Annex 2

Biological data collection for long-distance fisheries in external waters

The project(s) dealing with biological data for long-distance fisheries in external waters should carry out the following elements:

Work package 1

On the basis **of what has been achieved in 2016-2017** relevant to regional cooperation (in regional grants, studies, RCMs, STECF, ICES, JRC, EUROSTAT, scientific publications etc), the beneficiaries shall propose a **set of prerequisites for the functioning of the Regional Coordination Groups (RCGs)** [the applicants dealing with biological data are advised to cooperate on this point]: suggest number of standard meetings per year and timing, subgroups (RCG-specific and pan-regional), communication methods within and between RCGs (including different means of collaboration), rules of procedures, formal communication with end users, formal communication of RCG work to stakeholders, expertise needed (can be linked to WP 6) etc. The relevant Regional Coordination Meetings will analyse and assess the proposed prerequisites.

Work package 2

Identify and categorise the different EU international fisheries fishing for demersal and small pelagic stocks including their geographical area of operation. For each one of these fisheries list the exact data requirements on the basis of the relevant legislation or in consultation with end users. Evaluate different sources to collect data (logbook data, sampling at port/market, surveys at sea and/ or observers on board) and, for each fishery, propose criteria to choose best option for data collection. Suggest, if possible, which are the most reliable data source(s) per area.

Work package 3

For these fisheries where a regional approach is considered as feasible, a **regional sampling plan for 2019 should be proposed**. These should be included in the current EU Multiannual Programme. These plans will replace the relevant parts of the Member States' national Work Plans in external waters. The existing work plan template can be used, or modifications can be suggested [the applicants dealing with biological data are advised to cooperate on this point]. The regional sampling plan may include both harbour sampling and at sea observer programmes where appropriate. The regional sampling plan may cover data collection, analysis (e.g. age reading), data management and storage and the analysis of discards and unwanted catch fractions. The regional sampling plan should apply to all concerned Member States involved in the fisheries of external waters (even if they are not part of the consortiums to which the grant are awarded).

Designing a regional sampling plan will require the following tasks to be completed (if not duplicating work already carried out in the previous grants) while building on the experience and knowledge acquired under the previous grants:

a. **Definition of data needs and priorities,** depending on: (i) the level of existing EU cooperation and (ii) the priority of fisheries in terms of EU involvement as well as end user needs. The output should be the list of stocks/ species to be coordinated regionally and the time scale for achieving this (either in the short- or longer-term).

b. **Data sharing** among all Member States of the region(s). Based on the experience of the previous grants, the applicants should actively demonstrate, through the setting up of data sharing agreements or similar actions, that data will be shared.

c. **Apply and/or refine previously agreed guidelines and best practice methodologies** to be followed for establishing and implementing data sampling, processing and management. These guidelines and best practice should be made available to all relevant actors in the region, for example through a website or SharePoint.

d. **Apply and/or refine reference (or code) lists** to be used by Member States in the region to ensure harmonized reporting on their data, and to enable regional pooling and analysis of data [the applicants dealing with biological data are advised to cooperate on this point]. These reference lists should be made available to all relevant actors in the region, for example through a website or SharePoint.

e. Carry out **simulations** of proposed regional sampling plans, to provide evidence for their feasibility.

f. Develop rules on how to **allocate tasks or costs** between Member States [the applicants dealing with biological data are advised to cooperate on this point].

g. **Evaluate the cost implications** for 2019 and beyond if Member States implement this regional sampling plan, compared to the "business as usual" approach that consists of national sampling plans (as is the case to date). Re-allocation of sampling may need new agreements to be put in place. Propose realistic solutions that will lead from the current set up to the proposed set up, taking into consideration potential implications and practical implementations.

h. Propose solutions for regional storage systems, data processing, management and raising of data, taking into account current situation, ongoing studies and developments. Propose alternative scenarios where relevant and create a roadmap with timeline and specific milestones.

i. **Lessons learned**. Propose a set of rules and recommendations to be used as reference in the establishment of future regional sampling plans. This point should be discussed and, if possible agreed upon, in work package 7.

j. Document the whole process in the form of a **repository**. This repository can be used as a reference point for future regional sampling plans.

Work package 4

A **regional sampling plan** for 2019 covering **the collection of data on fisheries impacts on the ecosystem.** These data are linked to requirements overlapping with MFSD objectives and obligations from the regional sea conventions. Consultations with bodies using DCF data to produce advice for fisheries management, such as STECF, ICES, GFCM and other RFMOs,

have identified several new categories of "ecosystem" data that have been included in the new EU Multiannual Programme to improve the understanding of fisheries impacts on the ecosystem. This includes: 1) data on stomach content of fish in order to contribute to knowledge on predator-prey relations, which are required for multi-species stock assessments, 2) data on co-occurrence and relative abundance of species/stocks to estimate their ecological relationships (predator/prey, competition, mutualism, their role in ecological processes, etc) and 3) data on by-catch of non-target species, such as protected, endangered or threatened species.

The stocks/ fisheries to be chosen should be justified in terms of commercial and/or ecological importance and end user needs. In addition, the national Work Plans of the region should be consulted on the stocks/ fisheries chosen by the Member States. The beneficiaries shall propose a complete regional sampling plan for at least one fishery/stock. The regional sampling programme should cover both data collection and analysis (e.g. stomach content analysis).

Establishing such a **regional sampling programme** will require the following tasks to be completed (if not duplicating work already carried out in the previous grants):

a. Based on current data collection work plans and identification of data needs carried out in the previous regional grants, propose specific areas of regional cooperation.

b. **Develop or refine methodologies/ collection protocols for the collection of these new data**. If the collection protocol is already existing, make a trial with relevant Member States, with a view to include it in the work plans.

c. **Allocating tasks** to Member States for the collection and analysis of these data.

d. Where relevant, propose solutions for regional storage systems, data processing, management and raising of data for these specific data sets, taking into account current situation, ongoing studies and developments. Create a roadmap with timeline and specific milestones.

e. **Evaluate the cost implications** for 2019 and beyond if Member States implement this regional sampling plan, compared to the "business as usual" approach that consists of national sampling plans (as is the case to date). Propose realistic solutions that will lead from the current set up to the proposed set up, taking into consideration potential implications and practical implementations.

f. Document the whole process in the form of a **repository**. This repository can be used as a reference point for future regional sampling plans.

Work package 5

Procedures to assess the quality of biological data stored at regional level, **following up on the work done in the previous regional grants, RCMs, relevant WGs** [the applicants dealing with biological data are advised to cooperate on this point]**.** This will require the following tasks to be completed:

a. Based on current data collection work plans (Table 5A), identify areas for regional cooperation and harmonisation on a sea basin level. Agree on a set of **national data quality assessments** (updating existing work where appropriate), after consulting Member States and end users. This compilation should be divided into the essential minimum quality checks that all Member States should carry out before regional quality assessment can take place, and additional ones that Member States could choose to carry out.

b. Propose methodologies to address issues linked to data quality, like data coverage, risk analysis linked to stock assessment processes, assumptions associated with assessment models etc.

c. Based on quality checks currently carried out on a regional level (for example, as part of regional storage systems and/or checking of data for data calls), identify areas for improvement. Work already carried out by other initiatives should not be duplicated. Agree on a set of **regional data quality assessments,** after consulting Member States and end users. These could include comparison of age-length keys between Member States, or tools to coordinate age-reading between Member States. The grants should identify which set(s) of information/results of the regional quality assessments should be shared with end users.

d. **Establishing a detailed annual calendar per data set** for the national and regional quality checking process, bearing in mind: (i) timing when end users would need the data; (ii) availability of data by data collectors. Existing information on data availability should be included (Table 6A of national Work Plans). The applicants should provide justification for the proposed calendar and propose different options, where applicable.

e. **Document methods used** for transparency and future use and improvement.

If automatic quality checks are developed, the IT products developed should be open-source so as to be available to other potential users, including other regions. A gradual implementation of the data quality tools should be scheduled.

Work package 6

Training of Member State experts. The applicants should demonstrate the main outcomes – especially on a technical level - to experts involved in data collection from all Member States of the region - either participating in the grant consortium or not – including all relevant institutes participating in data collection in each Member State. In preparation for/ during this exercise a mapping of available expertise in the sea basin(s) is recommended, highlighting gaps and possible solutions.

Work package 7

Input from a regional consultation: The applicants should consult all Member States from their region – either participating in the grant consortium or not - on the outputs developed

under points 1-6 above. A written consultation should be included. The report should consist of an overview with main points, which should be summarized using quantitative indices. The applicants should include consensus outputs, as well as points of disagreement. The applicants should propose how to tackle any potential points of disagreement, as well as directions/measures to be taken to strengthen regional coordination. Work packages 7 & 8 can be combined. In addition, the applicants should foresee the presentation of the outcomes in the respective RCM(s)/RCG(s).

Work package 8

Synergies with other RCM(s)/RCG(s). While carrying out the current work, the applicants will come across common areas of work with other RCMs dealing with collection of biological data, as well as socio-economic data. They should highlight synergies and differences and suggest advantages and disadvantages of working together (or not) with other RCMs/RCGs/ economists groups.