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**MINISTRY OF AGRICULTURE,  
FORESTRY AND FOOD**

Courtesy translation

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# Data Quality Assurance Framework

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Evropska unija



Evropski sklad za  
pomorstvo in ribištvo



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## Table of Contents

|                                                                                                                                                                          |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table of Contents .....                                                                                                                                                  | 2  |
| Methodological description of data collection and data sources.....                                                                                                      | 5  |
| Multi-annual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017 -2019 (EU DC-MAP).....          | 5  |
| The structure of the multi-annual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017–2019 ..... | 6  |
| Section 1: Biological data .....                                                                                                                                         | 9  |
| Table 1A: List of required stocks.....                                                                                                                                   | 9  |
| Table 1B: Planning of sampling for biological variables.....                                                                                                             | 9  |
| Table 1C: Sampling intensity for biological variables.....                                                                                                               | 9  |
| Table 1D: Recreational fishing .....                                                                                                                                     | 9  |
| Pilot study 1: Relative share of catches of recreational fishing compared to commercial fishing .....                                                                    | 10 |
| Table 1E: Anadromous and catadromous species data collection in fresh water .....                                                                                        | 10 |
| Text Box 1E: Collecting data on fresh-water anadromous and catadromous species .....                                                                                     | 11 |
| Table 1F: Incidental by-catch of birds, mammals, reptiles and fish .....                                                                                                 | 11 |
| Pilot study 2: Level of fishing and impact of fisheries on biological resources and marine ecosystem .....                                                               | 11 |
| Table 1G: List of research surveys at sea.....                                                                                                                           | 11 |
| Text Box 1G: List of research surveys at sea .....                                                                                                                       | 11 |
| Table 1H: Research survey data collection and dissemination .....                                                                                                        | 12 |
| Section 2: Fishing activity data.....                                                                                                                                    | 14 |
| Table 2A: Strategy for collecting data on fishing activity variables .....                                                                                               | 14 |
| Text Box 2A: Strategy for collecting data on fishing activity variables .....                                                                                            | 14 |
| Section 3: Economic and social data .....                                                                                                                                | 15 |
| Table 3A: Population segments for the collection of economic and social data on fisheries .....                                                                          | 15 |
| Text Box 3A: Population segments for the collection of economic and social data on fisheries .....                                                                       | 15 |
| Pilot study 3: Population segments for the collection of economic and social data for fisheries .....                                                                    | 15 |
| Table 3B: Population segments for the collection of economic and social data for aquaculture .....                                                                       | 15 |
| Text Box 3B: Population segments for the collection of economic and social data for aquaculture.....                                                                     | 15 |
| Pilot study 4: Environmental data on aquaculture.....                                                                                                                    | 16 |
| Table 3C: Population segments for the collection of economic and social data for processing industry .....                                                               | 16 |
| Text Box 3C: Population segments for the collection of economic and social data for processing industry .....                                                            | 16 |

|                                                                                  |    |
|----------------------------------------------------------------------------------|----|
| Section 4: Sampling strategy for biological data from commercial fisheries ..... | 17 |
| Table 4A: Sampling plan description for biological data .....                    | 17 |
| Text Box 4A: Sampling plan description for biological data .....                 | 17 |
| Table 4B: Sampling frame description for biological data.....                    | 17 |
| Table 4C: Data on fisheries by member state.....                                 | 17 |
| Table 4D: Landing Locations.....                                                 | 17 |
| Section 5: Data quality .....                                                    | 18 |
| Table 5A: Quality assurance framework for biological data.....                   | 19 |
| Table 5B: Quality assurance framework for socio-economic data.....               | 21 |
| Section 6: Data availability .....                                               | 25 |
| Table 6A: Data availability.....                                                 | 25 |
| Section 7: Coordination .....                                                    | 27 |
| Table 7A: Planned regional and international coordination .....                  | 27 |
| Table 7B: Follow-up to recommendations and agreements .....                      | 27 |
| Table 7C: Bi- and multilateral agreements.....                                   | 27 |

**Abbreviations:**

|                |                                                                                                                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>AJPES</b>   | Agency of the Republic of Slovenia for Public Legal Records and Related Services                                                    |
| <b>BIOS</b>    | Bios is the basic data infrastructure for professional and research work at the Fisheries Research Institute in Slovenia.           |
| <b>GT</b>      | Gross tonnage (vessel tonnage in GT)                                                                                                |
| <b>MS</b>      | Member State                                                                                                                        |
| <b>DG MARE</b> | European Commission Directorate-General Maritime Affairs and Fisheries                                                              |
| <b>EU</b>      | European Union                                                                                                                      |
| <b>GFCM</b>    | General Fisheries Commission for Mediterranean                                                                                      |
| <b>InfoRib</b> | Information sub-system for maintaining the register of fishing vessels, fishing activities in salt-water bodies, and for reporting. |
| <b>kW</b>      | Engine power (kilowatts)                                                                                                            |
| <b>MEDIAS</b>  | Pan-Mediterranean Acoustic Survey                                                                                                   |
| <b>MEDITS</b>  | International bottom trawl survey in the Mediterranean                                                                              |
| <b>NWP</b>     | National Work Plan of the Republic of Slovenia                                                                                      |
| <b>OTBSLO</b>  | Monitoring of fisheries resources with demersal bottom trawl in the fishing waters of the Republic of Slovenia                      |
| <b>OTBVOL</b>  | Monitoring of catch composition with otter bottom trawl (type "volantina")                                                          |
| <b>RS</b>      | Republic of Slovenia                                                                                                                |
| <b>SOLEMON</b> | Adriatic Rapido Trawl Survey                                                                                                        |
| <b>STECF</b>   | Scientific, Technical and Economic Committee for Fisheries                                                                          |
| <b>TAC</b>     | Total Allowable Catch                                                                                                               |
| <b>ZZRS</b>    | Fisheries Research Institute                                                                                                        |

## Methodological description of data collection and data sources

The main objective of data collection in the Fisheries and Aquaculture Sectors is to guarantee quality data for the needs of implementing the Common Fisheries Policy of the EU (CFP), Article 25 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC, and based on the analyses of such data, to ensure effective management of the fisheries sector. The European Union (EU) started collecting data in 2000. Since that year, Member States (MS) have collected and managed numerous data on the sector and provided them to the EU, to scientific organisations approved by the EU for scientific consulting needs, and to other end data users.

Data are collected on the basis of EU DC MAP (Commission Implementing Decision (EU) 2016/1701 of 19 August 2016 laying down rules on the format for the submission of work plans for data collection in the fisheries and aquaculture sectors (notified under document C(2016) 5304) and national work plans (NWP), where MS indicate which data will be collected and the data collection method is defined. MS must send annual reports to the EU on the implementation of their NWP. Annual reports and NWP are reviewed by the STECF (Scientific, Technical and Economic Committee for Fisheries).

Several times a year, each MS sends (via data call) the required data to the DG MARE (European Commission Directorate-General Maritime Affairs and Fisheries) or the Joint Research Centre (JRC) that operates within the scope of the European Commission (hereinafter: "Commission") and conducts data calls for the needs of DG MARE. Some of the data collected by the MS is transferred to databases managed by the JRC. These data are then analysed by the STECF experts; the information is the basis for scientific opinions and recommendations on measures with regard to implementing the Common Fisheries Policy (CFP). CFP comprises common rules to regulate European fishing fleets and the preservation of fish stocks. MS send data to other end data users.

The purpose of the document is to provide a transparent and overall description of the data collection methodology under the measure of Data collection that is implemented within the scope of the Operational Programme for implementing the European Maritime and Fisheries Fund in the Republic of Slovenia for the 2014–2020 period (OP EMFF 2014-2020).

The methods and quality of data collection are appropriate for the envisaged purposes determined under Article 25 of Regulation (EU) No 1380/2013, and take account of best practices and appropriate methodologies recommended by appropriate scientific bodies. Independent scientific bodies review the methods and results of applying such methods in appropriate periods to verify their suitability for common fisheries policy management.

## Multi-annual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017 -2019 (EU DC-MAP)

On 12 July 2016, the EU issued a Commission Implementing Decision, adopting a multi-annual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the 2017-2019 period. The decision entered into force on 1 January

2017 for a three-year period. Its purpose is to ensure common use of obligations for collecting and managing data in accordance with Article 3 of Regulation (EC) No 199/2008 of 25 February concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy that was repealed on 17 May 2017 with Regulation (EU) 2017/1004 of the European Parliament and of the Council on the establishment of a Union framework for collecting, managing and using data in the fisheries sector and support for scientific advice regarding the common fisheries policy.

In accordance with Article 25 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC, MS are obliged to collect biological, environmental, technical, economic and social data that are required for fisheries management. Therefore, the EU DC-MAP is necessary for MS to determine and plan their data collection activities in their national work plans.

### **The structure of the multi-annual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017–2019**

The multi-annual Union programme for the collection, management and use of data in the fisheries sector for the 2017–2019 period has been further determined in the Appendix to the aforementioned Commission Implementing Decision, which will be further presented in continuation.

The methods of data collection are determined under Article 25 of Regulation (EU) No 1380/2013 and take into account best practices and appropriate methodologies recommended by appropriate scientific bodies. According to Article 25 of this Regulation:

The collection, management and use of data shall be based on the following principles:

- accuracy and reliability, and collection in a timely manner;
- the use of coordination mechanisms with a view to avoiding duplication of data collection for different purposes;
- safe storage and protection of collected data in computerised databases, and their public availability where appropriate;
- access by the Commission, or by bodies designated by it, to the national databases and systems used for processing the collected data for the purpose of verifying the existence and quality of the data;
- the availability in a timely manner of the relevant data and the respective methodologies (by which they are obtained), for bodies determined by the Commission and to the Commission itself.

Below, the requirements are described with regard to data that MS must send to the Commission within the NWP, prepared in accordance with Article 21 of Regulation (EU) 508/2014 of the European Parliament and of the Council on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulation (EU) No 1255/2011 of the European Parliament and of the Council. Data are divided into 5 sets.

- **Biological data about fish stocks caught within the scope of the Union's commercial fishing within and outside the Union's waters, as well as recreational fishing in Union's waters.**

These data contain the catch quantity by species and biological data that enable the evaluation of the quantity and frequency of the length of all catch shares, average weight evaluation and age distribution of catch, as well as evaluations of gender ratios and maturity. These data are collected solely for commercial fisheries. Data collected for recreational at-sea fisheries contain data about annual catch quantities (number, weight or length), and are evaluated on the level of marine regions.

Along with the aforementioned data, data about anadromous and catadromous species, e.g. fish stocks-related variables (age, length, gender, maturity ...) and annual catch quantities are collected. The aforementioned species are eel (catadromous species), Atlantic salmon and sea trout (anadromous species). Only the eel is naturally present in Slovenia, and it is protected with the Decree on protected wild animal species, so fishing or hunting is strictly forbidden. The other two species are not represented in Slovenia.

- **Data for assessing the Union's fisheries impact on marine ecosystems in and outside the Union's waters.**

Data collected in this set comprise the following data on all fishing types:

- data about the incidental by-catch of all birds, mammals, reptiles and fish protected in accordance with the Union's legislation and international agreements;
- data for assisting in the assessment of fisheries impact on marine habitats;
- data for assessing the level of fishing and impact of fishing activities on marine biological sources and marine ecosystems, such as the effects on non-commercial species, relations between predators and prey, and natural mortality of fish species in every marine region. These data will initially have to be assessed under pilot studies.

- **Detailed data about the activities of Union's fishing vessels in and outside the Union's waters.**

The following variables are collected in this set:

- capacity (number of vessels, tonnage (GT), engine power (kW) and vessel age);
- effort (days at sea, fishing days, fishing duration, kW\*fishing days, GT\*fishing days, number of travels, number of fishing operations, number of nets/length etc.);
- landing (the value of landed stock for each commercial species, and altogether, the live weight of landed stock by species, and altogether, prices for each commercial species).

- **Economic and social data about fisheries to enable the assessment of economic and social performance of the Union's fisheries sector.**

The economic and social data about fishing are divided into two sets of variables, social and economic. Social variables contain employment rate data in the fisheries sector by gender, full-time equivalent (FTE) and FTE by gender, unpaid labour force by gender, employment rate by age, employment rate by education level, employment rate by citizenship and employment rate by employment status. These data are collected every three years, starting in 2018. Economic variables contain data about active and inactive vessels, whereas only data about the value and

costs of capital are collected for inactive vessels. With regard to active vessels, data are collected about "active", "passive" and multi-purpose tools used for fishing; at the same time, they are divided into classes of vessels by length and region.

- **Economic, social and environmental data about marine fish farming and non-obligatory data about freshwater fish farming to enable the assessment of social, economic and environmental efficiency of the fish farming sector in the Union.**

The same social variables are collected under this task as in the task presented above, except that the data refer to the fish- farming sector. Economic variables for fish farming contain data about revenue, staff costs, energy costs, material costs, repair and maintenance costs, other operational costs and acquired subsidies, the value and costs of capital, financial results, investments, debts, material weight (feedstuffs), sales weight, employment and the number of companies.

- **Research at sea**

All Member States must cooperate in research at sea as determined by the Commission, except when research is not appropriate for assessing fish stocks or fisheries management. The contributions of individual MS to international research are harmonised within the same marine region. Research must be included in national work plans, whereby the Member State is committed to implementing the research and is responsible for these data.

- **Data collection thresholds**

The Union also stipulates thresholds about when a certain Member State must provide the desired data. Biological data do not need to be collected if the following applies to a certain fish stock of fish species:

- the share of total allowable catch (TAC) of the MS is less than 10% of the total TAC of the Union, or
- if TAC is not determined, the total number of landings of the MS per fish stock or species is less than 10% of all EU landings in the past 3 years, or
- total annual landing of the MS per species is less than 200 tonnes. A lower threshold on the level of marine regions can be fixed for species that require special management.

- **Recreational fishing at sea**

Member States assess catch from existing research within recreational at-sea fisheries, including research implemented in accordance with the data collection framework or which are submitted from the additional pilot study in two years from the date of the start of validity of the aforementioned decision, which entered into force on 1 January 2017.

## Section 1: Biological data

### Table 1A: List of required stocks

The list of required stocks is provided in Table 1A of Annex to the Commission Implementing Decision (EU) 2016/1701 of 19 August 2016 laying down rules on the format for the submission of work plans for data collection in the fisheries and aquaculture sectors (notified under document C(2016) 5304)

### Table 1B: Planning of sampling for biological variables

Slovenia does not achieve the threshold for sampling of individual species with no quantity of landing of any species, but due to the continuity and agreement on the regional level, it continues sampling for two of the most important species so far, i.e. anchovy and sardine. Sampling results are usually used to identify the stock of both species on the level of the Adriatic Sea.

### Table 1C: Sampling intensity for biological variables

Sampling is planned once per month, but in practice is executed every month when fishing is done for the mentioned species and if sampling is even possible. If purse seines do not catch, we try to acquire samples with other fishing tools.

### Table 1D: Recreational fishing

**Recreational fishing at sea** in the Republic of Slovenia comprise:

- sport fishing based on annual permit;
- sport fishing with a spear gun based on annual permit;
- recreational fishing based on daily and weekly permits;
- organised sport competitions and
- recreational fishing from the shore for which no permit is necessary.

The Sea Sport Fishing Federation of Slovenia is authorised to issue permits, and is obliged to collect data about fisheries and send them to the Ministry of Agriculture, Forestry and Food.

In sport fisheries, the fisherman is obliged on the basis of annual permit after the ended season, i.e. after 31 December of every year, to return the completed fishing permit, on which the dates of fishing, fish species, the number of fish, mass of fish and duration of fisheries must be recorded.

- **Sport fishing based on annual permit:**

The species catch under the sport fishing stratum on the basis of annual permits is assessed on the basis of data acquired by species from returned permits, multiplied by the coefficient acquired by dividing the total assessed caught quantity of all sport fishermen on the basis of the annual permit and the quantity caught on the basis of returned annual permits.

- **Sport fishing with a spear gun:**

The species catch under the sport fishing with a spear gun stratum on the basis is assessed on the basis of data acquired by species from returned permits, multiplied by the coefficient acquired by dividing the total assessed quantity caught of all sport fishermen with a spear gun on the basis of the annual permit and the quantity caught on the basis of returned annual permits.

- **Recreational fishing based on daily and weekly permits:**

The same species composition is used to assess the species catch under the recreational fisheries stratum on the basis of daily and weekly permits as for the sport fishing stratum on the basis of annual permits. The entire evaluated quantity of recreational fisheries catch on the basis of daily and weekly permits is divided by the entire assessed quantity of sport fishing catch on the basis of annual permits; the coefficient is then multiplied by the assessed quantity by species composition from the sport fisheries stratum on the basis of annual permits.

- **Organised sport competitions:**

After each sport competition, fish are counted and weighed, and records are prepared. The Ministry of Agriculture, Forestry and Food acquires data on the basis of these records, which are kept by the Sea Sport Fishing Federation of Slovenia. With regard to the species composition of catch in organised sport competitions, the takeover of data from sport competition organisers must be assured and the assessment of such catch must be avoided. The assessment for 2016 is an exception. The same species composition is used to assess species catch under the organised sport competitions stratum on the basis of daily and weekly permits as for the sport fisheries stratum on the basis of annual permits. The entire quantity of organised sport competitions stratum is divided by the entire assessed quantity of sport fisheries catch on the basis of annual permits; the coefficient is then multiplied by the assessed quantity by species composition from the sport fisheries stratum on the basis of annual permits.

- **Recreational fishing from the shore for which no permit is not necessary:**

Data on this type of fishing cannot be acquired from the records of issued permits, because a permit is not necessary for fishing from the shore. The Sea Sport Fishing Federation of Slovenia and its members monitored the fishermen on the shore on Saturdays and Sundays in September, October and November, and assessed that the catch of fishermen from the shore is 893 kg of fish per year. At the meeting, held on 19 June 2017 by the Statistical Office of the Republic of Slovenia and the Ministry of Agriculture, Forestry and Food, it was agreed that this stratum would be eliminated from reporting.

### **Pilot study 1: Relative share of catches of recreational fishing compared to commercial fishing**

In 2017, Slovenia started to take a different approach to collecting data about recreational fishing at sea. The recalculation of data on the basis of all collected data from returned permits and other sources from five different types of recreational fishing at sea was implemented for the first time. In 2017, the Ministry of Agriculture, Forestry and Food in collaboration with the Statistical Office of the Republic of Slovenia prepared a new method of collecting data on recreational fishing, which is described above. The methodology was first used for data for 2016. The same methodology will be applied in 2018 and 2019 on N-1 data. On the basis of data acquired in this manner, an assessment will be made in 2019 which will clearly show or assess the share of catches of recreational fishing compared to commercial fishing.

### **Table 1E: Anadromous and catadromous species data collection in fresh water**

The species on which data must be collected about anadromous and catadromous species in fresh water are determined in Table 1E of Annex to the Commission Implementing Decision (EU) 2016/1701 of 19 August 2016 laying down rules on the format for the submission of work plans for data collection in the fisheries and aquaculture sectors (notified under document C(2016) 5304).

### **Text Box 1E: Collecting data on fresh-water anadromous and catadromous species**

Slovenia does not implement eel (*Anguilla Anguilla*) sampling, since the species is a protected and very rare species in Slovenian waters. Atlantic salmon (*Salmo salar*) is not present in Slovenian waters (fresh and salt water), and the anadromous trout species is also not present. Slovenia notified the European Commission with letters in 2018 and 2019 that the eel has been protected on the national level since 2004 on the basis of the Decree on protected wild animal species (Official Gazette of the Republic of Slovenia [Uradni list RS], no. 46/04). Eel fishing in Slovenia is completely prohibited on the basis of this regulation.

The aforementioned letters contained the information that Slovenia is only a marginal area of eel distribution and that eel in Slovenia has never been a commercially exploited species. This information was submitted to the Commission so that Slovenia would not be required to submit the plan for eel management in accordance with the Regulation (EC) No 1100/2007. The Commission reacted positively to the information and reasons submitted by Slovenia (Commission Letter No. 10749 as of 24 September 2009).

### **Table 1F: Incidental by-catch of birds, mammals, reptiles and fish**

Data about the incidental by-catch of these groups of animals are recorded for each sampling of by-catch and discard. If there no observations are recorded, these groups were not included? in the reference year.

### **Pilot study 2: Level of fishing and impact of fisheries on biological resources and marine ecosystem**

We are starting to identify the presence of endangered animal species in catches in 2018, in accordance with the work plan for 2018 to 2020. We use data for this task which are available from by-catch and discard sampling, fishing sources monitoring and MEDITS, MEDIAS and SOLEMON research. The results will be available at the beginning of 2019.

### **Table 1G: List of research surveys at sea**

Research surveys at sea which MS are obliged to implement are determined in Table 10 of Annex to the Commission Implementing Decision (EU) 2016/1701 of 19 August 2016 laying down rules on the format for the submission of work plans for data collection in the fisheries and aquaculture sectors (notified under document C(2016) 5304). Each MS can indicate in the NWP other research surveys at sea that will be implemented.

### **Text Box 1G: List of research surveys at sea**

#### **Methodology for collecting data in research surveys at sea**

- **MEDITS**

Sampling under the MEDITS research is implemented with a research vessel that implements standardised fishing with a research otter-bottom trawl at two locations in Slovenian waters that are determined in advance. All catch is sorted on board the vessel, where fish, cephalopods and commercial crabs are accurately identified. All organisms of each type are counted and weighed. Fish, cephalopods and commercial crabs that are listed among the target MEDITS protocol species are transferred to the laboratory, where the following parameters are determined for individual specimens: length, weight, gender and maturity. Age is also determined for some species. Data are entered in standardised forms and then transferred to the BIOS database.

- **MEDIAS**

A research survey is conducted in one day by acoustic recording in the northern Adriatic Sea area as envisaged by the protocol. It includes two samplings with MEDIAS pelagic trawl in waters under the sovereignty of the Republic of Slovenia. The research survey includes acoustic probing of stocks of small pelagic fish, and occasional fishing and reviewing the content of observed stocks of fish are implemented. All organisms that are caught, i.e. target and non-target species, are determined, counted and weighed. The MEDIAS protocol is taken into account. Target species are also counted, weighed and measured, and their gender and maturity are determined; up to ten specimens are prepared for age determination in a laboratory. Data from acoustic recording are saved in a database where common data about acoustic research surveys for northern Adriatic Sea are kept. The research survey in waters under the sovereignty of the Republic of Slovenia is part of the common acoustic study in the northern Adriatic Sea and is usually conducted in September or October.

- **SOLEMON**

The catch by two bottom trawls towed simultaneously is analysed separately for "RAPIDO A" and "RAPIDO D". The entire catch from both trawls is weighed and all types of finfish, rays, sharks, cephalopods, commercial shellfish and crustaceans species are selected. The entire volume of catch by species is weighed. Samples for species from epibenthos and benthos and residue (shellfish, waste, wood etc.) are analysed on board, and the mass and number of each specimen at the lower possible taxonomic level are recorded. The research survey is implemented in waters under the sovereignty of the Republic of Slovenia, usually in November. It is conducted in one day.

- **OTBSLO**

Sampling is implemented with a leased fishing vessel that conducts fishing with otter bottom trawl four times a year at three systematically determined locations in Slovenian waters (12 fishing trips altogether). Sampling is done by the Fisheries Research Institute of Slovenia - ZZRS. The total catch is sorted on board the vessel. All organisms are counted, weighed and identified to the lowest possible taxonomic category. Fish, cephalopods and commercial crustaceans are transferred to the laboratory, where length, weight, gender and maturity are determined for all specimens. Data are entered in the BIOS database.

- **OTBVOL**

Catch sampling is conducted on randomly selected fishing vessels to which an exemption applies enabling them to fish in an area from 1.5 to 3.0 nautical miles from the shore. One fishing vessel is being selected every other month in 2018 and two catches are analysed. Catch sampling is done by observers on board the fishing vessel. Data about the catch are recorded on board for protocol lists. The number and weight of specimen of individual species and potentially discarded quantities are recorded. Geographical and time data about the fishing trip are collected with a GPS device which records the heading of the fishing vessel every five seconds. Points are used to mark the start and end of the pull with a bottom trawl. The main part of the results includes the structure of catch by species. Data analysis shows the share of cephalopods compared to other fish species. Catch structure is described with the following parameters: target species and by-catch, kept and discarded quantities, size structure and share of juvenile organisms. Data are entered in the BIOS database.

**Table 1H: Research survey data collection and dissemination**

The availability of data from research surveys at sea is regionally harmonised within the scope of RCG Med&BS and mentioned in the NWP, adopted by the EC. In accordance with the valid NWP, the data from research surveys as of 31 March N+1 are available.

## Section 2: Fishing activity data

All fishing activity data are collected pursuant to the controlling regulation (Council Regulation (EC), No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the Common Fisheries Policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC), Nos 2847/93, 1627/94 and 1966/2006) and encompass the entire fishing fleet, including vessels shorter than 10 m.

### Table 2A: Strategy for collecting data on fishing activity variables

Fishing activity variables are divided into three groups: capacity, effort and landing. All three data groups are collected only for active vessels to cover the entire fishing fleet of Slovenia. The source of data for the "capacity" variable group comprises data that are recorded in the InfoRib information system, the Vessel Register module and Logbook. Data for the "effort" group of variables are kept in the Logbook module (InfoRib). The source of data for the price variable (group of landing variables) and for each commercial species are survey questionnaires and forms about the first sale. Data are then cross-referenced with data that are sent by AJPES (Agency of the Republic of Slovenia for Public Legal Records and Related Services) and with data from logbooks.

### Text Box 2A: Strategy for collecting data on fishing activity variables

Fishing activity data (data about capacity, effort and landing) are collected for all vessels that are active at all times of the year. Data are collected in accordance with Regulation (EC) No 1224/2009. Data about fishing capacity are part of the vessel register module in the InfoRib information system. Data about the fleet register are connected with other sources of data to acquire data at the level of fleet segments and métier level to provide data in accordance with Table 4 of the multi-annual Union programme. Two sources of data are used, i.e. data from the vessel register and data from logbooks.

Data on fishing efforts are collected for all vessels that are active at any moment in the reference year. Data are collected from logbooks. All vessels in the fishing fleet, even those shorter than 10 metres, are obliged to complete and submit logbooks. Therefore, all active fishing vessels are the target population for data on landing. Data are collected from logbooks, notifications about the first sale and questionnaires.

Data quality is assured, because all vessels are considered and the source of data is an official administrative information system, whereby data are collected in accordance with Regulation (EC) No 1224/2009. Data are cross-checked via various sources. Fish prices are checked via questionnaires and notifications about the first sale. Data on income are checked via the AJPES data (Agency of the Republic of Slovenia for Public Legal Records and Related Services) and questionnaires. Data about the catch or landing quantity are acquired from logbooks.

### Section 3: Economic and social data

The source of data for collecting economic and social data for the aquaculture sector is the entire mariculture sector (farming of marine organisms, plants and animals in the sea or in the coastal area). Data are acquired from survey questionnaires, the Central Register of Aquaculture Facilities and Commercial Ponds and financial statements of AJPES.

The source of data for collecting economic and social data for the processing industry sector is the entire processing industry sector. Data are acquired by survey questionnaires, the Administration of the Republic of Slovenia for Food Safety, Veterinary Sector and Plant Protection and financial statements of AJPES.

The source of data for collecting economic and social data for the fisheries sector are data acquired by survey questionnaires, data from the InfoRib information system and the financial statements of AJPES. Data are collected for all vessels in the Slovenian fleet, both active and inactive vessels.

#### **Table 3A: Population segments for the collection of economic and social data on fisheries**

This table determines the population segments for collecting economic and social data for fisheries, which are collected in accordance with Tables 5(A) and 6 of the multi-annual programme.

#### **Text Box 3A: Population segments for the collection of economic and social data on fisheries**

Data about the collection of socio-economic data of the MS fleet are indicated, e.g. descriptions of the methodology for determining the sources of data, the methodology for determining the method of collecting data, the methodology for determining population, and the methodology for assessing data quality.

#### **Pilot study 3: Population segments for the collection of economic and social data for fisheries**

The description of the pilot study with regard to the data collection method determined in Table 6 of the multi-annual Union programme.

#### **Table 3B: Population segments for the collection of economic and social data for aquaculture**

This table determines the population segments for collecting economic and social data for the aquaculture sector, which are collected in accordance with Tables 6 and 7 of the multi-annual programme.

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

Data about the collection of socio-economic data of the MS aquaculture sector are indicated, e.g. descriptions of the methodology for determining the sources of data, the methodology for

determining the method of collecting data, the methodology for determining population, and the methodology for assessing data quality.

#### **Pilot study 4: Environmental data on aquaculture**

The description of the pilot study with regard to the data collection method determined in Table 8 of the multi-annual Union programme.

#### **Table 3C: Population segments for the collection of economic and social data for processing industry**

This table determines the population segments for collecting economic and social data for fisheries, which are collected in accordance with Table 11 of the multi-annual programme for data collection.

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

Data about the collection of socio-economic data of the MS fisheries processing industry are indicated, e.g. descriptions of the methodology for determining the sources of data, the methodology for determining the method of collecting data, the methodology for determining population, and the methodology for assessing data quality.

## Section 4: Sampling strategy for biological data from commercial fisheries

Biological sampling of landing in the Republic of Slovenia is done at fishing ports. Only two fish species are currently sampled: sardine (*Sardina pilchardus*) and anchovy (*Engraulis encrasicolus*). Sardines and anchovies caught with purse seine are sampled. Because catch with purse seine is declining, and in some months fishermen do not use this tool, samples of catch with other fishing tools are used as an alternative. Samples are then processed in a laboratory, whereby the following parameters are collected: length, weight, gender and age of the specimen. Data are initially recorded on standardised forms and then entered in the BIOS database.

### Table 4A: Sampling plan description for biological data

The sampling plan for by-catch and discard is conducted annually for the following fishing tools (PS, GNS, GTR and OTB), i.e. 8 times per year for each tool.

Biological landing sampling (sardine and anchovy) is implemented monthly for PS if PS are not active, and also with other fishing tools if the sampled species are present in landing.

### Text Box 4A: Sampling plan description for biological data

Slovenia does not achieve the threshold for sampling of individual species with no quantity of landing of any species, but due to the continuity and agreement on the regional level, it continues sampling for two of the most important species so far, i.e. anchovy and sardine. Sampling results are usually used for identifying the stock of both species on the level of the Adriatic Sea.

Sampling is planned once per month, but in practice is executed every month when fishing is done for the mentioned species and if sampling is even possible. If purse seines do not catch, we try to acquire samples with other fishing tools.

### Table 4B: Sampling frame description for biological data

By-catch and discard sampling is implemented for the following fishing tools: PS, GNS, GTR and OTB.

Biological landing sampling (sardine and anchovy) is implemented for PS; if PS are not active, also with other fishing tools.

### Table 4C: Data on fisheries by member state

Table 4C shows data on fisheries in Slovenia. The Slovenian fishing fleet implements fishing activities in GSA 17, in the northern Adriatic Sea. The table also contains data per fleet segment or metier, target species and average number of fishing trips, average number of fishing days and average landing.

### Table 4D: Landing Locations

Slovenia has three fishing ports: Koper, Izola and Piran, and landing sites are in Ankaran, Izola, Koper, Piran, Portorož, Seča and Strunjan.

## Section 5: Data quality

To ensure the best possible quality of collected data, only valid data are entered in the system. Automated procedures for verifying entered data are used during manual entry and when transferring data from other systems.

When data are downloaded or transferred in the system, repeated data verification procedures can be implemented with regard to a schedule determined in advance, or if a certain event triggers verification, and both verifications function automatically. Verification may be conducted by a system administrator.

Automated data verification procedures in the information system are based on business rules. This is followed by a short record of some business rules that are used in Slovenia:

- logbooks are verified with the vessel monitoring system (VMS or a satellite system for controlling fishing vessels). Every VMS system record must be harmonised with the record in the logbook.
- The period of notification of active VMS system locations must be 12 hours or less. If the rule is violated more than three times per year, the VMS system on the vessel is verified. The time set for VMS device location messaging on vessels in the Slovenian fishing fleet is 5 minutes.
- Records on caught species in the logbook species must conform with the records in the declaration on landing or the notification on first sale.
- Both documents must be present, the declaration on landing or the notification about the first sale and the logbook.
- If there is a notification about the first sale, there must be a completed logbook, except in cases connected to the independent sale of small quantities (to 30 kg) or for personal consumption.
- Caught species must be indicated in the logbook, in the notification on the first sale and on the declaration on landing.
- The total weight of caught species recorded on the declaration on landing must be higher or the same as the total weight that is recorded in the notification on the first sale.
- If there is a notification on the first sale, the vessel must have a valid permit for commercial fisheries.
- The vessel must have a valid permit for commercial fisheries.
- A single catch quantity cannot exceed the GT of the vessel that is entered in the vessel register.
- The fishing vessel must be entered in the register of vessels.
- A permit must be issued for the use of various fishing tools. The fishing tool is indicated on the Logbook form.
- Fishing time may not be longer than the time of departure to return to the port.

The system used in the RS enables erroneously entered data to be corrected. If an incorrect record is found based on analyses or cross-checks, the record value is modified. The corrected record still remains in the system, but the date and time of the modification and the author of the correction (person ID) are entered, assuring traceability of modifications in the system.

The European Commission has sent all Member States guidelines on introducing a common system for data quality assurance. Data that must be provided by each MS; the key questions to which the MS should reply are provided in tables.

**Table 5A: Quality assurance framework for biological data**

The table is divided into several parts:

- **General part**

**Member State name.** Slovenia.

**Member State participating in sampling.** Slovenia.

**Sampling year/period.** 2018.

**Region.** Mediterranean and Black Sea.

**Abbreviations of the competent regional fisheries management organisation.** General Fisheries Commission for Mediterranean (GFCM).

**Name of sampling scheme.** Three sampling schemes are currently implemented in Slovenia. For small pelagic fish species, samples are taken on fishing vessels or purchased on the pier; for demersal fish species, samples are acquired on fishing vessels.

**Sampling frame.** Samples in Slovenia are acquired for the various fishing tools that are used by fishermen (purse seines, gillnets, three-layered nets, demersal otter trawls, special type of demersal otter trawls "volantina")

- **Sampling design**

**Is the sampling design documented?** Yes; the sampling design is documented.

**Where can documentation on sampling design be found?** All necessary documentation with regard to the sampling design is kept by the Fisheries Research Institute of Slovenia.

- **Sampling implementation**

**Are non-responses and refusals recorded?** Data in Slovenia have been collected since 2018. Each communication with fishermen and the success of the agreement on implementing field work are recorded. A data model to include all data in BIOS is currently being developed.

- **Data capture**

**Are quality checks to validate detailed data documented?**

Every data capture is documented via administrative sources or via sampling. With the acquisition of data via administrative sources, data quality is assured with a census that captures the entire population and is subject to professional control and automated information system control before registration in the information system. For sampling, the quality of data is assured on the basis of selecting the sample and the professional work of the sampling provider. All procedures are documented via administrative sources, background records which are automatically recorded by the information system and with the help of protocol lists that are kept by the ZZRS.

**Where can documentation on quality checks for data capture be found?** No common documentation for verifying the quality of data collection has been available so far. Procedures have been described in each annual report for data collection and in national data collection

programmes. Now, and in the future, documentation will be available within the NWP and in annual reports on the websites: [http://www.ribiski-sklad.si/lzvajanje\\_skupne\\_ribiske\\_politike/Zbiranje\\_podatkov/](http://www.ribiski-sklad.si/lzvajanje_skupne_ribiske_politike/Zbiranje_podatkov/)

- **Data storage**

**In which national database are data stored?** Data are kept in the BIOS database at ZZRS and in the InfoRib information system (data from logbooks).

**In which international database(s) are data stored?** International databases only keep data which Slovenia sends in reply to requests for data and other reporting obligations (EC, JRC, GFCM, ICES etc.).

- **Data processing**

**Are processes to evaluate data accuracy (bias and precision) documented?** Yes; procedures for evaluating data accuracy are documented.

**Where can documentation on processes to evaluate accuracy be found?** Documentation in relation to data accuracy evaluation procedures are kept by the ZZRS.

**Are the editing and imputation methods documented?** Data editing is limited to correcting wrongly entered data. Wrong entries are discovered during data analyses and cross-checks. An accurate piece of data is sought in the archives of protocol lists where data are recorded in the field or in the laboratory. Every correction (UPDATE, DELETE) in production tables is documented. The ID of the person that made the last modification and the time of the modification are independently written in the table. The record before the modification is independently transferred to the table with historical data. The table with historical data archives all modifications. The supplementation of missing data is documented in SQL scripts that create tables for accessing data from production tables. Most entered data refer to evaluating the weights of specimens. Specimen mass is evaluated by using the length and mass ratios that are calculated on the basis of ZZRS data and are accessible on <http://www.biosweb.org>. Data are also entered in the supplementation of sub-sampling data. The number of specimens in the sub-sample is calculated with the COUNT function, which counts biometrically processed specimens. The sub-sampling factor is also calculated in order to increase the number of specimens in the sub-sample to the level of the entire sorting fraction (the sorting fraction is the fraction of the same biological type, e.g. large specimen, small specimen etc.).

**Where can documentation on editing and imputation be found?** There is no documentation on data editing (correction). Data entry is documented in SQL scripts, which can be obtained from the ZZRS.

## Table 5B: Quality assurance framework for socio-economic data

The table is divided into several parts:

- **General part**

**Member State name.** Slovenia.

**Sampling year/period.** 2018.

**Region.** Mediterranean and Black Sea.

Abbreviations of the competent regional fisheries management organisation. GFCM.

**Name of sampling scheme.** Slovenia does not implement sampling and the research is implemented for the entire population.

**Name of data sources.** The following data sources are used for economic and social data in the Republic of Slovenia: financial statements (AJPES), survey questionnaires, administrative data, logbooks, business register (AJPES) and notifications about first sale.

- **Institutional environment**

- o **Impartiality and objectivity**

- **Statistically sound sources and methods.** Yes; the sources and methods are statistically reliable, because official national records are used as a source. AJPES is the leading national institution collecting and providing data and information for a transparent national and European business environment.
    - **Error checking.** Yes; errors discovered in published data should be corrected and published as soon as possible. Data are automatically and manually checked every time before data is submitting for data requests.

- o **Confidentiality**

- **Are procedures for confidential data handling in place and documented?** Access to InfoRib database is protected with user name and password. The processed data and meta data do not contain the names of natural or legal entities or their addresses. To assure confidentiality of data, we combine economic entities, so that their identity is not disclosed.
    - **Are protocols to enforce confidentiality between DCF partners in place and documented?** The cooperation between DCF partners is implemented on the basis of legal provisions and contracts.
    - **Are protocols to enforce confidentiality with external users in place and documented?** External users do not have direct access to data. Data are sent to external users on the basis of requests or on the basis of obligations or demands for data. Legislation on the protection of personal and business data is respected.

- **Statistical processes**

- o **Sound methodology**

- **Is sound methodology documented?** Yes; sound methodology is documented in the National Work Plan and the Annual Report.
    - **Does it follow international standards, guidelines and best practices?** Yes; reliable methodology is in accordance with the international standards, guidelines and best practices documented in the National Work Plan and the Annual Report.
    - **Are methodologies consistent at MS, regional and EU level?** Yes; procedures to ensure the conformity of standards, definitions, determinations and distributions among partners on the MS level, regional level and the EU level have been introduced. All procedures are documented in the National Work Plan and the Annual Report.

- o **Appropriate statistical procedures**

- **Is there consistency between administrative and other statistical data?** Yes; procedures for assuring the consistency of definitions in connection with administrative and other statistical data have been introduced.
    - **Are there agreements for access and quality of administrative data between partners?** Yes; appropriate agreements for access to appropriate administrative data and their quality have been concluded.
    - **Are data collection, entry and coding checked?** Yes; the verification of collection, entry and coding of data is implemented regularly every year, and all data in the database are checked, including the programme code, calculations and protocols. This is checked before the preparation of data which are then sent to the end user, during preparation and after.
    - **Are editing and imputation methods used and checked?** Yes; editing and imputation methods are verified, revised or updated regularly or as needed. Before each submission of data to end users or before the preparation of data for data calls.
    - **Are revisions documented and available?** Yes; all revisions in the database are automatically recorded and available in the information system. All procedures in the processing and entry of data in the database are recorded.

- o **Non-excessive burden on respondents**

- **Is duplication of data collection avoided?** Yes; it is assured at the national level that the data collection is implemented only on the basis of the NWP, and that the MKGP is responsible for it and duplication is avoided.

- o **Cost effectiveness**
  - **Do automatic techniques for data capture, data coding and validation exist?** Yes; independent techniques that are included in the InfoRib information system exist for data capture, data coding and validation.
- **Statistical outputs**
  - o **Relevance**
    - **Are end-users listed and updated?** No list of end users is managed at the national level. There is a list of all data calls and demands by data from end users and sent data.
  - o **Accuracy and reliability**
    - **Are sources, intermediate results and outputs regularly assessed and validated?** Data and their outputs are regularly reviewed and validated annually. Most data are cross-checked, e.g. the value of landings at InfoRib is compared with revenue indicated in annual financial statements, landings indicated in logbooks are compared with the sale in kg, indicated in reports etc.
    - **Are errors measured and documented?** No; no need has arisen to document errors so far, and each year the STECF and other end users provide recommendations on how to improve accuracy and reliability.
  - o **Timeliness and punctuality**
    - **Are procedures in place to ensure timely execution?** Yes; after the receipt of a request for data, the appropriate holder is contacted and prepares the data and sends them to the end user.
  - o **Coherence and comparability**
    - **Are procedures in place to monitor internal coherence?** Yes; the national coordinator for data collection, who is also responsible for the timely preparation and provision of data, has been notified of all demands for data. Those implementing individual tasks for data collection must report to the national coordinator.
    - **Are statistics comparable over time?** Yes; statistical data for various periods are comparable, and consistency as well as methodological comparability of data is assured during data collection. The system may also not have any missing data periods.

o **Accessibility and Clarity**

- **Are methodological documents publicly available?** Yes, the methodology for collecting data is included in the National Work Plan and Annual Reports.
- **Are data stored in databases?** Yes; data are stored in two databases: InfoRib and BIOS.
- **Where can documentation be found?** Documentation is available at the Fisheries Research Institute in Slovenia and the MKGP. All annual reports on the implementation of data collection and NWP are available on the internet.

## Section 6: Data availability

Data availability is regionally determined within the RCG Med&BS. Then the availability is entered in the NWP, confirmed by the EC.

**Table 6A: Data availability**

The currently valid table of data availability is as follows:

| Data set                            | Variable group                   | Final data available after |
|-------------------------------------|----------------------------------|----------------------------|
| Biological data                     | Length                           | N+1 June 30                |
| Biological data                     | Age                              | N+1 June 30                |
| Biological data                     | Mass                             | N+1 June 30                |
| Biological data                     | Gender ratio                     | N+1 June 30                |
| Biological data                     | Maturity                         | N+1 June 30                |
| Recreational fishing                |                                  | N+1 June 30                |
| Anadromous and catadromous species. | NA                               | N+1 June 30                |
| Ecosystem data, incidental by-catch |                                  | N+1 June 30                |
| Ecosystem data, impact on fisheries |                                  | N+1 June 30                |
| Data on fishing activity            | Capacity                         | N+1 May 31                 |
| Data on fishing activity            | Effort                           | N+1 May 31                 |
| Data on fishing activity            | Landing                          | N+1 May 31                 |
| Economic data on fishing fleet      | Income                           | N+1 March 1                |
| Economic data on fishing fleet      | Labour costs                     | N+1 March 1                |
| Economic data on fishing fleet      | Costs of energy                  | N+1 March 1                |
| Economic data on fishing fleet      | Costs of repairs and maintenance | N+1 March 1                |
| Economic data on fishing fleet      | Other operational costs          | N+1 March 1                |
| Economic data on fishing fleet      | Subsidies                        | N+1 March 1                |
| Economic data on fishing fleet      | Costs of capital                 | N+1 March 1                |
| Economic data on fishing fleet      | Capital value                    | N+1 March 1                |

|                                    |                           |              |
|------------------------------------|---------------------------|--------------|
| Economic data on fishing fleet     | Investment                | N+1 March 1  |
| Economic data on fishing fleet     | Financial position        | N+1 March 1  |
| Economic data on fishing fleet     | Employment                | N+1 March 1  |
| Economic data on fishing fleet     | Fleet                     | N+1 March 1  |
| Economic data on fishing fleet     | Effort                    | N+1 March 1  |
| Economic data on fishing fleet     | Number of fishing units   | N+1 March 1  |
| Economic data on fishing fleet     | Production value by types | N+1, July 1  |
| Economic data on aquaculture       | All                       | N+1 June 30  |
| Fish processing, economy           | All                       | N+1 June 30  |
| MEDITS research data               | Length                    | N+1 April 30 |
| MEDITS research data               | Mass                      | N+1 April 30 |
| MEDITS research data               | Maturity                  | N+1 April 30 |
| MEDITS research data               | Age                       | N+1 April 30 |
| MEDIAS research data               | Length                    | N+1 March 31 |
| MEDIAS research data               | Mass                      | N+1 March 31 |
| MEDIAS research data               | Maturity                  | N+1 March 31 |
| MEDIAS research data               | Age                       | N+1 March 31 |
| Social data on the fishing fleet   | All                       | N+1 March 1  |
| Social data on aquaculture         | All                       | N+1 June 30  |
| Social data on processing industry | All                       | N+1 July 30  |
| SOLEMON research data              | Length                    | N+1 March 31 |
| SOLEMON research data              | Mass                      | N+1 March 31 |
| SOLEMON research data              | Maturity                  | N+1 March 31 |
| SOLEMON research data              | Age                       | N+1 March 31 |

## Section 7: Coordination

Regional coordination with regard to data collection is implemented at least once annually under the RCG Med&BS. Several regional coordination procedures are implemented if necessary. Various coordination are implemented during the year for individual sectors of the Union and regional level.

### Table 7A: Planned regional and international coordination

Table 7A NWP shows the planned regional meetings which will be attended by Slovenia's representatives. In accordance with item e of Article 77 of Regulation (EU) 508/2014, co-financing of MS and regional bodies representatives' collaboration at regional coordination meetings, meetings of regional organisations for fisheries management where the Union collaborates as a contractual party or observer, or at meetings of international bodies that provide scientific advice, is justifiable within the framework of data collection.

### Table 7B: Follow-up to recommendations and agreements

Table 7B NWP shows the recommendations of relevant meetings and expert groups with regard to data collection. The text of the recommendation and further steps of MS for the completion of the report is indicated, or how the MS fulfils the subject recommendation is indicated.

### Table 7C: Bi- and multilateral agreements

Table 7C contains potential bi- or multilateral agreements with regard to data collection. The table must contain the Member State, contact persons, content, conditions, protocol description, data transmission, access to vessels, validity and comments.