III of the multiannual Union programme and Article 2 and Article 3 paragraph (3) point (c) of the Decision (EU) 2016/1701.It is intended to specify data to be collected under Table 6 of the multiannual Union programme.
General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study (including deviations from planned and justifications as to why if this was not the case).
Data collection on employement by eduaction level and nationality has been collected and will be continued in the next period. (max 900 words)
4. Achievement of the original expected outcomes of pilot study and justification if this was not the case. NA – no Pilot Study needed 5. Incorporation of results from pilot study into regular sampling by the Member State. NA – no Pilot Study needed (max 900 words)

Text Box 3B: Population segments for collection of economic and social data for aquaculture

General comment: This box fulfills paragraph 6 points (a) and (b) of Chapter III of the multiannual Union programme and Article 2, Article 4 paragraphs (1) and (5) and Article 5 paragraph (2) of the Decision (EU) 2016/1701.It is intended to specify data to be collected under Tables 6 and 7 of the multiannual Union programme.
General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the socio-economic data collection for aquaculture of Member States.
Based on the data until 2015, according to classification of aquaculture activities by Eurostat statistics, Poland has no marine aquaculture sector. Hence, no sampling is planned. *(max 1000 words)*
6. Deviations from Work Plan methodology for selection of data source List the deviations (if any) from the methodology used to select data source compared to what was planned in the Work Plan, and explain the reasons for the deviations. Actions to avoid deviations Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped. **NA** 7. Deviations from Work Plan methodology to choose type of data collection List the deviations (if any) from the methodologies to choose type of data collecton scheme compared to what was planned in the Work Plan, and explain the reasons for the deviations. Actions to avoid deviations Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped. **NA** 8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme

List the deviations (if any) from the methodologies used regarding sampling frame and allocation scheme compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

NA

9. Deviations from Work Plan methodology used for estimation procedures

List the deviations (if any) from the methodologies used for estimation procedures compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

NA

10. Quality assurance - **NA**

10.1 Sound methodology

Briefly describe if the data collection follow methodologies, guidelines and best practices agreed in expert groups and whether methodologies are documented and are made publicly available.

10.2. Accuracy and reliability

Response rate and Achieved sample rate are provided in Table 3B.

For additional information, briefly describe how raw data inputs, intermediate results and outputs are regularly assessed and validated and how errors are identified, documented and dealt with.

10.3. Accessibility and Clarity

Indicate with Yes or No

Are methodological documents publicly available?

Are data stored in databases?

Where can methodological and other documentation be found?

Provide the web link, if documentation is publicly available

(max 1000 words)

Pilot Study 4: Environmental data on aquaculture

General comment: This box fulfills paragraph 6 point (c) of Chapter III of the multiannual Union programme and Article 2 and Article 4 paragraph (3) point (d) of the Decision (EU) 2016/1701. It is intended to specify data to be collected under Table 8 of the multiannual Union programme.
General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study (including deviations from planned and justifications as to why if this was not the case).
Based on the data until 2015, according to classification of aquaculture activities by Eurostat statistics, Poland has no marine aquaculture sector. Hence, no sampling is planned. (max 900 words)
4. Achievement of the original expected outcomes of pilot study and justification if this was not the case. **NA** 5. Incorporation of results from pilot study into regular sampling by the Member State. **NA** (max 900 words)

Text Box 3C: Population segments for collection of economic and social data for the processing industry

General comment: This box fulfils footnote 6 of paragraph 1.1(d) of Chapter III of the multiannual Union programme, Article 2, Article 4 paragraphs (1) and (5) and Article 5 paragraph (2) of Decision (EU) 2016/1701. It is intended to specify data to be collected under Table 11 of the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the socio-economic data collection for aquaculture of Member States.

1. Description of methodologies used to choose the different sources of data

A questionnaire will be used to collect all data.

2. Description of methodologies used to choose the different types of data collection

The study will be census and questionnaire with economic variables will be sent to all processing firm. For social variables there will be non-probability survey.

3. Description of methodologies used to choose sampling frame and allocation scheme

The study will include all legal business entities, including legal personalities and organizational units without legal personality and individuals operating fish and other aquatic animal processing facilities that are listed as meeting the standards of Council Regulation (EC) no. 853/2004 of April 29, 2004, which sets forth detailed requirements regarding hygiene in foodstuffs of animal origin, Appendix IIII Section VIII Fisheries Products. Also included will be entities listed as qualified to make direct sales in accordance with the regulation of the Minister of Agriculture and Rural Development of December 29, 2006 regarding veterinarian requirements during the production of products of animal origin for direct sale (Journal of Laws of 2015 No. 0 pos. 1703). Participation in the study is obligatory for all fish processing facilities according to the regulation of June 29, 1995 on public statistics (Journal of Laws 2016 No. 0, pos. 1068).
The population cover enterprises whose main activity is defined according to the Eurostat definition under NACE Code 10.20: ‘products’. ”Processing and preserving of fish, crustaceans and mollusks ” and also enterprises that carry out fish processing but not as a main activity.

4. Description of methodologies used for estimation procedures

It is assumed that all processing facilities obliged to return completed questionnaires will comply.

5. Description of methodologies used on data quality

Unit response rate will be used as indicator of accuracy. Defined as the ratio of number units for which data for at least same variables have been collected to the total number of units designed for data collection.
According to article 38 Law issued on 29 June 1995 on official statistics it shall not be allowed to publish or disseminate obtained in statistical surveys of official statistics statistical information which can be linked or can identify natural persons or individual data characterizing business entities, especially if the aggregated data consist of less than three entities or the share of one entity in the compilation is higher than the three-fourths of the total.

(max 1000 words)

6. Deviations from Work Plan methodology for selection of data source

List the deviations (if any) from the methodology used to select data source compared to what was planned

in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section can be skipped.

No deviation compared to WP methodology for selection of data source took place.

7. Deviations from Work Plan methodology to choose type of data collection

No deviation compared to WP methodology to choose type of data collection took place.

List the deviations (if any) from the methodologies to choose type of data collecton scheme compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. **If there are no deviations, then this section can be skipped**.

8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme

No deviation compared to WP methodology took place

List the deviations (if any) from the methodologies used regarding sampling frame and allocation scheme compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. **If there are no deviations, then this section can be skipped.**

9. Deviations from Work Plan methodology used for estimation procedures

No deviation compared to WP methodology took place.

List the deviations (if any) from the methodologies used for estimation procedures compared to what was planned in the Work Plan, and explain the reasons for the deviations.

Actions to avoid deviations

Briefly describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect**. If there are no deviations, then this section can be skipped**.

10. Quality assurance

10.1 Sound methodology

Briefly describe if the data collection follow methodologies, guidelines and best practices agreed in expert groups and whether methodologies are documented and are made publicly available.

In accordance with national regulations, economic and some social data were collected obligatory for the entire population. In order to ensure the maximum number of questionnaires is received, similarly to previous years reminders of the obligation to file them were sent by registered mail and phone calls were made to execute the obligation. Recommendations of the Lisbon DCF workshop on “statistical issues related to the collection of economic data within the DCF” were taken into account to deal with the non-response problem. For missing questionnaires calculations of the missing variables for the missing population were made, based on average data from the questionnaires received.

10.2. Accuracy and reliability

Response rate and Achieved sample rate are provided in Table 3C.

For additional information, briefly describe how raw data inputs, intermediate results and outputs are regularly assessed and validated and how errors are identified, documented and dealt with.

Response rate and Achieved sample rate are provided in Table 3C.

An 77,14% response rate was achieved for segment “Companies <= 10”, 81,82% for segment “Companies 11-49”, 91,23% for segment “Companies 50-250” and 100% for segment “Companies > 250”.

For additional information, briefly describe how raw data inputs, intermediate results and outputs are regularly assessed and validated and how errors are identified, documented and dealt with.

Each questionnaire coming from a fish processing plant is registered in the address database and subjected to formal, substantive and accounting control. Detected errors are corrected by direct telephone contact or e-mail with the person filling in the questionnaire. Then the form is entered into the database in the "Primary Forms" tab. When approving the form for transfer to the "Approved Forms" tab, the system performs automatic data validation. Detected errors must be corrected before approval.

10.3. Accessibility and Clarity

Indicate with Yes or No:

Are methodological documents publicly available? **YES**

Are data stored in databases? **YES**

Where can methodological and other documentation be found?

Provide the web link, if documentation is publicly available.

https://datacollection.jrc.ec.europa.eu/wps

https://datacollection.jrc.ec.europa.eu/documents-links

(max 1000 words)

Text Box 4A: Sampling plan description for biological data

General comment: This box fulfills Article 3, Article 4 paragraph (4) and Article 8 of the Decision (EU) 2016/1701 and forms the basis for the fulfilment of paragraph 2 point (a)(i) of Chapter III of the multiannual Union programme. This Table refers to data to be collected under Tables 1(A), 1(B) and 1(C) of the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the deviations from the planned sampling of Member States.

1. Description of the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701
2.

A new sampling plan will be implemented by Poland, starting from 2017, in order to move gradually from metier based and purely opportunistic sampling towards the plan based on statistics, with the aim to reach statistically sound sampling scheme (4S) in two-three years time.
The following approach was applied to new sampling plan:

Scheme - determination of the sampling schemes for 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. For sampling biological data from recreational fishery for Baltic cod, as well as for fisheries in regions outside Baltic Sea, the "at sea" sampling scheme was chosen, as the only one practically possible.

Stratifications - as the main purpose is to collect biological data in support of different fish stocks assessment, stratification is based on the type of vessels (fishing technique) exploiting given fish stock, *e.g.* "*Baltic demersal trawlers targeting western cod*" or "*Balctic gillnetters targeting western cod*".

Sampling frame – as the first step to define a sampling frame, a list of all ports where landings from given stock and by the type of vessel (demersal or pelagic trawlers, gilnetters, longliners, etc.) was created and, as a second step, those ports were ranked by the total volume of landings from that given stock. As a result of ranking only those ports were selected for sampling for given stock and given type of vessels where minimum 90% of landings took place (average over the reference period). Thus Sampling Frame is defined as a total number of vessels of a given type (trawlers, gilnetters, etc.) which, over the reference period, ever landed fish from a given stock in one of the port from the selected group of ports representing 90% of landings from that stock and by that type of vessel.

Coverage – assuming that the target population consists of all vessels exploiting given fish stock (irrespective of the fishing technique and port of landings), through the stratification and sampling frames design described above, the combined coverage of target populations by the sampling frames associated with that populations, (i.*e.*"targeting" given stock) varies between 61 and 97%.

Primary Sampling Unit (PSU) is "*vessel trip*".

Sampling intensity –in order to maintain the continuity of the sampling intensity compared to the previous years, the annual number of samples to be collected during 2017-2019 period is at the same level as during the previous multiannual program (2014-2016). Both at sea and on shore sampling will be continued. In order to obtain independent, scientific data on discards and in order to maintain the practice of previous years, about 40-50% of sampling activity will be conducted through at sea observers trips.

Time stratification – for those stocks for which biological data are required on a quarterly basis, the total annual number of samples for that stocks will be distributed proportionally to the quarterly distribution of landings from that stock.

Sample selection – for each quarter and for each sampling frame a vessel trip will be randomly selected from a survey population. After each drawing of a particular vessel, this vessel will be returned to a drawing list before next drawing is performed. This procedure will be applied until the desired number of vessels to sample is reached. List of vessels selected for sampling will be recorded in a register. This register will contain information on date of selection, date the vessel was contacted to arrange sampling, information if contact with the vessel was successful or not, vessel's owner acceptance or refusal to be sampled (as well as reasons in case of refusal). In case of lack of contact with the vessel or refusal to take observer on board or provide landed fish for sampling on shore, the supplementary drawing will be performed to maintain the desired number of vessels trips to sample.

Data archiving and quality checks - Data entered to the national database are verified in the two-stage validation process supported by a number of completeness, data type and range checks. Export procedures which prepare data sets for external databases (like RDB FishFrame or InterCatch) also perform basic checks. Additionally, a number of quality reports were developed to improve the completeness and reliability of the data.

Until 2016, sampling programme was based on an opportunistic approach. Due to the confidentiality of personal data, the Institute executing the DCF had no full register of the fishing vessels' owners with contact details. Sampling was based on the cooperation with the owners of over 100 vessels (c.a. 12% of all Polish vessels), built over the years on the basis of trust. Efforts are being made for access to the full register of vessels' owners. The list of contact details to vessels' owners systematically expands but the process is extended in time. Therefore, the main expected difficulties in execution of the sampling programme is high level of non-response and/or refusals.

(max 900 words per region)

Deviation from the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701:

2. Deviations from the Work Plan

Member State shall list the deviations (if any) in the achieved data collection, compared to what was planned in the Work Plan and explain the reasons for the deviations.

Since the totally new sampling scheme was implemented in 2017 without any transitional period, some obstacles were encountered. Due to high refusal rates or lack of contacts to vessel owners, supplementary drawings were performed in order to reach the planned number of sampled trips quarterly. If the planned number of trips was still not achieved in a given quarter, then two weeks before the end of the quarter opportunistic selection of missing PSUs was carried out.

In addition to what was planned in WP:

- one trip was sampled in stratum POL SAN (fishing for *Ammodytidae*). There were no such fishery recorded in the reference period (2013-2015) but this fishery was observed in short periods in 2016 and 2017 ans is locally important. Biological data were thus collected in order to get some basic information on that population.
- one trip was sampled in stratum POL LLS (targeting *Gadus morhua*) in order to get biological data on that fraction of cod stock.

3. Action to avoid deviations

Member State shall describe the actions that will be considered / have been taken to avoid the deviations in the future and when these actions are expected to produce effect. If there are no deviations, then this section is not applicable.

Baltic

Based on the sampling design applied, a dedicated web application was developed to support sampling process management. The application provides three types of user roles:

- Administrator – management of PSUs groups, vessels and trips. Access to fishery statistics, drawing of vessels, assigning coordinators to groups.
- Coordinator – partial permission for trips' management within the assigned groups. Assigning observers to trips.
- Observer – restricted access to trips with a possibility to view assigned trips.
-

In November 2017 a module for contact's details management was successfully implemented. Contact details to vessel owners were intensively collected from many sources.

The new sampling design and the application mentioned above were presented during the WGCATCH meeting, 06-10.11.2017 in Kavala, Greece. The content of the presentation was widely discussed and feedback from experts was registered. The recommendation from the WGCATCH was to examine the stratification of the sampling program and consider lower number of groups of PSUs in order to avoid having stratums with small number of samples. Another suggestion was to consider having one annual list of randomly selected PSUs instead of four quarterly lists. In 2018 it was decided to have one list of PSUs instead of two separate lists for at-sea and on-shore sampling. It was also agreed that at-sea samples have higher priority than on-shore samples. Taking into account the feedback from WGCATCH further modifications will be considered in 2018.

Other regions

Based on a new multilateral agreement between DEU-LTU-NLD-POL, from 2017 Poland is coordinating joint sampling program for biological data collection on board EU fishing vessels engaged in the fishery for small pelagic fish in the SPRFMO area (South-East Pacific).

No other deviation from WP

(max. 1000 words per region OR fishing ground)

Text Box 5A: Quality assurance framework for biological data

General comment: This box is applicable to the Annual Report. This box fulfills Article 5 paragraph (2) point (a) of the Decision (EU) 2016/1701. This box is intended to specify data to be collected under Tables 1(A), 1(B) and 1(C) of the multiannual Union programme.Use this box to provide additional information on Table 5A.

Applies to all Region/RFMO/RFO/IO OR sampling schemes

1. Evidence of data quality assurance

Within this section Member State shall provide information on the methodology used to assure the quality of the data collected, highlighting those aspects where changes have been made during the sampling year. Information shall be provided by each sampling scheme for which data was collected. In the case where the same quality assurance framework is applied to all data collection schemes, information can be provided at general level with the indication "all sampling schemes".

In those sections of Table 5A where "N" is indicated, Member States shall explain the main constrains and/ or the steps taken to fulfil this obligation. In the cases where a reference documents is requested, Member States shall provide a web link.

In cases where documents are not publicly available, due to institutions internal policy, confidentiality or other reasons, this shall be indicated by the Member State.

Polish quality assurance framework is a multi-stage process. At first, data entered to the national database are verified in the two-stage validation process supported by a number of completeness, data type and range checks. Export procedures which prepare data sets for external databases (like RDB FishFrame or InterCatch) also perform basic checks.

Additionally, two validation applications were developed, both written in *Shiny* (R package) and available only via the institute's intranet:

1. Data Quality Check application - at present, the following visual and quantitative quality analyses of the data stored in the database, are available:

- outliers identification for Weight at Length relationship and Length at Age – a user can inspect the data visually on the scatter plots and mark suspicious points for further checking, or make use of the automatic outliers identification based on the Bonferroni outlier test,
- inconsistency between sample and catch weight,
- biological analyses with missing age – a table with detailed data, as well as a histogram of the number of gaps for all species, are available,
- inconsistency between number of individuals in the length classes and in the biological analyses,
- dates misreporting.

A user can screen the data in the fully interactive mode or download a quality report in HTML/PDF format.

2. Data Accuracy Check application - at present only observer effect analysis is available. A user can display all VMS signals of a chosen vessel and highlight points from trips with on-board observers. The methodology used was based on the ICES WKACCU Report 2008, whereas the example of such analysis applied to the Polish data was performed during RCMBaltic 2016.

Both applications mentioned above are under constant development. National database and applications are accessible only within internal Institute's network.

In comparison to the WP, a substantial progress was made during the sampling year. Sampling design documentation were prepared for all sampling schemes as well as data evaluation tools for majority of them.

2. Sampling design

Explain main constraints and/ or steps taken, if 'N' (no) was indicated in Table 5A.

NA

3. Sampling implementation

Explain main constraints and/or steps taken, if 'N' (no) was indicated in Table 5A.

Recording of non-responses and refusals is not applicable in the long distance fishery (pelagic trawlers fishing in NS&EA, CECAF and SPRFMO areas). There are limited number of vessels available in these sampling strata and, unless for objective reasons, there are no problem with placing observer on board the vessels – based on written agreements with vessels owners concerned.

4. Data capture

Explain main constraints and/ or steps taken, if 'N' (no) was indicated in Table 5A.

NA

5. Data Storage

Explain main constraints and/ or steps taken, if 'N' (no) was indicated in Table 5A. Please provide a link if the documented revisions are available and not confidential.

NA

6. Data processing

Explain main constraints and/ or steps taken, if 'N' (no) was indicated in Table 5A.

Imputation is not performed at national level but at Stock Data Coordination level. Data are provided to end user "as-is" (as collected, validated and recorded in national database)

(max. 900 words per Region/RFMO/RFO/IO OR sampling scheme)

Text Box 5B: Quality assurance framework for socioeconomic data

General comment: This box fulfills Article 5 paragraph (2) point (b) of the Decision (EU) 2016/1701. This box is intended to specify data to be collected under Tables 5(A), 6 and 7 of the multiannual Union programme. Use this box to provide additional information on Table 5B.

1. Evidence of data quality assurance

Within this section MS shall provide information on the methodology used to assure the quality of the data collected, highlighting those aspects where changes have been made during the sampling year. Information shall be provided by each sector (Fishing fleet, Aquaculture, Fish processing) for which data was collected and by each data collection scheme. In the case where the same quality assurance framework is applied to all sectors or/and all data collection schemes, information can be provided at general level with the indication "all sectors" or "all data collection schemes".

Fleet

In accordance with national regulations, each vessel's owner is legally bound to fill out a questionnaire regarding the economic results of the fishing vessel. In order to ensure the maximum number of questionnaires is received, reminders of the obligation to file them were sent by registered mail and phone calls were made to execute the obligation. Recommendations of the Lisbon DCF workshop on "statistical issues related to the collection of economic data within the DCF" (i.e. closer cooperation with PO) were taken into account to deal with the non-response problem. As the number of returned questionnaires did not reach a planned response rate, calculations were made, based on the questionnaires received. Economic data received does not usually exceed 70% of response rate. However, all responses were of random character (probability sample), which should ensure the representativeness of the sample. Response rates are provided in an Excel table.

Aquaculture

Data are not collected in Poland.

Processing

In accordance with national regulations, economic and some social data were collected obligatory for the entire population. In order to ensure the maximum number of questionnaires is received, reminders of the obligation to file them were sent by registered mail and phone calls were made to execute the obligation. Recommendations of the Lisbon DCF workshop on "statistical issues related to the collection of economic data within the DCF" were taken into account to deal with the non-response problem. For missing questionnaires calculations of the missing variables for the missing population were made, based on average data from the questionnaires received.

In those sections of Table 5B where "N" is indicated, Member States shall explain the main constrains and/ or the steps taken to fulfil this obligation. In the cases where a reference documents is requested, Member States shall provide a web link.

In cases where documents are not publicly available, due to institutions internal policy, confidentiality or other reasons, this shall be indicated by the Member State.

2. Section P3 Impartiality and objectiveness

Explain main constraints and/ or steps taken, if 'N' (no) was indicated in Table 5B

NA

3. Section P4 Confidentiality

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

NA

4. Section P5 Sound methodology

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

Information on this principle should be briefly explained in Text boxes 3A, 3B and 3C. Description of methodologies used on data quality.

NA

5. Section P6 Appropriate statistical procedures

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B. Please provide a link if the documented revisions are available and not confidential.

NA

6. Section P7 Non-excessive burden on respondents

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

NA

7. Section P8 Cost effectiveness

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

NA

8. Section P9 Relevance

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

NA

9. Section P10 Accuracy and reliability

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B. Information on this principle should be briefly explained in Text boxes 3A, 3B and 3C. Description of methodologies used on data quality.

NA

10. Section P11 Timeliness and punctuality

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

NA

11. Section P12 coherence and comparability

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B

NA

12. Section P13 Accessibility and Clarity

Explain main constraints and/ or steps taken, if ‘N’ (no) was indicated in Table 5B. Information and links to documentation on this principle should be briefly explained in Text boxes 3A, 3B and 3C. Description of methodologies used on data quality.

NA

(max. 900 words per Region/RFMO/RFO/IO/NSB OR sector)