**REPUBLIC OF CYPRUS**

**MINISTRY OF AGRICULTURE
RURAL DEVELOPMENT
AND NATURAL RESOURCES**

**DEPARTMENT OF FISHERIES
AND MARINE RESEARCH
1416 NICOSIA**

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

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

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) 2018/1283

laying down rules on the format and timetables for the submission of annual data collection reports in the fisheries and aquaculture sectors

# Cyprus Annual Report for data collection in the fisheries and aquaculture sectors

2019

Nicosia, 31 May 2020

# CONTENTS

## 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.

**Mediterranean Sea**:

**1. Evidence of data quality assurance**

The sampling plan for the collection of biological data, as described in the 2017-2019 Work Plan follows the outcomes of sampling expert groups (WKMERGE 2010, WKPICS, SGPIDS, WGCATCH) and projects (MARE 2014/19 Med&BS, fishPi). Relevant documentation is available at http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/All/6DC46542CDE2BC644225833000214B58?OpenDocument .

*Sampling design:* Target populations, sampling frame, sampling stratification and selection of PSUs are clearly defined and are in agreement with proposed best practices in the sampling of commercial catches.

*Sampling implementation:* The selection of PSUs is electronically recorded, as well as sampling achievements (including reasons for deviations from the planned PSUs such as bad weather, refusal, change in dates of trips). During sampling, standard data recording forms are used, as well as calibrated measuring board and balance. Sources of bias are identified, based on the work of WKACCU 2008, and efforts are made for eliminating them. The sampling optimisation tool, developed under MARE 2014/19 Med&BS project and further developed under STREAM project on COSTS tools, is used for achieving the "optimal" sample sizes (in terms of number of trips and individuals to sample).

*Storage of data:* Recording forms used during sampling are stored, even after data are electronically recorded. Stored data are checked for completeness and correctness (e.g. species names and codes, vessel details, lengths, sample weights based on L-W relationships). Catch and effort data of sampled trips are cross-checked with control and VMS data (when applicable).

*Processing:*

Multi-stage sample selection is accounted for the raising/weighing procedures.

Ageing - Participation in relevant otolith exchanges, follow-up of recommendations and protocols produced by relevant Ageing Workshops.

***Supply of data:*** Before submission of data to end users through official data calls, data are checked for consistency with requested and/or regionally agreed format and codes, either manually or by using available data validation tools (https://datacollection.jrc.ec.europa.eu, SDEFQuality package developed under MARE/2014/19 Med&BS project, quality checks developed under STREAM project).

**2. Deviations from the Work Plan**

*Sampling intensity:*

As indicated in Table 1C, there were some deviations from the planned number of measurements. From commercial fishery, length over-sampling was observed for 3 species (albacore, common pandora and hake), for which there were no financial implications. Length under-sampling from commercial fishery was observed for 12 demersal species. Most under-sampled species were species

with MCRS that are not common in landings; due to the LO in place, it is considered beneficial to collect length data, even if they are not encountered often. Under-sampled species concerned also species of lower priority that may not be concurrently sampled in case of limited available sampling time. There was also length under-sampling of *Mullus surmuletus*; this species was not encountered so often and in such quantities as in other years. Though all bluefin tuna landed in Cyprus were sampled, they did not reach the planned number.

Under-sampling of stock-related variables occurred for *Mullus surmuletus*, which not only had decreased presence, but is usually sold to the restaurants and it is difficult to buy samples for the lab. Number of samples of stock-related variables for *Spicara smaris*, *Boops boops* and *Pagellus erythrinus* refer to the period 2017-2019, since variables are provided on a triennial basis.

From survey, over-sampling for biological variables was observed for 6 species, since the individuals caught were more than the expected ones based on average of other years. Under-sampling from survey was observed for 3 species, for which all individuals caught were measured.

As indicated in Table 4A, there were deviations (under-sampling) from the planned number of sampled PSU for two strata, one related with large pelagic and one related with demersal caught by passive gears.

*Methods used for collecting data:* As indicated in Table 4A, the two strata related with large pelagic were sampled through control observer schemes. This deviation derived due to problems in assigning scientific DCF observers (no applicants for the issued tender). Problems in assigning DCF observers have occurred also in the past; considering that the DFMR is responsible both for data collection and control issues, it was decided also for 2019 that the best solution would be to collect DCF data under data collection through observers under control inspection schemes. It is clarified that there has not been double use of scientific observers and control observers, only control observers have been used.

**3. Actions to avoid deviations.**

Concerning deviations in sampling intensity of the different species (under-sampling), Cyprus has streamlined targeted measurements and makes efforts to reach the planned goal for all sampled species.

Concerning sampling of *Mullus surmuletus*, efforts will continue for achieving to measure and purchase the planned number of individuals.

It is worth mentioning that, from beginning of 2020, the DCF sampling team has been enriched with additional qualified personnel, for ensuring that the achievements of biological sampling are met and for reducing the activities performed under tender procedures.

(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.

As indicated in Table 1D, recreational fisheries of eel, elasmobranchs, bluefin and swordfish are prohibited/not present, therefore no sampling surveys are carried out.

Possible released catches of the prohibited species (elasmobranchs, bluefin and swordfish) were evaluated through the pilot study on recreational fishery that was carried out for the period 2017-2018. The pilot study did not reveal catches of the prohibited species.

**1. Description of the target population**

Not applicable.

**2. Type of survey**

Not applicable.

**3. Data Quality**

Not applicable.

**4. Data Analysis and processing**

Not applicable.

(max. 900 words per survey)

# 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.

**Mediterranean Sea**

**1. Aim of pilot study**

Recreational fishing is a very popular activity in Cyprus, which is regulated through the issue of licenses with restrictions on the use of fishing gears, allowable quantities of catches, spatial and temporal restrictions, and prohibited species (large pelagic species, elasmobranchs). The categories of recreational fisheries that require license include i. fishing with the use of boat (using bottom set longlines, traps, trolling, handline, fishing rods), ii. fishing with the use of spear-guns (free divers), and iii. operating chartered fishing tours. Currently the use of fishing rods from the shore does not require licensing and is not regulated (except for minimum conservation reference sizes established by Reg. (EC) 1967/2006).

Information on the characteristics of the recreational fisheries, their impacts on fisheries resources but also their contribution to the economy is limited. The aims of the proposed pilot study are the following:

- Identify the main species caught by each of the recreational fisheries categories exercised in Cyprus
- Quantify recreational catches by species (in numbers and weight), including released catches (especially of the prohibited species - bluefin tuna, swordfish and elasmobranchs)
- Collection of information on recreational fishing activity (quantification of fishing effort, number of fishermen fishing from shore, spatial and temporal distribution of fishing effort, fishing methods used and gear specificities)
- Collection of socio-economic variables for evaluating the contribution of recreational fisheries to the economy and in particular to the coastal communities

**2. Duration of pilot study**

2 years, starting in 2017.

**3. Methodology and expected outcomes of pilot study**

Methodology

For the categories of recreational fisheries, such as fishing from shore, where a fishing license is not required and hence the number and frequency of people fishing is unknown, a probability-based nationwide survey of the population will be performed in an attempt to estimate the number of people who are fishing recreationally from shore, the frequency and the areas in which they fish. Further

data will be collected with direct observations at randomly selected stretches of coastline on randomly selected days where all fishing activities will be recorded.

For all the other categories of recreational fisheries that a fishing license is required, the number of fishers is known and they will be randomly sampled in order to collect information on fishing effort and catches as well as other information such as frequency, locations, expenses etc. These data will be cross referenced with data that will be collected from on-site intercepts of fishers upon completion of fishing.

Expected outcomes

At the end of the study the most important species caught (retained and released) by recreational fishers will be identified and the proportion of the total national recreational catches for each species will be estimated.

The highly migratory ICCAT species that are not currently prohibited from recreational fishing and are caught will be identified, to be included in the future work plans for regular data collection.

Additional species will be proposed for their possible inclusion in the list of species to be sampled from recreational fisheries.

Knowledge will be gained on recreational fishing activity in relation to time, space, fishing methods and gear specifications; this information is expected to contribute to the design of effective and enforceable management measures.

The evaluation of the social and economic benefits of recreational fishing activities, in conjunction with the assessed interactions with the commercial fisheries, is expected to be used for forming a policy for the management of all fisheries.

(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.**

Fishers using a boat or spearfishing (known) were randomly sampled to collect data on effort and catch per species, whereas for the recreational fishery from shore, a nationwide survey of the population was performed, in order to estimate the number of fishers, their effort and their catches. This approach was chosen, not only because it is cost and time efficient, but mainly because it can achieve good population coverage, regardless of the high diversity of fishing practices among fishers, and thus provide good overall annual estimates.

Results show that around 3% of the population in Cyprus is involved in marine recreational fishing, of which around 10% is involved in boat fishing, 9% in spearfishing and 86% in shore fishing, with categories overlapping. Around 5% of households has at least one marine recreational fisher, 1.6 fishers on average. Most fishers (97%) are male (all female fishers are shore fishers) with an average around 40 years of age, 20 years of fishing experience, 75 fishing trips annually (more in summer) and around €750 spent on MRF per year (~18 m€/year in total).

Recreational catches are relatively high, around 1000 t/year, quite close to commercial catches (including bottom trawling and pelagic longlining), which fluctuate around 1400 t/year. The

recreational catch value is estimated to around 12 m€/year, significantly higher than that of the commercial catch (~7 m€/year).

Most important species in terms of weigh are the Lessepsian invasive rabbitfishes (*Siganus* spp.) with 23% of the catch, the usually fish-farm escapees European seabass (*Dicentrarchus labrax*) and gilthead seabream (*Sparus aurata*) with 9% each, white seabream (*Diplodus sargus*) with 7%, parrotfish (*Sparisoma cretense*) and albacore (*Thunnus alalunga*) with 6% each, greater amberjack (*Seriola dumerili*) and common octopus (*Octopus vulgaris*) with 5% each, and grey mullets (Mugilidae) and dusky grouper (*Epinephelus marginatus*) with 4% each.

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

Taking into consideration the above findings, it will be decided whether (and if yes how) there will be incorporation of recreational sampling into regular sampling.

(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.

**Mediterranean Sea**

In Cyprus there is no commercial fishery on eel. As indicated in Table IE of the Work Plan, Decision 2009/310/EC exempts Cyprus from the obligation to prepare an Eel Management Plan in accordance with Regulation (EC) 1100/2007.

**Method selected for collecting data.**

Not applicable.

(max 250 words per Area)

2. Were the planned number achieved? Yes/ No

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

Not applicable.

(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**

As stated in Table 1F, during 2019 information on incidental bycatches was collected through a pilot study on trawlers operating in GSA25 (which is reported under Pilot Study 2), as well as during sampling for biological data of demersal fisheries with passive gears and large pelagic fisheries with surface longlines.

Information on the species identified from sampling large pelagic fisheries, with relevant number of samples and state of animals, are provided below:

| *Stratum* | *Species* | *No. of incidents* | *No. of samples* | *State of animals* |
|---|---|---|---|---|
| *LLD_LP_SWO* | *Prionace glauca* | *2* | *2* | *Dead (retained for landing)* |
| *LLD_LP_SWO* | *Alopias* spp. | *1* | *2* | *Released at sea alive* |
| *LLD_LP_SWO* | *Isurus oxyrinchus* | *1* | *1* | *Released at sea alive* |
| *LLD_LP_SWO* | *Pteroplatytrygon violacea* | *1* | *6* | *Released at sea* |
| *LLD_LP_ALB* | *Pteroplatytrygon violacea* | *1* | *18* | *Released at sea* |

Species recorded from demersal fisheries with passive gears (including nets, bottom longline, handline and trolling line) that are included in DCF Table ID include *Diplodus annularis*, *Diplodus sargus*, *Diplodus vulgaris*, *Epinephelus* spp., *Lithognathus mormyrus*, *Pagellus acarne*, and *Pagrus pagrus*. There was also 1 record of sea turtle *Chelonia mydas* that was caught dead in nets.

**2. Deviations from Work Plan**

As mentioned in **Text Box 1C,** due to problems in assigning scientific DCF observers (no applicants for the issued tender), it was decided to collect DCF data through observers under control inspection schemes.

**3. Data quality**

Concerning the two strata involving large pelagic (*LLD_LP_ALB, LLD_LP_SWO&BFT)*, the instructions of the on-board observers were to record all catches at haul level for all hauls, even if they were not brought on board. The data have been stored in electronic files. Mitigation devices are generally not used and during 2019 observers were not instructed to request this information. It should be noted that all data related to the sampled trips that are collected under Control Regulation are available to the DCF team.

As mentioned in Table 1F, information on incidental bycatches from demersal fisheries with passive gears, which are basically exercised by vessels less than 12m length, were collected during sampling for biological data on shore, as well as through interviews. Data collectors were instructed to record all catches, which in many times include also discards, since sorting is usually done at ports. Instructions were given to take photos on rare species. Data collectors were also instructed to request information on incidental bycatch not retained on-board. The GFCM manual on incidental catches was taken into account, concerning the type of measurements that should be taken, and the type of information. It

should be noted that all data related to the sampled trips that are collected under Control Regulation are available to the DCF team. The data have been stored in electronic files.

Reference: FAO. 2019. Monitoring the incidental catch of vulnerable species in Mediterranean and Black Sea fisheries: Methodology for data collection. FAO Fisheries and Aquaculture Technical Paper No. 640. Rome, FAO.

(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.

**Pilot study 2.2 – Assessment of incidental bycatches of birds, mammals, reptiles and fish.**

In accordance with the RCG Med&BS 2017 recommendation, Cyprus has included in its 2018-2019 WP a pilot study for the assessment of incidental catches of birds, mammals, reptiles and fish, specifically for carrying out the following:

- 2018: Pilot study for assessing incidental catches of vulnerable species from bottom trawlers
- 2019: Pilot study for assessing incidental catches of vulnerable species from longlines
- 2020: Pilot study for assessing incidental catches of vulnerable species from set nets (gillnets).

Cyprus requests to make modifications in the pilot study due to the following reasons:

- The GFCM guidelines on incidental catch, which are to be consulted for carrying out the pilot studies, have been circulated to the MS as draft in the middle of 2018, when the 5-months closed season for trawlers in Cyprus had started. As a result, no pilot study has been performed for bottom trawlers during 2018.
- A project "*Understanding Mediterranean multi-taxa 'bycatch' of vulnerable species and testing mitigation - a collaborative approach*", funded by the MAVA Foundation, is being currently carried out in the Republic of Cyprus and it involves the collection of bycatch data from vessels operating with nets and longlines. For the purposes of the project the GFCM guidelines on incidental catches are followed, and the results are to be communicated to GFCM. DFMR is in contact with the organisations that are involved in the project concerning the Republic of Cyprus and will be informed on the results from the project.

Based on the above, the following modification to the original plan is proposed:

The pilot study for assessing incidental catches of vulnerable species from bottom trawlers is to be carried out in 2019. The pilot studies for assessing incidental catches of vulnerable species from longlines and nets will not be carried out under the Work Plan for Data Collection.

**1. Aim of pilot study**

The aim of the pilot study is to assess the impact of main fisheries on the vulnerable species and to collect accurate information on these species in terms of quantities, gears, temporal and spatial areas.

**2. Duration of pilot study**

The pilot study related to the selected metier will have a duration of one year.

**3. Methodology and expected outcomes of pilot study**

In overall, the methodology that will be followed for collecting data on incidental catch includes the collection of data from:

· Observer programmes for the identified fleet
· Logbook completion by fishers
· Interviews with fishers.

The guidelines for monitoring incidental catch of vulnerable species and processing the collected data, will be based both on the outputs of the EU MARE/2014/19 project for the Med&BS, and the GFCM guidelines on incidental catch. Data to be collected will include: identification of species, number and weight (when possible) of individuals, gear specifications, location and timing of catches.

Expected outcomes: With the implementation of the planned pilot studies, it is expected that accurate information will be collected on the species incidentally caught, as well as their quantities, locations and the timing of such catches. This information will increase the knowledge on incidental catch in the region. Based on the results, systematic monitoring programme may be proposed for certain metiers/areas. The knowledge gained under the pilot study and possible future systematic sampling will be very useful for the formulation of possible management measures for minimising incidental catch of vulnerable species in the region.

*(max 900 words)*

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

During 2019, data on incidental catches were obtained from bottom trawlers, through observer programmes, interviews and electronic logbooks. The two licensed trawlers in Cyprus operate around 7 months, with a closed season from 1 June until 7 November. In 2019, around 185 fishing trips were performed, from which a total of 14 trips were sampled. Observers were able to collect information on bycatches (including discards) from 5 trips (a percentage accounting for 2.5% of trips), while the rest of the trips were sampled only on retained catch.

Interviews at port were made following the GFCM guidelines on incidental catch, as a complementary tool for collecting information on bycatch. In general, there is a good communication between DCF team and owners/crew of the two trawlers, allowing the collection of data through interviews. Interviews were made whenever a trip was sampled; information was requested on the specific fishing trips when only retained catch was sampled, while general information on bycatches during the previous week were collected during each sampled week.

The DCF team considered the questionnaire forms for interviews developed under the GFCM manual on incidental catches. Relevant identification guides were used by observers and during interviews.

Observers recorded 4 elasmobranch species (*Raja polystigma*, *Scyliorhinus canicula*, *Squalus balinville* and *Torpedo nobiliana*), none of which are included in DCF Table 1D concerning the region. Only two

fish with MCRS that are included in Table 1D were recorded: *Diplodus annularis*, and *Pagellus acarne*. There were no records of sea birds, mammals and reptiles.

Based on the interviews, sharks are not common in catches, while rays are occasionally caught (Raja spp.). Birds, mammals and sea turtles don't seem to be caught.

ERS records of fish included in Table 1D, from the relevant trawlers, concerned mainly *Pagellus acarne*, as well as limited catches of 4 *Epinephelus* species, *Diplodus annularis*, *Pagrus pagrus* and *Pagellus bogaraveo*. Discard records did not concern species included in Table 1D.

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

Originally the planned trips to be sampled for bycatch by observers were 8. However, due to changes in the trip durations or due to unavailability of the observers, only 5 trips were sampled, covering all quarters open for trawling (1st, 2nd, 4th). The percentage of trips for which information on bycatches has been collected from observers accounts for 2.7%, which is within the optimal coverage of 2-7% in accordance with the GFCM manual on incidental catches.

**5. Incorporation of results from pilot study into regular sampling by the MS**

Results from pilot study on trawlers do not suggest incidental catches of birds, mammals and reptiles (sea turtles); concerning sea turtles, this may be due to the closed trawling season covering their reproduction months. Incidental catches of fish included in Table 1D concern basically species with MCRS.

STREAM project suggests the monitoring of incidental bycatch to be coupled with the monitoring of commercial fisheries and discards, making necessary adjustments: record bycatches at the haul level, inspection of the opening of the cod-end, record hauls with zero bycatch. Cyprus plans to follow this suggestion.

(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.

**Mediterranean Sea**

**International bottom trawl survey in the Mediterranean (MEDITS)**

In accordance with Table 10 of the multi-annual Union programme, the International bottom trawl survey in the Mediterranean (MEDITS) is the only research survey that will be carried out by Cyprus (GSA25) during 2017-2019. No additional surveys will be performed during the relevant period. The MEDITS survey is carried out by Cyprus since the beginning of its national data collection programme (i.e. 2005).

**1. Objectives of the survey**

The aim of the survey is to collect biological data from the demersal species around the Cyprus seas, for creating time series of abundance and biomass indices, and length frequency distributions. The trends of these data series will provide information on the status of the Cyprus resources, which may contribute to their management.

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

The common methodology for the survey is defined in the instruction manual of Medits (version 8, 2016), available at http://www.sibm.it/MEDITS%202011/docs/Medits_Handbook_2016_version_8_042016.pdf.

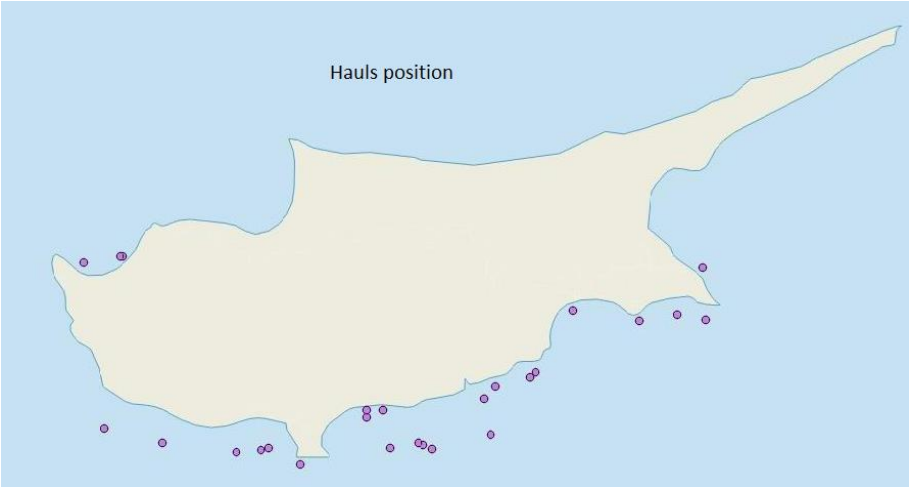


Figure 1.G.1: Distribution of sampling hauls of the Medits survey in GSA25.

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

The participating countries in the Medits survey (including non EU Member States) are the following: Spain, France, Italy, Malta, Slovenia, Croatia, Greece, Cyprus, Montenegro, Albania. A list of all vessels used until now, for carrying out the survey, is included in the Medits instruction manual. The Medits Steering Committee is composed by national coordinators. Some MS can have regional coordinators to manage certain regions within the country. The Medits Steering Committee nominates the person in charge of the coordination at international level every 3 years (with possible extension for another 3 years). Information on the National and Regional coordinators, as well as the international coordinator is provided in the Medits instruction manual.

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

Not applicable.

**5. Explain where thresholds apply**

No thresholds apply.

(max. 450 words per survey)

**1. 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.**


Map: Distribution of sampling hauls realized during the 2019 MEDITS survey in GSA25.

**2. 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).**

The latest available meeting report of the MEDITS coordination group may be found at the following link:

http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/All/E5144C17F269ED9B4225807A00322642?OpenDocument

**3. 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.**

- MEDITS data stored in different files in accordance with MEDITS instruction manual are annually submitted to JRC/DGMARE under the Official Data Call on Med&BS.
- Biological data from MEDITS surveys are annually submitted to GFCM under DCRF obligations.
- Abundance indices: Used on routine basis for performing stock assessments (for certain stocks) which are submitted to GFCM.
- Incidental catches of mammals, birds, reptiles: Submitted annually to GFCM in accordance with DCRF obligations. Information on incidental catches from MEDITS survey is additionally submitted to end users whenever such information from surveys is requested.
- Cyprus MEDITS results are provided to end users upon request/collaboration to be used in scientific projects and scientific publications.

**9. Extended comments (Tables 1G and 1H)**

Not applicable.

(max 450 words per survey)

## 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.

**Mediterranean Sea**

**1. Description of methodologies used to cross-validate the different sources of data.**

Data on certain fishing activity variables and for certain fleet segments collected under Control Regulation are not considered appropriate for scientific use. Identified issues of concern include:

- Discrepancies among records (by species and/or quantities) between logbooks and sales notes.
- Grouping of species under a common commercial name, especially in cases of relatively high number of species and low quantities; it is noted that fishermen are required to record all species irrespectively of the weight.
- Misidentification, misreporting and/or under-reporting of species and quantities.
- Sales notes do not provide information on the relevant métiers, and certain effort variables.
- Sales notes may not even be produced for a specific category of vessels below 12m (Vessels using Polyvalent 'passive' gears only - category C, allowed to fish a total of 70 days each year, and with most of the fish produced kept for self-consumption)

Due the above, complementary data will be collected under data collection, for improving the reliablity of the estimated variables and for providing them to the requested aggregation level.

*Landings weight data:*

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

Concerning vessels using “Polyvalent 'passive' gears only - category C”, landings data will be collected by census, with the provision of landing declarations to all licensed vessels.

*Effort data:*

The collection of effort data concerns vessels using polyvalent passive gears only (0-6m, 6-12m), for most of which the only information derives from sales notes. Sales notes will be used as a proxy for fishing days, which are considered equivalent with days-at-sea, fishing trips and fishing operations. With the collection of effort data by métier, estimation will be made on the % of fishing days assigned to each métier. In case during a fishing day more than one métier is exercised, one fishing day will be

assigned to each of the métiers exercised by the vessel. The percentage will then be raised to the total number of fishing days, allowing the estimation of fishing days by métiers.

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

**2. Description of methodologies used to estimate the value of landings**

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

**3. Description of methodologies used to estimate the average price**

For estimating average prices, data on prices will be collected. For species landed in more than one commercial category, average prices will correspond to each commercial category, and the estimated average price will be their weighted average. It is noted that there are no auction markets in Cyprus, and prices of fish sold to fishmongers are fixed for all vessels.

**4. Description of methodologies used to plan collection of complementary data**

The collection of complementary data on weight of landings and effort will be incorporated to biological sampling. Specifically,

- For bottom trawlers involved in demersal fishery in GSA25, landings weight data will be collected through a probability sample survey; trips of the licensed vessels will be selected randomly and will be sampled on-shore and at-sea (at randomly selected hauls). During sampling all species will be recorded and mixed categories will be analysed.
- For vessels using ‘polyvalent passive gears only’ engaged in demersal fishery, landings weight and effort data will be collected through a probability sample survey. The PSU will be the landing site on a given day, which will be selected randomly twice per week. SSU will be the cluster of trips within the PSU, aiming to sample all vessels. For each sampled trip data on métiers and quantities of gears used will be recorded, as well as all quantities of species, assigned to each métier.
- As mentioned, landing declarations will be provided to all vessels using ‘polyvalent passive gears only’ – Category C, for collecting landings data on census.

Data on prices of species will be collected through interviews of the main fishmongers around Cyprus (covering around 70% of landed fish). Fishmongers will be selected based on a probability sampling survey, on a quarterly basis. During interview prices will be collected for all species and all relevant commercial categories.

**5. Deviations from Work Plan methodology used to cross-validate the different sources of data**

In general there were no deviations. The only change was the fact that from 2019 there is no need to collect complementary data on landings from vessels of segment *Polyvalent 'passive' gears only - category C*, since it has become an obligation for them (and all other vessels) to report their landings, either sold or kept for self-consumption.

**Actions to avoid deviations**

Not applicable, since the modification in the methodology is due to the fact that the relevant issue of concern does not exist anymore.

**6. Deviations from Work Plan methodology used to estimate the value of landings**

There were no deviations.

**Actions to avoid deviations**

Not applicable.

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

There were no deviations.

**Actions to avoid deviations**

Not applicable.

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

Concerning vessels using “Polyvalent 'passive' gears only - category C”, no complementary data were collected as planned, since from 2019 it became obligatory for all vessels to report all landings, either sold or kept for self-consumptiom.

**Actions to avoid deviations**

Not applicable, since the non-collection of complementary data for “Polyvalent 'passive' gears only - category C” was due to the fact that it became obligatory for the segment to provide landings data.

(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.

**Mediterranean Sea**

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

Data required can be derived from the Fleet Vessel Register (FVR) and the National Statistics Database (SDAP). The most important tool that will be used is the post/face-to face interviews based on predetermined questionnaires. Most of the vessels do not have financial accounts since their owners are individuals.

Data Sources besides questionnaires and FVR:

- Income: logbooks and sales notes.
- No individual quotas or fishing rights exist.
- Personnel costs: It includes temporary and rotation crew onboard. For the fleet segments of polyvalent passive gears over 12m and demersal trawlers the information is gathered directly from the survey (questionnaires) since all the crew and the skipper are paid with a fixed salary. As for the polyvalent passive gears 0-<6m and 6-<12m length categories, the crew members are the owners and their assistants who are usually their sons. These persons are not paid any salary and it is considered as unpaid labour. Thus, personnel costs for this fleet segment is considered zero.
- Value of unpaid labour: The FTE method (WS, Naples, 2009) is applied where the average wage by fleet segment is used.
- Energy costs: Fuel costs are collected from questionnaires. For the polyvalent passive gears 0-<6m and 6-<12m length categories this information is collected from the booklets each vessel owner has given by Cyprus authorities for the subsidised fuels.
- Operating Subsidies and Subsidies on investments are collected from DFMR's records because DFMR is the responsible authority for the implementation of state aid in fishery sector and also of the EMFF 2014-2020.
- Capital value: Estimation based on PIM method using a degressive depreciation scheme.
- Engaged crew and unpaid labour: For the fleet segments of polyvalent passive gears over 12m and demersal trawlers the information is gathered directly from questionnaires. As for the polyvalent

passive gears below 12m, the information is gathered from the DFMR's records; fishing licences where the fishermen assistants are recorded on the fishing licences.

- Total hours worked: Estimation based on effort, number of vessels and average crew number.
- Fuel consumption: Estimated based on the fuel costs and the average price of petrol during the year.

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

The data collection scheme for trawlers and vessels using polyvalent passive gears over 12m is census. For the polyvalent passive gears 0-12m length categories, probability sample survey will be performed.

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

Before drawing the sample that will be used, the population will be stratified based on the required fleet segmentation. No further stratification within the fleet segment will take place.

Based on a new national legislation, a new category (C) of professional fishermen was introduced whose fishing activity is performed on a periodic basis since they are allowed to fish only a total of 70 days each year. Most of the fish produced by this segment is kept for self-consumption. Consequently, their income from fisheries activities is too low. Thus, this new category, which represents the segments Polyvalent "passive gears only" 0-<6m (category C licences) and Polyvalent "passive gears only" 6-<12m (category C licences), cannot be integrated with the existing segments of Vessels using Polyvalent passive gears only' below 12m since the data of previous years would not be comparative and we would face problems of bias.

For the 'Vessels using Polyvalent passive gears only' below 12m, a stratified random sampling procedure will be carried out. The sample will cover the 30% of the whole population of the segment 'Vessels using Polyvalent passive gears only' 0-<6m and 20% of the segment Vessels using Polyvalent passive gears only 6-<12m. As far as the new segment 'Vessels using Polyvalent passive gears only' 0-<6m (category C licences) the planned sample rate is 20% whereas for the new segment 'Vessels y using Polyvalent passive gears only' 6-<12m (category C licences) the planned sample rate is 30%.

The polyvalent vessels using passive gears over 12 m are all included in a single category, 12-<18m. Both length groups (12-<18m and 18-<24m) are involved in inshore fishery activities and they also perform longer trips since they target swordfish, albacore and Bluefin tuna. The cost structure of the clustered segments does not change much. The clustering will not create any problems of bias.

The demersal trawlers below 24m are only 2 and thus, they could be regrouped in the 24-<40m length group. Both groups are engaged in the same metier and they target the same group of species with the same gear.

4. Description of methodologies used for estimation procedures

In the case of trawlers and polyvalent passive gears vessels over 12m, where a census will be performed, non-responsive units may exist. The method used to raise the final estimates to total population is the adjustments of raising factors, where the factors is the total number of licensed active vessels. The same method will be used for the Polyvalent passive gears 0-12m segment, where the probability sample survey will be performed. For

this segment of vessels using polyvalent passive gears 0-12m, rotation will be applied to substitute non-responsive units. Those substituted units will be randomly selected from the same fleet segmentation, so as the main characteristics of the substituted units to be the same with the original ones.

5. Description of methodologies used on data quality

See relevant Table 5B.

*(max 900 words per Region)*

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

There were not any deviations from the methodology used.

Actions to avoid deviations

Not Applicable.

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

There were no deviations.

Actions to avoid deviations

Not Applicable.

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

There were no deviations.

Actions to avoid deviations

Not Applicable.

9. Deviations from Work Plan methodology used for estimation procedures

There were no deviations.

Actions to avoid deviations

Not Applicable.

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.

The data collection follows methodologies, guidelines and best practices agreed in expert groups like the RCM Med& BS and the PGECON. For example for the Value of unpaid labour the FTE Method is used (WS, Naples 2009) whereas the estimation of the Capital Value is based on the PIM method using a degressive depreciation scheme.

Cyprus tried to choose the best data collection approach available for each variable based on its most suitable needs and conditions according to the Workshop on Statistical issues (Helsinki 2013), the STECF SGECA 2010 and the PGECON 2016 and 2017. Thus, for example for the variables: Operating Subsidies and Subsidies on investments the information is not collected through the questionnaires but instead the information is gathered from DFMR's records because DFMR is the responsible authority for the implementation of state aid in fishery sector and also of the EMFF 2014-2020.

However, the methodologies are not documented. It is planned to do it during 2020. We are hiring new staff in order to deal with it.

The collection of the social data started in 2018 for the 2017 data and we followed the relevant guidelines of the PGECON 2017 and the PGECON Workshop on Social and new economics varables (Athens 2018).

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.

So far any any validations and identification of errors are taken place manually. A national database exists, but there are plans for developing a new one, since the current one is useful only for storing data, with many limitations. A study is ongoing, with duration of around one year, aiming the formation of the DFMR's strategy on all information systems used/required by the DFMR; under this study all current information systems and procedures for collecting, processing and disseminating data by the DFMR are being reviewed by experts, who will propose best ways for fulfilling EU and national requirements related to all its activities.

10.3. Accessibility and Clarity

Indicate with Yes or No

Are methodological documents publicly available?

NO

Are data stored in databases?

YES

Where can methodological and other documentation be found?

Provide the web link, if documentation is publicly available

NOT AVAILABLE. A national database exists, but there are plans for developing a new one, since the current one is useful only for storing data, with many limitations. A study is ongoing, with duration of around one year, aiming the formation of the DFMR's strategy on all information systems used/required by the DFMR; under this study all current information systems and procedures for collecting, processing and disseminating data by the DFMR are being reviewed by experts, who will propose best ways for fulfilling EU and national requirements related to all its activities.

(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).

1. Aim of pilot study

Due to the small size of the fisheries sector no pilot studies need to be performed regarding the collection of data on employment by education level and nationality. Instead a census survey will be performed through predetermined questionnaires, covering 100% of the population.

For the collection of data on employment by education level and nationality regarding the aquaculture sector no pilot studies will be perfomed. Instead a census survey will be performed covering 100% of the population. The data will be collected by relevant questionaires that will be submitted by the directors / owners of the fish farm units.

2. Duration of pilot study

The census surveys will be performed on an annual basis

3. Methodology and expected outcomes of pilot study

It is expected that reliable data will be collected.

(max 900 words)

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

Not Applicable.

A survey was performed through predetermined questionnaires. The data collection started in 2018 for the 2017 data and covered further information in relation to employment by age, employment by educational level, employment by nationality and employment by employment status.

As for the aquaculture no data were collected because Cyprus production volume and value is below the relevant threshold.

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

Not Applicable.

(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.

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

As defined in the ANNEX - CHAPTER V (Thresholds) paragraph 5 and 6 of the Commission Implementing Decision (EU) 2016/1251 of July 2016, CYP total aquaculture production volume and value, as reported in the CYP latest submission under Regulation (EC) No 762/2008, are both less than 1% of the total EU aquaculture production volume and value. The EU aquaculture production volume and value was taken by the most recent data published by Eurostat (2017).

Additionally as defined in the ANNEX - CHAPTER V (Thresholds) paragraph 5 and 6 of the Commission Implementing Decision (EU) 2016/1251 of July 2016 we do not need to provide socio-economic aquaculture data on the production of shellfish which accounts less than 10% of CYP aquaculture production by both volume and value, as reported in CYP latest submission under Regulation (EC) No 762/2008.

Furthermore no socio-eocnomic data will be collected as regards fresh water aquaculture as it is not mandatory (optional – Chapter III, annex, paragraph 6 of the Commission Implementing Decision (EU) 2016/1251 of July 2016) .

Taking into consideration the above and the relevant threshholds as defined in the ANNEX - CHAPTER III – paragraph 6 and CHAPTER V (Thresholds) paragraph 5 and 6 of the Commission Implementing Decision (EU) 2016/1251 of July 2016 Cyprus does not intend to collect and submit any socioeconomic and / or environmenntal data.

In case of any change of the production that will not fall within the threshholds as described in the Commission Implementing Decision (EU) 2016/1251 of July 2016 Cyprus will proceed with the collection of marine aquaculture data as follows.

The data needed (economic, social and environmental) will be collected directly from the fish farm companies / units with the use of questionnaires, face to face interviews and based on the financial statements that are prepared and submitted by the Financial Directors / owners of the Aquaculture Companies. Due to the small size of the aquaculture sector in Cyprus, all data will be generated and submitted directly by the company involved. The same methodology will be used for all the aquaculture units / companies that are operating in Cyprus.

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

Data collection will be performed by A – Census and with the use of questionnaires, face to face interviews and based on the the financial statements that are prepared and submitted by the Financial Directors / owners of the Aquaculture Companies.

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

Due to to the small size of the population an A Census will be performed with a planned rate of 100% .

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

The data needed will not be estimated but 100% census will be conducted due to the small size of the population.

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

The data needed are collected with the use of questionnaires, face to face interviews and based on the financial statements prepared and submitted by the Financial Directors or owners of the Aquaculture Companies / Units.

All the enterprises will be covered exhaustively and no sampling will take place due to the small size of the population. In the case of any non-responsive units, no rotation will be applied

As mentioned above, to assure the quality of the collected data, the data collection type will be census and thus information will be given on the targeted response rates.

*(max 1000 words)*

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

There were no deviations. It is noted that the production volume and value of the Cyprus aquaculture is below the relevant threshold and thus, no data were collected.

**Actions to avoid deviations**

Not Applicable

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

There were no deviations. It is noted that the production volume and value of the Cyprus aquaculture is below the relevant threshold and thus, no data were collected.

**Actions to avoid deviations**

Not Applicable

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

There were no deviations. It is noted that the production volume and value of the Cyprus aquaculture is below the relevant threshold and thus, no data were collected.

**Actions to avoid deviations**

Not Applicable

**9. Deviations from Work Plan methodology used for estimation procedures**

There were no deviations. It is noted that the production volume and value of the Cyprus aquaculture is below the relevant threshold and thus, no data were collected.

**Actions to avoid deviations**

Not Applicable

**10. Quality assurance**

**10.1 Sound methodology**

Not Applicable

**10.2. Accuracy and reliability**

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

Not Applicable

**10.3. Accessibility and Clarity**

Not Applicable

**Are methodological documents publicly available?**

Not Applicable

**Are data stored in databases?**

Not Applicable

**Where can methodological and other documentation be found?**

**Provide the web link, if documentation is publicly available**

Not Applicable

(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).

*1. Aim of pilot study*

For the collection of environmental data on aquaculture (medicines/treatments administered and mortalities) no pilot studies will be perfomed. Instead a Census survey will be performed covering 100% of the population. The data will be collected by relevant questionaires that will be submitted by the directors / owners of the fish farm units.

*2. Duration of pilot study*

The census survey will be performed on an annual basis

*3. Methodology and expected outcomes of pilot study*

It is expected that reliable data will be aquired.

(max 900 words)

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

The production volume and value of the Cyprus aquaculture is below the relevant threshold and thus, no data were collected.

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

The production volume and value of the Cyprus aquaculture is below the relevant threshold and thus, no data were collected.

(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

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

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

4. Description of methodologies used for estimation procedures

5. Description of methodologies used on data quality

(max 1000 words)

**6. Deviations from Work Plan methodology for selection of data source**
**Actions to avoid deviations**
Not applicable

**7. Deviations from Work Plan methodology to choose type of data collection**
**Actions to avoid deviations**
Not applicable.

**8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme**
**Actions to avoid deviations**
Not applicable.

**9. Deviations from Work Plan methodology used for estimation procedures**
**Actions to avoid deviations**
Not applicable.

**10. Quality assurance**

**10.1 Sound methodology**
Not applicable.

**10.2. Accuracy and reliability**
Not applicable.

**10.3. Accessibility and Clarity**
Not applicable.

(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.

**Mediterranean Sea**

*Aim*:

- Length sampling for estimating length frequency of catches from commercial fisheries for stocks selected for sampling (see WP Tables 1A&1B), to be reported at metier level 6. Length sampling will be performed annually enabling quarterly estimations of length distribution.
- Sampling for weight, age, sex and maturity for estimating mean weight, age distribution, sex-ratio and maturity of catches from commercial fisheries of selected stocks (see Table IB of WP). The temporal resolution has been regionally agreed by RCM Med&BS-LP 2016, and is based on a stratification of the stocks (Group 1, 2 and 3 species) as in the adopted GFCM Data Collection Reference Framework (DCRF).
- Estimation of volume of discards and unwanted catches, to be reported at metier level 6. The recommendation of RCM Med&BS 2009 on discard significance by metier will be followed.
- Collection of fishing activity complementary data required for scientific use (see Text box 2A).

*Important métiers*

The main métiers exercised by Cyprus fishing vessels by area were identified following the ranking procedure described in the old DCF Decision 2010/93/EU. Data used for the ranking were the average data on landings, value and effort over the period 2013-2015. The métiers selected are the following:

OTB_DEF_>=40_0_0( GSA25), LLD_LPF_0_0_0 (all GSAs)
GTR_DEF_>=16_0_0 (GSA25), GNS_DEF_>=16_0_0 (GSA25)
OTB_DEF_>=40_0_0 (37.2.2 – GSAs 13,14,15,21) – bilateral agreement (see Table 7C of WP)

PS_SPF_>=14_0_0 will be included in biological sampling in case it is exercised.

*Sampling design*

OTB_DEF(GSA25):

Sampling of this métier will involve:

- Concurrent length sampling of catches for selected stocks
- Estimation of discards and unwanted catches
- Sampling of unsorted landings and recording of all species quantities as complementary data
- Collection of samples for ageing, weight, sex and maturity for stocks selected.

Target population is all catches made by the two Cyprus licensed vessels operating this métier in GSA25, with full coverage expected. Description of sampling frame and plan is provided in Tables 4A&4B, where sampling stratum ID code is OTB_GSA25. For each sampled trip a multistage sampling, with simple random sampling at each stage, will be performed for the selection of i. Hauls to be sampled (if onboard), ii. Boxes to be sampled (by species by commercial category), iii. Individual fish to be length-sampled by box and iv. Individual fish to be selected for age, weight, sex and maturity, through length-stratified sub-sampling.

LLD_LPF:

LLD_LPF will be further disaggregated to the regionally agreed métiers at level 7, based on target species. Due to the seasonal fishery of ALB, trips of this métier may be selected *a priori*, following communication with the fishermen. Trips targeting SWO or BFT cannot be selected in advance, therefore sampling will involve both métiers at level 7. The relevant sampling stratum ID codes in Tables 4A& 4B are LLD_LP_ALB and LLD_LP_SWO&BFT.

Trips will be selected by randomly selecting dates; following communication with the relevant vessel owners, the trips closest to the selected dates will be sampled.

Sampling will involve:

- Concurrent length sampling of catches for all stocks
- Estimation of discards and unwanted catches
- Collection of samples for weight, sex and maturity for selected stocks (see WP Table 1B).

For LLD_LP_ALB, the target population is all catches made by the Cyprus licensed vessels operating this metier; full coverage is expected. For this métier, only one fishing operation takes place per fishing trip. Following the random selection of vessels and trips (PSU), boxes (if applicable) and individual fish will be randomly selected for length sampling. Where applicable, individual fish will be selected for weight, sex and maturity through length-stratified sub-sampling.

For LLD_LP_SWO&BFT, the target population is all catches made by the Cyprus licensed vessels operating these metiers. Considering that some landings take place in foreign ports, it is expected that sampling will cover around 95% of target population. Following random selection of PSU, all hauls will be sampled (in case of onboard sampling), in which individuals will be length sampled (all/randomly selected). Where applicable, individual fish will be selected for weight, sex and maturity.

Demersal fishery with polyvalent passive gears

Selected métiers GTR_DEF and GNS_DEF are exercised by artisanal vessels, which are involved in many métiers. In this case it cannot be known *a priori* which trips will be assigned to each métier. Sampling will cover the demersal fishery operating with polyvalent passive gears, and all métiers encountered will be recorded. The PSU will be the sampling site on a single day, with secondary sampling unit the cluster of trips within the PSU. The aim is to sample all vessels encountered during sampling. The relevant sampling stratum ID code in Tables 4A& 4B is **LS_PG_DEF**.

Sampling of this fishery will involve:

- Concurrent length sampling of catches for selected stocks
- Estimation of discards and unwanted catches for all stocks (based on questionnaires)
- Sampling unsorted landings/retained catches as complementary data required for the scientific use of fishing activity data collected under Control Regulation
- Recording effort variables not collected under Control Regulation
- Collection of samples for ageing, weight, sex and maturity for stocks selected (see WP Table 1B).

Multistage sampling will be performed, for i. Random selection of PSU, ii. Sampling of all vessels, iii. Length sampling individuals (randomly/all) and iv. Selecting individual fish for age, weight, sex and maturity, through length-stratified sub-sampling.

Expected execution difficulties: Refusals for on-board sampling, altered fishing behaviour when observers on-board, staff availability, refusals of selling fish for lab samples.

Quantitative targets: To establish and achieve the "optimal" sample sizes, after which the gain of precision is not meaningful anymore. For achieving sampling optimization the tool devised by the MARE/2014/19 project (Med&BS) will be used, as recommended by RCM Med&BS-LP 2016.

*(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**

As mentioned also in Text Box 1C, the sampling of the two strata related with large pelagic (LLD_LP_ALB and LLD_LP_SWO&BFT) was carried out under a control observer scheme, organised by DFMR (the same Department responsible for Data Collection). This deviation derived due to problems in assigning scientific DCF observers (no applicants for the tender).

It is clarified that during 2019 there were strata with no sampling coverage; however, this is not a deviation since there were no plans for sampling them. The strata with no sampling coverage are the following:

- Trawl fishery operating in international waters in Eastern Mediterranean (37.3.2 - GSA24, GSA26).
- Trawl fishery operating in Central Mediterranean (37.2.2 - GSAs 13, 14, 15, 21).
- Purse seine fishery for small pelagic in GSA25.
- Vessels using Polyvalent passive gears only 0-6m, 6-12m (category C).

The above strata were not selected under the ranking procedure that was followed, except for the trawl fishery in central Mediterranean, the sampling of which is covered by Malta under bilateral agreement (see Table 7C). Information on the fisheries with no coverage is provided in Table 4C.

**3. Action to avoid deviations**

Concerning the deviation from sampling large pelagic fisheries under DCF, it should be mentioned that from beginning of 2020 the DCF sampling team has been enriched with additional qualified personnel, for ensuring that the achievements of biological sampling are met and for reducing the activities performed under tender procedures.

(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.

**1. Evidence of data quality assurance**

*Sampling design:* Target populations, sampling frame, sampling stratification and selection of PSUs are clearly defined for all sampling schemes and are in agreement with proposed best practices in the sampling of commercial catches. *Sampling implementation:* For all sampling schemes the selection of PSUs is electronically recorded, as well as sampling achievements (including reasons for deviations from the planned PSUs such as bad weather, refusal, change in dates of trips). During sampling, standard data recording forms are used, as well as calibrated measuring board and balance. Sources of bias are identified, based on the work of WKACCU 2008, and efforts are made for eliminating them.

The sampling design tool, developed under MARE 2014/19 Med&BS and STREAM MARE/16/22 projects on COSTS tools, is used for estimating the "optimal" sample sizes of species (in terms of number of trips and individuals to sample), in agreement with the RCG Med&BS recommendation.

*Storage of data:* For all sampling schemes, recording forms used during sampling are stored, even after data are electronically recorded. Stored data are checked for completeness and correctness (e.g. species names and codes, vessel details, lengths, sample weights based on L-W relationships). Catch and effort data of sampled trips are cross-checked with control and VMS data (when applicable).

*Processing:*

- Multi-stage sample selection is accounted for the raising/weighing procedures.
- Ageing - Participation in relevant otolith exchanges, follow-up of recommendations and protocols produced by relevant Ageing Workshops.
- For sampling schemes involving large pelagic, the ICCAT manual is followed.

**2. Sampling design**

The relevant documentations are available.

**3. Sampling implementation**

Not applicable, 'Y' is indicated in Table 5A.

**4. Data capture**

'Y' is indicated in Table 5A.

**5. Data Storage**

A national database exists, but there are plans for developing a new one in line with ICES RDBS format, since the current one is useful only for storing data, with many limitations. The DFMR IT strategy was finalised during 2018; based on this strategy, the DFMR IT environment will be transformed to support a modern integrated system for the future based on an architecture that facilitates the delivery of services to internal and external stakeholders including fishing organizations, fishermen citizens and interested entities. Once the new DCF database will be developed, it will be connected with the integrated system.

**6. Data processing**

Concerning data processing, scripts developed under STREAM MARE/16/22 WP3 project are being tested for using COST tools. Relevant documentation will be made available following the use of the scripts and the COST tools.

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

SECTION 5: DATA QUALITY

## 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

Information on data quality assurance is provided in Table 5B.

FISHING FLEET

2. Section P3 Impartiality and objectiveness

Not applicable, 'Y' is indicated in Table 5A.

3. Section P4 Confidentiality

There are no protocols in place to ensure confidentiality issues and the methodology is not documented. Documentation and further quality assurance were expected to be in place earlier but due to tender procedures problems may not be available until 2020. We have hired new staff to prepare the necessary documentation.

4. Section P5 Sound methodology

There is no documentation available. Documentation was expected to be in place in earlier but due to tender procedures problems may not be available until 2020. It is noted that information on methodology is briefly explained in Text box 3A.

5. Section P6 Appropriate statistical procedures

There is no documentation available. Documentation was expected to be in place earlier but due to tender procedures problems may not be available until 2020.

6. Section P7 Non-excessive burden on respondents

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

Some information asked in the questionnaires could be also available from other sources. The reason for asking again the same information is mainly for cross checking. However, the information needed to be asked through questionnaires is under evaluation.

7. Section P8 Cost effectiveness

A national database exists, but there are plans for developing a new one, since the current one is useful only for storing data, with many limitations. A study is ongoing, with duration of around one year, aiming the formation of the DFMR's strategy on all information systems used/required by the DFMR; under this study all current information systems and procedures for collecting, processing and disseminating data by the DFMR are being reviewed by experts, who will propose best ways for fulfilling EU and national requirements related to all its activities.

8. Section P9 Relevance

Same as Point 7: Section P8 Cost effectiveness

9. Section P10 Accuracy and reliability

A national database exists, but there are plans for developing a new one, since the current one is useful only for storing data, with many limitations. A study is ongoing, with duration of around one year, aiming the formation of the DFMR's strategy on all information systems used/required by the DFMR; under this study all current information systems and procedures for collecting, processing and disseminating data by the DFMR are being reviewed by experts, who will propose best ways for fulfilling EU and national requirements related to all its activities.

10. Section P11 Timeliness and punctuality

Not applicable, 'Y' is indicated in Table 5A

11. Section P12 coherence and comparability

Not applicable, 'Y' is indicated in Table 5A

12. Section P13 Accessibility and Clarity

There is no documentation available. Documentation was expected to be in place earlier but due to tender procedures problems may not be available until 2020. A national database exists, but there are plans for developing a new one, since the current one is useful only for storing data, with many limitations. A study is ongoing, with duration of around one year, aiming the formation of the DFMR's strategy on all information systems used/required by the DFMR; under this study all current information systems and procedures for collecting, processing and disseminating data by the DFMR are being reviewed by experts, who will propose best ways for fulfilling EU and national requirements related to all its activities.

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