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# EVALUATION
***of the***

# European Fishery Statistics

{SWD(2019) 426 final}

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# Glossary

| *Term or acronym* | *Meaning or definition* |
|---|---|
| ASFIS | Aquatic Sciences and Fisheries Information System |
| CAP | Common Agricultural Policy |
| CFP | Common Fisheries Policy |
| CWP | Coordinating Working Party on Fishery Statistics |
| DCF | Data Collection Framework |
| DG ENV | Directorate-General for Environment |
| DG MARE | Directorate-General for Maritime Affairs and Fisheries |
| ECA | European Court of Auditors |
| EEA | European Environment Agency |
| EEZ | Exclusive economic zone |
| EFS | European fisheries statistics |
| EFTA | European Free Trade Association |
| EMODnet | European Marine Observation and Data Network |
| ESP | European statistical programme |
| ESS | European Statistical System |
| EU | European Union |
| EUMOFA | European Market Observatory for Fisheries and Aquaculture |
| Eurofish | International network on the development of fisheries and aquaculture in Europe |
| Eurostat | Statistical office of the European Commission |
| FAO | Food and Agriculture Organization of the United Nations |
| FIDES | Fisheries Data Exchange System |
| FTE | Full-time equivalent |
| GDPR | General Data Protection Regulation ((EU) 2016/679) |
| GFCM | General Fisheries Commission for the Mediterranean |

| ***Term or acronym*** | ***Meaning or definition*** |
|---|---|
| GVA | Gross value added |
| ICCAT | International Commission for the Conservation of Atlantic Tunas |
| ICES | International Council for the Exploration of the Sea |
| ISG | Inter-service group |
| ISSCFG | International Standard Statistical Classification of Fishing Gear |
| ISSCFV | International Standard Statistical Classification of Fishing Vessels |
| JRC | Joint Research Centre |
| MS | Member States of the European Union |
| NAFO | Northwest Atlantic Fisheries Organisation |
| NASCO | North Atlantic Salmon Conservation Organisation |
| NEAFC | North East Atlantic Fisheries Commission |
| NGO | Non-governmental organisation |
| NSI | National statistical institute |
| OECD | Organisation for Economic Cooperation and Development |
| ONA | Other national authority |
| RFMO | Regional fisheries management organisation |
| SDMX | Statistical Data and Metadata eXchange |
| STECF | Scientific, Technical and Economic Committee for Fisheries |
| TAC | Total allowable catch |
| VMS | Vessel monitoring system |
| WTO | World Trade Organisation |

# Definitions

| *Term* | *Meaning or definition* |
|---|---|
| Administrative data | Data collected other than for primarily statistical purposes. In the case of fisheries, they are used for the management of the CFP and (potentially) re-used for compiling EFS. In contrast, statistical surveys are implemented primarily to provide statistics. |
| Catches | Catches are estimated quantities of caught species by fishing gear, expressed in kilograms of live weight. They are estimated on-board and recorded in logbooks.<br>EFS refer to nominal catches, which are calculated on the basis of the measured weight of landed products (from landing declarations), multiplied by conversion factors. Conversion factors are set for each combination of species and presentation (e.g. gutted mackerel, plaice fillet).<br>In the CFP context, catches include discards (quantities discarded at sea after capture) and bycatch. |
| Control Regulation data | Data collected by Member States under the Control Regulation[1] relating to catch, transhipment, landing, transport, first sales and traceability of fisheries products as well as data relating to fishing effort, vessel position, fishing gear, vessel characteristics, fishing licences etc. Main data sources include logbooks, landing declarations, transhipment declarations, transport documents, weighing records, take-over declarations, sales notes, inspection reports and VMS records. Member States must transmit aggregated catch data and fishing effort data to the Commission (DG MARE) on a monthly basis for species subject to quotas and on a quarterly basis for all other species.. |
| Data collection framework (DCF) | The DCF is the legal framework for the collection, management and use of data in the fisheries sector (meaning activities related to commercial fisheries, recreational fisheries, aquaculture and industries processing fisheries products according to Article 3(1) of Regulation (EU) 2017/1004[2]) and support for scientific advice on the CFP. It includes biological data on fish stocks and their marine environment, fisheries-related information (catches and landings by fishing effort, fishing gear and size of vessel), and economic and social data.<br>The DCF is under the jurisdiction of DG MARE and some of the data collections are managed by the JRC. |
| European fisheries statistics (EFS) | Eurostat fisheries statistics on catches, landings, fishing fleet and aquaculture. |
| European statistics | Statistics provided by Eurostat. |

[1] 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, OJ L 343, 22.12.2009, p. 1–50

[2] Regulation (EU) 2017/1004 of the European Parliament and of the Council 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, OJ L 157, 20.6.2017, p. 1–21

| *Term* | *Meaning or definition* |
|---|---|
| Fishing effort | A measure of inputs deployed to catch fish. In the EFS context, it is linked to fishing gear (number of sets, hours, hooks or effort unit), the number of days fished and the number of days on ground. For EFS purposes, effort data are required for catches in the Northwest Atlantic fishing area only. |
| Landings | Fishery products landed in ports, expressed in kilograms of product weight and broken down by species, product presentation and preservation state (e.g. fresh gutted mackerel, frozen salmon fillet). |
| Other statistics | Statistics produced by Commission Directorates-General other than Eurostat, e.g. DG MARE. |

# 1. INTRODUCTION

## 1.1. Context

European Fishery Statistics (EFS) are official Eurostat statistics on the production volume and value of fisheries products caught from the sea and cultivated in aquaculture facilities in the EU, Norway and Iceland. They support the sound management of fisheries resources and economic analysis of fisheries product markets. They contribute to the management and further development of the Common Fisheries Policy (CFP) and to assessments of the impact of policy measures. They are required under various international conventions and by several international organisations, e.g. the Food and Agriculture Organization of the United Nations (FAO), the International Council for the Exploration of the Sea (ICES), the Northwest Atlantic Fisheries Organisation (NAFO), the North Atlantic Salmon Conservation Organisation (NASCO) and the North East Atlantic Fisheries Commission (NEAFC).

Eurostat provides statistics on catches and landings of fisheries products, on aquaculture and on the fishing fleet. The relevant legal acts are:

- Regulation (EC) No 216/2009 of the European Parliament and of the Council of 11 March 2009 on the submission of **nominal catch statistics** by Member States fishing **in certain areas other than those of the North Atlantic** (recast)[3];
- Regulation (EC) No 217/2009 of the European Parliament and of the Council of 11 March 2009 on the submission of **catch and activity statistics** by Member States fishing **in the north-west Atlantic** (recast)[4];
- Regulation (EC) No 218/2009 of the European Parliament and of the Council of 11 March 2009 on the submission of **nominal catch statistics** by Member States fishing **in the north-east Atlantic** (recast)[5];
- Regulation (EC) No 1921/2006 of the European Parliament and of the Council of 18 December 2006 on the submission of statistical data on **landings of fishery products in Member States** and repealing Council Regulation (EEC) No 1382/91[6]; and
- Regulation (EC) No 762/2008 of the European Parliament and of the Council of 9 July 2008 on the submission by Member States of statistics on **aquaculture** and repealing Council Regulation (EC) No 788/96[7].

All these regulations have relevance for the European Economic Area and are therefore binding for the EU Member States, Iceland, and Norway.

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3 OJ L 87, 31.3.2009, p. 1.
4 OJ L 87, 31.3.2009, p. 42.
5 OJ L 87, 31.3.2009, p. 70.
6 OJ L 403, 30.12.2006, p. 1.
7 OJ L 218, 13.8.2008, p. 1.

Eurostat compiles fleet statistics directly from the EU fishing fleet register managed by DG MARE under Regulation (EU) No 1380/2013[8], as implemented by Commission Implementing Regulation (EU) 2017/218 on the Union fishing fleet register[9].

As part of the European statistical programme (ESP), EFS aim to provide comparable statistics at European level. They are produced in line with the principles of professional independence, impartiality, objectivity, reliability, confidentiality and cost-effectiveness, as provided for by Regulation (EC) No 223/2009 on European statistics[10].

EFS have been provided since the inception of the European Economic Community in the 1950s. Since the CFP was established in the 1970s as an independent part of the Common Agricultural Policy (CAP), it has been monitored on the basis of additional data reporting and collection requirements under the Control Regulation and the DCF.

Fisheries are by nature international, as fish often move in international waters, and are a renewable natural resource when exploited in a sustainable way. Therefore, international fisheries governance is necessary. The ratification of the United Nations Convention of the Seas in the 1980s was a milestone that led to the establishment of regional fisheries management organisations (RFMOs). For the European Commission, DG MARE is in charge of reporting fisheries activity aggregates to RFMOs on behalf of the Union. FAO and OECD also collect and publish national statistics on fisheries activity and aquaculture.

### 1.2. Reasons for the evaluation

The current legal basis for EFS is relatively old as it dates back to 2006-2009 and is largely a recast of legal acts from the early 1990s. For this and other reasons, it was felt appropriate to evaluate its functioning. It no longer fully meets user needs, which have evolved due to successive CFP reforms.

Because they are so detailed, some of the data collected are confidential and hence not publishable, in particular in the aquaculture sector, which in many countries is dominated by only a few companies. The detailed data needs require large samples (in many cases censuses) and long, complex questionnaires. This places an administrative burden on data producers, takes respondents' time and is thus costly for statistical systems.

EFS are part of a complex system of fisheries statistics/data in the EU and globally. This creates potential for overlaps and discrepancies, whereas the parallel data flows would

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[8] 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 (OJ L 354, 28.12.2013, p. 22).

[9] OJ L 34, 9.2.2017, p. 9.

[10] Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and repealing Regulation (EC, Euratom) No 1101/2008 of the European Parliament and of the Council on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities, Council Regulation (EC) No 322/97 on Community Statistics, and Council Decision 89/382/EEC, Euratom establishing a Committee on the Statistical Programmes of the European Communities (OJ L 87, 31.3.2009, p. 164).

ideally complement and support each other[11]. Since 2007, the European Court of Auditors (ECA) has released three audit reports[12] highlighting redundancies and inconsistencies between the data collected and disseminated by Eurostat and DG MARE under the Control Regulation and the DCF, and inherent problems in EFS.

In light of the above, the Commission launched an evaluation of EFS in 2018 (see Annex 1 for details).

### 1.3. Scope and purpose of the evaluation

The evaluation assesses the implementation and impact of the five statistical regulations and the use and impact (which is mostly indirect) of the resultant statistics. It covers the period from the entry into force of the regulations to the end of 2018. The main focus is on the current CFP period, which started on 1 January 2014. The cut-off dates for the analysis are determined by what statistics were available in 2018 and are as follows:

- Aquaculture – 2016;
- Catches and landings – 2017;
- Fleet – 2017.

The evaluation focuses on the EFS regulations. It does not cover the fisheries data collections managed by other parts of the Commission, mainly under the responsibility of DG MARE, but takes them into account as contextual factors. The same applies to European socio-economic statistics for the sector (on trade, business, employment and organic farming).

The purpose of the evaluation was to provide a comprehensive assessment of the relevance, effectiveness, efficiency, coherence and EU added value of EFS. These evaluation criteria are stipulated in the Commission's 'Better Regulation' framework. Eurostat added a sixth criterion on statistical quality to reflect the specificities of statistical regulations.

[11] Annex 4 gives an overview of data flows for catch and landing, fleet and aquaculture data.

[12] ECA special report 7/2007 (*Control, inspection and sanction systems relating to the rules on conservation of Community fisheries resources*);
ECA special report 10/2014 (*Effectiveness of European Fisheries Fund support for aquaculture*);
ECA special report 8/2017 (*EU fisheries controls: more efforts needed*).

**Statistical quality**[13]

Statistical quality is a multi-dimensional concept that is well defined in the European statistical system (ESS). It concerns the quality of statistical output (as laid down in Regulation (EC) No 223/2009) in terms of:

- relevance – meeting users' needs, including for completeness;
- accuracy and reliability – portraying reality accurately and reliably;
- timeliness and punctuality (in the availability and publication of statistics);
- coherence and comparability – are statistics consistent internally, over time and comparable between regions and countries?;
- accessibility and clarity –are statistics presented in a clear and understandable form, released in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance?

Not only the quality of the output has to be considered in a quality assurance framework, but also the institutional environment (statistical independence), control over processes, cost-efficiency and a non-excessive burden on respondents.

The evaluation assesses the extent to which EFS meet their original objectives and continue to be fit for purpose. It also assesses whether they are of significant added value for users, with an acceptable administrative burden on the ESS and respondents (fishermen and managers of aquaculture facilities).

This is the first evaluation of statistical regulations fully to follow the 'Better Regulation' guidelines. The results serve as an input for:

- ✓ improving the EFS regulations, including impact assessments;
- ✓ streamlining EU and international fisheries/aquaculture data collections; and
- ✓ developing the methods for evaluating statistical regulations.

## 2. BACKGROUND

### 2.1. Origins of the EFS regulations

The EFS regulations lay down statistical variables, data and metadata parameters (the latter are for statistical quality reports), transmission deadlines and quality criteria. The catch regulations are recasts, while the landings and aquaculture regulations replaced previous regulations.

The catch regulation recasts were necessary to provide greater clarity and more complete definitions and descriptions. The landings regulation eased the administrative burden on statistical systems by moving from monthly to annual data transmissions. It also required breakdowns of landings statistics by vessel flag state. The aquaculture regulation extended data collection to hatchery/nursery production and to production value.

[13] https://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646

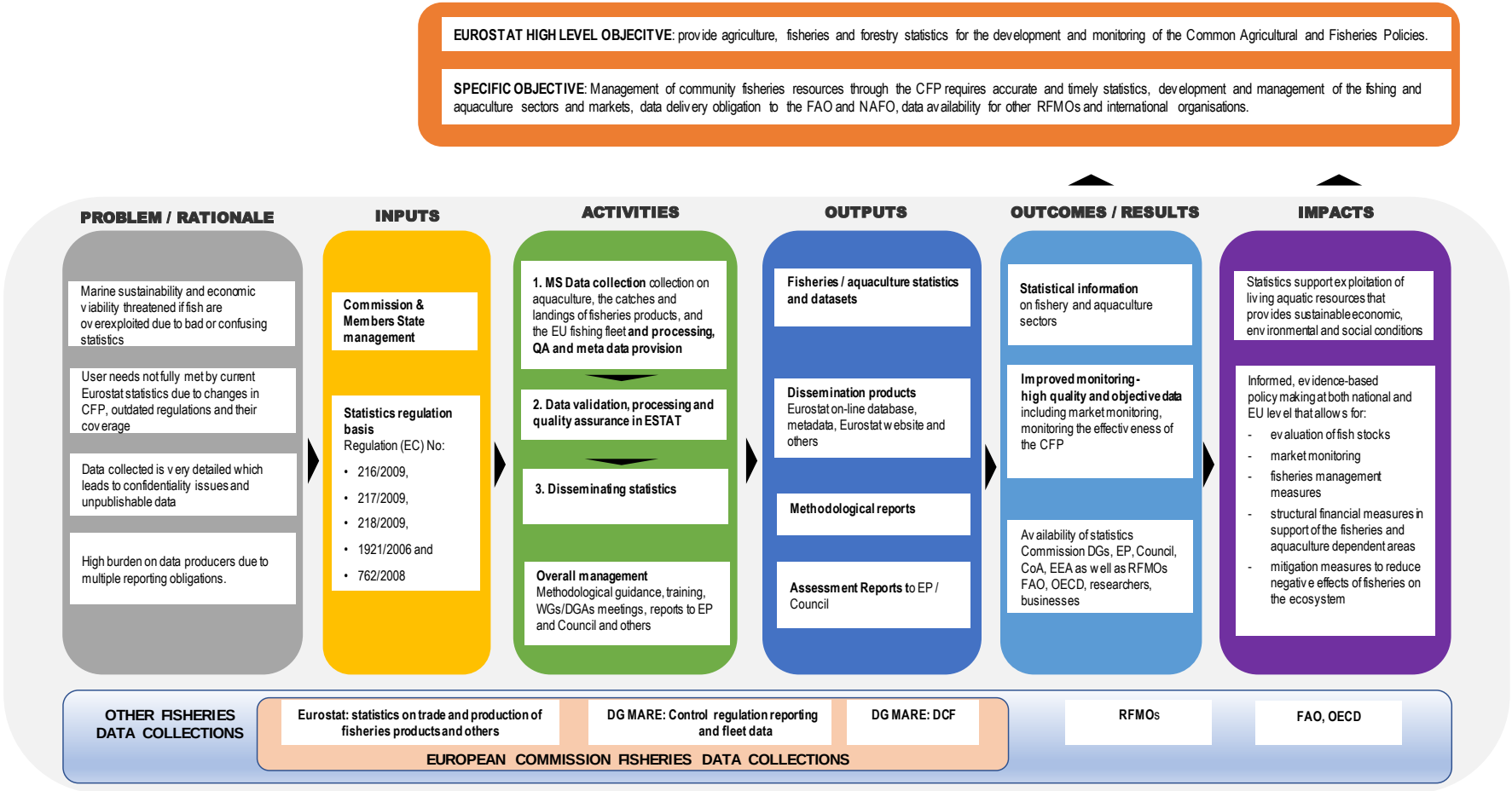
When the regulations were drafted, it was expected that statistics would be collected mainly from sample surveys and (for minor species) expert estimates.

### 2.2. EFS intervention logic

The EFS intervention logic (Figure 1) describes the links and causal relationships between problems and/or needs, inputs, activities, outputs, outcomes/results and expected impacts. It also includes key assumptions and contextual factors.

The high-level general objective of EFS is to provide fisheries statistics to support the CFP, in particular to manage Union fisheries resources and to develop and manage the fisheries and aquaculture sectors and markets. The regulations also stipulate more specific objectives, mainly linked to the delivery of statistics to the FAO, ICES, NAFO and other RFMOs.

**Figure 1. EFS intervention logic**



The EFS regulations require countries to collect statistics and Eurostat to validate and disseminate them in line with the statistical code of practice and certain quality criteria. EFS and the accompanying metadata are published annually on Eurostat's website[14], where users can consult and download them for free. The Commission (Eurostat) reports regularly to the European Parliament and the Council on the functioning of the landings[15] and aquaculture regulations[16].

The key components of the intervention logic are:

- inputs – compared with standard intervention logic models, input for EFS is conceptually challenging, as the EFS regulations can be considered both an input and an output (an action that requires something to happen). The resources needed to meet the legislative requirements (e.g. management and time/input from Member States and Eurostat) are also considered inputs;
- activities – the usual *cause-effect* logic applied to programmes or projects cannot readily be applied to statistical regulations, to which no direct activities can be linked. However, the regulations are directly applicable in the Member States and the activities triggered by their implementation, such as the collection, processing and validation of statistics at national and Eurostat level, are put in this category;
- outputs – the immediate outputs (primary quantifiable *deliverables*) are the statistical datasets and metadata provided under the regulations;
- results/outcomes – the outcomes and impacts of the regulations are less tangible and more difficult to identify and quantify than those of many other EU interventions (e.g. the CFP, CAP or regional policy, which are associated with large-scale spending programmes). Overall, the desired result is that the statistics in question lead to a number of (mostly indirect) outcomes such as:
    - improved market monitoring;
    - monitoring of the CFP; and
    - assessments of stocks and economic impacts on aquaculture and fisheries.

  Compliance with the legislation ensures that users have access to high-quality statistics; this is also considered as an outcome;
- impacts – previous work has investigated the impact of fisheries statistics by looking at the causal relationships between context, inputs, activities, outputs and outcomes. This has informed a 'narrative' of how EFS contribute to higher-level impacts such as supporting the sustainable exploitation of aquatic resources and informed decision-making;

[14] https://ec.europa.eu/eurostat/
[15] See COM(2010) 675 final, COM(2014) 240 final, COM(2016) 239 final and COM(2019) 47 final.
[16] See COM(2012) 422 final, COM(2015) 297 final and COM(2017) 747 final.

- specific objectives – as the regulations do not have explicit objectives, the intervention logic refers to the most relevant functional recitals (e.g. supplying the FAO with statistics);
- general objectives – Eurostat's general objectives apply to all statistical activities and provide the framework for the intervention logic;
- strategic objective – the ESP objective most closely linked to the regulations is specific objective 8.4, under which the ESS is to produce fisheries statistics to meet specific needs relating to the CFP. This is closely linked to the Commission's wider political agenda.

The original goals of the regulations were to enhance statistical quality and availability and to reduce the administrative burden on statistical systems by collecting statistics annually instead of monthly. The resulting statistics were to:

- support key EU policies (CFP, international agreements);
- facilitate the economically, environmentally and socially sustainable exploitation of fish stocks; and
- create a basis for informed, evidence-based policymaking at EU and international levels.

### 2.3. Baseline

Like all statistical regulations, the EFS regulations were intended to provide a statistical evidence base for policymaking. Therefore, the evaluation assesses whether they succeeded in this respect (as compared with hypothetical ideal fisheries statistics) and how they were used in practice (as compared with other data sources).

## 3. STATE OF PLAY

The EFS regulations were geared to user needs at the time of their adoption. They set out a basis for the content of the statistics, timeliness, the transmission schedule and associated metadata.

The ESS (composed of Eurostat and national statistical institutes (NSIs)) ensures the correct implementation of the regulations. Eurostat's role is to consolidate the statistics and, by using a harmonised methodology, ensure that they are comparable. For that purpose, in addition to issuing regulations:

- it issues methodological guides and handbooks[17] in line with international standards;

[17] Latest version of aquaculture handbook: https://circabc.europa.eu/d/a/workspace/SpacesStore/30227ee5-283f-4354-a3a8-5222f87ff336/FISH_WG_2018_1_05_Annex_1_AQUA_Handbook.pdf
Latest version of catches and landings handbook: https://circabc.europa.eu/d/a/workspace/SpacesStore/87c633b6-d5a8-44a2-9c6a-7cbacb47ddbb/FISH_WG_2018_1_05_Annex_2_CATCH_LAND_Handbook.pdf

- organises working groups; and
- assesses the quality of statistics and countries' legislative compliance.

The NSIs or other national authorities (ONAs) are responsible for compiling statistics in accordance with the EFS regulations following Eurostat's guidelines.

### 3.1. Content of EFS

The statistical requirements for **catch statistics** include the volume of nominal catches by species and detailed FAO fishing areas.

For **landing statistics**, the volume and unit value of landed products are compiled by flag of the vessel, species, presentation and intended use.

The fishing **fleet statistics** include vessel numbers by tonnage class, length class, age class, power class and gear category.

The statistical requirements for **aquaculture statistics** include quantities and unit values by species, production method and production environment for fish, crustaceans, molluscs, seaweed and fish eggs (for consumption). They also cover the growing of fish caught from nature, hatchery/nursery production and the structure of the sector.

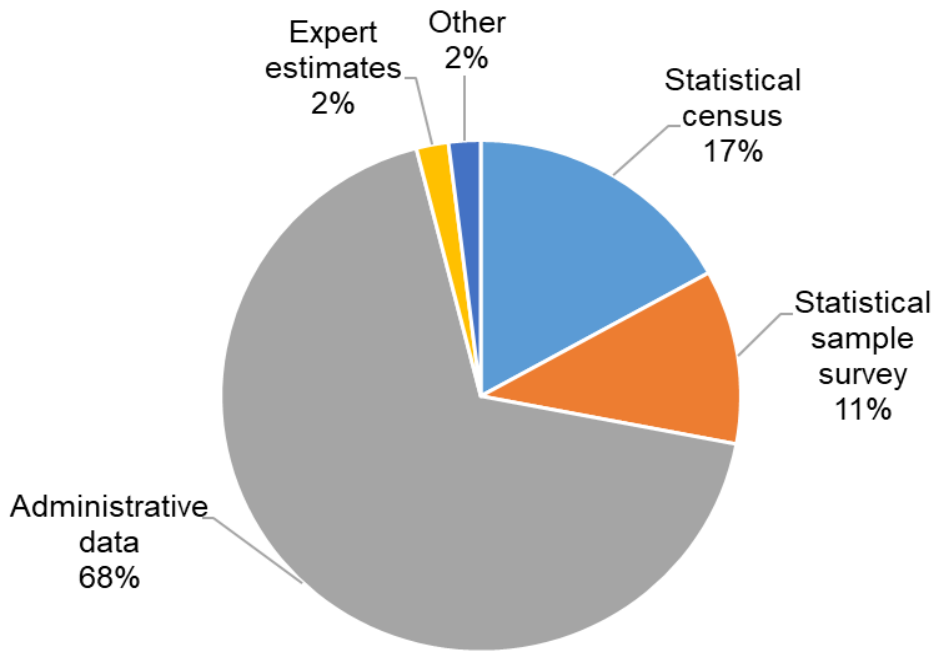
The detailed requirements are set out in Annex 5.

### 3.2. Data sources

The base data for EFS are collected largely from administrative data sources (Control Regulation data (68%)) or statistical surveys (sample surveys or censuses (28%)).

The most common administrative data sources used for **catch and landing** statistics are vessel logbooks, sales notes and landing/transhipment declarations (Figure 2). National authorities can carry out statistical surveys to collect information directly from fishermen, especially where administrative data sources do not cover the entire sector or are not deemed fit for statistical purposes. As stated in section 2, when the EFS regulations were adopted, it was expected that most source data would be collected through statistical sample surveys. The availability of administrative data sources, mainly Control Regulation data, has changed the situation completely.

**Figure 2. Data sources for catch and landing statistics (source: catch and landings statistics metadata reports)**

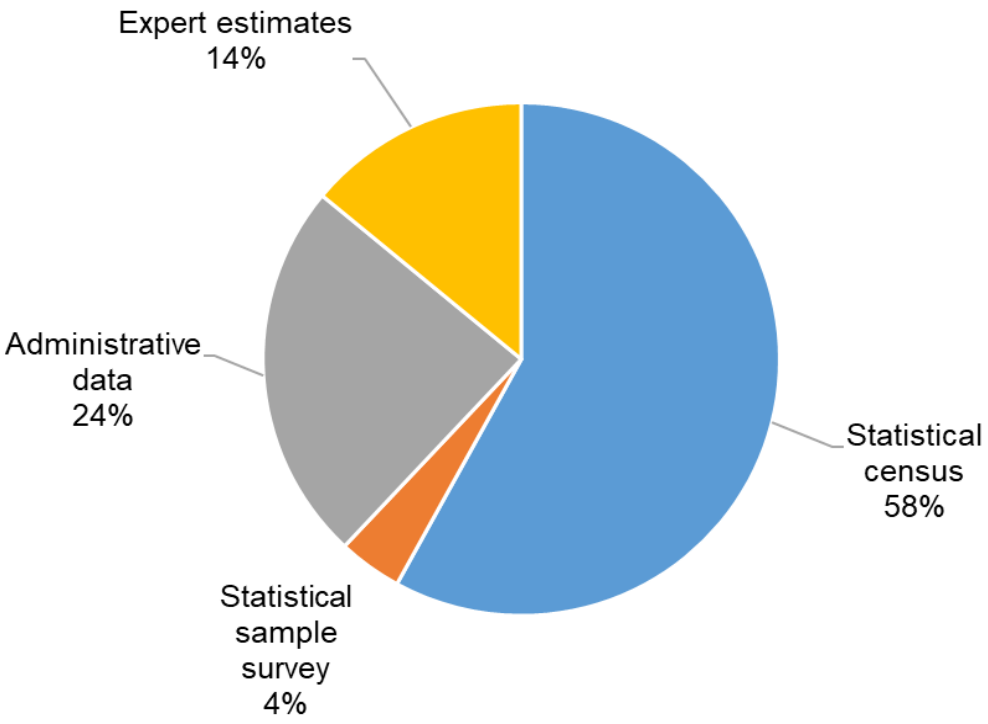



Eurostat compiles **fleet statistics** directly from the EU fleet register maintained by DG MARE[18].

For **aquaculture statistics**, most countries carry out statistical surveys (mostly censuses), as the collected statistics are very detailed and the sector is fragmented. 58% of data sources in this area are censuses and 24% administrative (mostly business) registers (Figure 3).

[18] Until 1997, two parallel registers existed – one for statistical purposes and the other for administrative purposes. Since then, only the former has been maintained.

**Figure 3. Data sources for aquaculture statistics (source: aquaculture statistics metadata reports)**




### 3.3. Deadlines for transmission to Eurostat

Eurostat collects most EFS annually (the deadlines in Table 1 refer to year n+1, i.e. the year after the reference year).

**Table 1. Transmission deadlines**

| Dataset | Deadline | Periodicity |
|---|---|---|
| Catches in NW Atlantic (21A catch data) | 31/05 | Annually |
| Catches in NE Atlantic | 30/06 | Annually |
| Catches in certain areas other than those of North Atlantic | 30/06 | Annually |
| Landings of fishery products | 30/06 | Annually |
| Catches in NW Atlantic (21B catch data) | 31/08 | Annually |
| Catches in NW Atlantic (21B effort data) | 31/08 | Annually |
| Aquaculture production (excl. hatcheries and nurseries) | 31/12 | Annually |
| Aquaculture production of fish eggs for human consumption | 31/12 | Annually |

| Dataset | Deadline | Periodicity |
|---|---|---|
| Input to capture-based aquaculture | 31/12 | Annually |
| Aquaculture production of hatcheries and nurseries | 31/12 | Annually |
| Aquaculture structural statistics | 31/12 | Every 3 years |

The aquaculture statistics are accompanied by an annual metadata report. For the landings and catch regulations, Eurostat collects metadata reports every 3 years on a voluntary basis, as the EFS regulations do not oblige countries to deliver regular quality reports. The metadata reports are collected using a standard ESS metadata report template, with information on data sources, statistical processing, quality management, relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, accessibility, clarity and administrative burden.

## 3.4. Statistical quality

Eurostat regularly assesses the EFS against the statistical quality criteria referred to in section 5.3 and takes the necessary action, together with the countries concerned, to improve them.

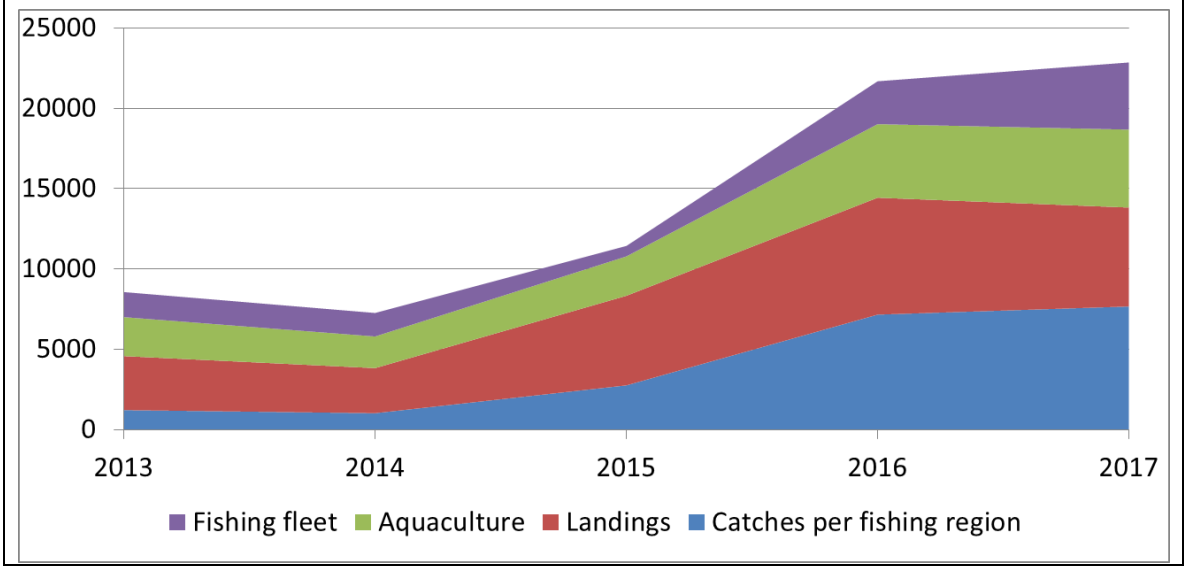
### *3.4.1. Relevance*

The relevance of statistics is normally assessed when establishing the legal basis; it is not part of the regular assessment of statistical quality. The main EFS users are policymakers working on the CFP, environmental and trade policies. In the Commission, this includes DG MARE, JRC (working in support of DG MARE), DG ENV and DG TRADE. It is also assumed that EFS are used by other EU institutions (e.g. European Parliament, ECA, European Council – in relation to TAC/quota regulations), international organisations (FAO, OECD, ICES), regional fisheries bodies (e.g. RFMOs), national administrations, NSIs and research institutes, the business sector, media and the general public.

Eurostat carries out regular user satisfaction surveys, for which EFS are clustered together with agricultural statistics. Due to the limited number of replies, it is not possible to draw specific conclusions for EFS.

Eurostat uses the number of downloads of EFS from its online database as an indication of their relevance. Between 2013 and 2017, the number almost tripled, to 24 000 (Figure 4). The downloads are relatively evenly spread between dataset groups, with catch statistics being used slightly more than the others.

**Figure 4. EFS downloads by dataset group**




EFS are quite popular compared with other sectoral statistical domains; for example, statistics for the poultry sector (which is slightly larger in economic terms) were downloaded less than half as often in the same period.

### *3.4.2. Completeness*

Under the EFS regulations, the completeness of **catch and landing statistics** has improved since 2015. Previously, mandatory unit prices for fisheries products were often missing, but most of these are now available. Eurostat clarified the reporting instructions in the 2015 meeting of the Fisheries Statistics Working Group.

Completeness has also been improved by some countries' measures to extend their survey coverage to more vessel types, foreign vessels and species. Only three countries claim that they do not collect data on landings from vessels less than 10 metres long. In recent years, some countries have flagged some catch and landings statistics as confidential, which prevents Eurostat from calculating EU aggregates.

The main **aquaculture** dataset ('production from aquaculture') has become more complete over time. The 'fish eggs for human consumption' dataset poses difficulties for a number of countries. The Fisheries Statistics Working Group discussed the importance of distinguishing fish egg from fish meat production in April 2017. In the 'input to capture-based aquaculture' dataset, unit prices are frequently missing, because they are difficult to estimate where aquaculture facilities catch seed fish themselves instead of buying them. There are also gaps in the 'production from hatcheries and nurseries' dataset.

In order to avoid flagging data as confidential (and thus not publishable), some countries report statistics at a more aggregated level than that stipulated by the EFS regulations. Nevertheless, the confidentiality issue still concerns half the countries and many aquaculture statistics remain confidential (13% of values). It is virtually impossible to

calculate EU aggregates for aquaculture. At a smaller scale, the same is true for landings and catches. The issue is due to:

- Eurostat's current approach to confidentiality, whereby aggregates are regarded as confidential if their components are confidential, in order not to reveal the confidential values by simple subtraction from the EU totals;
- highly complex data structures (many cross-tabulated dimensions); and
- the high degree of specialisation in the sector.

Due to quality problems highlighted in the ECA 2014 special report[19] and a lack of resources, the 'structure of aquaculture' dataset is currently not published. The fact that Eurostat has not received any requests to resume publication indicates that it is of limited use as currently defined.

#### *3.4.3. Timeliness and punctuality*

For **catch** statistics, the transmission deadline is set between 5 and 8 months after the end of the reference year (n), depending on the FAO fishing area. European catch statistics are published between July and September of year n+1. Thus, the time lag from the end of the reference period to publication is between 6 and 8 months.

**Landing** statistics are submitted to Eurostat 6 months after the end of the reference year and published within one month (July of year n+1).

The deadline for submitting **aquaculture** statistics to Eurostat is 12 months after the end of the reference year and they are published between February and March of year n+2.

The punctuality of data transmissions for **catches and landings** has improved in recent years, with most countries delivering on time. For the reference year 2017, three countries (IT, CY and MT) were late in transmitting catch data and five (IT, CY, MT, RO and UK) in transmitting landing data.

Eurostat produces **fishing fleet** statistics twice a year (in April and October). Keeping the fishing fleet register up to date ensures punctuality.

In **aquaculture**, major delays were observed for two countries (IT and FR) for the reference year 2016.

#### *3.4.4. Accuracy and reliability*

The accuracy of **catch and landings** statistics largely depends on Member States' control systems, including landing inspections to verify landed quantities, the weighing systems in place and their possible manipulation, the availability of all required documents as prescribed by the legislation and cross-checks and validation of data collected under the Control Regulation for vessels above 10 m long. For catches by smaller vessels, the accuracy depends on sampling plans, unless Member States have implemented a

[19] ECA special report 10/2014 (*Effectiveness of European Fisheries Fund support for aquaculture*).

reporting system, in which case the reliability depends on the control of the submission of those reports and on the relevant data analysisMost **aquaculture** statistics are based on censuses. It should be noted that the coverage of the aquaculture facilities register varies between countries. 'Economic value at first sale' is the most problematic variable, because the first sale takes place at different stages of processing and is often estimated. As a result, the prices vary widely from year to year and from country to country.

#### *3.4.5. Coherence and comparability*

For catches, the **fleet** composition can have an impact on the comparability of statistics between countries. Comparability between **catch and landing** statistics is affected by the fact that countries sometimes report catch data at relatively aggregated (genus) level and landings at more detailed (species) level.

In many countries, the **aquaculture** sector is quite small in terms of the number of units, so data are normally collected by census. This guarantees good comparability between countries.

For **price** statistics, comparability between countries is clearly better for landings than for aquaculture. Prices for the former are broken down by species, intended use, presentation and preservation status. For the latter, prices are reported at first sale without further details. However, it is known that the first sale from aquaculture facilities occurs at very different stages of processing, from living to highly processed products.

The coherence of EFS is ensured by harmonised concepts and definitions that are in line with those used by FAO and other international organisations.

#### *3.4.6. Accessibility and clarity*

The combination of very detailed breakdowns, the cross-tabulation of variables and the high degree of specialisation in the sector gives rise to a large number of confidential values (see above). As a result, Eurostat cannot provide users with all available statistics on catches, landings and (in particular) aquaculture. The issue affects detailed national values and aggregates, and most EU aggregates.

EFS and their respective metadata are publicly available on Eurostat's website[20]. Data users can consult and download them for free.

## 4. METHOD

Eurostat carried out the evaluation with the assistance of a consultant and under the supervision of an inter-service group (ISG) chaired by Eurostat and composed of representatives of five Commission Directorates-General and services: DG ENV, JRC, DG MARE, the Secretariat-General and DG TRADE. The ISG began work in 2018 with

[20] https://ec.europa.eu/eurostat/

the publication of an evaluation roadmap[21] and monitored each major step of the evaluation.

The evaluation covered the period from the entry into force of the EFS regulations (2006-2009) to 2017, but focused on 2014-2017, as the latest CFP reform took effect in 2014.

### 4.1. Evidence collection

The Commission conducted several consultation activities to collect the evidence needed for the evaluation, including a public consultation and a data producers' workshop. The consultant conducted a support study, which also included national case studies.

#### *4.1.1. Data producers' workshop*

The first major activity was a 1-day workshop organised back to back with a meeting of the Fisheries Statistics Working Group Commission expert group in October 2018. It focused on the strengths and weaknesses of the current EFS and future opportunities and threats from the point of view of national data providers (NSIs and ONAs). In addition to national members of the Working Group (who are responsible for providing EFS), representatives from FAO, OECD and ICES also took part.

#### *4.1.2. Public consultation*

A public consultation[22] was conducted between 18 January and 12 April 2019 on the Commission's dedicated website (EU Survey) and in line with its general principles and standards for consultation. A total of 24 respondents filled in the questionnaire.

#### *4.1.3. Support study*

The evaluation was carried out with the support of a consortium led by Coffey International (UK) under a 14-month contract signed in July 2018. The consortium carried out a large number of consultations (see Annex 2) and desk research activities (see below), and produced a study report. The latter fed into the intervention logic and evaluation question matrices, i.e. a framework of criteria and indicators against which the responses would be assessed (see Annex 3). The starting point for the evaluation framework was the EFS intervention logic and a theoretical assessment of how inputs into the statistical system are transformed into outputs and impacts.

In answering the evaluation questions, the study team reviewed a large number of documents, including a range of documents supplied by Eurostat (e.g. statistical regulations, EFS quality/methodological reports, handbooks, Code of Practice). The review followed the logic of the evaluation matrix and sought to shed light on the indicators identified for each judgement criterion.

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[21] https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-3790936_en
[22] https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-3790936/public-consultation_en

The team analysed statistics/other data and related metadata in order to compare EFS with other available data sources (e.g. Control Regulation, DCF, FAO). This involved extensive checking of overlaps and discrepancies, and comparison data tables for specific fisheries statistics indicators.

The main objective of comparison of catch data in the various EU and FAO sources was to gauge their level of consistency. The team gathered and compared data from:

- EFS – catches in major fishing areas (from 2000 onwards);
- DCF – EU fleet landings[23];
- DG MARE – Control Regulation data[24]; and
- FAO – capture production.

The consultation strategy was developed with assistance from the study team in the inception phase and some amendments were made in the course of the evaluation. Overall, the stakeholders addressed and the tools applied were as planned, with some slight adjustments. Annex 2 provides an overview of the consultation work, as required by the terms of reference and the 'Better Regulation' guidelines.

In-depth stakeholder interviews

In-depth interviews were conducted with 15 stakeholders (see list in Annex 2) – mainly:

- **Redistributors** (organisations that re-distribute EFS through their own databases, adding information from other countries or areas); and
- **Regular professional users** (organisations that use EFS in the course of their main activities).

The aim was to gather detailed information on how the organisations use EFS, how they rate the quality of EFS and how EFS could be improved in the future.

Case studies

Case studies of Denmark, France, Greece, Ireland, Italy and Poland were carried out to provide an overview of national arrangements for collecting EFS and analyse them in more detail. They served as a basis for understanding how certain fisheries-related data collaboration is organised in Member States and how organisations cooperate. In addition, the aim was to analyse how national data users use EFS and assess whether EFS meet their needs.

In addition, the support study included a horizontal case study on aquaculture, with particular emphasis on the data confidentiality issue. It covered the above-mentioned countries and Germany (see Annex 2, section 4.3).

[23] https://stecf.jrc.ec.europa.eu/web/stecf/data-dissemination
[24] *Aggregated* C*atch* Data Report (not publicly available).

Online survey

An online questionnaire collected users' and producers' feedback on various aspects of EFS, including usefulness, ease of use, cost of collection, statistical quality, efficiency, effectiveness and coherence (as listed in the evaluation matrix).

The questionnaire was circulated to 353 organisations/individuals identified by Eurostat. It included general questions for all respondents and routings for EFS users, producers and combined users/producers. A total of 135 respondents answered, representing 38.2% of the target population. Responses were received from 33 of the 36 countries (Member States, EFTA countries, candidate and potential candidate countries).

The final support study is based on the evidence collected from all the above activities, including the public consultation and the workshop. It provides a comprehensive, evidence-based analysis of all evaluation questions identified in the roadmap. The draft final conclusions were sent to the ISG for comment.

### 4.2. Complementary sources

The evaluation also uses additional insights from the following complementary sources not covered by the support study:

- ECA reports:
    - Special Report 2007/7 (*Control, inspection and sanction systems relating to the rules on conservation of Community fisheries resources*);
    - Special Report 2014/10 (*Effectiveness of European Fisheries Fund support for aquaculture*); and
    - Special Report 2017/08 (*EU fisheries controls: more efforts needed*);

Reports from the Commission to the European Parliament and the Council:

- Four reports on the implementation of Regulation (EC) No 1921/200625;
- Three reports on the implementation of Regulation (EC) No 762/200826;

Quality and methodological (metadata reports) on catch and landing, and aquaculture statistics[27];

- EFS handbooks on aquaculture, and catches and landings; and
- 2015-2018 documentation from the Commission (Eurostat) expert group on fishery statistics.

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[25] COM(2010) 675 final, COM(2014) 240 final, COM(2016) 239 final and COM(2019) 47 final.
[26] COM(2012) 422 final, COM(2015) 297 final and COM(2017) 747 final.
[27] Landings of fishery products metadata reports: https://ec.europa.eu/eurostat/cache/metadata/EN/fish_ld_esqrs.htm
Aquaculture production metadata reports: https://ec.europa.eu/eurostat/cache/metadata/EN/fish_aq_esqrs.htm

### 4.3. Limitations and robustness of findings

The evaluation encountered some methodological challenges and limitations:

- It proved more difficult than expected to identify the users of EFS – it was not possible to get information (e.g. country of origin of downloads/institutions) on the users downloading statistics from Eurostat's online database. In the case studies, the NSIs/ONAs interviewed had difficulties in identifying the national users of EFS or even of national fisheries statistics;
- Eurostat's user satisfaction surveys cluster together the users of agricultural and fisheries statistics – it was not possible to separate the results;
- Institutions providing the DCF data were not always covered by the case studies, but they did receive the online questionnaire;
- Responses to the public consultation were few in number (24) and disappointing, despite efforts to promote it to a wide audience and use of a short, user-friendly questionnaire;
- Spain is the biggest fishing nation in the EU and the plan was to make it the subject of a case study; however, it declined due to a lack of resources and reorganisation;
- It was difficult to establish, let alone quantify, the impact of the regulations/statistics, as this is indirect and difficult to separate from other drivers (e.g. policy changes and other data collections), in particular as the base data source for EFS is often the same as for the Control Regulation and DCF; and
- It was difficult to extrapolate general EU-level judgements from the case studies.

## 5. ANALYSIS AND ANSWERS TO THE EVALUATION QUESTIONS

The evaluation was based on six evaluation criteria and 12 evaluation questions (EQs). The replies are summarised below.

### 5.1. Relevance

This criterion assesses the extent to which EFS are relevant for the various users and whether their needs have evolved over time. It looks at the relationship between the needs and problems in society and the objectives of the intervention.

Two EQs were formulated for relevance. The first compares current user needs with the outcome of the current EFS. The second asks to what extent the current approach to data collection is appropriate in the light of user needs.

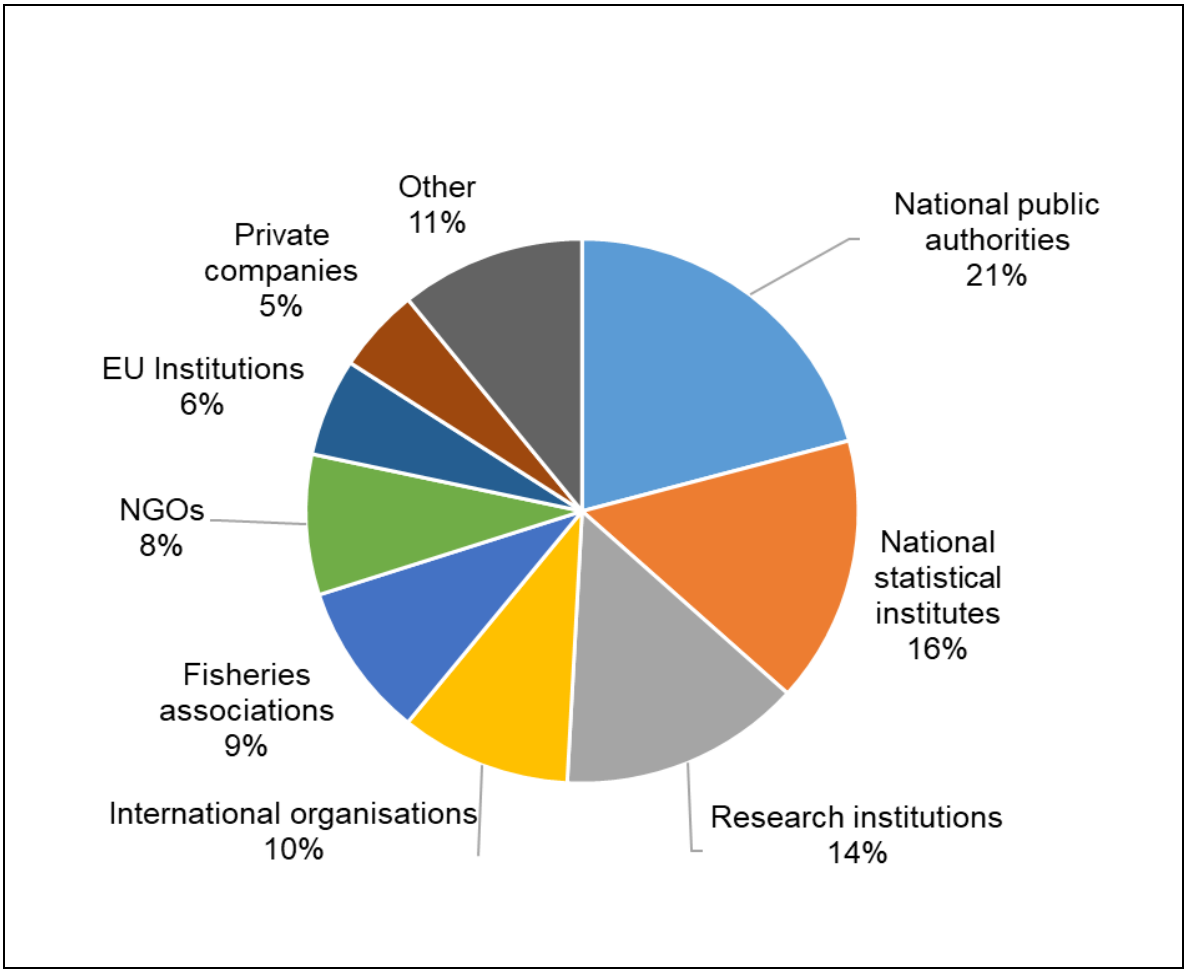
The main objective of EFS is to provide independent, comparable and harmonised statistics on fisheries that can be used to support the development, monitoring and evaluation of the CFP, for market monitoring and to meet international reporting obligations.

***EQ 1.1: To what extent are the current (and potential future) needs of data users captured in the current legislation?***

To answer this question, it was necessary to identify the users of EFS. As stated in section 4.3., privacy protection rules mean that Eurostat does not know who is behind close to 24,000 annual downloads of EFS datasets. The case studies showed that the same problem exists at national level, where EFS producers had difficulties in identifying the users of fisheries statistics.

According to the online survey and the public consultation, a wide range of groups use EFS (Figure 5). The largest groups identified were national authorities (mainly those responsible for fisheries policy), NSIs and researchers working for DCF and in fisheries research in other contexts / for other purposes. The other half is made up of specialised users (international organisations, fisheries associations, NGOs, EU staff and businesses) and 11% are 'other users' (private individuals, regional bodies, etc.). This analysis may not be exhaustive, as the online survey was sent to known potential users identified by Eurostat. However, the links to the survey and the open consultation were also available on the Eurostat website and social media, so they reached a wider user group.

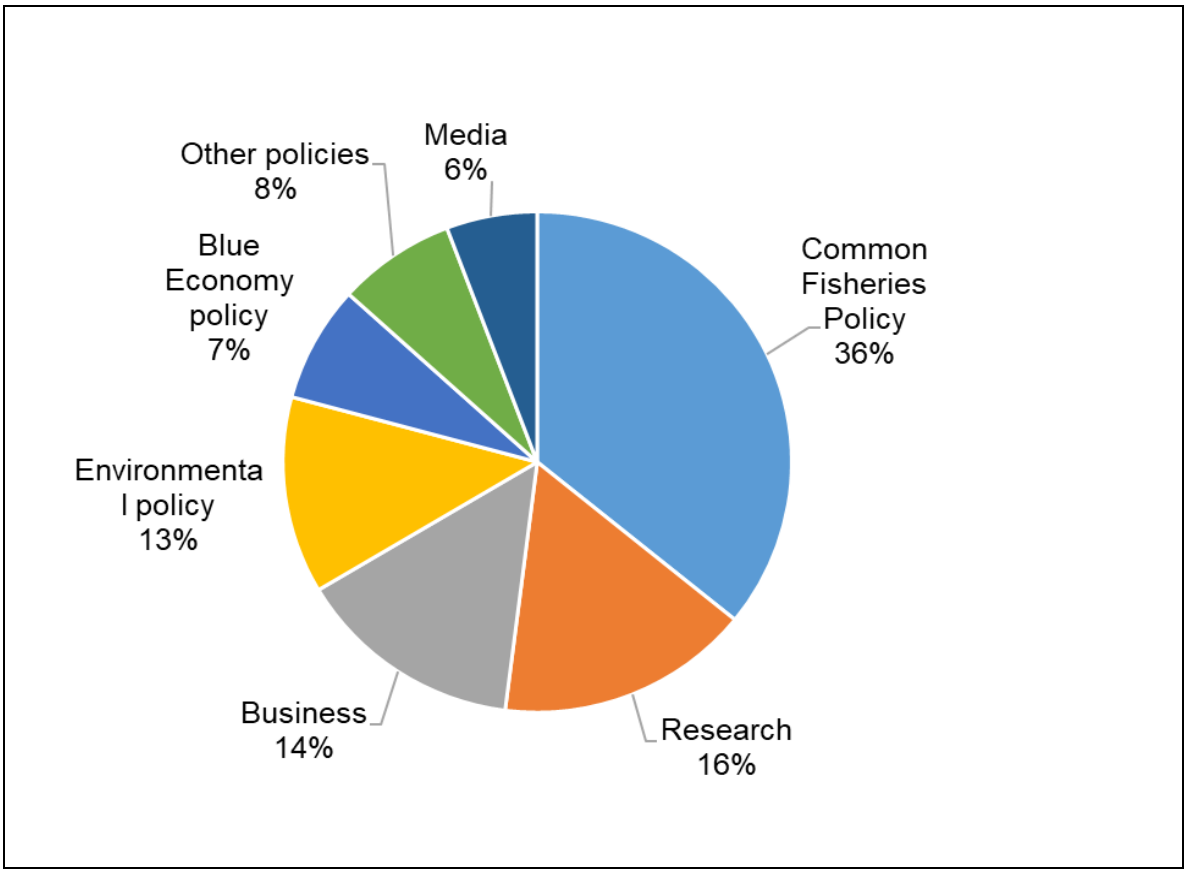
**Figure 5. Identified EFS user groups (source: online survey)**



Most users said that they use EFS for more than one purpose. Figure 6 summarises the results. The most common purpose was linked to the CFP at national or EU level. Research and commercial purposes were the second and third most common uses, ahead of environment policy, blue economy policy, other policies and media uses.

Evidence from the consultations shows that the legislation is serving its core purpose in providing relevant statistics to monitor and evaluate the CFP at national and EU levels, to inform wider policymaking (in particular on the environment and the blue economy) and for market monitoring in the business sector, research purposes and media use.

**Figure 6. Main use purposes of EFS (source: online survey)**




65% of users indicated that they use catch statistics, while 51% use landing statistics and 60% use aquaculture statistics. Use of fleet statistics was markedly lower, at 37%. The figures show that most users use several datasets. These proportions are in line with the user statistics in Figure 5.

When asked to what extent EFS meet their needs, 23% of users replied that they do so to a large extent, 66% to some extent and 11% only to a small extent. Aquaculture statistics attracted the highest proportion of responses in the last category, suggesting ample room for improvement. This is probably because the large number of confidential values in the dataset has a significant impact on its usefulness (e.g. no EU aggregates).

The evidence from these users indicates that the relevance of EFS is linked to:

- ✓ their official status as an ESS product;
- ✓ the availability of long time-series; and
- ✓ the well-developed quality criteria and validation process.

The main criticism of EFS concerned the level of aggregation, which was considered too high; further breakdowns (species, geographical units, time, etc.) were requested for almost all variables. The high level of aggregation was the main reason why some users preferred other data sources.

The relevance of EFS varies between user groups. Several prefer to use other data sources – often scientific or administrative data, and sometimes also other statistics. However, where users get statistics from sources other than Eurostat (e.g. NSIs or FAO), these are actually produced pursuant to the EFS regulations,but published by other institutions than Eurostat as well. Therefore, the relevance of the regulations goes beyond the direct use of EFS downloaded from Eurostat's online database.

However, improvements to coverage, aggregation level and practical aspects of dissemination would further increase the relevance of EFS (Table 2).

**Table 2. New and emerging needs in fisheries statistics**

| Domain | New and emerging needs | Interested users |
|---|---|---|
| Catches | Inclusion of all FAO fishing areas<br>Higher spatial resolution (e.g. EEZ, grids)<br>Recreational fishing<br>Better vessel coverage<br>Catches per fleet segment<br>Catches by European joint ventures in third countries<br>Catches by non-EU/EFTA vessels in a given area<br>Effort data<br>Other groupings for species<br>Earlier deadline for NW Atlantic (1 May)<br>Monthly frequency | DG MARE<br>FAO<br>NAFO<br>National users<br>Other users |
| Landings | Total landings for all vessels of a country<br>Landings of EU/EFTA vessels outside EU/EFTA territory<br>Landings by non-EU/EFTA vessels in EU/EFTA territory<br>Economic indicators and data, including GVA, gross profit, market prices at the different levels of the value chain | DG MARE<br>OECD<br>National users<br>Other users |
| Aquaculture | Tackle confidentiality issue<br>Clarify statistical coverage<br>Focus on most important commercial species<br>Volume of stocks maintained from one year to the next (not sold)<br>Intermediate sales (between producers) of on-growing species, including volumes and prices<br>More detailed breakdown of unit value of products at first sale<br>Areas used by aquaculture (marine and land areas)<br>More details on algae production<br>More information on mussels and shellfish (including biological data)<br>Age classes of fish (for some species)<br>Economic indicators and data, including GVA, gross profit, market prices at the different levels of the value chain | DG MARE<br>FAO<br>National users<br>Other users |

***EQ 1.2: To what extent is the current approach to data collection appropriate to meet user needs?***

This question focuses on the current approach to statistical collection. While understood in terms of general conceptual aspects of the collection, processing and dissemination of EFS, such aspects also have practical implications (e.g. on timeliness and accessibility, which are key factors determining how relevant EFS are to their users).

To answer this question, it is important to bear in mind the fisheries-related information ecosystem in which EFS operate. EFS are not only interlinked, but largely based on other data collected in the context of the CFP, e.g. Control Regulation and DCF data. The former are the main data source for EFS in most countries, especially those where the small-scale fishing fleet accounts for a small proportion of total catches.

The following types of data fulfil their own user needs:

- **Statistics** – these provide aggregated and statistically representative information on a collective phenomenon in a certain population (Regulation (EC) No 223/2009, Article 3(1)). They are governed by commonly agreed ESS rules as regards methodology and quality. They are independent and made available to all users with a time lag, as the producers have to follow complex procedures linked to methodology and quality assurance;
- **Administrative data** (e.g. Control Regulation data and the Union fleet register) – these are generated to support specific administrative tasks such as those linked to CFP management. They are often confidential, as they can be linked to single beneficiaries (e.g. single vessels), and are not usually published. The time lag is short, in particular in fisheries, as quota uptake (for example) has to be monitored almost in real time; and
- **Data collected for scientific purposes** (e.g. DCF biological data on fish stocks and the marine environment collected) – these are collected via a wide range of methods, some of which are experimental and are peer reviewed in the scientific community. Some are published in aggregated form, but they are not necessarily easily accessible by a wider user community.

Certain factors have made EFS less relevant vis-à-vis their overall objective, as the development, monitoring and evaluation of the CFP requires more and more data and information:

- The 2013 CFP reform has exponentially increased policymakers' requirements for data to assess the achievement of specific goals (e.g. landing obligation, multi-annual multi-species management plans, regionalisation at sea-basin level);
- Tools have been created to monitor quota uptake, e.g. by compiling close-to-real-time information from logbooks;
- The consolidation of the DCF with targeted data calls has become the primary source of information for the CFP; and
- The ecosystem approach to fisheries management as a CFP objective requires extensive data on biotic (e.g. stocks, bycatch), abiotic (e.g. sediments, water quality) and socio-economic (e.g. fishermen's economic situation) components.

Therefore, the information ecosystem in which EFS operate has fundamentally changed in recent decades. The main role of EFS in this context is to provide validated, reliable European statistics on fisheries at aggregate level. They show major trends and serve as an official reference point for other data collections. EFS are not designed to meet

short-term administrative needs, policy enforcement needs or scientific needs as regards the biological and social aspects of fisheries.

Many users are aware of the differences between statistics and other types of data, but EFS were nevertheless criticised for a too high level of aggregation and a long time lag between the reference period and publication of the statistics. These are inherent characteristics of statistics, which have to meet quality criteria and be suitable for publication.

### 5.2. Effectiveness

Effectiveness analysis considers success in meeting general and specific objectives. This criterion is covered by two EQs:

- How effective are the legal acts in delivering quality statistics? This was analysed mostly on the basis of the case studies and in-depth interviews, as regular EFS users were not so familiar with the legal framework; and
- To what extent are EFS used to meet their specific/general objectives? This was analysed by comparing the ESP objectives and the EFS regulations with the current use made of EFS.

The high-level objective of EFS is expressed in the ESP:

> *'... [to] provide statistical information, in a timely manner, to support the development, monitoring and evaluation of the policies of the Union ... and serving the needs of the wide range of users of European statistics, including other decision-makers, researchers, businesses and European citizens in general, in a cost-effective manner without unnecessary duplication of effort;'*

The more specific objectives are explained in section 2.2. In addition, the EFS regulations all refer to specific objectives in their recitals (see Table 3).

**Table 3. EFS specific objectives by Regulation**

| Regulation | Statistics | Specific objectives |
|---|---|---|
| 216/2009 | Catches in certain areas other than those of the North Atlantic | Provide catch statistics to FAO |
| 217/2009 | Catches in NW Atlantic | Provide timely catch and activity statistics to NAFO Scientific Council |
| 218/2009 | Catches in NE Atlantic | Provide EU fishery resources (predecessor of CFP) with accurate and timely statistics on catches<br>Provide timely catch and activity statistics to NEAFC<br>ICES advice under the Cooperation Agreement between that organisation and the Community will be enhanced by availability of statistics on the activities of the EU fishing |

| | | |
|---|---|---|
| | | fleet<br>The NASCO Convention[28] requires the EU to supply NASCO with the available statistics that it may request |
| 1921/2006 | Landings of fishery products | Provide statistics for analyses of the market for fishery products and other economic analyses<br>Landings data are an essential tool for CFP management |
| 762/2008 | Aquaculture statistics | Statistics are needed to review and assess the market for aquaculture products<br>Information on the structure of the sector and the technologies used is needed to ensure that the industry is environmentally sound |

***EQ 2.1: How effective are the legal acts in delivering quality statistics?***

The EFS regulations are crucial for the availability and quality of statistics. They stipulate the variables to be provided, main definitions to be used, the reporting system, transmission and assessment procedures, deadlines and geographical coverage. In addition, they ensure the use of quality control mechanisms and the availability of metadata. The latter is clear from the fact that no additional quality reports need to be produced for catch and landing statistics, for which they are not legally required, whereas they are produced for aquaculture, for which there is an annual metadata reporting obligation in the Regulation. Eurostat does collect voluntary combined reports for catch and landing statistics, but the timeliness and availability are far inferior to those of the aquaculture reports.

National EFS providers and institutional users (Commission, FAO, OECD, ICES and RFMOs) stressed the importance of a legal basis for EFS. Other users are rarely aware of the existence and/or content of the regulations.

The case studies and the workshop confirmed that the EFS legal framework is crucial for NSIs'/ONAs' provision of good quality statistics to Eurostat; it ensures the availability of resources and statistical coherence. However, countries stressed the importance of supplementary guidance in the form of handbooks and training, as the legal acts only provide a framework.

The main weakness identified is the inbuilt problem of over-detailed cross-tabulations in the aquaculture Regulation, which leads to a large number of confidential values. It was also pointed out that the regulations are not always consistent with each other or other Commission data collections on fisheries. User needs have evolved since the adoption of the regulations and they have become less effective over time.

From Eurostat's point of view, the regulations are fundamental for the provision of good quality EFS. They lay the foundation for the effective management of EFS: a legal obligation on which to build the statistical system and to ensure compliance.

[28] Approved by Council Decision 82/886/EEC (OJ L 378, 31.12.1982, p. 24).

Eurostat acknowledges the weaknesses identified by countries:

- inbuilt problems linked to the confidentiality issue;
- incomplete coherence between the regulations and with other fisheries data (mainly Control Regulation and DCF data, and FAO and OECD statistics); and
- a growing gap between the content of the regulations and current user needs.

Compliance with the EFS regulations is directly linked to their effectiveness. In most cases, Eurostat's step-wise compliance monitoring is effective: where datasets are missing or there is a lack of coherence in the statistics provided, its reminders and letters to non-compliant countries elicit new statistics and/or corrections and revisions. However, countries' responsiveness varies and this sometimes takes a long time. In recent years, the compliance monitoring system and the reaction speed have improved in most cases.

***EQ 2.2: To what extent are fisheries statistics used to meet their specified/general objectives?***

The main objectives of EFS are to provide statistics for the development, management and monitoring of the CFP, market monitoring and meeting international reporting obligations.

The evaluation shows that DG MARE's use of EFS for CFP purposes is very limited, as more detailed, timelier and better-suited data sources are available. Control Regulation and DCF data meet CFP management needs better, as they are more timely and include biological and socio-economic data. However, DG MARE uses EFS (on landing volumes and values, and aquaculture) intensively for market monitoring in the framework of the European Market Observatory for Fisheries and Aquaculture (EUMOFA). EFS are also used in the DCF context to assess whether countries are above or below reporting thresholds. In addition, DG MARE uses EFS to obtain an overview of fisheries in Norway and Iceland.

EFS are an important source of information for FAO, OECD and ICES, which confirms that they meet objectives linked to international reporting obligations. The FAO publishes some EFS, adding their own estimates where the EFS are confidential or not available for other reasons. It uses the EFS catch volume statistics, and no longer collects these data itself, continuing only to collect information on fishing areas not covered by EFS. The aquaculture statistics are currently used for validation purposes only. It would also be interested in using the EFS aquaculture statistics more if they were published earlier and contained no confidential values. The OECD would use EFS if they addressed its specific needs better. ICES relies on EFS for catches in the Northeast Atlantic. Eurofish also uses EFS.

The EU is a contracting party in several RFMOs. DG MARE ensures that its obligations to report to them are met. ICCAT, NAFO and NEAFC use EFS catch and fleet statistics for validation purposes and for country-level breakdowns (DG MARE reports EU aggregates).

On the other hand, DG TRADE and the European Marine Observation and Data Network (EMODnet) use EFS only rarely or not at all. DG TRADE tends to use Eurostat trade and processing statistics, which suit their needs better.

National fisheries statistics are preferred at national level, as they are often more detailed and broader in scope. National users use EFS for international comparisons.

Public interest in fisheries statistics has increased recently, as the sustainability of the fishing sector and marine ecosystems has come into the spotlight. This might be one of the reasons for the increase in the number of downloads of EFS, the most popular being catch and landing statistics, followed by aquaculture and fleet statistics. The evaluation indicated that national authorities, research institutions, NGOs, national fisheries organisations, international organisations and research institutions are the main EFS user groups. The most common use is for fisheries policymaking, followed by research, commercial, environment and other policies, blue economy analysis and media purposes.

Most users of EFS use them for periodical institutional tasks, e.g. annual reporting. The most frequent (almost daily) use was reported by EUMOFA.

Users reported several strengths of EFS:

- ✓ they provide an overview and allow for comparative analysis for benchmarking;
- ✓ they make it possible to explore trends through consistent, long time-series; and
- ✓ they have been validated and are freely accessible.

### 5.3. Statistical quality

Statistical quality has been added as an evaluation criterion, as it is crucial for assessing how statistical regulations work.

The first EQ targets statistical output quality in terms of:

- accuracy and reliability;
- timeliness and punctuality;
- coherence and comparability; and
- accessibility and clarity.

The second EQ compares the quality of EFS with that of other available data sources.

***EQ 3.1: To what extent do European Fishery Statistics meet statistical output quality principles (as defined by European Statistics Code of Practice)?***

The in-depth interviews, online survey and public consultation indicated that the quality of EFS is generally considered ‘good’.

Users rate the *accuracy and reliability* of EFS as ‘good’. Many stakeholders value Eurostat’s quality management and validation practices highly. However, some reported country-specific quality issues and it is not clear how EFS are validated at national level.

Some specific accuracy problems were highlighted:

- while larger (>10 m) vessels are monitored by census, catches by small-scale (<10 m) vessels are not monitored with logbooks, but through sales notes or sampling;
- it is difficult to identify certain species. Some national values and consequently EU aggregates are missing (not delivered or confidential) or not published due to ongoing validation; and
- some values are presented as 'estimates (e)' or 'provisional (p)', and it is not clear how accurate they are.

The accuracy and reliability of the EFS catch, landing and fleet statistics depends heavily on that of the underlying administrative data sources: logbooks, landing declarations and sales notes collected under the Control Regulation and the fishing fleet register.

Generally, EFS are published *punctually*. However, in the last few years, France has delivered aquaculture statistics with a considerable delay and Italy still has some problems in that area. The *timeliness* of EFS is assessed in general as 'good', but some users call for monthly statistics.

*Coherence and comparability* are assessed positively. Nevertheless, some regular users said that countries have different approaches to landing statistics (e.g. how to assess unit values of landed products) and some discrepancies were highlighted in species reporting between catch and landing statistics. In aquaculture, unit values are not fully comparable between plants and countries, as the Regulation requires that they be reported at first sale without any further details on the degree of processing (some plants sell their products unprocessed and others as highly processed). Another factor affecting the comparability of aquaculture statistics is linked to Eurostat's various attempts to tackle the confidentiality issue: the *ad hoc* aggregation of species, production methods and production environments has made it difficult to compare between countries.

*Accessibility and clarity* of catch, landing and fleet statistics are considered in general 'good' and regular users said they had improved in recent years. However, the accessibility of aquaculture statistics poses problems: for half the countries, the highly detailed split of variables and cross-tabulation combined with the specialised structure of the sector give rise to a lot of confidential values. As a result, Eurostat can provide hardly any EU aggregates for aquaculture. Quality problems and a lack of resources mean that the 'structure of aquaculture' dataset is currently not published.

Users appreciate the availability of metadata, but rarely consult them. They do not always find it easy to navigate in and download from Eurostat's online database.

### *EQ 3.2: How do European Fishery Statistics compare with other sources producing fisheries statistics?*

EFS catch statistics were compared with the two Commission data sources used for CFP management (Control Regulation and DCF data) and FAO catch statistics (Table 4).

EFS' strong points are the long time-series and their timeliness. A clear weakness is the fact that not all catches by EU/EFTA vessels are covered. A large majority of users rate EFS as being as good as, or better than, other datasets (mainly DCF and FAO data; some users can also access Control Regulation data). In particular, they are more timely and the metadata are more available.

**Table 4. Comparison of data sources for catches**

| Dimension | EFS | Control Regulation data | DCF | FAO |
|---|---|---|---|---|
| **Term used** | Catch | Catch | Landings | Production |
| **Main purpose** | Provide official European statistics, support EU policies, comparability between MS, market monitoring | Monitor TAC uptake | Facilitate scientific analysis | Provide global overview and support ocean management |
| **Responsible national institution** | NSIs<br>ONAs<br>Other | Fisheries directorates (FDs) | National coordinators (in FDs) / designated research institutes | NSIs<br>ONAs<br>Other |
| **Original data source** | Most countries use Control Regulation data<br>Some use sample surveys (fully for IT and EL, partially for other countries) | Fisheries control agencies | Most countries use Control Regulation data<br>Some use sample surveys (fully for IT and EL, partially for other countries) | Most countries use Control Regulation data<br>Some use sample surveys (fully for IT and EL, partially for other countries) |
| **Number of species (2016)** | 1,273 | 2,289 | 2,014 | 847 |
| **Geographical coverage** | 7 FAO sub-areas | All FAO sub-areas where catches by EU vessels occurred | All FAO fishing sub-areas where catches by EU vessels occurred<br>ICES rectangles in EU Atlantic waters | All FAO major fishing areas |
| **Periodicity** | Year<br>NW Atlantic: year & month | Month | Year and quarter | Year |
| **Time-series** | Since 1950 | Since 2009 | Since 2001 | Since 1950 |
| **Country coverage** | Non-land-locked EU/EFTA countries | Non-land-locked MS | Non-land-locked MS | All non-land-locked countries |
| **Other characteristics** | n.a. | Catches by stock | Catches per fleet segment (vessel length and gear | n.a. |

| Dimension | EFS | Control Regulation data | DCF | FAO |
|---|---|---|---|---|
| | | | groups) | |
| **Release delay** | 7-9 months | n.a. | 18 months | 15 months |
| **Accessibility** | Online queries<br>Downloads in various formats (xls, csv, html, pc-axis, spss, tsv, pdf) | Not publicly accessible | For most data: downloads in various formats, suitable for expert users | Online<br>Csv file<br>FishStatJ |

For aquaculture, the comparison is between EFS, DCF and FAO datasets (Table 5). EFS and FAO statistics are published annually and DCF statistics only every second year. EFS are slightly timelier than FAO statistics.

**Table 5. Comparison of data sources for aquaculture**

| Dimension | EFS | DCF | FAO |
|---|---|---|---|
| **Responsible national institution** | NSIs<br>ONAs<br>Other | National coordinators (in FDs) / designated research institutes | NSIs<br>ONAs<br>Other |
| **Data produced through** | Most MS: census | Sampling | Most MS: census |
| **Unit** | Tonne LWE<br>Total value (€)<br>Unit value (€/t) | Tonne LWE<br>Total value (€)<br>Unit value (€/kg) | Tonne LWE<br>Total value (USD)<br>Unit value (USD/t) |
| **Environment** | Freshwater<br>Sea and brackish water (total)<br>Seawater<br>Brackish water<br>Not specified | Salt water<br>Fresh water (voluntary, not complete) | Fresh water<br>Brackish water<br>Marine water |
| **Methods** | All methods<br>Ponds<br>Tanks and raceways<br>Enclosures and pens<br>Cages<br>Recirculation systems<br>On bottom<br>Off bottom<br>Other methods<br>Not specified | All methods<br>Bottom<br>Cages<br>Combined<br>Hatcheries & nurseries<br>Longline<br>Ongrowing<br>Raft<br>Other | Not distinguished |
| **Geographical coverage** | Total fishing areas<br>Inland waters – total<br>Inland waters – Africa[29]<br>Inland waters – Asia[30]<br>Inland waters – Europe | n.a. | All FAO major fishing areas |

[29] Small production declared by Spain.
[30] Small production declared by Cyprus until 2010.

| Dimension | EFS | DCF | FAO |
|---|---|---|---|
| | Marine areas:<br>Atlantic, North-East<br>Atlantic, Eastern Central<br>Mediterranean and Black Sea<br>Area not specified | | |
| **Other dimensions** | Fish eggs for human consumption<br>Production from hatcheries and nurseries by lifecycle<br>Catches from wild<br>Structural information | Large number of socio-economic data | |
| **Reference period** | Year | Year | Year |
| **Time-series** | Volume since 1950<br>Value since 1984 | Since 2008 | Since 1950 |
| **Country coverage** | All MS (except LU), EFTA countries | Relevant MS (landlocked MS not obliged to submit data) | All countries |
| **Regularity** | Annual | Every 2 years | Annual |
| **Release delay** | 14 months | 24-36 months[31] | 18 months |
| **Accessibility** | Online queries<br>Downloads in various formats (xls, csv, html, pc-axis, spss, tsv, pdf) | For most data: downloads in various formats, suitable for expert users | Online<br>Csv file<br>FishStatJ |

Several users said that the FAO's database is more user-friendly than Eurostat's.

### 5.4. Efficiency

The evaluation of efficiency considers the relationship between the resources used for an intervention and the changes generated. The efficiency EQs cover two dimensions:

- Are the benefits worth the costs? This focuses on cost-effectiveness, by evaluating the staff and time resources required to provide datasets in line with EFS requirements; and
- Could the same benefits be achieved at lower cost through different implementation choices? This evaluates ways of improving efficiency by simplifying the regulations and/or streamlining the statistical system.

***EQ 4.1: To what extent is data collection cost effective?***

The evaluation identified many benefits of EFS. However, as the impacts of statistics are mostly indirect (in providing an evidence base for policymaking), the benefits cannot be

[31] An Excel file with 2013-2014 data was released in December 2016. No update was released until mid-April 2019.

readily quantified. They are described in detail under other criteria, but in summary we can say that EFS are:

- ✓ independent;
- ✓ based on statistical quality principles;
- ✓ comparable for the EU Member States and the EFTA countries;
- ✓ available as long time-series at EU and country level; and
- ✓ available for free in a public database.

The specific cost of EFS is made up of national and EU-level costs. The overall cost is estimated in monetary value and burden in time spent, which has also been converted into an average monetary value.

The total annual cost of producing EFS in the Member States was estimated at €1.5 million. The costs are much higher in Mediterranean countries where the small-scale fishing fleet (<10 m vessels) accounts for a significant proportion of production (Greece, Italy, Cyprus, Malta and, to some extent, Croatia) than in countries with more larger vessels. This is due to two factors which entail higher costs:

- the number of species to be reported to DCF for stock assessment is limited in the Mediterranean; and
- the fact that the Control Regulation does not require smaller vessels to keep logbooks.

The cost for the Commission, based on the number of full-time equivalents (FTEs) dealing with EFS, is around €200,000 a year.

Therefore, the total annual cost of producing EFS is about €1.7 million[32]. This represents only 0.01% of the total production value of the EU's fisheries and aquaculture sectors (€7.2 billion for landings + €4.5 billion for aquaculture production = €11.7 billion[33]).

The reason for this comparatively very low cost is the widespread use of available administrative data as source data. These 'raw data' are not specifically collected for EFS, but have to be collected under the Control Regulation for catches and landings and under the Fleet Regulation for fishing fleet. This is in line with the 'single collection, multiple use' principle, which applies to fleet statistics in particular: Member States report changes in their fishing fleet to the EU fishing fleet register only and Eurostat compiles fleet statistics directly from there, without involving the Member States further. For aquaculture statistics, most Member States carry out joint EFS/DCF data collections, which reduces costs significantly.

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[32] The cost/benefit analysis is summarised in Annex 6.

[33] 2017 EFS for landings, with estimates for Denmark, Greece and Malta; 2016 EFS for aquaculture production, with estimates for Italy and Hungary.

Aquaculture statistics are collected from questionnaires sent to all or most facility managers/owners. It is estimated[34] that completing the joint questionnaire for EFS/DCF data collection takes about 3 hours. Given the size of the sector and the work involved, the overall cost is less than €200,000, which is negligible against the economic value of the sector. In order to reduce the burden, countries have made the questionnaires more user-friendly and made it possible to report data online.

***EQ 4.2: What are the possibilities of simplification of current legislation and/or streamlining statistical systems?***

Although the cost-effectiveness of EFS is very good, it could be improved by simplifying the legislation and streamlining the statistical system as part of the overall fisheries data ecosystem in the Commission and globally.

Most of the EFS regulations are recasts of older regulations and would benefit from overall harmonisation and updating. This could take account of new user needs and issues identified in the evaluation.

The aquaculture legislation requires too much detail for variables. This leads to high costs and a significant number of confidential values, which rules out the calculation of most EU aggregates and is a major inefficiency.

The evaluation also indicated a need to simplify metadata reporting for aquaculture. Although the methods and quality are relatively stable, the current Regulation requires this reporting on an annual basis. The EFS producers perceive this as burdensome and the IT tool for metadata reporting as not user-friendly.

The evaluation uncovered an important source of inefficiency in fisheries data systems at the EU and global levels. Each country has to report overlapping, slightly different datasets to several organisations: Eurostat, DG MARE, FAO, OECD, ICES, RMFOs, etc. (see Annex 4, sections A, B and C). With few exceptions, countries use the same data sources for all datasets, which is very efficient on their side. However, the raw data need to be classified, aggregated, validated and transferred in accordance with different rules under different data calls. This can be burdensome, lead to discrepancies between datasets and thus create confusion for users. EFS producers and users call for standardisation and more cooperation between organisations. The evaluation points to a need for the Commission (Eurostat) to deliver EFS, on behalf of the EU/EFTA countries, at least to the other organisations collecting fisheries statistics (FAO and OECD).

### 5.5. Coherence

The assessment of coherence looks at how well different actions work together. The EQs address:

- internal coherence – this refers to the degree to which the EFS legal acts complement, contradict, overlap or duplicate each other and how that affects the

[34] Source: national metadata reports for aquaculture statistics.

coherence of statistics. It also looks into how EFS relate to other European statistics in this respect; and

- external coherence – this refers to the interaction between EFS and other fisheries statistics (e.g. FAO, DCF, Control Regulation data), including areas of contradiction, overlap, duplication or complementarity. It also explores stakeholders' experiences and perceptions in providing statistics and accessing EU and international fisheries statistical databases.

***EQ 5.1: To what extent are European Fishery Statistics internally coherent?***

The *internal coherence* of the EFS legal acts was assessed as 'relatively good'. It is easy to compare catches with landings and link them to fleets. All regulations use the same species codes and are based on FAO fishing areas. However, the coherence of catch statistics could be improved by merging the three regulations on catches.

The evaluation found that internal coherence has improved in recent years. As a coordinating body of the ESS, Eurostat has a close and constructive relationship with countries (in particular through regular communication and annual meetings with national experts). This enables it to guide and support them and to share best practices. One undeniable benefit of this contact is more comparable EFS.

The other European statistics linked to fisheries concern trade (COMEXT), production (PRODCOM), business (structural business statistics), the labour force (FFS) and organic aquaculture statistics. In terms of content, these statistics complement EFS, but the level of detail is not compatible, e.g. the trade and production statistics are not broken down by catches and aquaculture or by species. Therefore, these domains offer a less-than-ideal basis for detailed analysis of, for example, all economic activities relating to oceans, seas and coastal areas (the 'blue economy').

By way of exception, the 'organic production of aquaculture products' dataset *is* compatible with EFS on aquaculture. The fish species code list is shared, but contains fewer species, and for most countries the figures are coherent. In some cases where the statistics are provided by different organisations, there are discrepancies between total aquaculture production and organic production (probably due to mistakes in species codification).

The coherence between European statistics linked to the fisheries sector could be improved by taking into consideration the needs of the CFP and the blue economy in their further development.

***EQ 5.2: Are European Fishery Statistics coherent with other available data sources (external coherence)?***

The 2007 and 2017 ECA audits revealed discrepancies between the EFS and the Control Regulation data used by DG MARE for managing the CFP. The audits pointed to a longstanding 'structural problem' in the fisheries data system, which has not been

resolved despite the Commission's efforts (including the adoption of the current EFS regulations for catch statistics in 2009).

In 2017, the ECA recommended[35] that:

> *'the Commission establishes an information exchange platform to be used by the Member States to send validated data in standard formats and contents, so that the information available to the different Commission services matches with the Member States data.'*

The Commission (Eurostat) regularly checks coherence and, in the event of discrepancies, contacts the countries concerned and asks for data revisions.

In order to evaluate external coherence, the evaluation looked closely at the EFS, Control Regulation data, DCF EU fleet landings data[36] and FAO statistics. They were first analysed from a design point of view (e.g. purpose, coverage, data sources, etc.) under EQ 1.2. Under EQ 5.2, a more detailed comparison was carried out (see Table 6 and, for more detail, Annex 7).

**Table 6. Total catches, 2016 (in FAO fishing areas covered by EFS)**

| | EFS | Control Regulation | DCF | FAO |
|---|---|---|---|---|
| Total catches | 5,014,961 t | 4,870,578 t | 4,917,135 t | 5,074,461 t |
| Difference in value (EFS - source) | - | €144,383 | €97,826 | -€59,500 |
| Difference in % (EFS - source) | - | +2.9% | +2.0% | -1.2% |

There were significant discrepancies between EFS and Control Regulation data for a number of Member States, although at EU level they are relatively small. EFS showed a total catch 2.9% higher than the Control Regulation data. Most of the difference stems from Greek (+34%) and Italian (+42%) data. Those two countries' fishing fleets are composed of a large number of small vessels. As such vessels do not normally have detailed logbooks, statistical surveys are organised. The overall difference between EFS and Control Regulation data has decreased over time.

The difference between EFS and DCF total catch data is 2%, with the EFS figure again higher. EFS figures are 1.2% lower than the FAO figures. The coherence between EFS and FAO statistics is deemed relatively good, although some values diverge due to different revision policies and discrepancies in individual species. The main difference concerns completeness: unlike Eurostat, FAO estimates missing/confidential data.

The following factors explain the differences between the analysed datasets:

[35] ECA special report 8/2017 (*EU fisheries controls: more efforts needed*).
[36] https://stecf.jrc.ec.europa.eu/dd/fleet

- different methods – nominal catches estimated from weighed landings and sales notes (EFS) versus estimated catches on board in logbooks (Control Regulation);
- differences in statistical population;
- composition of fishing fleet (the greater the proportion of small vessels, the bigger the discrepancies);
- different national organisations submitting the data;
- different transmission deadlines;
- reporting of species – species vs genus, systematic species classification errors, unsynchronised implementation of species code list changes;
- different validation procedures; and
- different data revision policies.

Another matter of concern with regard to external coherence relates to procedures, definitions, classifications and other related documentation. For many years, the Coordinating Working Party on Fishery Statistics (CWP), managed by FAO, has served as the primary international forum for agreeing on common definitions, classifications and standards for the collection of fisheries statistics. It has developed common procedures to streamline processes, provided participating organisations with technical advice and published methodological and reference documents. However, not all fisheries data sources rely on this framework; because of the different status of data collections, e.g. Control Regulation and DCF[37] data collections are not statistical processes and are not fully in line with the CWP recommendations.

Inconsistencies in the various Commission and Member State fisheries datasets may pose risks for CFP management and the Commission's credibility and reputation. Member States' multiple obligations to report to the Commission, FAO and other international organisations lead to statistical discrepancies, in addition to an unnecessary burden.

### 5.6. EU added value

EU added value is defined as the value resulting from applying policy measures at EU level that is additional to the value that would have resulted from public authorities applying similar measures solely at national level.

The main objective of EFS is to support the CFP, which is a common EU policy designed to manage a common resource. The CFP gives all European fishing fleets equal access to EU waters and fishing grounds and allows fishermen to compete fairly[38]. It is therefore logical also to design and use statistics on these matters at EU level.

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[37] The DCF data validation and quality requirements serve a different purpose and are thus not as broad and systematic as those for EFS; see 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 (OJ L 260, 27.9.2016, p. 153).

[38] https://ec.europa.eu/fisheries/cfp_en

The EU added value of EFS was assessed using EQs on:

- the added value resulting from EFS as EU-level statistics; and
- the consequences of discontinuing EFS.

***EQ 6.1: What is the added value resulting from the European Fisheries statistics, compared to what could be achieved by Member States at national and/or regional level without any EU action?***

Users see EFS as bringing significant added value as compared with action at national level. Evidence from all sources confirmed that a common policy requires common statistics: harmonised, comparable statistics are an essential basis for supporting the CFP and cannot be achieved without EU-level action. The EU added value of EFS is not only in the statistics themselves, but also in the EFS legal acts with which countries must comply. The added value generated by the obligation to comply stems from the complete chain from common (CFP and international) user needs, definitions and requirements, through the coordinated compilation and transmission of statistics in accordance with shared quality criteria and a validation framework, to compliance monitoring. As a result, the whole user community has access to EFS covering the EU/EFTA countries.

The public availability of long, comparable time-series in a consolidated free-of charge database accompanied by harmonised metadata could not be achieved by individual countries acting alone. The use of separate national sources would be much more cumbersome and hampered by language barriers.

EFS also create complementary added value when compared with other types of fisheries data/statistics. The following characteristics of EFS were identified as adding specific value in this respect:

- ✓ the independence of the statistical information – institutional users consider this to be fundamental to credible policy evaluation and analysis;
- ✓ the role of the ESS and Eurostat (as coordinating body) as guardians of statistical principles – this ensures application of the statistical code of practice, harmonisation of definitions and statistics, and updating of statistical laws;
- ✓ enforcement of ESS statistical quality principles through Eurostat validation and quality reporting – users value these principles highly and other institutions working with fisheries data use them as a reference; and
- ✓ Eurostat's partnerships with other international statistical bodies – these ensure that EFS are in line with the CWP's global statistical standards and create potential for further improvement of fisheries statistics worldwide.

***EQ 6.2: What would be the most likely consequences of stopping or withdrawing the European fisheries statistics?***

The major consequence of discontinuing EFS would be the loss of quality-reviewed independent statistics for the monitoring and further development of the CFP, one of only two common EU policies. This would create a reputational risk for the Commission and

in particular for the ESS and Eurostat. Eurostat is responsible for decisions on statistical methods, standards and procedures to be used for European statistics, in accordance with Regulation (EC) No 223/2009. Moreover, the Commission Decision on Eurostat[39] requires its Director-General to act independently when carrying out statistical tasks, neither seeking nor taking instructions from the Union institutions or bodies, any Member State government or any other institution, body, office or entity.

Institutional data users such as DG MARE (in particular EUMOFA), FAO, OECD, ICES and the RFMOs (ICCAT, NAFO and NEAFC) would need to find alternative data sources. This would probably have a negative impact on market monitoring, the development and monitoring of the CFP, and the international monitoring of fisheries. The users responsible for over 24,000 data downloads would also need to source statistics from elsewhere. If they were to use national sources, they would bear the burden and cost of gathering the statistics necessary for calculating EU aggregates. The outcome would be of lower quality, as the coordination, harmonisation and quality assurance provided by the EFS regulations and the ESS would no longer be in place.

The other Commission services, mainly DG MARE and JRC, would be under pressure to publish more data on fisheries in a more accessible and user-friendly way.

The EU and EFTA countries would have to continue submitting fisheries statistics to FAO and the OECD. The use of FAO and OECD statistics would probably increase.

The Commission (Eurostat) would no longer contribute to the development of international fisheries statistics standards in the CWP. For the CWP, this would represent a loss of expertise and, for Eurostat, a lost opportunity to develop further standards.

The savings in cost and burden would be small, as most of the source data would need to be collected in any case for other purposes. The estimated €1.7 million invested in EFS annually would be available for other statistical fields in the ESS.

## 6. CONCLUSIONS

This evaluation concerns the functioning of the five EFS regulations (three relating to catches, one to landings and one to aquaculture), which came into force in 2006-2009.

The main conclusion is that EFS collected under the regulations are an important independent source of information for a wide range of users serving several types of need linked to the CFP, market monitoring, international agreements and research.

However, their relative added value to DG MARE, which is responsible for managing the CFP, is on a downward trend, as other data sources, such as the Control Regulation and the DCF, meet management needs more effectively. In addition, EFS are handicapped by:

[39] Commission Decision 2012/504/EU of 17 September 2012 on Eurostat (OJ L 251, 18.9.2012, p. 49).

- partial coverage of EU catches;
- an unsatisfactory definition of 'landings'; and
- the fact that aquaculture statistics are to a large extent confidential due to the over-detailed cross-tabulation of statistical dimensions.

It is important that good quality fisheries statistics continue to be available at EU level, that they serve a wide range of user needs as well as possible and that they fit better into the Commission's overall fisheries data ecosystem. Currently, information sources overlap and are not always coherent.

### 6.1. Relevance

The EFS datasets have been downloaded approximately 24,000 times a year, which is a lot compared with other similar datasets. The number of downloads almost tripled from 2013 to 2017.

The evaluation indicated that national authorities, NGOs, national fisheries organisations, international organisations and research institutions have been the main user groups of EFS. The most common use is for national, EU or international fisheries policymaking, followed by research and commercial purposes, environment policy, blue economy policy, other policies and media use. There is evidence that EFS have been serving their core purpose in providing relevant statistics to monitor and evaluate fisheries policy and to inform policymaking in a wider context (in particular as regards the environment and the blue economy), market monitoring in the business sector, research purposes and media use.

The relevance of EFS varies between user groups, several of which prefer to use other (often scientific or administrative) data sources and sometimes other statistics. However, where users get statistics from sources other than Eurostat (e.g. NSIs or the FAO), these are actually provided pursuant to the EFS regulations. Thus, the relevance of the regulations goes beyond the direct use of downloads from Eurostat's online database.

Most users reported that EFS have met their needs at least to some extent. Aquaculture statistics recorded the highest proportion of dissatisfied users, which is probably linked to the fact that a large number of confidential values in the dataset severely restricts its usability.

It is important to keep in mind the Commission-level fisheries-related information ecosystem of which EFS form part. EFS are not only interlinked with, but to a great extent also based on, other (Control Regulation and DCF) data collected in the context of the CFP.

There are indications that the EFS have become less relevant vis-à-vis their overall objective, as the development, monitoring and evaluation of the CFP require more and more data and information, in particular since the 2013 reform. New goals have been set as regards the sustainable use of marine resources and the ecosystem approach. In parallel, other data sources (mostly electronic logbooks and vessel tracking systems)

have been developed to allow close-to-real-time data submission under the Control Regulation. Targeted data calls under the DCF have become the primary source of information for the CFP.

The main role of EFS in this changing data ecosystem is to provide validated and reliable European statistics on fisheries at aggregated level. They show major trends and thus serve as an official reference point for other data collections. They are not designed to meet short-term administrative needs, policy enforcement needs or scientific needs on biological and social aspects of fisheries.

The evaluation points to a need for the Commission to have a clear strategy to determine the role of EFS in the overall fisheries data architecture and to create as many synergies as possible between the various data collections.

### 6.2. Effectiveness

The EFS regulations have been crucial for the availability and quality of statistics. They stipulate the variables to be provided, main definitions to be used, the reporting system, submission and assessment procedures, deadlines and geographical coverage. In addition, they ensure quality control mechanisms and the availability of metadata.

Compliance with the regulations is a direct determinant of their effectiveness. In recent years, Eurostat's compliance monitoring system and countries' reaction speed have both improved.

The evaluation reveals that DG MARE's use of EFS for CFP development, monitoring and evaluation is limited, as more detailed, timelier and better-suited data sources are available (Control Regulation and DCF data). However, EFS are used intensively for EUMOFA market monitoring.

EFS are an important source of information for FAO, OECD and ICES, which confirms that they meet international reporting obligations. The RFMOs (ICCAT, NAFO and NEAFC) use European catch and fleet statistics for validation purposes and for country-level breakdowns (DG MARE reports EU aggregates).

National fisheries statistics are preferred at national level, as they are often more detailed and broader in scope. National users use EFS when making international comparisons.

Public interest in fisheries statistics has increased recently, as the sustainability of the fishing sector and marine ecosystems have come into the spotlight. This might be one of the factors explaining the increase in the number of downloads of EFS.

In summary, we can say that the regulations are effective in the sense that EFS would not exist in their current form without a legal framework and the compliance enforced by Eurostat. Their effectiveness from the users' perspective is more mixed: they serve market monitoring relatively well and usefully complement DG MARE's aggregated reporting to the RFMOs, but they are not used to the extent expected for their main purpose, i.e. the development, monitoring and evaluation of the CFP.

### 6.3. Statistical quality

The quality of EFS is considered 'good', as is their *accuracy and reliability*. However, some case studies showed that pre-validation at Member State level might not be working efficiently and this has a negative impact on the statistics. The accuracy and reliability of EFS catches, landing and fleet statistics depend to a large extent on the quality of the administrative data sources (logbooks, landing declarations and sales notes, transhipment declarations, catch certificates, inspection reports), which are collected under the Control Regulation.

Many stakeholders value Eurostat's quality management and validation practices highly.

In general, EFS are published *punctually* and the *timeliness* is assessed in general as 'good'.

The *coherence and comparability* are assessed positively. In aquaculture, the unit values are not fully comparable between installations and countries, as the Regulation requires unit values to be reported at first sale without further details on the degree of processing.

In general, the *accessibility and clarity* of catch, landing and fleet statistics are considered 'good' and regular users reported that they have improved in recent years. The accessibility of aquaculture statistics poses problems: for half the countries, the highly detailed split of variables and their cross-tabulation combined with the very specialised structure of the sector give rise to a lot of confidential values. As a result, Eurostat can provide hardly any EU aggregates for aquaculture.

Users appreciate the availability of metadata, but rarely consult them. They do not always find it easy to navigate in and download from Eurostat's online database.

A large majority of users rate EFS as being as good as, or better than, other data sources for catches and aquaculture.

### 6.4. Efficiency

The total cost of producing EFS in the EU Member States was estimated at €1.5 million. The relative cost is up to 6 times higher in Mediterranean countries where small-scale fishing fleets (<10 m vessels) account for a significant proportion of production (Greece, Italy, Cyprus, Malta and, to some extent, Croatia). This is due to two factors:

- the number of species to be reported to DCF for stock assessment is very limited in the Mediterranean; and
- the fact that the Control Regulation does not require smaller vessels to keep logbooks.

The total cost of the EFS (about €1.7 million) represents only 0.01% of the total production value of the sector. This is very low compared, for example, with the cost of

the agricultural census[40], which alone is about 0.6% of the production value of the agriculture sector.

The reason behind the limited cost is the widespread use of the 'single collection, multiple use' principle: in most countries, catch and landing statistics are compiled from Control Regulation data, which are collected primarily for managing the CFP. Eurostat compiles fleet statistics directly from the EU fishing fleet register, without further involving the Member States. In most countries, the source data for the aquaculture statistics are collected jointly with data needed for the DCF.

Although the efficiency of EFS is very good, it could be improved further by:

- simplifying the EFS legislation; and
- streamlining the statistical system as a part of the overall fisheries data ecosystem at national level (in particular in countries currently carrying out separate statistical surveys for EFS), in the Commission and globally.

The current legislation on aquaculture requires too much detail for variables. This leads to:

- high costs, as some countries need a specific survey to collect the data; and
- a significant number of confidential values and a consequent inability to produce most EU aggregates; this is a major inefficiency.

The evaluation also indicated a need to simplify metadata reporting for aquaculture.

The evaluation highlighted an important source of inefficiency in EU and global fisheries data systems. Each country has to report overlapping, slightly different datasets to several organisations (Eurostat, DG MARE, FAO, OECD, ICES, RMFOs, etc.). Although the source data are the same in most cases, each organisation has slightly different classifications, aggregation rules, validation procedures and data transfer formats. This can be burdensome for the countries, but (more importantly) can lead to discrepancies between datasets and thus create confusion among users.

The evaluation points to a need for the Commission (Eurostat) to deliver EFS, on behalf of the EU/EFTA countries, at least to the other international organisations collecting fisheries statistics (FAO and OECD).

### 6.5. Coherence

The internal coherence of the EFS legal acts was assessed as 'good'. One can easily compare catches with landings and link them to fleets. All regulations use the same species codes and are based on FAO fishing areas.

[40] This is the backbone of European agricultural statistics; it is organised every 10 years and partly funded by the Commission.

The evaluation found that internal coherence has improved in recent years. As a coordinating body of the ESS, Eurostat has a close and constructive relationship with countries (in particular through regular communication and annual meetings with national experts). This enables it to guide and support them, and to share best practices. One undeniable benefit of this guidance is more comparable EFS.

The other European statistics linked to fisheries concern international trade, production, businesses and labour force working in the sector, and organic aquaculture statistics. The level of detail of these other sources is not always compatible with EFS, e.g. the trade and production statistics are not broken down by catches and aquaculture or by species. These domains complement each other but offer a less-than-ideal basis for detailed analysis, e.g. of the blue economy.

The ECA audits and the analysis carried out for this evaluation point to a longstanding structural problem in the fisheries data system, which has not been resolved despite the Commission's efforts (e.g. the 2009 adoption of EFS regulations on catch statistics). A lack of coherence in the Commission's various fisheries datasets continues to pose risks to CFP management and the Commission's credibility and reputation.

The coherence between EFS and FAO statistics is deemed relatively good, although some values differ due to different revision policies. The major difference concerns completeness: unlike EFS, FAO estimates missing/confidential data. Countries' multiple obligations to report to the Commission, FAO and other international organisations have led to discrepancies in fisheries statistics, in addition to an unnecessary burden.

### 6.6. EU added value

Evidence from all sources confirmed that a common policy requires common statistics. Harmonised, comparable EFS are an essential basis for supporting the CFP and cannot be achieved without EU-level action. The EU added value of EFS lies not only in the statistics themselves, but also in the EFS legal acts with which the countries must comply.

The public availability of long, comparable time-series in a consolidated free-of charge database accompanied by harmonised metadata could not be achieved by individual countries acting alone.

EFS also create complementary added value when compared with other types of fisheries data/statistics. The following characteristics of EFS were identified as adding specific value in this respect:

- ✓ the independence of statistical information – the institutional users consider this fundamental to credible policy evaluation and analysis;
- ✓ the role of the ESS and Eurostat, as the coordinating body, as guardians of statistical principles – this ensures the application of the European statistics code of practice, the harmonisation of definitions and statistics, and updating of statistical laws;

- ✓ enforcement of statistical quality principles of the ESS by Eurostat validation and quality reporting – users value these principles highly and other institutions working with fisheries data use them as a reference; and
- ✓ Eurostat's partnerships with other international statistical bodies – these ensure that EFS are in line with the CWP's global statistical standards and create potential for further improvement of fisheries statistics worldwide.

The discontinuation of EFS would represent a reputational risk for the Commission and in particular for the ESS and Eurostat, as they would not have independent baseline statistics to support the monitoring and further development of the CFP.

The institutional users and organisations/individuals responsible for around 24,000 downloads annually would need to source the statistics from elsewhere. The other Commission services, mainly DG MARE and JRC, would be under pressure to publish more data on fisheries in a more accessible and user-friendly way.

The EU and EFTA countries would need to continue submitting fisheries statistics to FAO and the OECD. The use of FAO and OECD statistics would probably increase.

The Commission (Eurostat) would no longer contribute to the development of international fisheries statistics standards in the CWP. For the CWP, this would represent a loss of expertise and, for Eurostat, a lost opportunity to develop further standards.

The savings in terms of cost and burden would be small, as most of the source data would need to be collected in any case, for other purposes. The estimated €1.7 million invested in EFS annually could become available for other statistical fields in the ESS.

## 7. LESSONS LEARNED

In the last decade, the amount of information needed to manage the CFP has grown exponentially, changing dramatically the overall framework in which EFS operate and their role in the fisheries data ecosystem. The reporting obligations under the Control Regulation have made available a wealth of information that is useful not only for monitoring quota uptake, but also as a building block for many other datasets, including EFS on catches and landings.

In the last decade, DG MARE designed the DCF where data are collected to support scientific advice and data for policy needs through specific data calls. For fisheries, this entails variables not collected by EFS (such as effort and gear). Socio-economic data are also collected, as general European statistics on production, businesses and labour linked to the fisheries sector do not provide the required level of detail.

The EFS regulations did not envisage the use of administrative data as source data, but rather the collection of data via sample surveys. This had a strong impact on their content. There are clear indications that EFS have become less relevant vis-à-vis their overall objective, both in the Commission and among external users. This is largely due

to the wealth of information available in the DCF and, for Commission users, also under the Control Regulation.

The three audits that compared DCF data and EFS statistics helped harmonise concepts and introduce more statistically sound practices in the DCF. One under-appreciated function of EFS is therefore to act as the indirect guardian of statistical soundness in scientific areas and policymaking.

Discrepancies still exist between data produced for different purposes (even if the raw data are the same), mainly due to timeliness, data revision policies, data collection arrangements and data sources.

The biggest lesson that has been learned is that, where data aggregates are collected for different purposes (even if they are based on the same raw data), lists of codes and species, and differences in implementation will inevitably lead to discrepancies and this can ultimately have an impact on political decisions.

Another important lesson is that fisheries in the Mediterranean are different from those in the Atlantic. The fleets are made up of smaller vessels and fewer administrative data are available. In addition, fewer stocks are covered by scientific advice, which also restricts the availability of quality administrative data for the production of statistics.

It would seem that the only way to avoid data collection duplications and discrepancies in published data would be a system in which data are collected only once and used for many purposes. That being the case, it is essential to determine which elements are common and which are specific, while at the same time ensuring homogeneous, complete coverage. It is also important to determine how the specific elements relate to the common ones, in order to ensure that the latter are re-used.

An important additional finding is that there are many EFS users, which means that the objective of reaching the general public is attained. This reinforces the role of independent statistics, as they can address general as well as policy needs.

Despite the well-known technical issues (confidentiality in aquaculture, EU vessels' landings in third countries and third country vessels' landings in EU ports), landings and aquaculture statistics are largely sufficient for market analysis and the needs of international organisations (FAO, OECD and ICES). In addition to the confidentiality issue, aquaculture statistics would need to be more timely to meet FAO requirements.

The evaluation confirmed the importance of EFS to many users. Their added value lies in:

- ✓ statistical practices, in particular quality assurance;
- ✓ the independence necessary for monitoring the CFP; and
- ✓ the efficiency stemming from the use of administrative data as the main data source.

The evaluation also highlighted that the current legal arrangements no longer meet the needs of the most important users. There is a need for:

- global coverage for catches;
- a vessel flag-country principle for landings; and
- total stocks for aquaculture, with fewer cross-tabulations to reduce the number of confidential values.

## ANNEX 1: PROCEDURAL INFORMATION

### 1. LEAD DG, DECIDE PLANNING/CWP REFERENCES

Lead DG: Eurostat

DECIDE planning: PLAN/2017/2358

### 2. ORGANISATION AND TIMING

An ISG made up of representatives of the following Commission Directorates-General and services with a policy interest in EFS followed and contributed to the evaluation:

- DG MARE
- DG ENV
- DG TRADE
- JRC
- Secretariat-General

The ISG met six times (25 June 2018 and 28 September, 28 January, 8 April, 20 May and 8 July 2019).

The evaluation started in July 2018. The roadmap was publicly available between 17 July and 14 August 2018. The consultation activities took place between October 2018 and April 2019, with the public consultation conducted from 18 January to 12 April 2019. The conclusions of the evaluation were approved in September 2019.

### 3. EXCEPTIONS TO THE 'BETTER REGULATION' GUIDELINES

No exceptions.

### 4. CONSULTATION OF THE RSB (IF APPLICABLE)

Not applicable.

### 5. EVIDENCE, SOURCES AND QUALITY

An external contractor (consortium led by Coffey International) assisted Eurostat in carrying out the evaluation tasks. The contract started in July 2018. The final deliverables were received on 31 August 2019.

Work on the external evaluation study included refining the intervention logic, drawing up the evaluation questions and helping to identify main stakeholders. It involved a large number of consultation activities (see Annex 2), desk research and data comparisons.

## ANNEX 2: STAKEHOLDER CONSULTATION

This annex provides detailed information on the consultation strategy and explains how the outcome of each consultation activity contributed to the evaluation.

The objectives of the consultation strategy were to:

- confirm the issues relating to EFS;
- gather factual information, data and knowledge about the use of EFS;
- elicit stakeholders' views and opinions on the extent to which the EFS legal acts have met, or are on track to meet, their different objectives; and
- elicit stakeholders' opinions on new needs and trends in fisheries and aquaculture statistics.

The evaluation began with an identification and classification of stakeholders. Specific consultation activities were then selected to cover different stakeholder groups. In each case, the general principles for consultation (participation, openness, accountability, effectiveness and coherence) were respected and the minimum standards met.

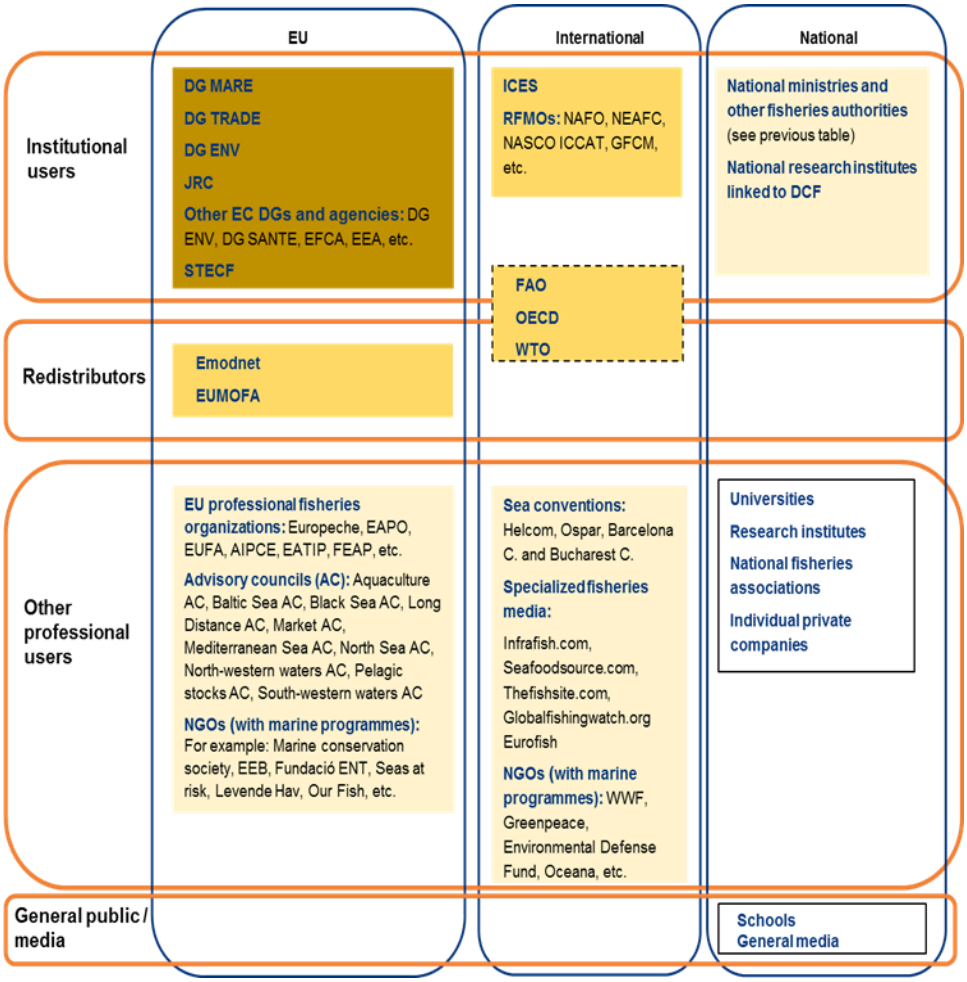
### 1. EFS STAKEHOLDERS

The EFS stakeholders were identified and grouped by interest and influence as follows:

- **institutional users** are directly involved in EU policymaking, i.e. actual policymakers at EU level and those supporting and contributing to policymaking at international and national levels. They include EU bodies, international organisations, national ministries, other fisheries authorities and national research institutes linked to the DCF. These users have the biggest influence on EFS and are thus the main focus of the evaluation;
- **redistributors** are users who depend on EFS. They create and publicly share products based on EFS. EMODnet and EUMOFA are identified as redistributors. FAO, OECD and WTO are both institutional users and redistributors;
- **other professional users** contribute occasionally and indirectly to EU policymaking or provide regular fisheries information. They include EU professional fisheries organisations, advisory councils, NGOs with marine programmes, sea conventions, specialised fisheries media, universities, research institutes, national fisheries organisations and private companies; and
- the **general public** (including schools) and **media** have a limited, often passing interest in fisheries statistics and very limited influence.

Figure 1 illustrates the typology of EFS stakeholders based on geographical coverage (EU, international and national) and the above categories. Their knowledge and insights were crucial to achieving the goals of the evaluation.

**Figure 1. Typology of EFS stakeholders**




The organisations consulted in the stakeholder interviews were as follows:

**Redistributors**

- FAO, Fisheries and Aquaculture Information and Statistics Branch (FIAS);
- OECD, Economic Cooperation and Development, Trade and Agriculture Directorate, Natural Resources Policy Division, Fisheries;
- EMODnet; and
- Eurofish.

**Regular professional users**

- DG MARE;
- EUMOFA (under DG MARE);
- JRC;
- DG TRADE;
- European Environment Agency (EEA);

- ICES;
- General Fisheries Commission for the Mediterranean (GFCM);
- ICCAT;
- NAFO;
- NASCO; and
- NEAFC.

Only one of the planned interviews was not carried out (WTO), as the interviewees were unavailable.

## 2. CONSULTATION ACTIVITIES

The selection of the most appropriate consultation activities considered proportionality (the degree of involvement required of the stakeholders), accessibility of the activity and timing requirements in the context of the evaluation. Six activities were undertaken to collect the necessary information (see Figure 2).

**Figure 2. Consultation activities**

Table 1 shows the participation of the stakeholder groups by consultation activity (excluding the desk research, which did not involve stakeholders directly).

**Table 1. Consultation activities by stakeholder group**

| Consultation activity | Institutional users | Redistributors | Other professional users | General public |
|---|---|---|---|---|
| Workshop with Member States | x | x | | |
| In-depth interviews | x | x | | |
| Online survey | x | x | x | |

| | | | | |
|---|---|---|---|---|
| Public consultation | x | x | x | x |
| Case studies | x | | x | |

The following applied for each consultation activity involving stakeholders:

- ✓ guidelines for the in-depth interviews, case studies and the workshop with Member States, and questionnaires for the online survey and public consultation were clear and concise, and included all necessary information;
- ✓ all relevant stakeholders were given an opportunity to express their opinion;
- ✓ participants in the in-depth interviews and case studies were met individually (or by organisation), a workshop with Member States was conducted personally with Member State experts, targeted stakeholders were invited by e-mail to complete the online survey, adequate awareness-raising publicity was ensured, and communication channels were adapted to the public consultation;
- ✓ participants were given sufficient time to respond; and
- ✓ acknowledgement and adequate feedback was provided.

## 3. IMPLEMENTATION

The first major consultation activity was a **workshop with Member State experts**, which was held back to back with a meeting of the Fisheries Statistics Working Group on 24-25 October 2018. It focused on the strengths and weaknesses of the current EFS and the future opportunities and threats from the point of view of national statistics providers (NSIs and ONAs). FAO, OECD and ICES also took part. The workshop took place over the course of two sessions on two days, including plenary discussions and small group sessions. The discussion of a particular group of questions, comparing and contrasting between the countries represented in a given group allowed every country's expert to express opinions and ideas. At the end of the workshop, key take-away points were shared and discussed between the participants.

The **in-depth interviews** with key stakeholders aimed to establish how and why they (do not) use EFS, which needs were not covered and suggestions for improvement. As Eurostat's strategic objective is to provide statistics for policymaking, in-depth interviews targeted policymakers and direct contributors to the CFP, e.g. DG MARE, DG SANTE, FAO, OECD, Eurofish and ICES. In total, 16 interviews were conducted with representatives of EU and international institutional users and redistributors (see Table 2). All interviewees were from different organisations, which contributed to a diversity of views. The interviews were conducted over the phone or the internet, and each lasted about an hour. They were based on pre-prepared guides, which allowed for a semi-structured approach involving a mix of prepared questions and spontaneous queries depending on interviewees' answers and expertise. Unfortunately, WTO interviewees were unavailable..

**Table 2. Stakeholders selected for in-depth interviews**

| Stakeholders | |
|---|---|
| **FAO** | Fisheries and Aquaculture Information and Statistics Branch (FIAS) |
| **OECD** | Economic Cooperation and Development, Trade and Agriculture Directorate, Natural Resources Policy Division, Fisheries |
| **EMODnet** | European Marine Observation and Data Network |
| **EUMOFA** | European Market Observatory for fisheries and aquaculture |
| **Eurofish** | International Organisation for the Development of Fisheries and Aquaculture in Europe |
| **ICES** | International Council for the Exploration of the Sea |
| **GFCM** | General Fisheries Commission for the Mediterranean |
| **NAFO** | Northwest Atlantic Fisheries Organisation |
| **NEAFC** | North East Atlantic Fisheries Commission |
| **ICCAT** | International Commission for the Conservation of Atlantic Tunas |
| **DG MARE** | Directorate-General for Maritime Affairs and Fisheries |
| **STECF** | EC Scientific, Technical and Economic Committee for Fisheries |
| **JRC** | Joint Research Centre |
| **DG TRADE** | Directorate-General for Trade |
| **WTO** | Not reached |
| **EEA** | European Environment Agency |

The general objectives of the **case studies** were to:

- provide an overview on data collection approaches;
- analyse them in a more detailed manner; and
- understand how collaboration works in Member States on the collection and use of different fisheries-related data.

Country case studies were conducted in Denmark, Greece, France, Ireland, Italy and Poland. They were complemented by a horizontal case study on aquaculture, involving several countries. The case studies relied on desk research and semi-structured interviews with the main statistics-producing and -using organisations involved in EFS (five to nine interviews in each country).

The following factors were taken into account when selecting Member States for case studies:

- size of fishing fleet;

- diversity of means of production;
- geographical representativeness (in general and by sea basin);
- administrative organisation; and
- specific issues relating to fisheries statistics.

Information was gathered in each of the Member States concerned and supplemented with interviews with stakeholders in Germany. See Table 3 for an overview of the topics.

**Table 3. Overview of topics for case studies**

| Producers of statistics | Users of statistics |
|---|---|
| Organisation of data collection in Member States and organisations involved | Dataset used (frequency of use, usefulness of level of detail of EFS) |
| Administrative burden: FTEs involved in data collection and submission in different administrations | View on quality of statistics (reliability, completeness, timeliness, etc.) |
| Total costs: staff costs (FTEs converted into euros) and other specific costs, e.g. for development of software tools or outsourcing of data collection | Possible improvements of EFS |
| Difficulties encountered in collecting data | |
| Issues relating to inconsistent requirements (different regulations/institutions) | |
| Possible improvements of EFS | |

This information was gathered for each type of data (catch, landings, aquaculture and fleet).

The **online survey** targeted experts, who were asked to fill in an online questionnaire with general and specific questions on EFS. It was open from 13 December 2018 to 28 January 2019. Eurostat and other involved DGs promoted it via expert networks and it was circulated to a contact list of 353 institutional users, redistributors and 'other professional users'. A total of 132 EFS users and/or producers responded. There were 142 questions, of which each respondent was asked to answer at most 82. The questionnaire was sent by e-mail, with an accompanying cover text explaining its purpose and how the results would be used. The initial e-mail asked experts to respond with their written contribution to the structured questionnaire within 4 weeks.

The **public consultation** was open from 18 January to 12 April 2019. The aim was to gather information on respondents' professional and personal experience of EFS, thus complementing the other consultation activities. A questionnaire was addressed to private individuals and professional EFS users, producers and other stakeholders. It sought to cover the stakeholder groups who were less targeted by other consultation activities, e.g. national, regional and local occasional professional users, the general public and the

media. The public consultation was based on a single questionnaire addressing all evaluation criteria, but with routing that allowed for tailored consultation of EFS users and producers. The questionnaire had a total of 38 questions, but each respondent had to answer at most 23. It was produced in English and later translated into French, German, Italian and Spanish. It was implemented though EU Survey, the Commission website dedicated to public consultations.

**Desk research** accompanied each consultation activity. It covered the legal acts, analysis of background documents and a comparison of EFS with other data sources (e.g. DG MARE, FAO).

# 4. FINDINGS

## 4.1 Workshop

The workshop participants carried out a SWOT analysis[41] on EFS.

**Data sources and methods – strengths**

- ✓ Administrative data: most fisheries data are collected this way. The collections are legal obligations for all and continuously maintained. They are often not owned by NSIs, but by ministries or agencies. The data can be the basis of surveys. Examples are logbooks (very detailed and the basis of many fisheries data collections) and landing declarations.
- ✓ Census: conducted for aquaculture in most Member States, as the sector is not large in many countries. The response rate is usually high.
- ✓ 'Single collection, multiple use' is in principle possible. The owner of the administrative data can control the data for everyone to use.

**Data sources and methods – weaknesses**

- × Access problems: in the Member States, there are many problems when it comes to accessing and influencing administrative data collections and their owners; this is despite many agreements and clear rules, e.g. in Regulation (EC) No 223/2009.
- × Different actors: frequently, different institutions (e.g. fisheries agencies or ministries and NSIs) collect and transmit fisheries data and statistics. This can lead to various transaction and overlap problems.
- × Data differences: different thresholds in different data collections or different data availability for small- and large-scale fisheries makes data incomparable and can be a problem for economic estimation, for example.
- × Data availability: it can be difficult to collect sales notes from foreign ports or information on small-scale producers, for example. If there are only a few producers and they do not respond, this is also problematic.

[41] SWOT analysis is a useful technique for identifying and analysing current strengths and weaknesses, and future opportunities and threats.

- ✗ Large surveys: these are sometimes necessary to get a full picture of a sector, but they can be costly.

**Cost, burden and efficiency – strengths**

- ✓ Administrative data reduce costs and burden, because they often already exist and are collected by actors other than NSIs.
- ✓ Re-use possible: EFS are relevant to national needs in some Member States.
- ✓ Good cooperation between institutions can help to reduce costs.
- ✓ Proportionate costs: the benefits of EFS seem to outweigh the costs; there are not many complaints from data providers.

**Cost, burden and efficiency – weaknesses**

- ✗ Double data collection (due to different mandates, goals, etc.) is burdensome.
- ✗ Too many, too few or unneeded data – there is overcoverage for aquaculture, but undercoverage for catch and landings, and sometimes different details are needed.
- ✗ Poor cooperation between institutions in some Member States increases costs.
- ✗ Asymmetrical burden for small- and large-scale fisheries.
- ✗ Costs and burden of data collection and treatment: a census can be expensive, especially for small countries; quality and methodology reports, etc. are burdensome; ad hoc measures due to confidentiality problems can also be costly.
- ✗ Resource problems: not enough personnel; not much interest in funding data collection in a small sector such as aquaculture.
- ✗ Unknown costs: the ESS Resource Directors Group is developing indicators to improve the measurement of the costs of statistics.

**Quality of statistics – strengths**

- ✓ Useful metadata and reports: the quality and methodological reports, metadata, etc. are seen as useful.

**Quality of statistics – weaknesses**

- ✗ Administrative data owners care less for quality: they often do not know enough about data quality and do not produce quality reports or adhere to the European statistics code of practice; consequently, there can also be problems with the data they send directly to DG MARE.
- ✗ Difficulty in ensuring data quality: some fish species and prices are hard to determine exactly; small vessels have difficulty reporting their exact location and detailed FAO area; it is hard to validate or check administrative data; the non-significant flag can lead to underestimation.
- ✗ Non-comparable data: discrepancies between catch species and landings species.

- Lack of consistency in the rules: the data quality rules should be more consistent, as they change too often.
- Problems with confidentiality due to over-detailed breakdowns, sometimes even for non-significant species, or due to too few producers.

**Probing questions**

***Who are the users of EFS?***

The workshop participants listed the following EFS users:

- policymakers, e.g. national and regional ministries and agencies, researchers and universities, international organisations such as FAO;
- countries often seem to use DG MARE/STECF data for their national needs instead of Eurostat statistics; landings statistics may be used to calculate country shares for DG MARE reports;
- commercial fisheries organisations;
- media;
- national sporting organisations (e.g. trout prices); and
- general public.

Several countries monitor their websites and databases – there are not usually many clicks on or downloads of fisheries data. Some countries do not have a full picture of fisheries data users and their needs.

***What would happen without EFS?***

The participants could not readily give answers to this hypothetical question.

***What are proposals for good practice?***

The participants made several suggestions for good practice in fisheries statistics:

- administrative data owners should be urged to adhere to statistical quality measures such as the European statistics code of practice before the data are used further, but they resist this idea;
- Eurostat, DG MARE, FAO, etc. should agree to collect data only once in a harmonised manner (e.g. as regards definitions and reporting requirements), so they do not need to be sent twice. The data should undergo statistical treatment. FAO should receive regular EU/EFTA data from Eurostat;
- to increase response rates, available measures or incentives (such as subsidies) for response could be investigated; and
- to prevent confidentiality problems, some data may not need to be shown at national level.

**European aquaculture statistics – opportunities**

***Confidentiality***

- There should be less disaggregation and fewer breakdowns, e.g. by species, production method and type of water, as not all combinations may really be needed.
- Only the 15-20 most important species or species groups could be covered.
- The confidentiality flag should be removed from aggregates where individual values cannot be deduced.

***Data collection***

- Collection should be proportional to the limited economic importance of the aquaculture sector, but annual data collections should probably be maintained. Eurostat should determine user needs and determine data collection accordingly.
- There should be more coherence and harmonisation of definitions, deadlines, codes and reporting requirements with FAO, the DCF, national requirements, etc. to reduce double reporting, but the single data flow should undergo statistical treatment.
- Thresholds should be revised and frequency, coverage, etc. relaxed. Some countries and sectors should be exempt from data collection, e.g. if they do not have capture-based aquaculture, but producers below the threshold should still be monitored.
- Definitions of measurement units should be more practice-oriented and have a common methodology (e.g. for juveniles). Conversion factors are important. In particular, unit values should be better defined; currently, they are a mixture of fresh and processed depending on the point of first sale in the process. Are prices then even comparable?
- Validation at all levels is important – electronic questionnaires with inbuilt validation and cross-checks should be introduced.
- Good handbooks help to solve measurement, coverage and other challenges.
- There should be more flexibility in data collection for this evolving sector, e.g. by facilitating changes in regulations or allowing more data sources.
- Perhaps preliminary and final figures can be introduced.
- Data should be collected at enterprise, not plant level, as one facility may stretch over multiple sites.
- The Eurostat templates should be delivered earlier in the year.

***User needs***

- There are additional data needs as regards:
    - molluscs;
    - stocks (important for forecasting);

- mortality (which might already be collected in the DCF);
- seaweeds for human consumption and other purposes;
- age classes of some species (e.g. carp);
- prices (at least for the main species);
- food losses; and
- (possibly) higher-resolution data at regional/sea basin level.

- Aquaculture data are also important for environmental and ecosystem purposes.

***Dissemination***

- There should be more publications, press releases, visualisations, etc. on fisheries statistics, for which new IT tools should be used. Some users have difficulties in finding data.

**European aquaculture statistics – threats**

***Confidentiality***

- No previous proposal for handling confidentiality issues found a majority, but everyone is unhappy about the status quo (large amounts of confidential data despite only a few data being affected in the first place). New rules are needed.
- The trend to fewer but bigger enterprises leads to more confidentiality issues.
- An aquaculture production threshold of 500 t to solve some issues would be too high in many cases.
- Compliance with the GDPR, the code of practice and other rules requires resources.

***Administrative data***

- It is hard to influence the owners of the data or to correct and check the data, so producing statistics on the basis of administrative data is also hard.

***Burden***

- There is a high reporting burden for aquaculture producers, as they also have to report business statistics, employment and income data, etc. Double data collection for different fisheries stakeholders is hard to justify.

**European catch and landings statistics – opportunities**

***Quality***

- Electronic validation checks and cross-checks (e.g. with Control Regulation data) should be used more; the Eurostat validation rules should be shared better [Eurostat: they are now in the handbook].
- It should be possible to correct historical data and time series.

- Electronic logbooks for the entire fishing fleet, including <12 m vessels would make data collection and cross-checks (e.g. with sales notes) easier.

***Data collection***

- Logbooks should be adapted to report discards and bycatches better.
- There should be fewer breakdowns of landings by presentation.

***Harmonisation***

- There should be a harmonised EU legal framework for fisheries data, so that NSIs, ministries and agencies can work on the same basis.
- There should be only one data flow for EFS and DG MARE.
- Landings should be reported by flag country and not landing country, as for DG MARE; species reporting and areas should be adapted for Eurostat purposes; the approaches for inland fisheries should also be harmonised.
- Countries should share good practices, e.g. on confidentiality.

***User needs***

- More data are needed on:
    - fleet segments (length classes);
    - recreational fishing (some countries already provide them and ICES would like to know more about them);
    - catches under 30 kg (currently excluded for catches outside the EU); and
    - nominal catches by non-EU vessels in certain areas (to know how much is caught in a given area in total, not just by EU vessels); such data are also important for biological and environmental purposes.

***Other***

- There should be alerts when the Eurobase fisheries tables are updated.

**European catch and landings statistics – threats**

***Confidentiality***

***Quality***

- There are not enough resources to fully ensure data quality.

***User needs***

- EFS may not be used much at national level.

**Main takeaways**

In summary, these are the main points raised in the workshop:

- Eurostat should **harmonise** fisheries data flows, definitions, etc. with DG MARE and FAO to eliminate double reporting; the harmonised flow should undergo statistical treatment to ensure high quality;
- **data needs** should be analysed better to reduce confidentiality issues and eliminate the collection of unneeded or not cost-efficient data;
- **administrative data** are a double-edged sword – they are available without extra cost, but frequently difficult to influence, correct and validate, depending on the level of cooperation between institutions; and
- more **IT tools** to automate validation and cross-checks, and good templates and handbooks would be welcome.

The findings from the workshop provided valuable input, confirmed by other consultation activities. They were used to answer several evaluation questions.

### 4.2 In-depth interviews

The in-depth interviews with key EFS stakeholders were essential for the evaluation. The findings served to answer each evaluation question. The interviews gave insight into the use of different types of fisheries/aquaculture data sources and the role of EFS for the main stakeholders. In summary, respondents said that EFS are mostly coherent in terms of definitions with statistics from other sources. However, huge overlaps exist with DCF and Control Regulation data. The use by organisation is presented in Table 4.

**Table 4. Overview of topics for case studies**

| Organisation | EFS relevance | Reasons | Alternative sources |
|---|---|---|---|
| DG MARE | No for catches, landings, don't meet needs. Aquaculture to fill gaps | Insufficient level of detail, timeliness | DCF |
| DG TRADE | No, insufficient details (sometimes used for global trends) | Need data also on product level | Sometimes FAO for global data |
| EMODnet | Yes, they use EFS to produce their own higher-level aggregates (commodity groups, main commercial species), relate them to FAO geo-referenced fishing statistical areas and transmit these data to NAFO, as per obligation | n.a. | JRC for algae production |
| EUMOFA | Yes, they use EFS, process and harmonise them according to their standards and redistribute them. | Official reference statistics, harmonised | MS, others |

| Organisation | EFS relevance | Reasons | Alternative sources |
|---|---|---|---|
| Eurofish | Yes, for sector studies and specific services. Mainly landings and aquaculture, less catches | EFS important but not essential | National, FAO |
| FAO | Yes, catch statistics are validated, complemented, fed into the FAO database and disseminated<br>Yes for aquaculture statistics, which are used for validating FAO statistics | Rely on EFS data for EU<br>Earlier reporting date for aquaculture statistics than EFS, receive preliminary statistics from MS and use EFS for validation | National sources |
| GFCM | Low | Have own database, to which members must report | Own database, members |
| ICES | Yes, in particular nominal catch data. No for aquaculture statistics | Main source for catches, relevant mainly for economic analyses, not detailed enough for biological analyses | DG MARE for DCF data |
| ICCAT | Yes, catch statistics | Mainly to validate own data | FAO, ICES |
| NAFO | Yes, catch statistics, but not primary source | Mainly to cross-check own data, due to official status | MS directly, VMS, catch reports, etc. |

The majority of respondents rely on Eurostat quality validation and do not implement additional quality processes (mainly for lack of time and internal resources). A few consider that EFS are affected by issues of coverage (e.g. not all production) and do not match with other sources of information (e.g. DCF). Where reporting discrepancies are found between EFS and other sources of data, institutions prefer to use the alternative data sources. One finding is that the accessibility of statistics (IT platform) should be improved, although some respondents (OECD, ICES) acknowledge improvement in the platform in recent years.

Stakeholders were asked to indicate the most likely consequences of stopping or withdrawing EFS. Their replies underlined the fundamental importance of the independence of statistical information. Also, the fact that Eurostat compiles statistics for all Member States in one central database is very convenient. The use of national sources creates language barriers and it is sometimes difficult to understand where data are. Therefore, having a central European repository is very useful.

### 4.3 Case studies

The case studies gathered information on EFS at national level. Their outcome contributed to the analysis of most of the evaluation questions and made it possible to monetarise the cost as a part of the efficiency criteria. The case studies are summarised below.

# Case study DENMARK

## Main findings

The data flow, coordination and data collection are very simple for catch and landing statistics, because of the availability of administrative data. The cost of delivering data to Eurostat is very low, as they represent only a fraction of what is required for the national statistics.

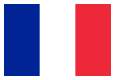
Danish authorities use mostly national data sources, as they are easier to use. Eurostat data are used for comparison with other countries. The high level of detail in aquaculture statistics is due solely to Eurostat requirements. The national authorities consider it excessive; however, the aquaculture association prefers it.

## Suggested improvements

- Eurostat should coordinate its data requests with FAO and OECD in order to avoid reporting the same data several times in different formats;
- a better search function should be made available for the statistics on the Eurostat webpage; and
- the quality report should be made simpler and clearer.

| | |
|---|---|
| INTERVIEWEES | Auction Nord in Hirtshals |
| | Danish Aquaculture Association |
| | Danish Fisheries Agency |
| | Danish Fishers Association |
| | Statistics Denmark |

# Case study FRANCE



**Main findings**

The costs and burden associated with catch and landings statistics are very low. Eurostat requirements are seen as a non-significant part of the workload for the administration compared with DCF and Control Regulation requirements.

Recently, the quality of fisheries statistics in France has improved greatly thanks to an improved database and re-organisation.

Several difficulties arise from data gaps and confidentiality for specific FAO sub-areas. For aquaculture, an overlap has been identified between the national questionnaire and the production declaration by aquaculture farms in public marine areas.

Most fisheries and aquaculture statistics users do not use EFS on a regular basis. Research institutes rely mainly on alternative sources such as JRC and FAO. National users use mainly national data and the fishery data exchange system (FIDES) for European data.

Due to separate data requests by international organisations, the data are not always coherent in Eurostat, FAO and OECD databases.

**Suggested improvements**

- reduce the level of detail on catch areas: moving from FAO sub-divisions to divisions should facilitate aggregation and address most confidentiality issues;
- facilitate and clarify aggregation by categories of species in the Eurostat portal;
- provide data on landings by flag and landings in third countries; and
- improve data on algae production.

| | |
|---|---|
| INTERVIEWEES | Brittany regional fishery organisation |
| | *Direction des Pêches Maritimes et de l'Aquaculture* |
| | FranceAgriMer |
| | *Institut français de recherche et d'exploitation de la mer* |
| | *Service des Statistiques et de la Prospective* |

**Main findings**

In Greece, the main EFS user groups are students and independent individuals (consultants, investors, etc.). EFS are used mainly for market and sectoral analysis. Other sources are preferred for scientific research and policymaking.

To comply with the Eurostat code of practice on statistical quality, the Hellenic Statistical Authority works to specific quality guidelines, with all the necessary checks. The quality of Eurostat statistics is not disputed, even by researchers who use the catch and aquaculture statistics only occasionally. The sample size for catch statistics is robust compared with the target population of fishing vessels, and the aquaculture survey is a census survey.

Recently, the alternative data source providing statistics for the DCF faced problems and the Hellenic Statistical Authority could not use it. Since the procedural problems were settled in 2018, cooperation between the two data streams has improved steadily. There are still areas where this could be improved. This would contribute to saving human and financial resources, but also to reducing the burden on respondents.

The Greek fleet has a large number of small (<10 m) boats. It is difficult to keep the national fleet registry up to date.

No problems of internal coherence have been identified, but there are overlaps with similar datasets collected by the Directorate-General for Fisheries of the Ministry of Rural Development and Food (DCF).

The accessibility of EFS is considered perhaps their main strength.

**Suggested improvements**

User conferences and satisfaction surveys conducted by the Hellenic Statistical Authority did not provide any suggestions for additional or different datasets.

| | |
|---|---|
| INTERVIEWEES | Directorate-General of Fisheries of the Ministry of Rural Development and Food |
| | Hellenic Centre of Marine Research |
| | Hellenic Statistical Authority |
| | University of the Aegean |

**Main findings**

EFS were considered to have the added value of being more robust and of higher quality due to the rigorous Eurostat validation process. Aquaculture data calls usually have a good response rate (80-90%), indicating a good level of data completeness. However, around 75% of Irish vessels are under 10 m, and collection of robust statistics is questioned given the reliance on sales notes rather than logbook data. A further issue relates to concerns about confidentiality in the reporting of aquaculture statistics.

Interviewees did not regard the costs associated with EFS data collection as significant or disproportionate.

In Ireland, Eurostat data are relevant for longitudinal analysis and multi-country comparisons. However, academic and national stakeholders prefer to use data sourced directly from the Sea Fisheries Protection Authority, mainly because it is more timely.

**Suggested improvements**

- more frequent release of EFS to inform national accounts (e.g. trade balance, GVA);
- demand for landing breakdowns at port level to inform decision-making; and
- simplify data collection for different purposes through more aligned data collection to reduce duplication of effort.

| | |
|---|---|
| INTERVIEWEES | *Bord Iascaigh Mhara* |
| | Central Statistical Office |
| | Sea Fisheries Protection Authority |
| | Socio-Economic Marine Research Unit / NUI Galway |

**Main findings**

In Italy, the burden imposed by Eurostat for fisheries statistics is considered very low as compared with DCF requirements. However, data producers found it very difficult to assess, as the same resources are involved in data collections for different institutions and organisations such as DCF, FAO and OECD.

The integrated catch and landings data (sample survey, logbooks sales notes, etc.) undergo several steps of quality control. The controls for aquaculture statistics are based on time-series analysis and analysis of coherence with other sources (e.g. processing statistics). In the event of errors, the data collectors contact firms again.

Italian experts, scientists and stakeholders consider EFS to be of low relevance and practical utility, because the same information is available in other databases (DCF) with greater level of detail. Therefore, the major gaps in EFS in relation to the end users' needs relate to the level of aggregation (more disaggregated information at species level and fishing technique level, more disaggregated geographical data, monthly or quarterly data, etc.).

Usually, EFS are used to complement data from other sources, for international comparisons and longitudinal analyses. The aquaculture statistics are mainly used to get an overview of the aquaculture sector at international level.

**Suggested improvements**

- an integrated Eurostat/DCF database would simplify access to and coherence between statistics; and
- update and limit the statistics to some main species by country and/or region in order to avoid discontinued time-series.

| | |
|---|---|
| INTERVIEWEES | Council for Agricultural Research and Economics |
| | ISPRA Ambiente |
| | *Ministero delle politiche agricole alimentari, forestali e del turismo* (MIPAAFT) |
| | NISEA (consortium of data collection work plan for the fishery sector) |
| | RETE MARE (consortium of data collection work plan for the fishery sector) |
| | UNIMAR (consortium comprising three producer organisations) |

**Main findings**

The burden of collecting and processing data for Eurostat is low. Analysing data and submitting them to Eurostat takes a few days. Collecting and collating data in the field of fishing and landings from sea fishing (especially transferring information from fishermen's paper forms to the electronic form) is much more time-consuming. That is why there is a need to increase expenditure for data collection.

The Ministry of Marine Economy and Inland Navigation does not use Eurostat data to analyse the Polish market, because domestic sources are more accurate and broader in scope. Eurostat data are used for comparisons with other EU countries.

EFS producers (e.g. research institutes cooperating with the Ministry of Marine Economy and Inland Navigation) are also EFS users. The Sea Fisheries Institute (a national research institute) uses EFS to publish the balance of the fishing fleet segment. The Inland Fisheries Institute uses aquaculture data from statistical surveys for popular scientific publications describing the state of Polish aquaculture.

Cooperation with Eurostat on data collection is very good. Preparation of the metadata (quality) reports required by Eurostat regulations is not easy, because dozens of detailed open questions about data collection in Poland have still to be answered.

**Suggested improvements**

- automate fishing logs and digitalisation of data collection for smaller (<12 m, or even <8 m) vessels; and
- simplify the Eurostat quality reports.

| | |
|---|---|
| INTERVIEWEES | Association of Salmon Fish Producers |
| | Fisheries Monitoring Centre of the Ministry of Marine Economy |
| | Inland Fisheries Institute |
| | Ministry of Marine Economy and Inland Navigation, Department of Fisheries |
| | National Maritime Fisheries Institute |

**Main findings**

The statistical quality is generally judged as good. There is a satisfactory or high response rate in most case-study countries. Some interviewees assumed a degree of under-reporting due to a large sector with many small-scale producers and the prevalence of paper questionnaires.

Effectiveness is impeded to some extent by confidentiality issues, which result in the non-availability of certain data. Large amounts of aquaculture data are confidential, despite only a small amount being affected in the first place. In some countries, the confidentiality is due to the cross-cutting of different categories and reporting on all species; in others, it is due to large companies dominating the sector. Since 2011, several possible solutions have been proposed, but none of them found majority support.

In the case-study countries, the effort and other costs of producing aquaculture statistics appear to be acceptable to the institutions involved and are marginal given other data collections.

Aquaculture statistics users are scientists, students, politicians and administrations, NGOs, consultants and policy advisors, the private sector and sectoral organisations. The users do not necessarily use data from Eurostat, but often prefer to use similar or more detailed data from national sources, sometimes also from international sources such as the FAO.

No significant incoherence between EFS and other statistics could be identified, although some production data appeared to be rather implausible in some Member States.

The main added value of European aquaculture statistics is the availability of comparable data from different countries and the comprehensive quality assurance they undergo.

**Suggested improvements**

- simplify data to limit data confidentiality;
- make greater use of online questionnaires in some countries; and
- further harmonise the reporting obligations for Eurostat, FAO and OECD.

| | |
|---|---|
| INTERVIEWEES | Agricultural institutions (in charge of aquaculture data collection in most Member States) and NSIs in Greece, Ireland, France, Denmark, Italy, Poland and Germany |

### 4.4 Online survey

The online survey targeted mainly EFS users, but to some extent also the providers. The main objective was to gather information on whether and how the main stakeholders use EFS.

A total of 135 respondents answered the questionnaire, representing 38.2% of the identified target population. The respondents were from 33 of the 36 countries (EU, EFTA, candidate and potential candidate countries). Geographical mapping showed that significantly more answers were submitted by users and/or producers from the south and west of Europe than from the east and north.

The responses highlighted the quality of EFS as compared with other data sources. Across categories, most respondents said that EFS are of the same quality as another data source that they use. They pointed to completeness (24.5%), comparability across countries and overall quality of the datasets (both 18.4%) as the aspects that are of better quality than the other source. On the other hand, 16.3% referred to timeliness as an area in which EFS are poorer than the other source. Users also pointed out that EFS give only a general picture and that they have to resort to other providers for more detailed data. Although quantitative feedback suggested that a majority of users of the catches (68.5%), landings (63.5%) and aquaculture (51.9%) datasets and many users (48.1%) of the fleet dataset said that EFS are timely to some or a large extent, qualitative data from the interviews suggested otherwise. The perception of timeliness seems to depend heavily on the user's expectations.

The survey found that EFS were often used for comparisons between Member States and for a general overview of the fisheries and aquaculture sectors. Users referred to them as a 'one-stop shop for reliable information' and as a tool that 'serves to understand and compare the national situation in the European context'.

The questionnaire highlighted differences in producers' views on the burden that catch, landings and aquaculture statistics requirements impose. Catch statistics were the only dataset that more producers judged to be cost-effective (38.1% said it is to some or a large extent cost-effective) than too burdensome (31.4% agreed with that claim to some or a large extent). As regards aquaculture statistics, 37.5% agreed that they were too costly, whereas 26.3% thought otherwise. On landings statistics, 31% agreed that the data collection process was too burdensome and 17.2% said it was cost-effective. The lack of data harmonisation among different organisations was most burdensome for catch statistics producers, whereas the need for metadata reporting was seen as most burdensome for landings and aquaculture statistics producers.

At the end of the questionnaire, respondents made recommendations for improving EFS. In the section for all respondents, qualitative answers often provided conflicting insights. While some called for less data disaggregation, some wanted more detailed insights – judging from quantitative feedback, it appears that users want more detail, whereas producers want more aggregation. Respondents also called for more timely data

reporting. Again, it was argued that the FAO should use EFS and not require inputs from the Member States.

Many respondents agreed that a discontinuation of EFS would have a negative impact: this would lead to 'an important pillar in the sector statistics being missing'. More specifically, this would mean the loss of a quality source, thus creating knowledge gaps relating to fisheries and aquaculture. Some responses to the qualitative questions on future recommendations (presumably from users) also indicated that, in the absence of EFS sources, respondents would resort more to FAO information.

A smaller group of respondents noted that the disappearance of EFS would have a negative impact on the sector, but would not affect their work directly.

A comparably small group said that discontinuation would have a positive impact, mainly in reducing the burden of data collection (e.g. 'nothing would change, except we will send one report less'). Some respondents from this group said that it would be best to keep collecting EFS, but bring it under one roof with the DCF.

### 4.5 Public consultation

The public consultation sought to reach occasional EFS users and the general public. In total, there were 24 respondents from 13 different countries: seven from Spain, three from Greece, two each from Latvia, Portugal and Germany and one each from Poland, Sweden, Italy, Estonia, France, Croatia, the Netherlands and the United Kingdom. This is a relatively low response rate, so the results should be interpreted and analysed with caution, as they are unlikely to be representative of all EFS stakeholders. Nevertheless, a wide range of opinions was represented, in many cases by people or organisations not reached by other consultation activities, so the inputs were considered useful.

Two thirds of respondents said that they were answering the questionnaire in a professional capacity or on behalf of an organisation, and one third in a personal capacity. Seven said they represented an academic or research institution, six answered as EU citizens, four as representatives of a company/business organisation, three as representatives of a public authority and two as members of a business association.

Of the 24 respondents, 16 identified themselves as users and 8 as producers of statistics. Users were asked to judge the relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, and accessibility and clarity of the EFS on a five-point Likert scale. Weighted responses suggested that timeliness and punctuality were viewed most positively (average of 3.06, where 5 meant high quality and 1 no quality), closely followed by accuracy and reliability, and timeliness and punctuality (both with an average of 3). Accessibility and clarity recorded a score of 2.86 and coherence and comparability were considered the worst, receiving an average of 2.62. Users overall rated the EFS higher than the four producers of statistics who answered the same questions. On the five-point Likert scale, the producers gave a rating of 2.75 for relevance, accuracy and reliability, timeliness and punctuality, and coherence and

comparability. The difference might stem from worse perceptions of the EFS among producers than among users overall, a trend confirmed in the online survey.

Of the 16 users, 13 were aware of data sources for fisheries statistics other than the EFS; three were not. FAO fisheries statistics were the most popular alternative source used, followed by ICES fisheries statistics and the DCF. Users mentioned that they used eight other sources of fisheries and/or aquaculture data. Most thought the quality of the EFS was similar to that of alternative sources, two respondents thought it was lower and one thought it was much higher.

Further results of the public consultation are in Annex 8.

## ANNEX 3: METHODS AND ANALYTICAL MODELS

| Sub-questions | Judgement criteria | Indicators | Online survey | Case studies | Desk research | In-depth interviews | | Workshop | Public consult. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Data users | Redistributors | | |
| **Relevance** | | | | | | | | | |
| **EQ1: To what extent are the Eurostat Fisheries Statistics (collected by Eurostat) under the current legislation relevant for data users?** | | | | | | | | | |
| • To what extent are the current (and potential future) needs of data users captured in the current legislation? This will include needs in terms of:<br>○ managing fish stocks using accurate data<br>○ meeting obligations under the CFP<br>○ data being provided at the appropriate level of detail | • Extent to which the current fisheries statistics match the current and potential needs of users<br>• What data are missing from the EFS in terms of user needs and desires? | • Documentary evidence and stakeholders' views confirm that<br>• the data meet current and emerging user needs<br>• other sources are used to fill gaps<br>• there are other data gaps to fill | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | • Extent to which elements of Eurostat fisheries statistics are used by dataset and type of variable, and for what purpose | • Documentary evidence and stakeholders' views confirm that intended users access and use statistics (client DGs, RFMOs, int. organisations, etc.) | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| • To what extent is the current approach to data collection appropriate to meet user needs? | • Extent to which the approach to data collection has the potential to produce relevant fisheries statistics | • Documentary evidence and stakeholders' views confirm that the approach to / design of data collection has the potential to produce fisheries statistics with high relevance (e.g. timeliness, | ✓ | ✓ | ✓ | | ✓ | ✓ | |

| Sub-questions | Judgement criteria | Indicators | Online survey | Case studies | Desk research | In-depth interviews | | Workshop | Public consult. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Data users | Redistributors | | |
| | | accessibility, format, user satisfaction) | | | | | | | |
| **Statistical quality** | | | | | | | | | |
| **EQ 2: Do Fisheries statistics (collected by Eurostat) meet their statistical quality principles?** | | | | | | | | | |
| • To what extent do Eurostat Fisheries Statistics meet statistical output quality principles (as defined by European Statistics Code of Practice)?<br>*Note: relevance of statistical outputs is covered under EQ 1. This question only includes statistical output principles 12 to 15 listed in the European Statistics Code of Practice.* | • Extent to which Eurostat Fisheries statistics meet their statistical quality principles of:<br>• accuracy and reliability;<br>• timeliness and punctuality;<br>• coherence and comparability; and<br>• accessibility and clarity | • Stakeholders' feedback on the quality of the statistical outputs (on set or subset of principles depending on the stakeholder categories) confirm that statistical outputs meet the quality requirements | ✓ | ✓ | | ✓ | | ✓ | ✓ |
| | | • Documentary evidence, assessment/evaluations of statistical quality, etc. confirm that statistical outputs meet the quality requirements | | | ✓ | | | | |
| • How do Eurostat Fisheries Statistics compare overall with other organisations producing fisheries statistics (e.g. FAO, DG MARE), in terms of their:<br>• institutional environment<br>• statistical processes | • Extent to which European Fishery Statistics compare favourably to other organisations overall | • Documentary evidence and stakeholders' feedback on the performance of Eurostat Fisheries Statistics in terms of:<br>• institutional environment | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |

| Sub-questions | Judgement criteria | Indicators | Online survey | Case studies | Desk research | In-depth interviews | | Workshop | Public consult. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Data users | Redistributors | | |
| • statistical output<br>• (as defined in the European statistics Code of Practice)? | | overall<br>• statistical processes overall<br>• statistical output overall<br>confirm favourable comparison with other organisations where possible | | | | | | | |
| **Effectiveness** | | | | | | | | | |
| **EQ 3: How effective are the legal acts and the resulting fisheries statistics?** | | | | | | | | | |
| • How effective are the legal acts in delivering quality statistics? | • *See judgement criteria related to statistical quality*<br>• *See definitions and limits of ESTAT statistics (and discrepancies with DG MARE* | • *See* indicators *related to statistical quality* | | | | | | | |
| • To what extent are fisheries statistics used to meet their specified/general objectives? | • Extent to which European fisheries statistics are used to support decision-making and policy follow-up[42]<br>• Extent to which European fisheries statistics are used to monitor markets (including international trade) | • Documentary evidence and stakeholders' views confirm usage of statistics by intended users (client DGs, RFMOs, int. organisations, etc.) in line with original objectives where possible: | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |

[42] Taking into account the scientific advice procedure in the Commission and then the preparation of fisheries management decisions in the EU.

| Sub-questions | Judgement criteria | Indicators | Online survey | Case studies | Desk research | In-depth interviews | | Workshop | Public consult. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Data users | Redistributors | | |
| | • Extent to which European fisheries statistics are used to meet data provision requirements defined by international conventions | • fisheries statistics are used in decision making and policy formulation<br>• fisheries statistics are used to monitor markets<br>• fisheries statistics meet data provision requirements defined by international conventions<br>• fisheries statistics are used for scientific or fisheries management advice | | | | | | | |
| | | • Documentary evidence and stakeholders' views confirm that the legal acts support the intended use of fisheries statistics (discussion of success/hindering factors related to legal provisions) | ✓ | ✓ | ✓ | | ✓ | | ✓ |

| Efficiency | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **EQ 4: Are the Fisheries statistics collected by Eurostat (legal acts and the resulting data) deemed efficient?** | | | | | | | | | |
| • To what extent is data collection cost-effective? | • Extent to which the administrative burden of data collection is reasonable for Member States and Eurostat | • Documentary evidence and stakeholders' views confirm that the cost of data collection is reasonable for Eurostat[43] | | ✓ | ✓ | | ✓ | ✓ | |
| | • Extent to which the administrative burden of data collections is reasonable for Member States | • Documentary evidence and stakeholder views confirm that duplication of data requests and/or duplication of data collections and/or lack of harmonisation of approaches to data collections do not create a disproportionate administrative burden | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| | | • Documentary evidence and stakeholders' views confirm the cost of data collection is reasonable for MS overall | ✓ | ✓ | ✓ | | ✓ | ✓ | |
| | • Extent to which the 'single collection, multiple use' principle is followed | • Number of recipient organisations per data item and number of | | | ✓ | ✓ | ✓ | ✓ | |

[43] This is further explored in the cost-effectiveness analysis.

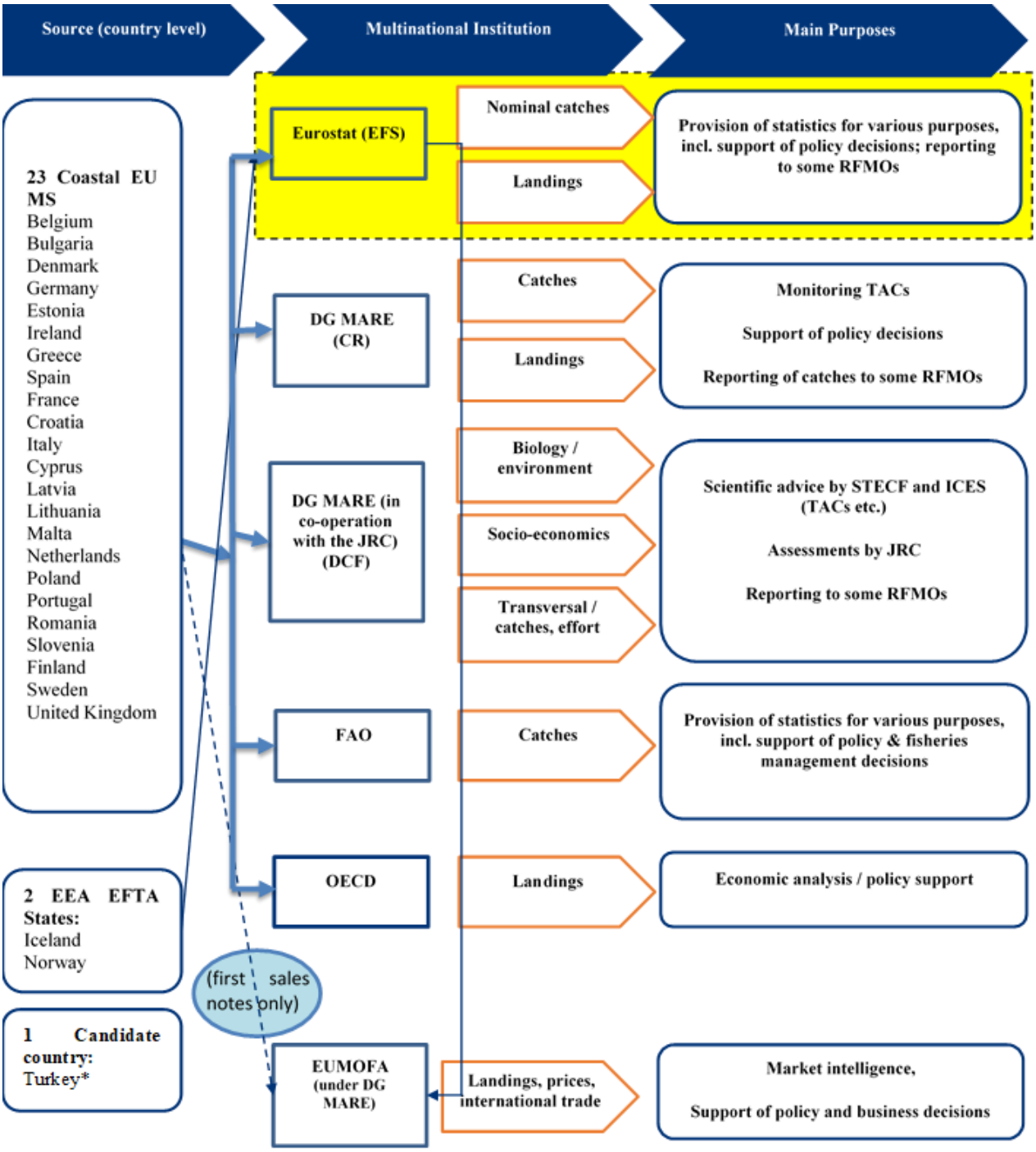
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | instances where a data item is used | | | | | | | |
| | • Extent to which the regulatory burden of data collection overall is proportionate to the benefits of fisheries statistics | • Benefits reported by the data users *(see effectiveness)*<br>• Documentary evidence and stakeholders' views confirm that data collection for fisheries statistics is cost-effective overall | | ✓ | ✓ | | ✓ | ✓ | |
| • What are the possibilities of simplification of current legislation and/or streamlining the statistical systems? | • Extent to which there is potential for simplification and/or streamlining of the statistical system in place for EFS | • Documentary evidence and stakeholders' views confirm that there is scope for legislative simplification, streamlining, reduction of burden / inefficiencies and recommendations identified | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| **Coherence** | | | | | | | | | |
| **EQ 5: To what extent are Eurostat Fisheries Statistics (as collected by Eurostat) internally coherent?** | | | | | | | | | |
| • To what extent do the legal acts framing Eurostat Fisheries Statistics complement / contradict / overlap / duplicate each other + other Eurostat statistics? | • Extent to which there are complementarities, contradictions, overlaps and / or duplications between the legal acts | • Evidence of complementarities, contradictions, overlaps, duplications and/or gaps of the coverage / scope of fisheries statistics (including in data dissemination) as provided for in the | | ✓ | ✓ | | ✓ | ✓ | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | legal acts | | | | | | | |
| **EQ 6: Are Eurostat Fisheries Statistics (collected by Eurostat) coherent with other available data sources (external coherence)?** | | | | | | | | | |
| • To what extent do Eurostat Fisheries Statistics complement / contradict / overlap / duplicate other EU and international fisheries statistics initiatives? | • Extent to which there are complementarities, contradictions, overlaps and / or duplications between Eurostat and CFP frameworks | • Evidence of complementarities, contradictions, overlaps, duplications and/or gaps between Eurostat and CFP frameworks | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | | • Evidence of contradictions and differences in EU fisheries statistics (Eurostat, DG MARE) leading to loss of credibility and potential Commission reputational risks among key users (such as RFMOs) | ✓ | | | ✓ | | ✓ | |
| | • Extent to which there are complementarities, contradictions, overlaps and / or duplications between EFS and other data sources at MS or international level | • Evidence of complementarities, contradictions, overlaps, duplications and/or gaps between MS or international level | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| **EU added value** | | | | | | | | | |
| **EQ 7: What is the EU Added Value of Eurostat Fisheries Statistics (collected by Eurostat)?** | | | | | | | | | |
| • What is the added value resulting from the European Fisheries statistics, compared to what could be achieved by Member States at national and/or regional level? | • Extent to which EFS are additional to what would otherwise have occurred at the EU level or by Member States acting individually | • Consensus among stakeholders that the identified results / outcomes would not have been achieved | ✓ | ✓ | | ✓ | | ✓ | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | • Extent to which the objectives of the EFS regulations continue to require action at EU level | without EFS | | | | | | | |
| • What would be the most likely consequences of stopping or withdrawing the European fisheries statistics?<br><br>*Note: The response on EU added value will also include a synthesis of evaluation questions on relevance, statistical quality, effectiveness, efficiency, and coherence* | • Extent to which the withdrawal of EFS would impact on policymaking, fisheries control and other uses at EU and national level | • Views of key informants on the benefits of EFS in terms of:<br>  • statistical coverage / aggregation<br>  • promotion of best practices (e.g. statistical quality principles)<br>  • avoidance of coordination and/or information failures (such as lack of comparable fisheries statistics) | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | | • User views on the positive and negative implications of withdrawal of the EFS | ✓ | ✓ | | ✓ | | | ✓ |

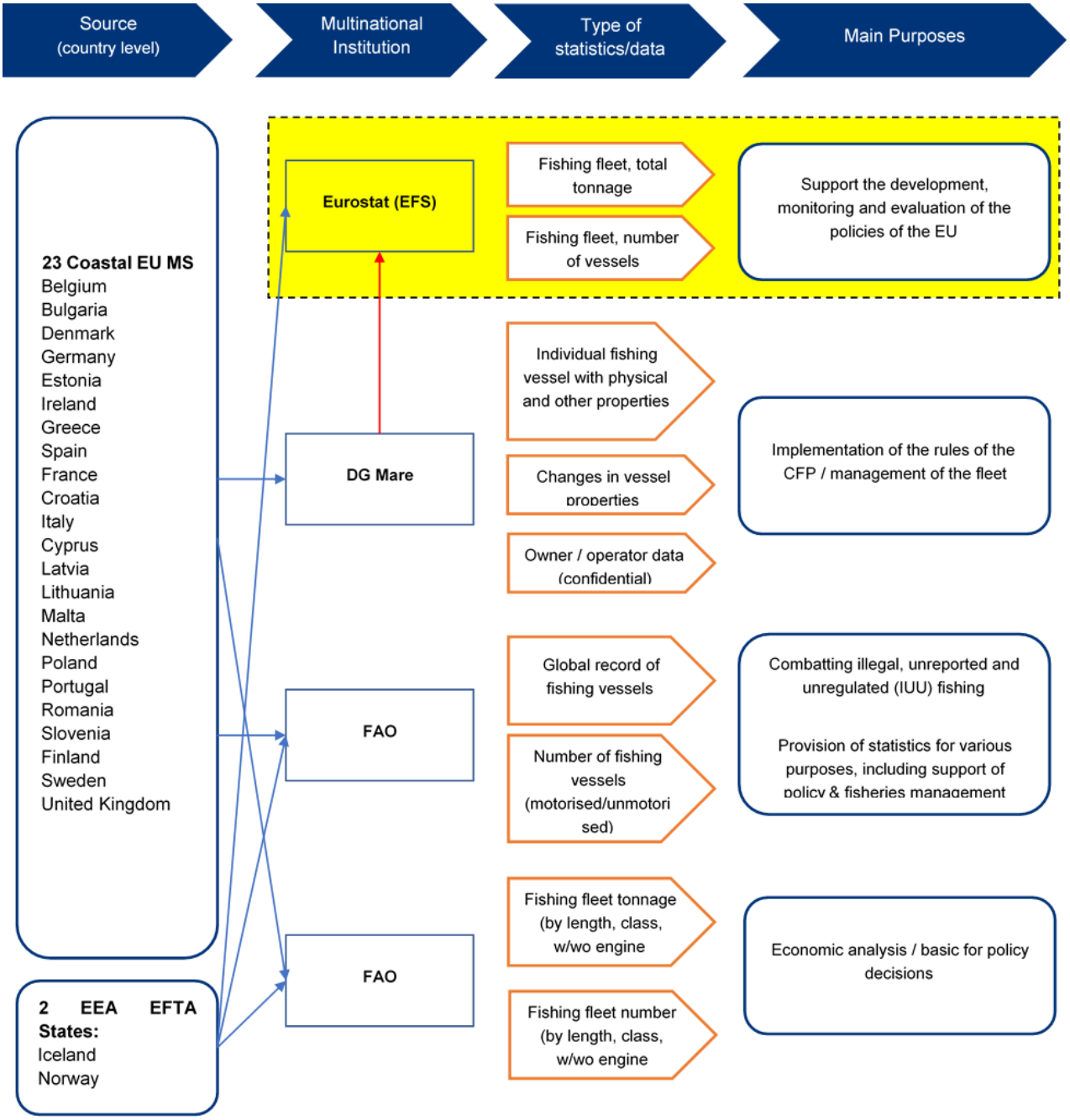
# ANNEX 4: DATA FLOWS FOR FISHERIES

## A. CATCHES AND LANDINGS

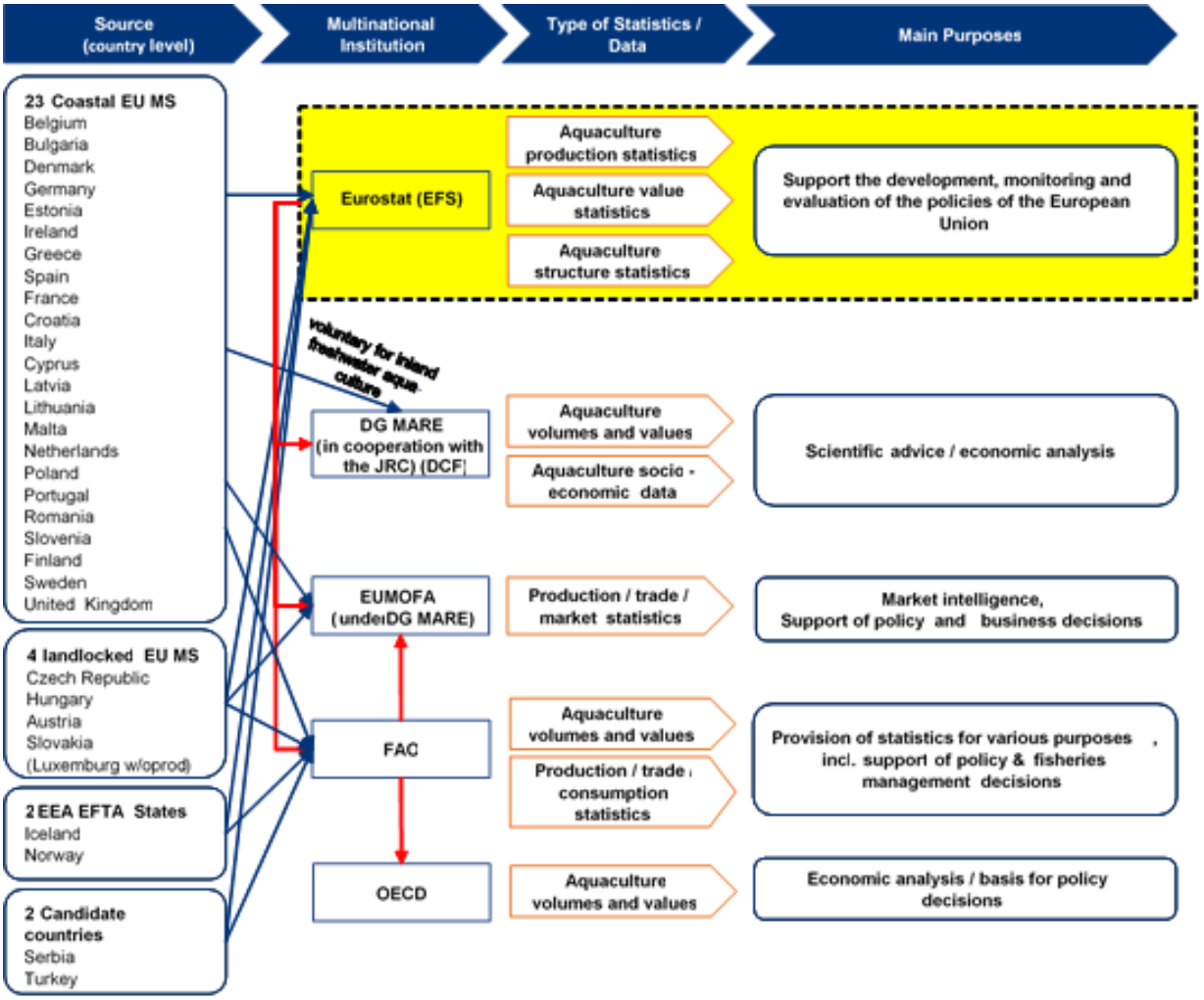



*Other candidate countries may join the data submission system.

## B. FISHING FLEET



## C. AQUACULTURE



## ANNEX 5: DETAILED REQUIREMENTS OF EFS REGULATIONS

| CATCH STATISTICS | | | |
|---|---|---|---|
| Geographical coverage | NW Atlantic (21A catch data) | NW Atlantic (21B catch data) | NW Atlantic (21B effort data) |
| | NE Atlantic | | |
| | Certain areas other than those in the North Atlantic | | |
| Frequency of report | Annual | Annual | Annual |
| Reference period | Year | Month/Year | Month/Year |
| Declaring country | ISO Alpha-2 | ISO Alpha-2 | ISO Alpha-2 |
| Fishing area | Subdivisions covered by FAO major areas: 21, 27, 34, 37, 41, 47, 51 | Subdivisions in FAO major area 21 | Subdivisions in FAO major area 21 |
| Main species sought | - | FAO ASFIS Alpha-3 | FAO ASFIS Alpha-3 |
| Fishing gear category | - | ISSCFG standard abbreviations | ISSCFG standard abbreviations |
| Vessel size class | - | ISSCFV code | ISSCFV code |
| Species | FAO ASFIS Alpha-3 | FAO ASFIS Alpha-3 | - |
| Effort category | - | - | 3 categories |
| Unit | Tonnes live weight | - | - |
| Observation value | Volume of catches | Volume of catches (tonnes live weight) | Fishing effort (number) |
| Average gross tonnage | - | Tonnes (optional) | Tonnes (optional) |
| Average engine power | - | kW (optional) | kW (optional) |
| Percentage effort estimated | - | Percentage (optional) | Percentage (optional) |
| Status | SDMX flag (optional) | | |
| Confidentiality | SDMX flag (optional) | | |

| LANDINGS STATISTICS | |
|---|---|
| Variables | Landings |
| Frequency of report | Annual |
| Reference period | Year |
| Declaring country | ISO Country Alpha-2 |
| Vessel nationality | ISO Country Alpha-2 |
| Species | FAO ASFIS Alpha-3 |
| Presentation | SDMX code list<br>• Fresh (several)<br>• Frozen (several)<br>• Salted (several)<br>• Smoked<br>• Cooked (several)<br>• Dried (several)<br>• Claws<br>• Eggs<br>• Whole<br>• Unknown |
| Intended use | SDMX code list<br>• Human consumption<br>• Industrial use<br>• Withdrawn from the market<br>• Bait<br>• Animal feed<br>• Waste<br>• Intended use unknown |
| Volume of landings | Quantity (tonnes product weight) |
| Unit value of landings | Price per tonne in national currency |
| Currency | ISO Currency Alpha-3 |
| Observation status | SDMX flag (optional) |
| Confidentiality status | SDMX flag (optional) |

| AQUACULTURE STATISTICS | | | | | |
|---|---|---|---|---|---|
| Variables | Production (excl. hatcheries and nurseries) | Production of fish eggs for human consumption | Input to capture-based aquaculture | Production from hatcheries and nurseries | Structural statistics |
| Frequency of report | Annual | Annual | Annual | Annual | Every 3 years |
| Reference period | Year | Year | Year | Year | Year |
| Declaring country | ISO Alpha-2 | ISO Alpha-2 | ISO Alpha-2 | ISO Alpha-2 | ISO Alpha-2 |
| FAO major fishing area | 1, 5, 27, 34, 37 | 1, 5, 27, 34, 37 | - | - | 1, 5, 27, 34, 37 |
| Production environment | Fresh/sea and brackish water | Fresh/sea and brackish water | - | - | Fresh/sea and brackish water |
| Production method | 9 methods | 9 methods | - | - | 9 methods |
| Species | FAO ASFIS Alpha-3 | FAO ASFIS Alpha-3 | FAO ASFIS Alpha-3 | FAO ASFIS Alpha-3 | 5 groups of species |
| Stage in the lifecycle | - | - | - | Eggs/ Juveniles | - |
| Unit | Tonnes live weight | Tonnes live weight | Tonnes live weight | Millions | 1,000 $m^3$, ha or m |
| Observation value | Quantity | Quantity | Quantity | Number | Potential capacity |
| Unit value | Price/tonne in national currency | Price/tonne in national currency | Price/tonne in national currency | - | - |
| Currency | ISO Alpha-3 | ISO Alpha-3 | ISO Alpha-3 | - | - |
| Intended uses | - | - | - | For on-growing/release to the wild | - |
| Status | SDMX flag (optional) | | | | |
| Confidential | SDMX flag (optional) | | | | |

## ANNEX 6: COST/BENEFIT ANALYSIS

| *I. Overview of costs identified in the evaluation* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Citizens/consumers | | Businesses – ship operators, ship owners and aquaculture facilities | | Administrations | |
| | | Qualitative | Quantitative / monetary | Qualitative | Quantitative / monetary | Qualitative | Quantitative / monetary |
| **Total yearly costs** | Total direct costs for producing EFS (catches, landings, aquaculture and fishing fleet): personnel, IT, survey, administrative costs | None | 0 | **Negligible**<br>Data required under Control Regulation; where sample surveys are required, they are run by enumerators from NSIs or ONAs | **N/A** | **Low**<br>As source data are required under Control Regulation and/or DCF | **€1.7 million** |

The overall cost of producing EFS represents about 0.01% of the overall yearly production of the sector. This is very low when compared with the cost of statistics supporting the CAP, where the cost of the most expensive set of statistics (agricultural census) accounts for 0.6% of the production value of the sector.

The cost is estimated on the basis of national cost declarations to the ESS, cross-checked with evidence gathered in the case studies. That evidence indicates that the administrative cost is significantly (5 to 6 times) higher in Mediterranean countries, where most landings are by small (<10 m) vessels. This is due to two factors: the limited number of species in the Mediterranean to be reported to the DCF for stock assessment, and the fact that the Control Regulation does not require smaller vessels to keep logbooks. This widens the scope of EFS for those countries and entails a higher cost.

| *II. Overview of benefits identified in the evaluation* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Citizens/consumers | | Businesses – ship operators, ship owners and aquaculture facilities | | Administrations | |
| | | Qualitative | Quantitative / monetary | Qualitative | Quantitative / monetary | Qualitative | Quantitative / monetary |
| **Decision-making support benefits** | EFS support for analysis and decision-making | Support market analysis | N/A | Support market analysis | N/A | Support stakeholder advice with data<br>Make it possible to explore past trends with long time-series<br>Support market analysis | N/A |
| **General overview benefit** | EFS provide an overview of the complete sector for the EU (+ Norway and Iceland) | Provide a general overview among countries and a European overview | N/A | Provide a general overview among countries and a European overview | N/A | Provide a general overview among countries and a European overview that allows comparative analysis and benchmarking | N/A |
| **Service benefit: statistics** | Benefits from the availability of EFS | Confidence in statistics<br>Easy and free | N/A | Confidence in statistics<br>Easy and free | N/A | Added value in data quality verification<br>Timely and reliable data | N/A |

| *II. Overview of benefits identified in the evaluation* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | access<br>One-stop shop<br>Official source of information | | access<br>One-stop shop<br>Official source of information | | with continuity over time<br>Comparative analysis with other data sources and gap filling | |

## ANNEX 7: RESULTS OF DATA COMPARISON

### Total catches (tonnes), 2016 (in FAO fishing areas covered by EFS)

| | Source | | | | Absolute difference (source: EFS) | | | Relative difference (source: EFS) | | | Main causes of differences if relative difference <-1% or >1% (species and tonnes) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MS** | **EFS** | **CR** | **DCF** | **FAO** | **CR** | **DCF** | **FAO** | **CR** | **DCF** | **FAO** | |
| BE | 26,860 | 26,929 | 26,915 | 26,687 | **69** | **55** | **-173** | 0.3% | 0.2% | -0.6% | No major differences. |
| BG | 8,627 | 8,568 | 6,953 | 8,562 | **-59** | **-1,674** | **-65** | -0.7% | -19.4% | -0.7% | DCF: Bluefish (-712 t) and sand gaper (-584 t).<br>Rest is composed of 13 species, showing differences of 1-74 t. |
| CY | 1,482 | 1,359 | 1,456 | 1,487 | **-123** | **-26** | **5** | -8.3% | -1.8% | 0.4% | CR: Albacore (-43 t), common octopus (2-6 t), common cuttlefish (-26 t) and picarel (-18 t).<br>DCF: surmullet (-15 t) |
| DE | 240,570 | 228,494 | 218,307 | 240,575 | **-12,076** | **-22,263** | **5** | -5.0% | -9.3% | 0.0% | CR: blue mussels (-8,073 t), E. pilchard -(1,942 t)<br>DCF: blue mussels (-22,242 t) |
| DK | 670,213 | 655,777 | 666,822 | 670,207 | **-14,436** | **-3,391** | **-6** | -2.2% | -0.5% | 0.0% | CR: Norway pout (-12,879 t)<br>DCF: Northern prawn (-4,320), E. sprat (3,159) |
| EE | 72,422 | 72,810 | 60,524 | 72,816 | **388** | **-11,898** | **394** | 0.5% | -16.4% | 0.5% | DCF: N. prawn (-6,954 t), redfish (-1,656 t), Gr. halibut (-1,092), Am. plaice (-1,067 t) |
| EL | 74,588 | 49,386 | 74,889 | 75,422 | **-25,202** | **301** | **834** | -33.8% | 0.4% | 1.1% | CR: Marine fished nei (-4,425 t), marine crabs nei (-2,836 t), common octopus (-2,656 t) and large number of other differences. |
| ES | 859,745 | 853,946 | 855,113 | 856,694 | **-5,799** | **-4,632** | **-3,051** | -0.7% | -0.5% | -0.4% | No major differences. |
| FI | 164,833 | 156,452 | 157,322 | 162,868 | **-8,382** | **-7,511** | **-1,965** | -5.1% | -4.6% | -1.2% | CR: perch (-2,208 t), whitefish (-1,695 t), N. pike (-1,121 t)<br>DCF: similar differences to CR |
| FR | 524,829 | 538,528 | 540,222 | 552,442 | **13,699** | **15,394** | **27,613** | 2.6% | 2.9% | 5.3% | CR: yellowfin (5,928 t), skipjack (4,764 t)<br>DCF: tangle (11,662 t)<br>FAO: yellowfin (13,552 t), skipjack (9,207 t), Bigeye tuna (3,474 t), frigate and bullet tunas (1,200 t) |
| HR | 72,865 | 72,767 | 72,324 | 71,895 | **-98** | **-542** | **-970** | -0.1% | -0.7% | -1.3% | FAO: pilchard (-503 t), Atl. chub mackerel -(227 t), E. anchovy (-114 t) |
| IE | 230,273 | 230,458 | 239,326 | 259,772 | **185** | **9,053** | **29,499** | 0.1% | 3.9% | 12.8% | DCF: Whelk (3,611), edible crab (2,290 t)<br>FAO: Atl. rockweed (28,000), kelp (1,400 t) |
| IT | 192,603 | 112,130 | 192,356 | 194,330 | **-80,473** | **-246** | **1,727** | -41.8% | -0.1% | 0.9% | CR: E. anchovy (-16,974), E. pilchard (-15,087), striped venus (-5,876 t), deep water shrimp (-4,606 t), red mullet (-3,438 t), and many other small differences |
| LT | 105,739 | 102,220 | 102,381 | 105,735 | **-3,519** | **-3,358** | **-4** | -3.3% | -3.2% | 0.0% | CR: various (horse) mackerels<br>DCF: various (horse) mackerels |
| LV | 114,655 | 114,650 | 59,965 | 114,563 | **-5** | **-54,690** | **-92** | 0.0% | -47.7% | -0.1% | DCF: Atl horse mackerel (-28,722 t). Atl mackerel (-8,626 t), |

| | Source | | | | Absolute difference (source: EFS) | | | Relative difference (source: EFS) | | | Main causes of differences if relative difference <-1% or >1% (species and tonnes) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MS** | **EFS** | **CR** | **DCF** | **FAO** | **CR** | **DCF** | **FAO** | **CR** | **DCF** | **FAO** | |
| | | | | | | | | | | | queen crab (-5,237 t), pelagic fishes nei (-4,181 t), E pilchard (-3,360 t) |
| MT | 3,556 | 3,585 | 2,302 | 2,420 | **28** | **-1,254** | **-1,136** | 0.8% | -35.3% | -31.9% | DCF: Pandalus shrimp (-1,046 t)<br>FAO: Pandalus shrimp (-1,046 t) |
| NL | 368,349 | 360,857 | 367,519 | 368,359 | **-7,492** | **-830** | **10** | -2.0% | -0.2% | 0.0% | CR: Blue whiting (-1,871 t), various horse mackerels |
| PL | 196,928 | 195,867 | 195,604 | 196,830 | **-1,060** | **-1,323** | **-98** | -0.5% | -0.7% | 0.0% | No major differences. |
| PT | 180,691 | 182,381 | 171,674 | 184,994 | **1,690** | **-9,017** | **4,303** | 0.9% | -5.0% | 2.4% | DCF: Blue shark (-7,954 t), cod (-1,394 t), swordfish (-562 t)<br>FAO: red seaweed (2,328 t), Atl redfish (929 t), Atl cod (600 t) |
| RO | 7,174 | 6,840 | 6,839 | 6,840 | **-334** | **-335** | **-334** | -4.7% | -4.7% | -4.7% | CR: whelk (-334 t)<br>DCF: whelk (-335 t)<br>FAO: whelk (-334 t) |
| SE | 197,973 | 197,417 | 197,671 | 197,972 | **-556** | **-302** | **-1** | -0.3% | -0.2% | 0.0% | No major differences. |
| SI | 146 | 139 | 152 | 166 | **-7** | **6** | **20** | -5.0% | 4.3% | 13.6% | CR: E. pilchard (-9 t)<br>DCF: various differences <1 t<br>FAO: various small differences |
| UK | 699,842 | 699,019 | 700,496 | 704,060 | **-823** | **655** | **4,218** | -0.1% | 0.1% | 0.6% | No major differences. |
| Total | 5,014,963 | 4,870,579 | 4,917,132 | 5,075,696 | -144,385 | -97,828 | 60,733 | -2.9% | -2.0% | 1.2% | |

## ANNEX 8: RESULTS OF PUBLIC CONSULTATION

### 1. INTRODUCTION

The purpose of the public consultation was to collect evidence for the evaluation of EFS. Under the Commission's 'Better Regulation' guidelines, this is a mandatory step for every evaluation.

### 2. BACKGROUND

EFS are the official European statistics provided by Eurostat on the production volume and value of fisheries products caught from the sea and cultivated in aquaculture facilities across the EU. They support the sound management of fisheries resources and economic analysis of fisheries product markets, and they contribute to the management and further development of the CFP.

The Commission (Eurostat) conducted the evaluation to assess the extent to which the statistics under the current regulations meet their original objectives and continue to be fit for purpose. The public consultation was one of the consultation activities for the evaluation.

The aim of the public consultation was to gather information on people's professional and personal experience with EFS. It targeted private individuals and professional EFS users, producers and other stakeholders. It was preceded and complemented by other actions specifically targeting other stakeholders, such as NSIs, international organisations and various EU institutional users.

The public consultation was conducted from 18 January to 12 April 2019 on the Have Your Say website for consultations (making use of the EU Survey tool) and in line with the Commission's general principles and standards for consultation. The link was distributed through Eurostat's website and Facebook account to the general public and specific groups linked to the fisheries sector (https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-3790936/public-consultation_en).

People were encouraged to respond to the questionnaire. Anyone with an interest in the topic was invited to express their views on the questions identified in the evaluation design, and to present their opinions on the current situation of EFS.

### 3. QUESTIONNAIRE

The consultation sought to elicit opinions on EFS in general and more specifically the opinions of users and producers as to the quality of EFS, why they use them and the extent to which they meet their needs. A dynamic questionnaire was developed to allow tailored consultation. There were 38 questions in all, but respondents were routed depending on whether they were users or producers; as a result, each respondent had to answer at most 23 questions. Although only three languages are mandatory in such cases, but the Commission (Eurostat) decided to publish the questionnaire in English, French, German, Spanish and Italian in order to cover a majority of respondents in the sector.

### 4. RESULTS

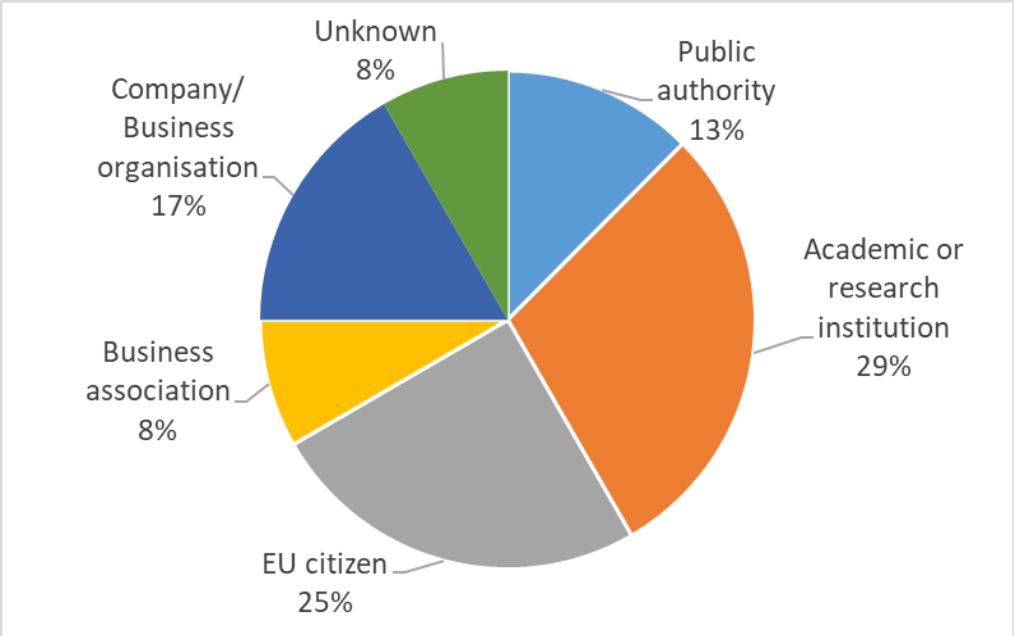
#### 4.1. Overview of respondents

In total 24 respondents answered the questionnaire. Respondents were from 13 different countries: seven from Spain, three from Greece, two each from Latvia, Portugal and Germany and one each from Poland, Sweden, Italy, Estonia, France, Croatia, Netherlands and the United Kingdom. This is a relatively low response rate; therefore, all results should be

interpreted and analysed with caution, as they are unlikely to be representative of the totality of stakeholders of European Fishery Statistics. Fisheries is a very specialised sector and statistics even more so, so the public has only a very limited interest in the field of fisheries statistics. Many fisheries stakeholders had also already been covered by other consultation activities during the evaluation. Nevertheless, a wide range of opinions was represented, in many cases by persons or organisations that were not reached by other consultation activities. Therefore, these inputs were considered useful.

Two thirds of respondents claimed to answer the questionnaire in their professional capacity or on behalf of an organisation, and one third provided responses in their personal capacity. Providing more detail, seven said they represented an academic or research institution, six answered as EU citizens, four as representatives of a company/business organisation, three as representatives of a public authority, and two as members of a business association.

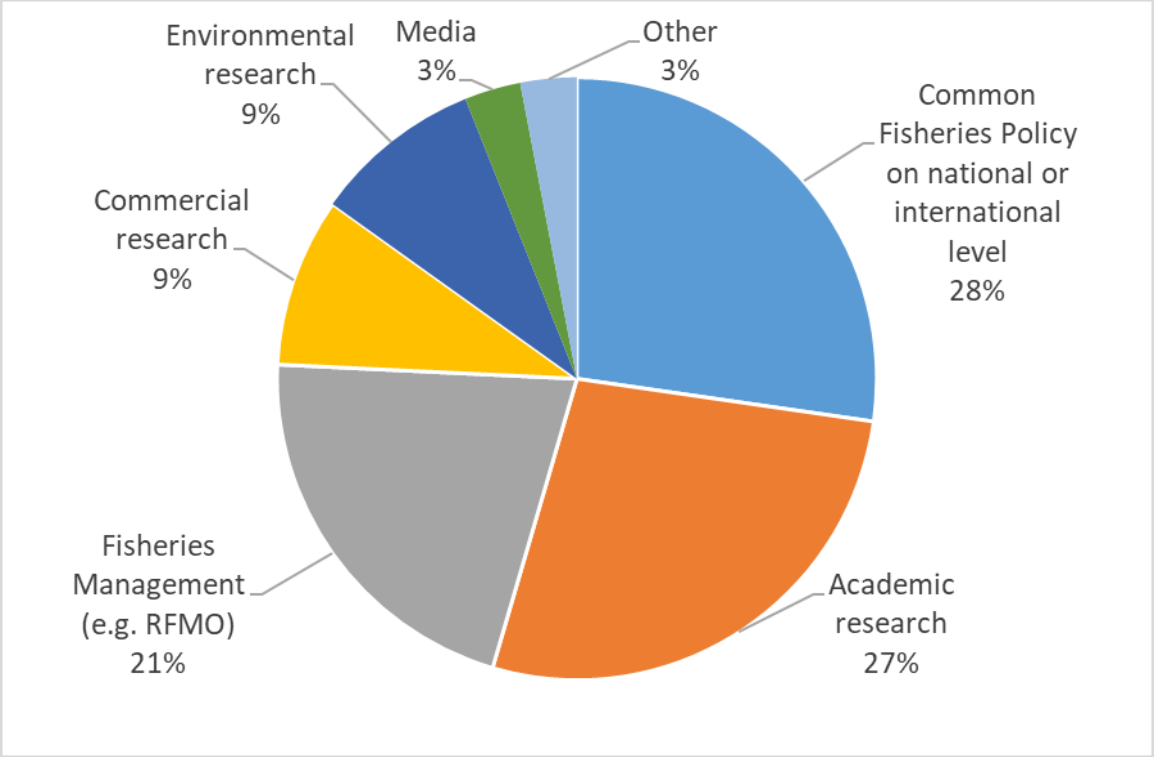
**Figure 1: Respondents to the public consultation**




### 4.2. Replies

Out of 24 respondents, 16 identified themselves as users and 8 as producers of statistics. The users were asked for which purposes they use EFS. Most users referred to more than one purpose. The summarised results are shown in Figure 2. The most common purposes were linked to the Common Fisheries Policy at either national or international level and academic research. Fisheries management was the third most common use followed by environmental and commercial research and media use.

**Figure 2: 'For what purposes do you use EFS?'**




Respondents who are users of European Fishery Statistics were asked to judge the relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability as well as the accessibility and clarity of European Fishery Statistics on a five-point Likert scale. Weighted responses suggested that relevance was viewed most positively (with an average of 3.07 where 5 meant high quality and 1 no quality) closely followed by accuracy and reliability as well as timeliness and punctuality, both with an average of 3. Accessibility and clarity recorded a score of 2.86, and coherence and comparability were considered least good, receiving an average of 2.62.

**Table 1: EFS users' assessments**

| | Relevance | | Accuracy and reliability | | Timeliness and punctuality | | Coherence and comparability | | Accessibility and clarity | |
|---|---|---|---|---|---|---|---|---|---|---|
| ★ | | 3 | | 1 | | 1 | | 3 | | 3 |
| ★★ | | 1 | | 3 | | 3 | | 3 | | 1 |
| ★★★ | | 5 | | 6 | | 6 | | 3 | | 6 |
| ★★★★ | | 4 | | 3 | | 3 | | 4 | | 3 |
| ★★★★★ | | 2 | | 1 | | 1 | | 0 | | 1 |
| Average | | **3.07** | | **3.00** | | **3.00** | | **2.62** | | **2.86** |

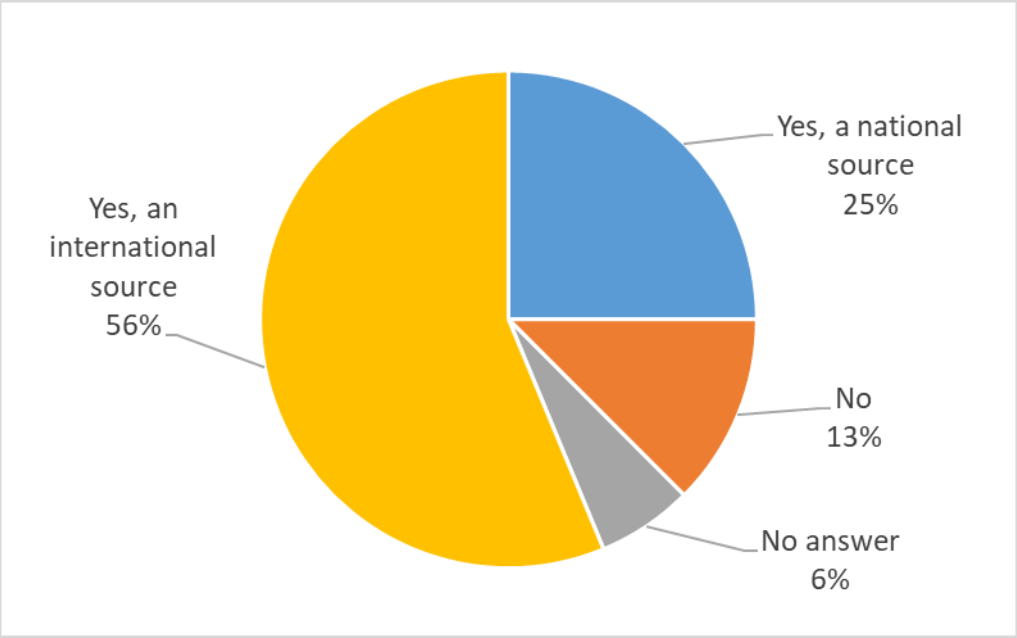
It is worth noting that users overall rated European Fishery Statistics higher than the four producers of statistics who answered the same questions. The five-point Likert scale means for producers' answers were at 2.75 for relevance, accuracy and reliability, timeliness and punctuality and for accessibility and clarity. The coherence and comparability were judged at 2.5. The difference might stem from better perceptions of EFS among users than among producers overall, a trend seen in the analysis of the findings of another consultation activity during the evaluation.

**Table 2: EFS producers' assessments**

| | Relevance | | Accuracy and reliability | | Timeliness and punctuality | | Coherence and comparability | | Accessibility and clarity | |
|---|---|---|---|---|---|---|---|---|---|---|
| ★ | | 0 | | 1 | | 0 | | 1 | | 0 |
| ★★ | | 1 | | 0 | | 2 | | 1 | | 2 |
| ★★★ | | 3 | | 2 | | 1 | | 1 | | 1 |
| ★★★★ | | 0 | | 1 | | 1 | | 1 | | 1 |
| ★★★★★ | | 0 | | 0 | | 0 | | 0 | | 0 |
| Average | | **2.75** | | **2.75** | | **2.75** | | **2.50** | | **2.75** |

Thirteen users claimed that they are aware of the existence of data sources of fisheries statistics other than EFS, three said otherwise. Out of the thirteen users, seven said they use an alternative international source, and two an alternative national source (two users indicated using both national and international sources). FAOfisheries statistics were the most popular alternative source used, followed by International Council for the Exploration of the Sea's (ICES) fisheries statistics and the European Commission's Data Collection Framework (DCF).

**Figure 3: 'Do you use an alternative data source?'**




Users also mentioned eight other sources of fisheries and/or aquaculture data they use. Most users thought the quality of the European Fishery Statistics was similar to that of alternative sources, two respondents thought it was lower, and one thought it was much higher.

In their qualitative responses on how EFS differ from other sources, users said that EFS are often old and values are not always disaggregated to the desired level, e.g. one producer said that aquaculture statistics do not provide accurate figures for imports of species by country. Another respondent preferred FAO data, as they can be downloaded and interrogated with different queries.

## 5. CONCLUSIONS

The public consultation elicited only 24 replies. Although this is a low response rate, they came from individuals and organisations who were not reached by other consultation activities.

The 16 EFS users and 8 EFS producers rated the relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, and accessibility and clarity of the statistics between 2.50 and 3.07 on a five-point Likert scale. The majority use alternative data sources.

All respondents' concerns, needs and preferences have been fully analysed and given due weight in the staff working document on the EFS evaluation, which is expected to be released in autumn 2019.