REPUBLIC OF CYPRUS

**MINISTRY OF AGRICULTURE
NATURAL RESOURCES
AND ENVIRONMENT**

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

Council Regulation (EC) No 2017/1004 of 17 May 2017

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

Commission Regulation (EC) No 665/2008 of 14 July 2008

laying down detailed rules for the application of Council Regulation (EC) No 199/2008

Commission Implementing Decision (EU) 2019/909 of 18 February 2019

establishing the list of mandatory research surveys and thresholds for the purposes of the multiannual Union programme for the collection and management of data in the fisheries and aquaculture sectors

Commission Delegated Decision (EU) 2019/910 of 13 March 2019

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

Cyprus Work Plan for data collection in the fisheries and aquaculture sectors

2020-2021

Version 1 – October 2019

Nicosia, 31 October 2019

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SECTION 1: BIOLOGICAL DATA

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

General comment: This Box fulfills paragraph 4 of Chapter V of the multi-annual Union programme and Article 2 and Article 4 paragraph (3) point (a) of this Decision.

Mediterranean Sea

Under the 2017-2019 WP, Cyprus performed a pilot study aiming 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)
- Collection of information on recreational fishing activity
- Collection of socio-economic variables for evaluating the contribution of recreational fisheries to the economy and in particular to the coastal communities

Based on the pilot study, the most important species caught by recreational fishers have been identified and the proportion of the total national recreational catches for each species has been estimated. Knowledge has been gained on recreational fishing activity in relation to time, space, fishing methods and gear specifications. Preliminary results have been presented during the 2019 RCG Med&BS Workshop on Recreational Fisheries. Following the 2019 RCG Med&BS Recommendation, a second RCG Med&BS Workshop on Recreational Fisheries will take place in 2020, for proposing a plan for regular sampling of recreational fisheries.

No pilot study is proposed for the period 2020-2021.

(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 multi-annual Union programme and Article 2 of this Decision.

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)

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 multi-annual Union programme and Article 2 and Article 4 paragraph (3) point (b) of this Decision.

Mediterranean Sea

Pilot study 2.1 – Distribution and biomass estimation of aggregated fish populations using Acoustic Research Survey.

The following pilot study was initially submitted and approved in the 2018-2019 WP. A modification was requested in the 2019 WP on the timing of the pilot study (2020 instead of 2019) due to technical problems that hindered the use of the vessel planned to be used for the study; this modification has been accepted.

1. Aim of pilot study

The acquisition of representative and fisheries independent estimations of fish populations size is of paramount importance for assessing the impacts of fishing on biological resources, and for regulating fishing activities at sustainable levels of exploitation. The current research survey contacted under the national work plan, in accordance with Table 10 of EUMAP, lacks the potential of assessing the relative abundance of a number of important species exploited by the Cypriot fishing fleets, including the demersal, semi-pelagic species *Spicara smaris* and *Boops boops*.

Spicara smaris is the most important species for trawlers in Cyprus, while *Boops boops* is the most important species in tonnage and value for the Cypriot artisanal fisheries. The fisheries data produced under the data collection programme and used for assessing the status of the above species cannot be tuned using an independent abundance index, and CPUE (with the many problems it carries) is the nominal code of practice for the delivered assessments which need to be improved. Acoustics seem to open a window of opportunity to get an almost absolute estimate of Spawning Stock Biomass of these species which aggregate during spawning season.

Considering that acoustic surveys have never been carried out in Cyprus – GSA25 due to the low presence of small pelagic species, a pilot study is proposed for performing for the first time an acoustic survey in the area, aiming to gain knowledge of the biomass levels and the spatial distribution of the species *Spicara smaris* and *Boops boops*.

2. Duration of pilot study

1 year. It is planned to start in 2020 (1st and 2nd Quarter, during spawning season of the target species).

3. Methodology and expected outcomes of pilot study

Acoustic survey will be conducted using modern multibeam/broadband/wideband sonar technology that gives the ability to transect various frequency's simultaneously and post process the echograms to facilitate various scopes of analysis. The survey will be cover all area under the effective control of the government of the Republic of Cyprus in depths bellow 50m were the spawning event occurs for the semi demersal (and /or semi pelagic) species, *Spicara smaris* (most important species for trawlers in Cyprus) and *Boops boops* (most important species in tonnage and value for Cypriot artisanal fisheries) and when fish aggregate in relatively big schools. Other species will also be studied wherever possible. Bathymetric data from LIDAR mapping survey will be considered for proper beam dead zone calculations coupled with calibration on survey areas and species target strength tests on the field.

Fish sampling will take place using both pelagic and bottom trawls in order to "translate" the echo inputs into species biomass.

Sampling strategy will be based on systematic pre-planned design which provides the most precise estimate of the abundance in a fixed domain and delivers the best distribution maps. An autocorrelation model will be used to estimate the survey precision. The selected depth allocation reduces the sampled water volume considerably and this allows for a very representative coverage of the study area.

Expected outcomes will be the estimation of the spawning stock abundance of the two target species, a distribution map of aggregation patterns and hot-spot spawning areas that might need special management considerations. Auxiliary information on species that will happen to be sampled during the cruise will be collected and evaluated. Estimation of plankton abundance will also be delivered as part of the post processing process which will add to the existing knowledge of the ecosystem functions and productivity. Multibeam technology will also give an opportunity to study internal school structures and behaviour which play an important role in the way the fish aggregate and has a great influence on the catch.

Derived survey SSB quantities will be compared with the estimates calculated in single species stock assessments and not only will advise the assessments but will also provide insights of the predicted and the real populations.

Based on the outcomes of the pilot study, Cyprus will evaluate the usefulness of including this acoustic survey in future work plans and/or may propose a continuation of the pilot study for optimising the survey design. In case the survey is decided to be performed systematically under the national work plan, it is expected to be coordinated under the MEDIAS (MEDiteranean International Acoustic Survey) Steering Committee**.**

Pilot study 2.2 – Deep Water Red Shrimps Bottom Trawl survey in Cyprus waters.

The following pilot study was initially submitted and approved in the 2019 WP, with planned duration a year-round study carrying out a survey in 4 quarters, starting from Q3 or Q4 of 2019 and ending in Q2 or Q3 in 2020. Due to unexpected reasons, it will not be possible to initiate the survey within 2019, therefore it is

requested that the survey will be carried out within 2020 (starting from Q1 or Q2 of 2020 and ending in Q4 of 2020 or Q1 of 2021 respectively).

1. Aim of pilot study

An emerging need, recommended from various scientific groups (e.g. SAC SRC-EM) associated with the streaming process of developing a deep water red shrimp management plan in the East Mediterranean under GFCM, is the increase of knowledge on the relevant species (*Aristaeomorpha foliacea* and *Aristeus antennatus*), through research surveys and targeted data collection programs. In fact, scientific knowledge of the particular species in the area is scarce.

Gaining in-depth fishery independent knowledge on the abundance, distribution, population structure and growth of the red shrimp stocks in the East Mediterranean will support the effective assessment of the stock status of the species and contribute to the formulation of sound management measures for their exploitation.

Aside from scientific information on deep water red shrimps, a deep-water trawl survey may provide valuable knowledge on the associated species composition and the possible presence of vulnerable marine ecosystems (VMEs), which can be used for the formulation of management measures regulating deep water shrimp fisheries. Furthermore, as some fishing grounds can be found around coral habitats or on the edge of underwater canyons, except of the direct effects of towed gear over these ecosystems, another significant problem which can be attempted to be studied is the sediment resuspension from trawling.

Considering the above, a deep water red shrimps bottom trawl survey in Cyprus waters (GSA25) is proposed, aiming the following:

- Collection of data on the abundance, distribution, population structure and growth of the red shrimp stocks (*Aristaeomorpha foliacea*, *Aristeus antennatus*)
- Collection of data on the associated species
- Possible identification of vulnerable marine ecosystems (VMEs)

2. Duration

Knowing that deep water red shrimps are characterized by seasonal and spatial movements highly dependent on sex and life stages, a year-round study is proposed for carrying out a survey in in 4 quarters, starting from Q1 or Q2 of 2020 and ending in Q4 of 2020 or Q1 of 2021 respectively.

3. Methodology and expected outcomes of pilot study

In order to be able to compare results in a standardized manner across regions, and subsequently be compatible with the available Cypriot MEDITS data series, the proposed methodology is the one used in the MEDITS survey. MEDITS protocol can be found in the following link: (http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/All/A22B9A733AB6CF3242258330002187A3?OpenDocument).

The differences with the Cyprus MEDITS survey will be: a) the spatial coverage will be greater than the one of the Cyprus MEDITS deep water hauls b) there will be a year-round coverage, carrying out the survey during each quarter with fixed sampling stations c) in some particular cases sampling activity will not be restricted during daylight, in order to capture population structure changes driven by the foraging and hunting activity knowing to occur in these species as well as their moves to shallower areas (as auxiliary information) d) a finer station selection will be made, based on habitat suitability with depth ranging from 200-800 m, considering also the identified commercial fishing grounds of the fishing fleets operating in GSA25.

At the end of the pilot study it will be possible to evaluate the usefulness of the survey in terms of the delivered outputs, the methodology used and the progression in future.

Main expected outcomes will be:

- a distribution map of the deep water shrimps
- first analytical data acquisition for setting the founding to move from data limited to data rich approaches in stock assessment of deep-water shrimps in the East Mediterranean
- information on associated species
- possible discovery and mapping of fragile environments and/or VMEs
- possible discovery and mapping of nursery and/or spawning aggregations

All information collected will be useful for formulating advice on the management of deep water fisheries resources in the area and on minimizing negative impacts of fishing activities on the marine ecosystem.

Pilot study 2.3 – Study on trophic webs in the marine environment of Cyprus based on Integrated Maritime Policy. This study will be funded from an alternative EMFF scheme (Priority Union 6). The outcomes from MARE/2016/22 STREAM Project on stomach content analysis (Deliverable D4.1) will be considered.

(max 900 words)

Text Box 1G: List of research surveys at sea

General Comment: This Box fulfills the Commission Impementing Decision (EU) 2019/909 establishing the list of mandatory research surveys and thresholds for the purposes of the multiannual Union programme for the collection and management of data in the fisheries and aquaculture sectors. It is intended to specify which reseach surveys at sea set out in Decision 2019/909 will be carried out. Member States shall specify whether the research survey is included in Decision 2019/909 or whether it is an additional survey.

Mediterranean Sea

International bottom trawl survey in the Mediterranean (MEDITS)

In accordance with the list of mandatory research surveys of Commission Impementing Decision (EU) 2019/909, the International bottom trawl survey in the Mediterranean (MEDITS) is the only mandatory research survey that will be carried out by Cyprus (GSA25) during 2020-2021. 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 9, 2017), available at http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/All/6DC46542CDE2BC644225833000214B58/$file/MEDITS%20Handbook%20V.9%202017.pdf.

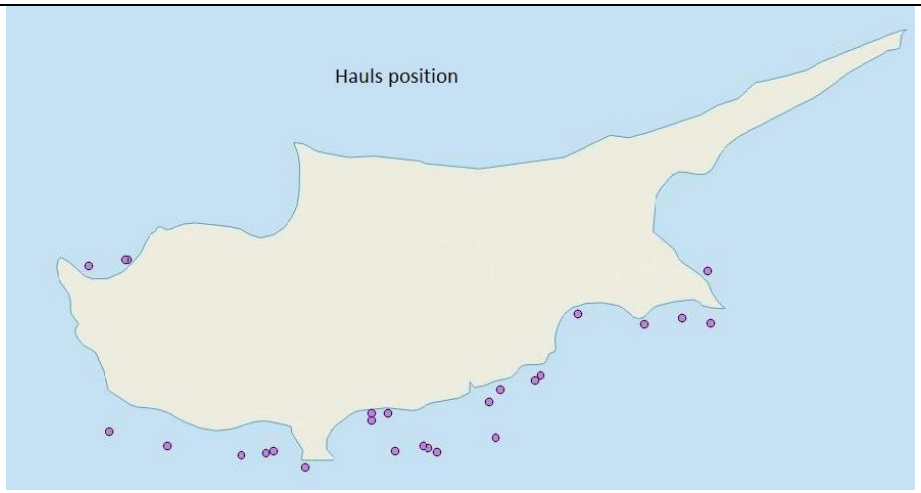

Figure 1.G.1: Distribution of sampling hauls of the Medits survey in GSA25.

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)

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 multi-annual Union programme and Article 2, Article 4 paragraph (2) point (b) and Article 5 paragraph (2) of this Decision. 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.

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 from licensed vessels below 10 m will be collected by census, with the provision of landing declarations. For the same category, landings data from licensed vessels over 10m will be collected through logbooks in accordance with the Control Regulation.

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. 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 from fishmongers distributed along the island. 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.

The average price will be also estimated from data recorded in sales notes and will be cross-checked with the average price estimated from data collected on prices.

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, from licensed vessels using "Polyvalent 'passive' gears only - category C" with length below 10 m, landings data will be collected by census with the provision of landing declarations.

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.

(max 900 words per Region)

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

General comment: This Box fulfills paragraph 5 points (a) and (b) of Chapter III of the multi-annual Union programme and Article 2, Article 4 paragraphs (1), (2) and (5) and Article 5 paragraph (2) of this Decision. It is intended to specify data to be collected under Tables 5(A) and 6 of the multi-annual Union programme.

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.

Due to the very small number of demersal trawlers below 24m 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 despite their vessels length.

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)

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 multi-annual Union programme and Article 2 and Article 3 paragraph (3) point (c) of this Decision. It is intended to specify data to be collected under Table 6 of the multi-annual Union programme.
1. Aim of pilot study No pilot study will be performed. 2. Duration of pilot study 3. Methodology and expected outcomes of pilot study *(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 multi-annual Union programme and Article 2, Article 4 paragraphs (1) and (5) and Article 5 paragraph (2) of this Decision. It is intended to specify data to be collected under Tables 6 and 7 of the multi-annual Union programme.

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

As defined in ANNEX - CHAPTER II (Thresholds) paragraph 5 and 6 of Commission Implementing Decision (EU) 2019/909, 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.

Additionally as defined in ANNEX - CHAPTER II (Thresholds) paragraph 5 and 6 of Commission Implementing Decision (EU) 2019/909, 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 Commission Delegated Decision (EU) 2019/910).

Taking into consideration the above and the relevant threshholds as defined in ANNEX - CHAPTER III – paragraph 6 of Commission Delegated Decision (EU) 2019/910 and CHAPTER II (Thresholds) paragraph 5 and 6 of Commission Implementing Decision (EU) 2019/909, 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 Commission Implementing Decision (EU) 2019/909, 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 of 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)

Pilot Study 4: Environmental data on aquaculture

General comment: This Box fulfills paragraph 6 point (c) of Chapter III of the multi-annual Union programme and Article 2 and Article 4 paragraph (3) point (d) of this Decision. It is intended to specify data to be collected under Table 8 of the multi-annual Union programme.

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)

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

General comment: This Box fulfills footnote 6 of paragraph 1.1(d) of Chapter III of the multi-annual Union programme, Article 2, Article 4 paragraphs (1) and (5) and Article 5 paragraph (2) of this Decision. It is intended to specify data to be collected under Table 11 of the multi-annual Union programme.

It is an optional section and Cyprus will not proceed with the collection of data of the processing sector because this sector is really small and confidentiality issues arise.

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)

SECTION 4: SAMPLING STRATEGY FOR BIOLOGICAL DATA FROM COMMERCIAL FISHERIES

Text Box 4A: Sampling plan description for biological data

General Comment: This Box fulfills Article 3, Article 4 paragraph (4) and Article 8 of this Decision and forms the basis for the fulfilment of paragraph 2 point (a)(i) of Chapter III of the multi-annual Union programme. This Table refers to data to be collected under Tables 1(A), 1(B) and 1(C) of the multi-annual Union programme.

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, as well as the relevant updated recommendation of RCG Med&BS 2019, 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 (and in GFCM DCRF manual version 2019.1). Data used for the ranking were the average data on landings, value and effort over the period 2017-2018. 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), LLS_DEF_0_0_0 (GSA25),
OTB_DEF_>=40_0_0 (Strait of Sicily – GSAs 14,15) – bilateral agreement (see Table 7C of WP)

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. The relevant sampling stratum ID codes in Tables 4A& 4B are LLD_LP_ALB and LLD_LP_SWO.

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, age, 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, age, sex and maturity through length-stratified sub-sampling.

For LLD_LP_SWO the target population is all catches made by the Cyprus licensed vessels operating this metier. 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.

LLD_LP_BFT is an additional métier operated by Cyprus fishing vessels, with catches basically landed in foreign EU ports. This métier is covered through observers assigned by the control unit of the Department. No additional sampling will be carried out under the data collection unit of the Department, for this it is not included in Tables 4A&4B.

Demersal fishery with polyvalent passive gears

Selected métiers GTR_DEF, GNS_DEF and LLS_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) and further upgraded by MARE/2016/22 STREAM project will be used.

(max 900 words per Region)