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1. **Background**

The Commission (Eurostat) collects statistics on aquaculture under Regulation (EC) No 762/2008 of the European Parliament and of the Council[[1]](#footnote-1). Article 11 of the Regulation states that, every three years, the Commission must provide the European Parliament and the Council with a report on the quality and relevance of the statistics reported by the Member States. The report must also analyse the cost-effectiveness of the data collection system and point out any best practices that could lessen the workload for Member States and lead to more useful, higher-quality data.

The Regulation applies to all 28 EU Member States and to Norway, Iceland and Liechtenstein (because it is of relevance to the EEA). Luxembourg and Liechtenstein do not have commercial aquaculture production and are therefore exempted from the data reporting obligation.

This report is based primarily on the aquaculture quality reports submitted by the Member States for the reference year 2015. Most Member States filled out their 2015 quality reports in time to be considered for this evaluation report. However, Bulgaria, Italy and Poland did not, so information available for these countries was taken from previous quality reports. The Commission (Eurostat) also analysed the 2013-2015 aquaculture data. The European Statistical System (ESS) provided information on the total costs of collecting the data. As a result, this report assesses the timeliness, completeness, consistency, accessibility and confidentiality of the data overall; it also looks at the burden and cost-effectiveness of the data collection process.

The previous evaluation reports on aquaculture statistics submitted under the Regulation were published in June 2015[[2]](#footnote-2) (for 2011-2013 data) and in July 2012[[3]](#footnote-3) (for 2008-2010 data). Both were six months late. This report has been published on time but covers only two years, as the 2016 data were not yet available when the report was drafted.

1. **Main findings**

## Timeliness and completeness

### Timeliness

Most Member States met the data submission deadlines in recent years. However, a third of them sent some data sets after the deadline. In most cases the delay was relatively short. The Commission (Eurostat) has taken steps to find solutions with France and Italy, which have repeatedly been sending in data very late.

The Commission (Eurostat) published the data immediately after validation. Valid data tend to appear on the Commission (Eurostat)’s public database by the end of March of the year after the deadline. Data may be revised any time throughout the year.

### Completeness

The main aquaculture dataset (production from aquaculture) was relatively complete. It has become more complete over time. The dataset on fish eggs for human consumption posed difficulties for a number of countries. The issue was discussed at the most recent Fisheries Statistics Working Group meeting in April 2017.

In the table on input to capture-based aquaculture, unit prices were frequently missing. This was because the data set assembled data on seed fish collected from the wild. Some aquaculture facilities caught the seed fish themselves instead of buying them and in these cases the prices were difficult to estimate. There were some data gaps in the table linked to production from hatcheries and nurseries. Often, the reason for this was volatile production in countries where production volumes were very low.

## Consistency

### Quality and accuracy

The overall quality of the data was good, since most countries have had a very high response rate to their data collection census. Almost all Member States judged the bias linked to non-response to be non-existent or insignificant. Very few reported measurement errors, sampling errors or data entry errors.

Coverage errors were also negligible. Misclassification errors in species or methods were rare and had very little impact on data quality.

### Comparability

The Eurostat data collection guidelines introduced in 2015 have improved the geographical comparability of the data. The aquaculture statistics submitted to the Commission (Eurostat) under the Regulation are well comparable between the Member States.

Member States reported only minor differences stemming from methodological changes from the first data collection to the most recent (2015).

## Relevance

The data collected under the Regulation are essential for informed, evidence-based policymaking at both national and EU level. The data on production levels and trends are important in analysing the development of the aquaculture sector as part of the Common Fisheries Policy. And quantitative data are central in shaping the Member States’ multiannual national plans for sustainable aquaculture. They provide policymakers, industry and civil society with solid foundations on which to build the sector’s future.

Moreover, the data are an important source for other organisations’ publications and services. The Food and Agriculture Organisation of the United Nations and the Organisation for Economic Cooperation and Development rely heavily on the Regulation’s statistics. The European Market Observatory for Fisheries and Aquaculture Products uses Commission (Eurostat) data in compiling its structural analysis of the European fisheries and aquaculture industry. The World Trade Organisation uses European aquaculture statistics for its trade policy review.

Almost all Member States confirmed the need for aquaculture production data at national level, too. Most national data needs were fully or almost fully met by the data collected under the Regulation. However, the Regulation does not cover important data on feed input, product destination, production cost, employment and other socioeconomic variables. Socioeconomic information is collected for marine aquaculture under Regulation (EU) 2017/1004[[4]](#footnote-4). By contrast, some Member States referred to the data collection as too detailed and burdensome for national needs.

## Accessibility

### Online database

The aquaculture statistics appear on the Commission (Eurostat)’s public database[[5]](#footnote-5) as the following datasets:

* Production from aquaculture excluding hatcheries and nurseries (fish\_aq2a);
* Production of fish eggs for human consumption from aquaculture (fish\_aq2b);
* Input to capture-based aquaculture (fish\_aq3);
* Production of hatcheries and nurseries at eggs stage in life cycle (fish\_aq4a); and
* Production of hatcheries and nurseries at juvenile stage in life cycle (fish\_aq4b)

In addition, half of the Member States have published the data in national online databases or as downloadable annual tables. Access to these products is always free of charge.

### Publications and data tables

The Commission (Eurostat) published data and articles on aquaculture in its online Statistics Explained collection and in statistical books*[[6]](#footnote-6)*.

Most Member States published aquaculture statistics regularly in various reports, in some cases along with press releases.

### Metadata

The Commission (Eurostat) collected national quality reports every year, as required under Annex 6 to the Regulation. These reports contained detailed information on the quality of the data and on the methods used in collecting them. The national quality reports following the ESS guidelines were collected in the ESS Metadata Handler.

The European reference metadata on aquaculture statistics are published on the Commission (Eurostat)’s public database with the data tables listed above. The metadata are reviewed annually.

## Data confidentiality

One shortcoming affecting the aquaculture statistics collected under the Regulation was the high number of confidential data cells. There were two main reasons for this. Firstly, the Regulation calls for a highly detailed data structure, which in turn leads to very fragmented data. Secondly, the aquaculture sector is highly specialised in its structure. This makes for a sector with a limited number of enterprises dealing in very few species with one main production method. As a result, a large number of data on single species and aggregates have become confidential.

In 2015 almost half of the Member States faced data confidentiality issues with the main aquaculture production dataset. This meant that EU aggregates remained confidential for most species, often because of confidential data in a single Member State. However, the national total production volume and value could be published for 2014 and 2015 for all Member States. Confidential data from one Member State prevented publication of the EU aggregate for capture-based input to aquaculture. EU-wide production of fish eggs for human consumption remained confidential because of niche production in three Member States. The data on the production from hatcheries and nurseries were confidential in several Member States.

The Commission (Eurostat) and the Member States have invested time and effort to make as many figures as possible available to data users, while safeguarding statistical confidentiality and keeping the process as efficient as possible.

1. Burden and cost-effectiveness

The time and effort needed to collect, compile and process the data at national level every year varied a great deal. Half of the Member States needed less than 10 weeks and the other half more than 10 weeks to compile the datasets, as required by the Regulation. The time needed for the whole data collection process has not decreased in any Member State since the entry into force of the Regulation, indicating that it has been difficult for them to boost efficiency.

However, some Member States reported that they had managed to reduce the burden on respondents. Questionnaires remained unchanged and respondents found that answering them became a matter of routine. Online questionnaires and tailor-made support for enterprises also helped reduce the burden. Respondents needed three hours on average to fill out the questionnaire. The number of respondents ranged from 4 000 in Germany to under 50 in Malta, Belgium, Cyprus and the Netherlands.

The ESS carried out a cost analysis of European statistical products. Cost estimates for aquaculture statistics were received from 20 Member States. The average annual cost of national data collection was approximately EUR 66 000, or an average of 0.18 % of the total value of aquaculture production. Some cost estimates did not reflect the total production cost of aquaculture statistics, covering only the direct costs that the national institute concerned had incurred.

1. Conclusions

In recent years aquaculture statistics have evolved into a stable set of data with fairly timely, complete and consistent output for data users not only at the European and global levels, but at national level as well. They provide policymakers, industry and civil society with solid foundations on which to build the sector’s future development.

Some Member States have continued to face problems with the timeliness and punctuality of the data collection and delivery. The Eurostat data collection guidelines have helped make the aquaculture data collection more consistent.

The main shortcoming affecting aquaculture statistics is the amount of confidential data. This is linked to the detailed breakdown of the data requirements set by the Regulation and to the aquaculture sector’s specialised and concentrated structure.

Member States reduced the burden on respondents, but did not make clear, measurable efficiency gains. The average annual cost of producing aquaculture statistics was EUR 66 000 per country. However, the average share of the data collection costs in the total economic value of aquaculture production was rather low.

1. Recommendations

The Commission (Eurostat) will continue working with the Member States on good practices, recommendations and guidelines to reduce the amount of confidential data delivered to Eurostat under the Regulation.

At the national level the use of electronic questionnaires should be further encouraged, as it helps make data collection more efficient. National data collection guidelines and helpdesks offering respondents tailor-made support are other examples of good practices.

The Commission (Eurostat) strives for constant improvement in the quality and availability of European statistics. It is also committed to reducing the burden on Member States and respondents. To this end, it has included in its Annual Work Programme 2017[[7]](#footnote-7) a project on streamlining and simplifying fishery statistics. This project looks at current data collection and draws up a strategy for making the aquaculture statistics more fit for purpose. The project ensures coordination to dovetail with statistics collected under Regulation (EU) 2017/1004 and better harmonisation with the standard aquaculture questionnaire recommended by the Coordinating Working Party on Fisheries Statistics[[8]](#footnote-8).

1. 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 (OJ L 218, 13.8.2008, p. 1). [↑](#footnote-ref-1)
2. Report from the Commission to the European Parliament and the Council on the implementation of 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; COM(2015) 297 final. [↑](#footnote-ref-2)
3. Report from the Commission to the European Parliament and the Council on the implementation of 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; COM(2012) 422 final. [↑](#footnote-ref-3)
4. 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). [↑](#footnote-ref-4)
5. http://ec.europa.eu/eurostat/data/database. [↑](#footnote-ref-5)
6. The most recent is Agriculture, forestry and fishery statistics – 2016 edition, ISBN 978-92-79-63351-5. [↑](#footnote-ref-6)
7. http://ec.europa.eu/eurostat/web/ess/-/the-european-statistics-annual-work-programme-20-1 [↑](#footnote-ref-7)
8. The Coordinating Working Party on Fisheries Statistics (CWP) was established in 1959 by resolution 23/59 of the FAO Conference to coordinate the fishery statistical programmes of regional fishery bodies and other inter-governmental organisations. Its purpose is to (i) keep under continuous review the requirements for fishery statistics (including aquaculture); (ii) agree standard concepts, definitions, classifications and methodologies for the collection and collation of fishery statistics; and (iii) propose ways of coordinating and streamlining statistical activities among relevant intergovernmental organisations (http://www.fao.org/fishery/cwp/en). Recently, it has developed a draft standard aquaculture questionnaire as a recommendation for minimum requirements for aquaculture statistics. [↑](#footnote-ref-8)