

Aquaculture Handbook

2018 Edition



Preface

The collection of statistics on aquaculture is an essential tool for the sound management of the Common Fisheries Policy (CFP).

Aquaculture is an important part of the production of fish in the EU. Aquaculture statistics describe the production, value and structure of the aquaculture sector.

This handbook is meant to serve as a practical reference document for all national authorities involved in the compilation of aquaculture statistics and for the data users.

Luxembourg, October 2018

Acknowledgements

This Handbook was prepared by Eurostat and discussed in the Fisheries statistics working group meeting in October 2018.

Abbreviations and acronyms

| Code | Description |
|--------|--------------------------------|
| CFP | Common Fisheries Policy |
| EU | European Union |
| eWA | EDAMIS Web Application |
| eWP | EDAMIS Web Portal |
| MS | Member State(s) |
| NE | Non existing |
| n.e.c. | Not elsewhere classified |
| NS | Non-significant |
| NSI | National Statistical Institute |

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1

Introduction

1.1 Introduction

This handbook contains information on the definitions and classifications used in aquaculture statistics and well as instructions to the data providers concerning the data transmission starting on the reference year 2017. The aquaculture statistics are worked out by the Member States and EEA countries on the basis of common EU concepts described in this handbook. Eurostat is responsible for harmonising the concepts and definitions, validating the national data, publishing the national data and calculating the EU-aggregates.

1.2 History

Data for aquaculture production (in quantities) since 1950 is available in the Eurostat database. The legal basis and the coverage of statistics have evolved over time.

1.3 User needs assessment

Statistics on aquaculture are a tool for monitoring and managing the market of fishery products. They are also becoming an increasingly important instrument for evaluating fisheries policy. Within the European Institutions, the main institutional users of fisheries data are DG Maritime affairs (MARE), European Market Observatory for fisheries and aquaculture (EUMOFA) DG Trade, DG Environment, Joint Research Centre (JRC), the European Parliament, the Court of Auditors and European agencies (e.g. European Environment Agency (EEA), as well as national bodies dealing with aquaculture, trade in fisheries products and food. International organizations, such as the Food and Agriculture Organization of the United Nations (FAO) or the Organisation for Economic Cooperation and Development (OECD), regional fisheries organisations (such as International Council for the Exploration of the Sea (ICES), General Fisheries Commission for the Mediterranean (GFCM), Northwest Atlantic Fisheries Organization (NAFO) and North East Atlantic Fisheries Commission (NEAFC) use aquaculture statistics. Enterprises, farms, producers' and consumers' associations, trade unions, consultancy bodies, private and public research bodies, etc. are likewise very important users of aquaculture statistics.

1.4 Legal basis

These guidelines refer to the submission of aquaculture statistics under [Regulation \(EC\) No 762/2008](#)¹. They are intended to harmonise the concepts and definitions, to improve the data quality (e.g. comparability) and clarify the data transmission procedures.

1.5 Changes from previous versions

This is the first edition of the aquaculture handbook. It summarises and further elaborates the previous guidelines and notes linked to the aquaculture data collection.

There is an effort to align definitions across domains (aquaculture, catches and landings) and to align with the Coordinating Working Party on Fishery Statistics Handbook².

1.5.1 Changes in structure

Not relevant for the present edition.

1.5.2 Changes in classification

In sequence of further discussions during the October 2018 working group on whether to collect all uses of algae, Eurostat clarifies that in line with the conclusions of the 2017 working group there is a clear need for the total production of seaweed for all purposes (with the exception of aquarium and ornamental). The guidelines for the collection of 2016 data already mentioned such requirement. FAO also collects data on seaweeds for all uses.

In chapter 6.3 further instructions on the use of the templates for data submission were added. This includes also the validation rules.

1.5.3 Changes in version 1.1

Update of Table 1: reference year 2017 included for all datasets.

1.6 Contacts

The Eurostat Fisheries Team thanks you for your cooperation. If you have further questions, please contact the team at ESTAT-Fisheries@ec.europa.eu.

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 (Text with EEA relevance)

² <http://www.fao.org/cwp-on-fishery-statistics/handbook/aquaculture-statistics/en/>

2

Methodology

2.1 Coverage

Aquaculture is the farming of aquatic organisms: fish, molluscs, crustaceans, aquatic plants, crocodiles, alligators, turtles, and amphibians. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding or protection from predators. Farming also implies individual or corporate ownership of the stock being cultivated.

For statistical purposes, aquatic organisms which are harvested by an individual or corporate body which has owned them throughout their rearing period contribute to aquaculture, while aquatic organisms which are exploitable by the public as a common property resource, with or without appropriate licences, are the harvest of capture fisheries.

Regulation (EC) No 762/2008 covers the

- production volumes and unit values of aquaculture excluding nurseries and hatcheries
- production volumes and unit values of fish eggs for consumption at first sale
- production volume and input to capture based aquaculture
- production volumes of hatcheries and nurseries
- structure of the aquaculture sector

Includes

- Fishery products from aquaculture for consumption
- Seaweeds for all purposes
- Catches from wild for on-growing in aquaculture plants

Excludes

- Catches from wild for other purposes than on-growing in aquaculture plants
 - Aquarium species
 - Ornamental species
 - Fishery products from aquaculture for purposes other than consumption
-

According to Article 3 of Regulation (EC) No 762/2008

1. Member States shall use surveys or other statistically validated methods covering at least 90 % of the total production by volume, or by number for the production of hatcheries and nurseries without prejudice to paragraph 4. The remaining part of the total production may be estimated. To estimate more than 10 % of the total production, a request for derogation may be submitted under the conditions provided for in Article 8.
2. Use of sources other than surveys shall be subject to provision of an ex-post assessment of the statistical quality of those sources.
3. A Member State having a total annual production of less than 1 000 tonnes may submit summary data estimating the total production.
4. Member States shall identify the production by species. However, the production of those species which individually do not exceed 500 tonnes and do not represent more than 5 % in weight of the production by volume in a Member State may be estimated. The production of hatcheries and nurseries in number of those species may also be estimated.

2.2 Data sources

As seen above, for the purpose of obtaining the data referred to in this Regulation, Member States can either carry out statistical surveys or other statistically validated methods.

Estimations are allowed for the following cases:

- 10% of the total production (with derogation above 10%)
- a total annual production of less than 1 000 tonnes at national level
- species which individually do not exceed 500 tonnes and do not represent more than 5 % in weight of the production by volume in a Member State may be estimated and aggregated (also the production of hatcheries and nurseries in number of those species).

2.3 Treatment of non-significant / non-existing characteristics

Regulation (EC) No 762/2008, Article 3 stipulates that species which individually do not exceed 500 tonnes and do not represent more than 5 % in weight of the production by volume in a Member State may be estimated and aggregated.

Eurostat recommends the following procedures for these non-existing and non-significant species:

1. If the species does not exist at all, no data are required to be included in the data transmission (no 0 (zero) or flag)
2. If the species exists and the production is below 500 tonnes and it represents maximum 5% of the total volume of the aquaculture production in the country:
 - a. Transmit the data and add an "E" flag (estimated), if the data are estimated.
 - b. In case these data are confidential in the sense of Regulation (EC) No 223/2009³, instead of flagging the value with a "C" flag, use instead the "N" flag (non-significant) in the observation status field without the numerical figure and without a "C" flag.

³ 'Confidential data' means data which allow statistical units to be identified, either directly or indirectly, thereby disclosing individual information n. To determine whether a statistical unit is identifiable, account shall be taken of all relevant means that might reasonably be used by a third party to identify the statistical unit.

2.4 Precision requirements

Each Member State shall submit to the Commission a detailed methodological report. In that report, each Member State shall describe how the data were collected and compiled. This report shall include details of sampling techniques, estimation methods and of sources used other than surveys and an evaluation of the quality of the resultant estimates.

2.5 Reference period

The reference period is a calendar year.

2.6 Reporting frequencies

The Member States shall submit the data referred to in Annexes II, III and IV of regulation (EC) No 762/2008 to the Commission (Eurostat) within 12 months of the end of the reference calendar year. The first reference calendar year was 2008.

Starting with the data for the year 2008 and at intervals of three years thereafter, the data on the structure of the aquaculture sector referred to in Annex V shall be submitted within 12 months of the end of the reference calendar year to the Commission (Eurostat)

Table 1 – Reporting frequencies by reference year for aquaculture

| Data collection | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|------|------|------|------|------|------|------|
| Production volumes and unit values of aquaculture excluding nurseries and hatcheries | X | X | X | X | X | X | X |
| Production volumes and unit values of fish eggs for consumption at first sale | X | X | X | X | X | X | X |
| Production volume and input to capture based aquaculture | X | X | X | X | X | X | X |
| Production volumes of hatcheries and nurseries | X | X | X | X | X | X | X |
| Structure of the aquaculture sector | X | | | X | | | X |

2.7 Units of measurement

| Template | Dataset name | Data | Unit |
|-------------|--|------------|---|
| FISH_AQ2A_A | Production from aquaculture excluding hatcheries and nurseries | Quantity | Tonnes Live Weight (TLW, metric tonnes) |
| | | Unit value | Euro/TLW or national currency/TLW |
| FISH_AQ2B_A | Production of fish eggs for consumption | Quantity | Tonnes Live Weight (TLW, metric tonnes) |
| | | Unit value | Euro/TLW or national currency/TLW |

| | | | |
|------------|--|--------------------|---|
| FISH_AQ3_A | Input to capture-based aquaculture | Quantity | Tonnes Live Weight (TLW, metric tonnes) |
| | | Unit value | Euro/TLW or national currency/TLW |
| FISH_AQ4_A | Production of hatcheries and nurseries | Quantity | Number in millions |
| FISH_AQ5_A | Structure of aquaculture | Potential capacity | 1000 m ³ or ha |

2.7.1 Production from aquaculture

2.7.1.1 PRODUCTION

Production means the output from aquaculture at first sale, including production from hatcheries and nurseries offered for sale.

2.7.1.2 PRODUCTION VOLUME

Production for fish, crustaceans and molluscs, fish eggs and other aquatic animals is reported in the live weight equivalent of the product.

The volume of annual production is given in tonnes of live weight (TLW). Production volumes may be rounded to integer values

Annual production volume for molluscs

For molluscs, the live weight shall include the weight of the shell.

Annual production volume for seaweed

Production volume of seaweed is reported in tonnes assessed in wet weight.

2.7.1.3 PRODUCTION VALUE (UNIT VALUE)

The unit value means the total value (excluding invoiced value-added tax) of the production (in national currency) divided by the total volume of the production. The unit value is given in average price per weight unit, in national currency per tonne live weight (NAC_T).

Eurostat converts the unit values into euro per tonne (EUR_T) for the unit values reported in other currencies by using bilateral conversion factors linked to annual average exchange rates of those currencies against. In Eurostat public database the unit values are expressed in euro per tonne only.

2.7.2 Capture-based input to aquaculture

2.7.2.1 PRODUCTION VOLUME

The unit can be a live weight in tonnes (TLW) or a number.

If a number is provided, a conversion factor into tonnes live weight (TLW) must be provided as well.

2.7.2.1.1 Volume for fish, crustaceans, molluscs and other aquatic animals

For fish, crustaceans, molluscs and other aquatic organisms, the live weight equivalent of the product. For molluscs, the live weight shall include the weight of the shell;

2.7.2.1.2 Volume for aquatic plants

For aquatic plants, the volume is the wet weight of the product.

2.7.2.2 PRODUCTION VALUE (UNIT VALUE)

The unit value means the total value (excluding invoiced value-added tax) of the production (in national currency) divided by the total volume of the production. The unit value is given in average price per weight unit, in national currency per tonne live weight (NAC_T).

Eurostat converts the unit values into euros per tonne (EUR_T) for the unit values reported in other currencies by using bilateral conversion factors linked to annual average exchange rates of those currencies against. In Eurostat's public database the unit values are expressed in euro per tonne only.

2.7.3 Hatcheries and nurseries

The unit is millions of eggs/juveniles.

2.7.4 Structure of aquaculture sector

The capacity of the facilities is to be understood as potential capacity.

2.7.4.1.1 Surface Area

Use hectares where the area size is applicable (ponds, enclosures and pens, recirculation systems, molluscs on bottom, and all methods for seaweeds).

2.7.4.1.2 Volume

Use thousand cubic meters where the volume is applicable (tanks and raceways, cages, other methods for fish and crustaceans).

2.7.4.1.3 Length

Use meters when molluscs are grown on ropes.

3

Classification

3.1 Aquaculture

3.1.1 Definitions and concepts

3.1.1.1 AQUACULTURE

According to Regulation (EC) No 762/2008, aquaculture is defined in Article 3 of Regulation (EC) No 1198/2006⁴ as the rearing or cultivation of aquatic organisms using techniques designed to increase the production of the organisms in question beyond the natural capacity of the environment; the organisms remain the property of a natural or legal person throughout the rearing or culture stage, up to and including harvesting.

3.1.1.2 CAPTURE BASED AQUACULTURE

Capture-based aquaculture means the practice of collecting specimens from the wild and their subsequent use in aquaculture.

3.1.1.3 COUNTRY

The ISO 2 alpha code of the reporting country.

3.1.1.4 YEAR

The reference year in the format YYYY

3.1.1.5 SPECIES

Species means the species of aquatic organisms (such as fish, crustaceans, molluscs or seaweeds) identified using the international 3-alpha code as defined by the FAO (ASFIS list of species for fishery statistics purposes⁵).

3.1.1.6 HATCHERIES AND NURSERIES

Hatcheries and nurseries mean places for the artificial breeding, hatching and rearing through the early life stages of aquatic organisms.

⁴ Regulation (EC) No 1198/2006 of 27 July 2006 is repealed, but the new regulation in force (REGULATION (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014) does not include a definition of aquaculture.

⁵ <http://www.fao.org/fishery/collection/asfis/en>

3.1.1.6.1 Hatcheries

For statistical purposes, hatcheries are limited to the production of fertilised eggs.

3.1.1.6.2 Nurseries

For statistical purposes, the first juvenile stages of aquatic organisms are considered to be produced in nurseries.

3.1.1.7 RELEASED TO THE WILD

Released to the wild means the intentional release for the restocking of rivers, lakes and other waters other than for aquaculture purposes. These releases may then be available for capture by fishing operations.

3.1.1.8 FIRST SALE CRITERION

All aquaculture production data under Regulation (EC) No 762/2008 are intended at first sale, which is used as a proxy for the real off-farm production volume. This criterion includes exported production and excludes unsold production, notwithstanding the reasons for the product not being sold (such as self-consumption, production for release to the wild by public entities, market failure or disease). Also, adult aquatic organisms being traded between several on-growing companies is only counted when it is first sold for its final use.

In the case of juveniles under AQ4, the first sale refers to the first time a juvenile aquatic organism is sold to another on-growing company or release to the wild.

The first sale criterion does not apply to the capture-based input to aquaculture (AQ3).

First sale criterion

What to do when an aquaculture farm sells their own production not fresh but semi- or completely processed?

The discussion during the 2018 Working Group on Fisheries revealed that different approaches exist in different countries.

- on one side, some countries estimate a value for what would have been the fresh value (before processing)
- other countries assume that the first sale happens to the processed product and therefore collect the respective price

3.1.1.9 PRODUCTION ENVIRONMENT**3.1.1.9.1 Fresh water**

Freshwater means water which has a constantly negligible salinity.

3.1.1.9.2 Saltwater

Saltwater means water where the salinity is appreciable. This may be water where the salinity is constantly high (e.g. seawater) or where the salinity is appreciable but not at a constantly high level (e.g. brackish water): the salinity may be subject to periodic variation due to the influx of fresh or seawaters.

3.1.1.10 FAO MAJOR AREAS

FAO major areas means the geographical areas identified using the international numerical-2 code as defined by the FAO (CWP Handbook of fishery statistical standards. Section H: Fishing areas for

statistical purposes⁶). The FAO major areas covered for the purpose of this Regulation are the following:

- 01 Inland waters (Africa)
- 05 Inland waters (Europe)
- 27 North-east Atlantic
- 34 Atlantic Eastern Central
- 37 Mediterranean and Black Seas

3.1.1.11 PRODUCTION METHODS

3.1.1.11.1 Ponds

Ponds means relatively shallow and usually small bodies of still water or water with a low refreshment rate, most frequently artificially formed, but can also apply to natural pools, tarns, meres or small lakes.

Ponds often consist of some form of banks or dykes. Pond culture is usually carried out in stagnant waters with periodic water exchange or water flushing that is done through the pond inlets and outlets. Some pond culture, e.g. trout pond, may have a high water refreshment rate. (FAO, 2015)

Includes

- Ditches
- Flood plain depressions
- Derelict mining pools

3.1.1.11.2 Tanks and raceways

Tanks and raceways are artificial units constructed above or below ground level capable of high rates of water interchange or with a high water turnover rate and highly controlled environment but without water recirculation.

Tanks

Tanks can be made of various materials (e.g. bricks, cement, concrete, fibreglass, plastics, wood, asbestos, metal, etc.), in various shapes and sizes. They are used in hatchery, nursery and grow-out operations. (FAO, 2015)

Raceways

Raceways are long and narrow rectangular tanks usually constructed with bricks and concrete and artificial material above ground, that permit a rapid flow of water. The water turnover rate is generally in excess of 20 changes per day. (FAO, 2015)

3.1.1.11.3 Enclosures and pens

Normally both enclosures and pens enclose a large volume of water.

⁶ <http://www.fao.org/fishery/area/search/en>

Enclosures

Enclosures refer to natural water areas (e.g. natural bays) in which the shoreline forms all but one side, confined by a net mesh and other barriers allowing free water interchange and distinguished by the fact that enclosures occupy the full water column between substrate and surface. (FAO, 2015)

Pens

Pens refer to areas of a waterbody (e.g. in shallow lagoons, but also inland e.g. in lakes, reservoirs) that is fenced using structures (nets, wooden bamboo) fixed to the bottom permitting free water exchange. (FAO, 2015)

3.1.1.11.4 Cages

Cages are open or covered enclosed structures constructed with net, mesh or any porous material allowing natural water interchange. These structures may be floating, suspended or fixed to the substrate but still permitting water interchange from below.

Cages are either supported by frameworks made of metal, plastic, bamboo or wood, or are suspended by stakes at its four corners in open water bodies or in ponds. Cages use both for seed and grow-out production. (FAO, 2015)

3.1.1.11.5 Recirculation systems

Recirculation systems are systems where the water is reused after some form of treatment (e.g. filtering).

3.1.1.12 AQUACULTURE PRODUCTION METHODS FOR MOLLUSCS

3.1.1.12.1 On bottom

On-bottom systems refer to the farming of molluscs (such as clams or oysters), directly seeded on muddy or sandy areas in the inter-tidal zone or on the seabed (FAO, 2015)

3.1.1.12.2 Off bottom

Off-bottom systems are structures such as trestles and long lines installed on stakes impaled in the seabed or intertidal zone. Culture nets, lantern nets, growth ropes, pearl nets, net bags or trays are usually used in these structures to farm molluscs. (FAO, 2015)

3.1.1.12.3 Other methods

Other methods used for the production of molluscs which are not elsewhere classified.

3.1.1.13 AQUACULTURE PRODUCTION METHODS FOR SEAWEEDS

All methods used for the production of seaweeds and other aquatic organisms are reported together.

3.1.1.14 CAPTURE-BASED AQUACULTURE

Capture-based aquaculture means the practice of collecting specimens from the wild (normally individuals from very early stages in the life cycle) and their subsequent use in aquaculture, for on-growing to marketable size.

3.1.1.15 STAGE IN LIFE CYCLE OF FISH

3.1.1.15.1 Eggs

Fish eggs laid by female fish. They can be fertilized by male fish. In this stage, the embryo is formed inside the hardened egg and then it will start to develop organs. After this, eye spots and tails are completely developed.

3.1.1.15.2 Larvae

Once the eggs are hatched, they are known as larva. New larvae have a yolk sac which serves as a nutritional source. Once the eyes and mouth are developed they no longer rely on the yolk sac for feed.

3.1.1.15.3 Fry

Fry are young fish whose yolk sac has been fully absorbed. In this stage they can start eating on their own.

3.1.1.15.4 Juveniles

The juvenile stage starts when the fish have developed scales and working fins. The juvenile stage lasts until the fish is fully grown, sexually mature and interacting with other adult fish.

3.1.1.15.5 Adult

Adult fish are those able to reproduce.

3.1.1.16 STAGE IN LIFE CYCLE OF MOLLUSCS

Molluscs are a diverse group with many variations on reproductive behaviour. The information given below is given in broad sense.

3.1.1.16.1 Eggs

The first stage of the life cycle. Eggs fecundation can happen externally or internally.

3.1.1.16.2 Larvae

Once the eggs are hatched, many molluscs develop into free-swimming larvae. There can be either one or two larval stages (depending on the species): trocophore (free-swimming larvae with cilia) and veliger (second larval stage, with beginnings of foot, shell and mantle). Veligers can develop from earlier, free-swimming trocophores, or hatch directly from egg capsules having had the trocophore stage while still in the egg.

3.1.1.16.3 Juveniles

Veligers become juveniles when they mature to "competence", meaning that they are able to metamorphose.

They are able to settle to the substratum and loose the velum (a ciliated structure, used for swimming and food collection) initiating juvenile life.

Note that not all molluscs metamorphose; for example some octopus species hatch as animals similar to adults.

3.1.1.16.4 Adult

Adults are defined as those molluscs that are able to reproduce.

3.1.1.17 STAGE IN LIFE CYCLE OF CRUSTACEANS

Crustaceans are also a very diverse group with many variations on reproductive behaviour.

3.1.1.17.1 Eggs

Sexual reproduction of crustaceans occurs normally through the fusion of an egg and a sperm, but some crustaceans are parthenogenic (they produce eggs that develop without being fertilised by a sperm). Eggs can be released freely into the water; others are carried either on the thoracic limbs, or in abdominal appendages.

3.1.1.17.2 Larvae

The most widespread and typical larva to emerge from crustacean eggs is called a nauplius, which has a simple, unsegmented body and three pairs of appendages (antennules, antennae and mandibles) and a single, simple "naupliar" eye. Even when there are not nauplius (some groups omit it and emerge from the egg very similar to adults), other groups of crustaceans pass through similar stages.

Depending on the groups, crustaceans will successively metamorphose into more complex larval forms which are normally characterized by different forms of locomotion.

3.1.1.17.3 Juveniles

In general juvenile stages are similar to adults, but yet unable to reproduce

3.1.1.17.4 Adults

Adults are defined as those crustaceans which are able to reproduce.

3.1.1.18 STAGE IN LIFE CYCLE OF SEAWEED

Algae regenerate by sexual reproduction (involving male and female gametes), by asexual reproduction (production of progeny without the union of cells or nuclear material) or both.

3.1.1.18.1 Asexual reproduction

Many small algae reproduce asexually by ordinary cell division, or by fragmentation, whereas large algae reproduce by spores. Some red algae produce monospores (walled, nonflagellate, spherical cells) that are carried by water currents and upon germination produce a new organism.

Some green algae produce nonmotile spores called aplanospores, while others produce zoospores, which lack true cell walls and bear one or more flagella. These flagella allow zoospores to swim to a favourable environment, whereas monospores and aplanospores have to rely on passive transport by water currents. (Britannica, 2018)

3.1.1.18.2 Sexual reproduction

The life cycles of sexually reproducing algae vary; in some, the dominant stage is the sporophyte, in others it is the gametophyte. In freshwater species especially, the fertilized egg, or zygote, often passes into a dormant state called a zygospore. Zygospores generally have a large store of food reserves and a thick, resistant cell wall. Following an appropriate environmental stimulus, such as a change in light, temperature, or nutrients, the zygospores are induced to germinate and start another period of growth.

3.1.1.18.3 Adults

Adults are defined as those organisms that are able to reproduce.

3.1.1.19 INTENDED USE

Transferred to a controlled environment (for on-growing)

This means the intentional release for further aquaculture practices. Refers to eggs/juveniles sold to other aquaculture companies for on growing in a controlled environment (aquaculture facilities)

Released to the wild

This means the intentional release for the restocking of rivers, lakes, and other waters other than for aquaculture purposes. These releases may then be available for capture by fishing operations. It includes eggs or juveniles released into open waters (seas, lakes, rivers, streams) for strengthening the wild stocks.

3.1.2 Production from aquaculture (FISH_AQ2A_A)

Production from aquaculture excluding nurseries and hatcheries is covered by Annex II (a) of Regulation (EC) No 762/2008.

It covers species of fish, crustaceans, molluscs, seaweeds and other aquatic organisms, excluding the aquarium and ornamental species. For each species a number of elements are collected (see 3.1.2.1 below).

The data is also disaggregated by method of production depending on the species groups.

Table 2 – Combinations of species groups and production methods

| | Fish | Crustaceans | Molluscs | Seaweeds |
|-----------------------|------|-------------|----------|------------------------|
| Ponds | X | X | | |
| Tanks and raceways | X | X | | |
| Enclosures and pens | X | X | | |
| Cages | X | | | All methods aggregated |
| Recirculation systems | X | | | |
| On bottom | | | X | |
| Off bottom | | | X | |
| Other methods | X | X | X | |

3.1.2.1 DATA

| Label | Unit |
|--|-------------------|
| Year | Number |
| Country | Code |
| FAO major fishing area | Code |
| Production environment | Code |
| Production method | Code |
| Species (3 alpha code, common name, scientific name) | Code |
| Volume of fish/crustaceans/molluscs/seaweeds/other aquatic organisms | Tonnes |
| Observation status (unit) | Flag |
| Confidentiality status (unit) | Flag |
| Unit value of fish/crustaceans/molluscs/seaweeds/other aquatic organisms | National currency |
| Observation status (unit value) | Flag |
| Confidentiality status (unit value) | Flag |
| Currency | Code |

3.1.2.1.1 Production from aquaculture

Annual production volume and unit value at first sale of all fish / crustaceans / molluscs / seaweeds / other aquatic organisms species per FAO major area, production method and production environment.

For details on the reporting units, please refer to 2.7 above.

The combinations of species groups and production methods are shown in Table 2 – Combinations of species groups and production methods.

Includes

- Adult fish / crustaceans / molluscs / seaweeds / other aquatic organisms for consumption
 - consumption (including human consumption)
 - feed production
 - industrial/ pharmaceutical production
 - processing
 - stocking of ponds, rivers and lakes for commercial or recreational "catch and keep" fishing
 - export
- Meat of fish used to produce eggs, when the meat is intended for consumption (excluding the weight and value of the eggs)
- Fish with eggs, which are sold for slaughtering and fish roe production to another company (excluding the weight and value of the eggs)
- Juveniles for consumption
- Seaweed for all uses:
 - Seaweed for food, alginate, carrageenan or agar
 - Seaweed for feed production
 - Seaweed for industrial / pharmaceutical production
 - Seaweed for research purposes

Excludes

- Fish / crustaceans / molluscs / seaweed / other aquatic organisms for aquariums
 - Fish / crustaceans / molluscs / seaweed / other aquatic organisms for ornamental use
 - Fish of functional species (unless likely to be consumed)
 - Fish / crustaceans / molluscs / other aquatic organisms for research purposes (unless likely to be consumed)
 - Fish / crustaceans / molluscs / other aquatic organisms for production not intended for sale
 - Adult fish / crustaceans / molluscs / seaweed / other aquatic organisms sold for further on-growing
 - The production of nurseries and hatcheries
 - Juveniles sold for further on-growing or stocking of ponds/rivers/lakes (to be reported under AQ4)
 - Fish eggs for consumption (to be reported under AQ2B_A)
-

Use for human consumption vs. other uses (AQ2A_A)

What are the national practices?

An assessment on the Member States practices for the data delivery on table AQ2A_A was presented in the 2017 Working Group on Fisheries Statistics⁷.

Although the legislation does not mention that the data collection should focus only on fish or aquatic plants for human consumption, a large number of countries has declared to include in table AQ2A only fish that is intended to be used for human consumption (AT, CY, DE, EE, ES, FI, HR, HU, IS, LT, LV, MT, NL, NO, SE).

For the countries which included other uses (in line with Regulation (EC) No 762/2008) the results were as following:

- restocking of rivers or lakes (FR, IE, IT, PL, SI, SK, UK)
- feed / bait (EL, IE)
- industrial / pharmaceutical purpose (IE, DK)
- functional purposes such as cleaner fish (BG, DK)
- other uses (BG, DK)
- production of juveniles (BG, HU, IE, PL, SK)

No countries included use for aquarium / ornamental species (which is also in line with Regulation (EC) No 762/2008).

Treatment of fish for egg production (AQ2A_A)

What are the national practices?

In the same document many different practices are reported to exist in different countries.

- Not reporting fish destined for the extraction of fish eggs, such as sturgeon for caviar, in AQ2A_A (AT, BG, CY, DK, + EE, FR, HR, HU, IS, LT, MT, NL, NO, SE, SI, SK, UK)
- Including the weight of the entire fish (including the eggs) in AQ2A_A (FI, PL)
- Including the weight of the fish in AQ2A_A, subtracting the weight of the eggs (DE, EL, ES)
- Including the price of the eggs in the price of the fish (DE)
- Including the production volume but not including the price of the eggs in the price of the fish (ES, FI, IT, LV, PL)

3.1.3 Fish eggs intended for consumption (FISH_AQ2B_A)

Production of fish eggs intended for consumption is covered by Annex II (b) of Regulation (EC) No 762/2008.

⁷ Document 1_05_AQ_DataCollectionGuidelines

3.1.3.1 DATA

| Label | Unit |
|--|-------------------|
| Year | Number |
| Country | Code |
| FAO major fishing area | Code |
| Production environment | Code |
| Production method | Code |
| Species (3 alpha code, common name, scientific name) | Code |
| Volume of eggs | Tonnes |
| Observation status (unit) | Flag |
| Confidentiality status (unit) | Flag |
| Unit value of fish eggs | National currency |
| Observation status (unit value) | Flag |
| Confidentiality status (unit value) | Flag |
| Currency | Code |

3.1.3.1.1 Fish eggs for consumption

Annual production volume and unit value at first sale of all fish eggs per FAO major area, production method and production environment.

For details on the reporting units, please refer to 2.7 above.

The combinations of species groups and production methods are shown in Table 2 – Combinations of species groups and production methods above.

Includes

- Fish eggs for consumption
 - consumption (including human consumption)
 - feed production
 - industrial/ pharmaceutical production
 - processing
 - stocking of ponds, rivers and lakes
 - export
- Fish eggs for processing
- Fish eggs for export

Excludes

- Fish eggs of aquarium species
- Fish eggs of ornamental species
- Fish eggs for production not intended for sale

3.1.4 Input to capture based aquaculture (FISH_AQ3)

Input to capture-based aquaculture is covered by Annex III of Regulation (EC) No 762/2008.

3.1.4.1 DATA

| Label | Unit |
|--|-------------------|
| Year | Number |
| Country | Code |
| Species (3 alpha code, common name, scientific name) | Code |
| Volume of capture | Tonnes/Number |
| Observation status (unit) | Flag |
| Confidentiality status (unit) | Flag |
| Conversion factor (if unit is number) | Number |
| Unit value of capture | National currency |
| Observation status (unit value) | Flag |
| Confidentiality status (unit value) | Flag |
| Currency | Code |

3.1.4.1.1 Input to capture-based aquaculture

Weight or number of annual production and unit value of fertilised eggs and seed of fish/crustaceans/molluscs collected from the wild as input for aquaculture production

For details on the reporting units, please refer to 2.7 above.

Note that the first sale criterion does not apply to capture-based input to aquaculture (AQ3).

Includes

- Fertilised eggs to be used as input for aquaculture production
- Seed of fish/crustaceans/molluscs to be used as input for aquaculture production

Excludes

- Fish collected from the wild for purposes other than seed input to aquaculture production
- Aquarium species
- Ornamental species
- Plant species

3.1.5 Production of hatcheries and nurseries (FISH_AQ4)

Production of hatcheries and nurseries is covered by Annex IV of Regulation (EC) No 762/2008.

3.1.5.1 DATA

| Label | Unit |
|--|----------|
| Year | Number |
| Country | Code |
| Species (3 alpha code, common name, scientific name) | Code |
| Stage in life cycle | Code |
| Intended use | Code |
| Volume of production | Millions |
| Observation status | Flag |
| Confidentiality status | Flag |

3.1.5.1.1 Production of hatcheries and nurseries

Annual production volume of eggs and juveniles intended to be on-grown or to be released to the wild at first sale in absolute numbers.

For details on the reporting units, please refer to 2.7 above.

The intended use data is a voluntary data dimension.

Includes

- Eggs intended to be on-grown
- Eggs intended to be released in the wild
- Juveniles intended to be on-grown
- Juveniles intended to be released in the wild

Excludes

- Aquarium species
- Ornamental species
- Production not intended for sale (e.g. eggs and/or juveniles on-grown by the same company)
- Production not intended for consumption
- Fish eggs for consumption (AQ2B_A)
- Juveniles for consumption (AQ2A_A)

Production of hatcheries and nurseries

What are the national practices?

An assessment on the Member States practices for the data delivery on table AQ4 was presented in the 2017 Working Group on Fisheries Statistics⁸.

Although the legislation does not mention that the data collection should focus only on fish or aquatic plants for human consumption, a large number of countries has declared to include in table AQ4 only production volumes intended to be used for human consumption (AT, CY, DE, EE, EL, ES, FI, FR, HR, HU, IE, IS, IT, LT, LV, MT, NL, NO, SE, SI, SK).

For the countries which included other uses (in line with Regulation (EC) No 762/2008) (BG, DK, PL, UK) the results were as following:

- feed / bait (none)
- industrial / pharmaceutical purpose (none)
- functional purposes such as cleaner fish (BG, UK)
- other uses (DK)

No countries included use for aquarium / ornamental species (which is also in line with Regulation (EC) No 762/2008).

Furthermore, most countries did not include juveniles used for on-growing to adult stage on the own premises of the nursery (AT, BG, DE, DK, EE, EL, FI, FR, HR, IE, LT, LV, MT, NO, SE, SI, UK), while a few included them (CY, ES, HU, IS, NL, PL, SK, UK)

3.1.6 Structure of the aquaculture sector (FISH_AQ5)

The structure of the aquaculture sector is covered by Annex V of Regulation (EC) No 762/2008.

The potential capacity of the aquaculture sector is to be reported every three years.

3.1.6.1 DATA

| Label | Unit |
|--|------------------------------|
| Year | Number |
| Country | Code |
| Species group (3 alpha code, common name, scientific name) | Code |
| FAO major fishing area | Code |
| Production environment | Code |
| Production method | Code |
| Volume/area/length | 1000m ³ , ha or m |
| Unit of capacity | 1000m ³ , ha or m |

For details on the reporting units, please refer to 2.7 above.

⁸ Document 1_05_AQ_DataCollectionGuidelines

3.1.6.1.1 Aquaculture facilities

Capacity of the aquaculture facilities by species, FAO major area, production environment and production method

Includes

- Aquaculture facilities producing for commercial purposes.

Excludes

- Facilities used exclusively for the production of aquarium or ornamental species
 - Facilities used exclusively for other than commercial purposes (e.g. research)
-

4

Data processing

4.1 Introduction

To ensure data quality, please check data consistency.

4.2 Data integration

The detailed data (per species) is expected to be sent to Eurostat.

4.3 Revision

The data can be revised any moment for the current of past reference years. The revisions have to be sent by using the most recent data structure file.

4.4 Validation

The data need to be validated before transmission to Eurostat by using the validation rules detailed in Chapter 7.

4.5 Editing

No specific instructions.

4.6 Imputation

The missing unit values can be imputed.

4.7 Calculation of national aggregates

Figure 1 – List of priorities for non-confidential national aggregates (from more important to least important)

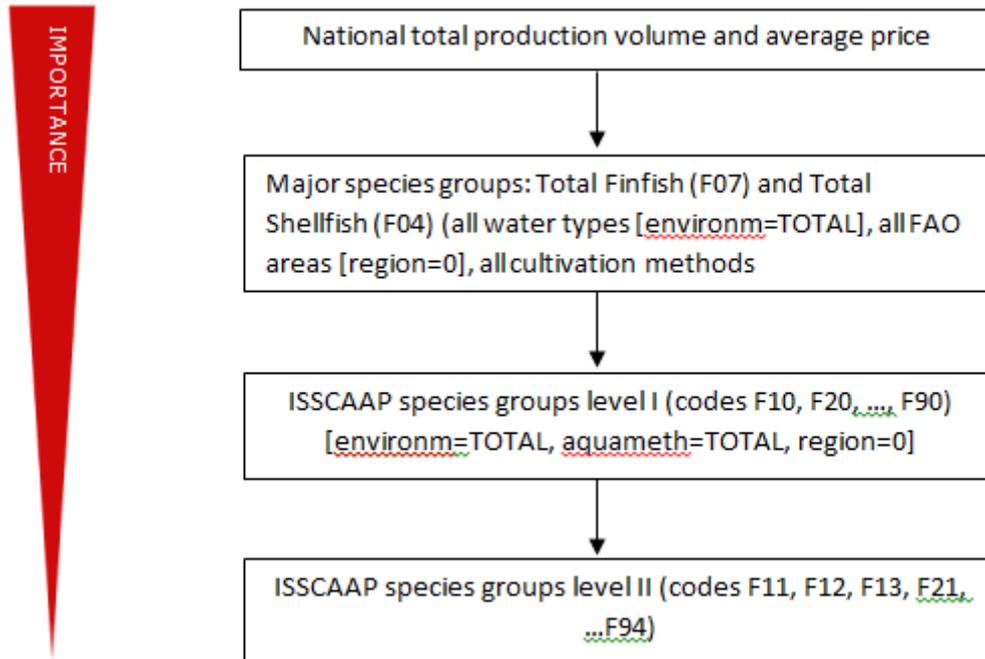
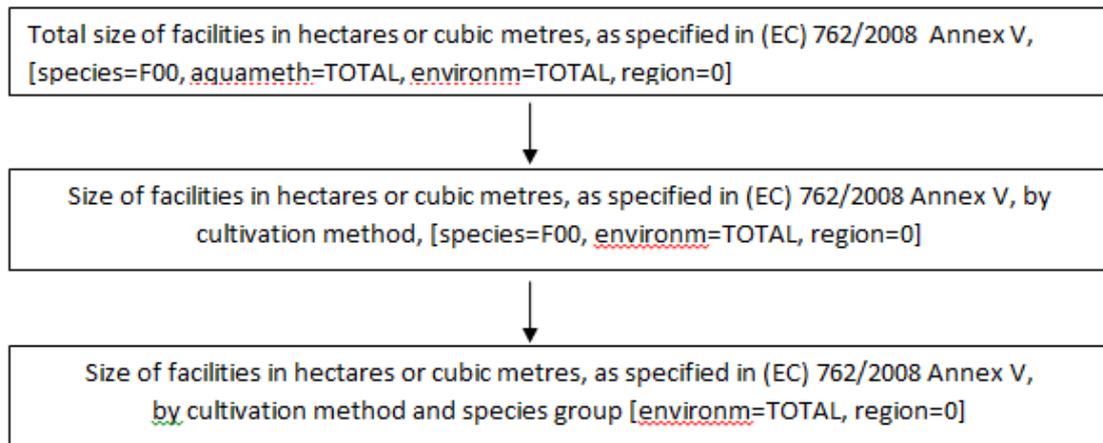


Figure 2 – List of priorities for FISH_AQ5_A3 (Annex V)



4.7.1 Aggregates and confidentiality

The countries which have confidential data at the detailed species level may submit the total production of a species instead of species-method-environment-region combinations using AQUAMETH=NSP and/or ENVIRONM=NSP and/or REGION=NSP. The order of importance shown above should be respected.

Figure 3 – Examples for reporting

Examples

Instead of

| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 5 | FRW | RES | TRR | 50 | | c | 3000 | | c | NAC |
| A | 2016 | XXX | 5 | FRW | PON | TRR | 100 | | | 2000 | | | NAC |
| A | 2016 | XXX | 5 | FRW | TNK | TRR | 100 | | | 2500 | | | NAC |

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| | | | | | | | | | | | | | |
|---|------|-----|---|-----|-----|-----|-----|--|--|------|--|--|-----|
| A | 2016 | XXX | 5 | FRW | NSP | TRR | 250 | | | 2400 | | | NAC |
|---|------|-----|---|-----|-----|-----|-----|--|--|------|--|--|-----|

Instead of

| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 5 | FRW | RES | ELE | 50 | | c | 4000 | | c | NAC |
| A | 2016 | XXX | 5 | SBW | RES | ELE | 100 | | | 3000 | | | NAC |

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| | | | | | | | | | | | | | |
|---|------|-----|---|-----|-----|-----|-----|--|--|------|--|--|-----|
| A | 2016 | XXX | 5 | NSP | RES | ELE | 150 | | | 3333 | | | NAC |
|---|------|-----|---|-----|-----|-----|-----|--|--|------|--|--|-----|

5

Data structure

5.1 Introduction

The dataset structure definition (DSD) describes how information in a specific dataset is structured. Knowledge of the structure is important, because it allows to later filtering out desired information very precisely based on criteria to limit specific dimensions.

5.2 Dataset structure definition

The data structures can be found on the repository under <https://webgate.ec.europa.eu/sdmxregistry/> and have the following artefact IDs:

FISH_AQ2_TM v2.5

FISH_AQ3_TM v2.5

FISH_AQ4_TM v2.5

FISH_AQ5_TM v2.5

5.3 Data types

For the data transmission two data types are foreseen:

- code
- positive integer

6

Data transmission

6.1 Flags for data transmission

The flags are split into observation status and confidentiality status flags. They are standard SDMX flags.

6.1.1 Observation status flags

If needed, you may flag your data in the columns 'OBS_STATUS' or 'PRICE_STATUS' of the Excel template. The observation flags are listed in Table 3 – Observation status flags.

Table 3 – Observation status flags

| Flag | Definition | Meaning | Data transmission | Dissemination |
|------|----------------------|---|---------------------|--|
| B | break in time series | Value differs significantly from previous years due to methodological changes. | (Numerical value) B | |
| D | Definition differs | The definition of the variable differs from the standard (handbook) definition | (Numerical value) D | Flag will be attached to the value and all its upper level aggregates. |
| E | estimated | Value is based on broad estimation. | (Numerical value) E | |
| L | missing | Missing value, data/phenomenon exists. | L (without value) | ":". |
| N | not significant | Value is not significant. The total production volume of individual species flagged 'n' should not exceed 500 tonnes and not represent more than 5 % of the total national production volume. If possible n-flag should be used for small non-significant volumes rather than c-flag (obs-conf flag). In aggregate calculation the n-flagged data are taken into account as 0 (zero). | N (without value) | 0 ⁿ |
| P | provisional | Final values will be submitted in due course. | (Numerical value) P | Flag will be attached to the value and all its upper level aggregates. |
| U | low reliability | The value has a low reliability due to data collection method/precision. | (Numerical value) U | U |

6.1.2 Confidentiality status flags

Table 4 – Confidentiality status flags

| Flag | Definition | Meaning | Dissemination |
|------|--------------|----------------------------|---|
| C | confidential | Value not to be disclosed. | The value and all its upper level aggregates will be set to ':' with flag attached. |

6.1.2.1 COUNTRIES THAT DO NOT REPORT CONFIDENTIAL VALUES

Countries that do not report confidential values can continue with "business as usual"

6.1.2.2 COUNTRIES THAT REPORT CONFIDENTIAL VALUES

Member States are invited to use the 'N' – 'not significant' flag for reporting small, confidential production volumes. In this case, please do not use the 'C'-flag in addition. Remember to flag 'N' both the production weight and the unit value if both values must be hidden. All values flagged 'N' will automatically be set to 0 in Eurostat's internal production system. However, the total production volume of individual species flagged 'n' should not exceed 500 tonnes and not represent more than 5 % of the total national production volume. Production quantities flagged as 'not significant' should be excluded from non-confidential national totals.

Note that the measures presented in this chapter are voluntary. They are unnecessary in cases where they do not help to avoid confidential data and make aggregates available to the public.

In case the 'C' for confidentiality is used in the fields 'OBS_CONF' or 'PRICE_CONF' it is necessary to explain the rules on which the confidentiality decision was taken.

6.1.2.2.1 Use of the "N" flag

Flag as 'N' – 'not significant' - the production volume and price of data rows with small, confidential production volumes.

No values need to be attached to 'N' flagged data rows.

However, the total production volume of individual species flagged 'n' should not exceed 500 tonnes and not represent more than 5 % of the total national production volume.

Production quantities flagged as 'not significant' should be excluded from non-confidential national totals provided in addition to detailed data (see 6.1.2.2.3 below).

Figure 4 – Example of the usage of the n flag

Example

Instead of

| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 27 | SBW | CAG | TRS | 1.2 | | c | 40000 | | c | NAC |
| A | 2016 | XXX | 27 | SBW | CAG | TRS | | | n | | | n | NAC |

6.1.2.2.2 Submit the total production of species instead of species-method-environment-region combinations

Submit the total production of a species instead of species-method-environment-region combinations using AQUAMETH=NSP and/or ENVIRONM=NSP and/or REGION=NSP.

Figure 5 – Example of submission of total production of species

Examples

Instead of

| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 5 | FRW | RES | TRR | 50 | | c | 3000 | | c | NAC |
| A | 2016 | XXX | 5 | FRW | PON | TRR | 100 | | | 2000 | | | NAC |
| A | 2016 | XXX | 5 | FRW | TNK | TRR | 100 | | | 2500 | | | NAC |
| A | 2016 | XXX | 5 | FRW | NSP | TRR | 250 | | | 2400 | | | NAC |

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| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 5 | FRW | RES | ELE | 50 | | c | 4000 | | c | NAC |
| A | 2016 | XXX | 5 | SBW | RES | ELE | 100 | | | 3000 | | | NAC |
| A | 2016 | XXX | 5 | NSP | RES | ELE | 150 | | | 3333 | | | NAC |

Instead of

| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|--------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 5 | FRW | TNK | TRR | 100 | | | 2500 | | | NAC |
| A | 2016 | XXX | 27 | SBW | CAG | TRR | 75 | | c | 2000 | | c | NAC |
| report | | | | | | | | | | | | | |
| A | 2016 | XXX | NSP | NSP | NSP | TRR | 175 | | | 2286 | | | NAC |

6.1.2.2.3 Submit a non-confidential total national production volume (TLW) and average price (NAC_T)

Submit a non-confidential total national production volume (TLW) and average price (NAC_T) in addition to detailed data required by the regulation. If possible, further non-confidential aggregates following the list of priorities (in the Annex of this document) shall be submitted.

The non-confidential national totals should exclude production quantities flagged as 'not significant'.

Figure 6 – Example of submission of non-confidential total national production volume

Example

| FREQ | TIME_PERIOD | COUNTRY | REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | OBS_STATUS | OBS_CONF | UNIT_PRICE | PRICE_STATUS | PRICE_CONF | CURRENCY |
|------|-------------|---------|--------|---------|----------|---------|-----------|------------|----------|------------|--------------|------------|----------|
| A | 2016 | XXX | 0 | TOTAL | TOTAL | F00 | 1000 | | | 2300 | | | NAC |
| A | 2016 | XXX | 0 | TOTAL | TOTAL | F10 | 500 | | | 2200 | | | NAC |
| A | 2016 | XXX | 0 | TOTAL | TOTAL | F20 | 300 | | | 2500 | | | NAC |
| A | 2016 | XXX | 0 | TOTAL | TOTAL | F23 | 260 | | | 2300 | | | NAC |
| A | 2016 | XXX | 0 | TOTAL | TOTAL | F30 | 150 | | | 2400 | | | NAC |
| A | 2016 | XXX | 0 | TOTAL | TOTAL | F50 | 50 | | | 1800 | | | NAC |

6.2 Deadlines for data submission

The deadline for the following datasets is **annually** 31 December year N+1 (where N is the reference year).

- FISH_AQ2A_A, Production from aquaculture excluding nurseries and hatcheries
- FISH_AQ2B_A, Fish eggs intended for consumption
- FISH_AQ3_A, Input to capture-based aquaculture
- FISH_AQ4_A, Production of hatcheries and nurseries

The deadline for the following dataset is **every three years** 31 December year N+1 (where N is the reference year)

- FISH_AQ5_3

The reference years are detailed in Table 1 – Reporting frequencies by reference year for aquaculture, above.

6.3 Templates for data submission

All templates are available on CircaBC: -> Fishery statistics -> Library -> 04. Methodology and quality -> Aquaculture Regulation 762_2008 -> Aquaculture data collection ->

Always use the most recent templates and submit the full dataset, even for data revisions of previous years.

6.3.1 Encoding instructions for aggregates

The normal data transmission for aquaculture is done without any aggregates. Eurostat calculates the aggregates automatically.

In case some of the data are confidential (C-flagged), you can add aggregates in order to allow at least some data to be published.

There are two types of aggregates: single species aggregates and fish family and upper aggregates

6.3.1.1 SINGLE SPECIES AGGREGATES

On species level aggregation is possible by not specifying REGION and/or AQUAENV and/or AQUAMETH details.

- Aggregation of REGION: please use the code 'NSP' (not specified).
- Aggregation of AQUAENV: please use the code 'NSP' (not specified)
- Aggregation of AQUAMETH: please use the code 'NSP' (not specified)

Table 5 – Examples of the use of aggregation for single species

| REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | COMMENT |
|--------|---------|----------|---------|-----------|---------|
|--------|---------|----------|---------|-----------|---------|

| | | | | | |
|-----|-----|-----|-----|--------|---|
| NSP | SBW | ONB | COC | 1815.2 | All production areas aggregated for Common edible cockle cultivated on bottom in salt water |
| 5 | NSP | RES | ELE | 791.0 | All environments aggregated for European eel cultivated in Recirculation systems in Area 5 |
| 5 | FRW | NSP | SLZ | 25.8 | All methods aggregated for Salmonidae cultivated in fresh water in Area 5 |

6.3.1.2 FISH FAMILY AND UPPER AGGREGATES (F-CODES)

If data are transmitted for fish families and upper aggregates (F-codes: from F00 to F90), please use the following codes:

- REGION code '0' (=All production areas)
- AQUAENV code 'TOTAL' (=All environments)
- AQUAMETH code 'TOTAL' (=All methods)

Table 6 – Examples of the use of aggregation for F codes

| REGION | AQUAENV | AQUAMETH | SPECIES | OBS_VALUE | COMMENT |
|--------|---------|----------|---------|-----------|-----------------------------|
| 0 | TOTAL | TOTAL | F07 | 19580 | Aggregation for all finfish |

6.3.2 Validation rules on the template

A number of pre-validation checks are automatically performed. In addition the forms now contain a validation table, located on the top right side of each data sheet. Please scroll there to consult the validation table.

All detected errors are highlighted in red. The validation table shows the number and types of errors discovered by the system.

Before sending the data file, please check and correct the errors indicated in the validation table.

6.3.2.1 DUPLICATES AND EMPTY FIELDS (ALL FORMS)

Duplicates of the same record (= same codes for all dimensions in combination with identical or not-identical values for the volume/price) are not accepted. If a duplicate record is detected, it is highlighted in red and the file should be corrected.

The total number of duplicates in the data table is indicated in the validation table.

Whenever a field is empty where a value is required (e.g. price information) the empty cell is highlighted in light red.

6.3.2.2 AGGREGATES (AQ2A AND AQ2B)

The normal data transmission for aquaculture is done without any aggregates. Eurostat calculates the aggregates automatically. In case some of the data are confidential (C-flagged), you can add

aggregates in order to allow at least some data to be published. See the encoding instructions for aggregates.

Whenever (due to confidentiality issues) F-codes for aggregates are introduced in the datasheet (see the encoding instructions for aggregates), they are automatically compared with the aggregates calculated on the basis of the single records in the dataset. Differences are marked as errors and highlighted in red (tolerance 1%).

6.3.2.3 N-FLAG (AQ2A, AQ2B, AQ3 AND AQ4)

The N-flag in observation status means "Not significant" (small production). It is recommended to be used in cases where the production is small (not exceeding 500 tonnes and does not represent more than 5 % of the total national production volume) and the exact data are confidential. .

Whenever the N-flag is used, no numerical value should be introduced and an empty field is expected.

If N-flag is combined with a numerical value, the N-flag is highlighted in red. In this case, delete the N-flag and just send the numerical value.

6.3.2.4 EGGS/JUVENILES SUM (AQ4)

If the sum of eggs/juveniles reported to be released to the wild or sold for on-growing is higher than the total number of eggs/juveniles then figures are highlighted in red.

6.3.2.5 ASFIS CODES OF SPECIES (AQ2A, AQ2B, AQ3 AND AQ4)

For technical reasons only a shortened version of the FAO ASFIS code list of species is annexed to the template. However, it is possible to add manually codes from the ASFIS code list. They will be accepted and highlighted in blue.

6.3.2.6 REFERENCE YEAR (AQ2A, AQ2B, AQ3 AND AQ4)

Records sent in one table can only refer to one single year.

If records in one table refer to different years, the error will be detected and highlighted in red.

6.4 Completeness

It is expected that data for all variables are supplied in all records.

6.5 File naming conventions

The file name is consisting of

- code: FISH
- name of the data transmission sheet: AQ2A, AQ2B, AQ3, AQ4, AQ5_3
- reporting frequency: A (=annual)
- country code : ISO 2 country code
- reference year: XXXX (e.g. 2018)

The parts are concatenated by _ (underscore)

Example: FISH_AQ2A_A_FR_2016.XML

6.6 Transmission method (EDAMIS)

The tool to be used for delivery of data to Eurostat is Eurostat's data transmission program EDAMIS.

The EDAMIS Web Application (eWA) is installed in all National Statistical Institutes and a number of other organisations. A local coordinator is available in each NSI who can provide access to eWA and offer any assistance that might be necessary.

Where an EDAMIS Web Application is not available, data providers can use the EDAMIS Web Portal (eWP). This is an internet based solution, available through an internet browser, which does not require a local installation. The Eurostat EDAMIS support team will provide access.

For information concerning EDAMIS, or data transmission to Eurostat in general, you can contact directly the support team (estat-support-EDAMIS@ec.europa.eu).

6.6.1 Preparation of SDMX-ML files

6.6.1.1 GENERATING SDMX-ML FROM PRODUCTION ENVIRONMENTS

XML files may be generated directly from the national production system using the respective DSDs for aquaculture, which can be found in the SDMX Euro Registry: <https://webgate.ec.europa.eu/sdmxregistry/>

The 4 DSDs have the following artefact Ids:

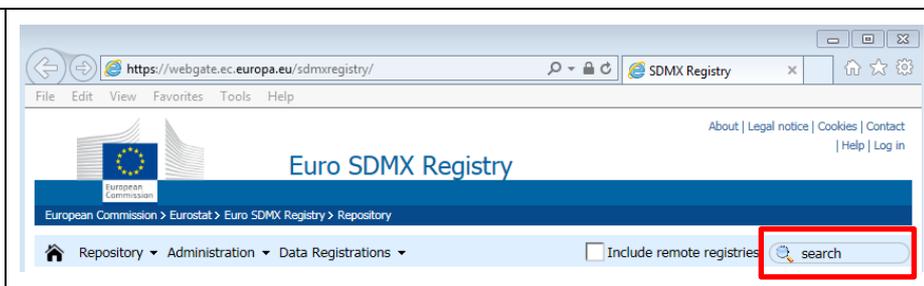
FISH_AQ2_TM v2.6

FISH_AQ3_TM v2.6

FISH_AQ4_TM v2.6

FISH_AQ5_TM v2.6

Using the 'search' facility for terms such as AQ2, AQ3 etc. is the easiest way to find the DSDs.

| | |
|--|---|
| <p>The search facility is located on the top right corner of the Registry window; start typing your search string directly onto it</p> |  <p>The screenshot shows a web browser window with the URL https://webgate.ec.europa.eu/sdmxregistry/. The page title is "Euro SDMX Registry". The navigation menu includes "Repository", "Administration", and "Data Registrations". A search bar is located in the bottom right corner, highlighted with a red box. The search bar contains the text "search".</p> |
|--|---|

Eurostat has developed the Mapping Assistant tool for facilitating the mapping between the structural metadata provided by an SDMX-ML Data Structure Definition (DSD) and those that reside in a database of a dissemination environment.

The Mapping Assistant is described on the SDMX Info Space: https://webgate.ec.europa.eu/fpfis/mwikis/sdmx/index.php/Mapping_Assistant. The Test Client of the SDMX_Reference (SDMX-RI) can then be used to export data from the table to an SDMX file. The link to the CircaBC repository at the bottom of that webpage is the access point to a wealth of information including the User Manual and Tutorial of the Mapping Assistant.

Member States wishing to generate SDMX_ML files directly from their production systems should ensure that they have the necessary IT experience to do so. Business units are advised to contact their IT units to establish whether that SDMX experience is available.

6.6.1.2 USING MS EXCEL TEMPLATES

To use the templates provided by Eurostat, the minimum software requirement is Microsoft Excel version 2007 or higher for the template to function properly. However, a version for Excel 2003 can be obtained from Eurostat (ESTAT-Fisheries@ec.europa.eu) on request.

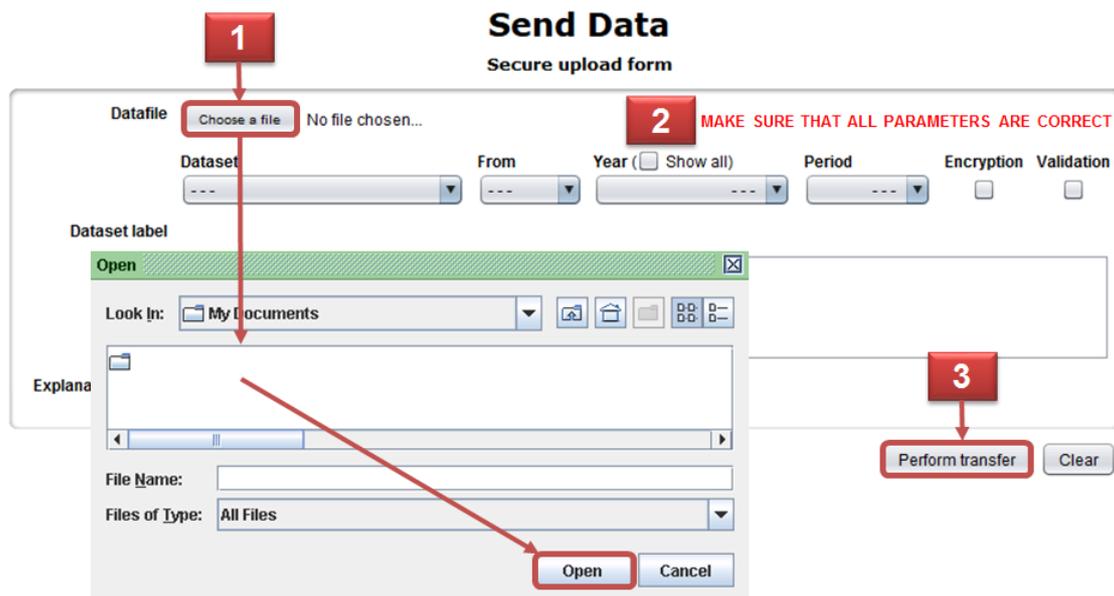
If using MS Excel to create an XML file, please follow the steps below to avoid transmission failures. Always use the most recent templates available on CircaBC.

1. Open the "DATA ENTRY" worksheet and complete the template with your data. Be sure to fill out all the required fields.
 - a. Check that all codes used do exist in the relevant code lists (species, production area)
 - b. Check that the correct decimal separator is used (".")
 - c. Check that your data are expressed in the correct unit
 - d. Check that your data set does not contain any duplicates
 - e. Check that no empty rows are inserted at the bottom of your file
2. Export your data to XML
 - a. Select the Developer tab on the MS Excel Ribbon. If it is not displayed, do the following:
 - i. Click the File tab
 - ii. Click Options.
 - iii. Click Customize Ribbon
 - iv. Under Customize the Ribbon and under Main Tabs, select the Developer check box
 - a. Click the Export button
 - b. Give the .xml file a name, and then save it

To facilitate the file transfer operation in EDAMIS we recommend that you save the file to a location that is easy to find and that you name it according to the EDAMIS dataset naming convention (for example: FISH_AQ2A_A_FR_2018.XML)

3. Log into EDAMIS and select Transmission > Send data
 - a. Upload the XML file generated at step 2
 - b. Check if the values of all text boxes are correct in the [EDAMIS transmission](#) form, namely
 - i. dataset name
 - ii. country
 - iii. reference year
 - c. Attach to your data file any useful information, using the 'free text comments' or 'explanatory file' upload provided by EDAMIS
 - d. Click the Perform transfer button

Figure 7 – Sending data via EDAMIS



7

Data validation

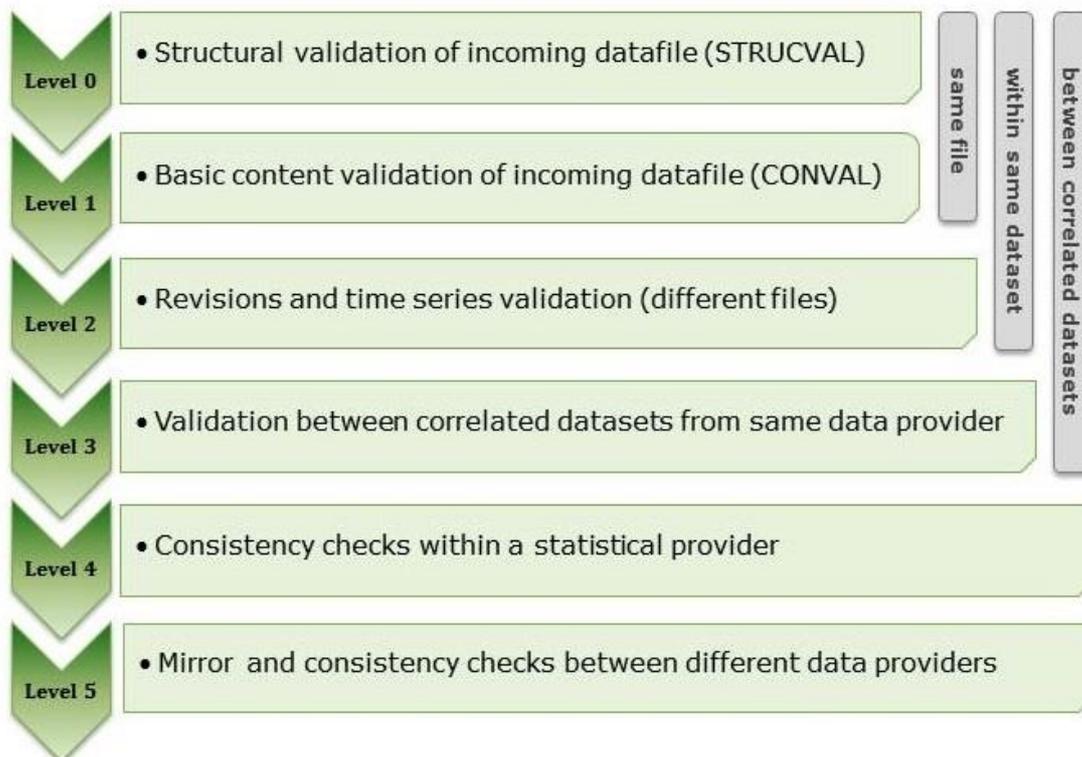
7.1 Introduction

Validation is a key task performed in all statistical domains.

Efficient data validation is essential for high quality statistics. Guidelines for assigning validation responsibilities within the whole production chain, standard validation levels, a good selection of validation rules, standards for validation reports and error/warning messages and common documentation standards of the validation process are important elements of a good data validation policy.

In principle all data validation processes share a common approach, which is shown in the diagram below.

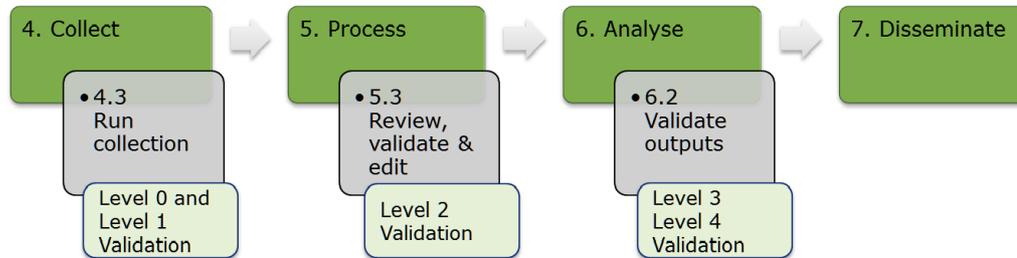
Figure 8 – Validation



7.2 Validation procedure

The data supplied to Eurostat are validated according to the following procedure:

Figure 9 – Validation process (GSBPM notation)



Step 4.3 is the first sub process of GSBPM where validation checks are done. Those checks are purely related to one instance of a dataset.

Eurostat's EDAMIS web portal uses the corresponding SDMX files, therefore the data files are created automatically and this implies that they are syntactically correct and well formed. This corresponds to a level 0 structural validation.

Closely linked is a level 1 validation, which is a basic content validation. There a basic checking of the records within the data file is done. Firstly a semantic check of the records itself is made. Then a set of validation rules for an intra-file check is applied.

Step 5.3 is the part of the process where a level 2 validation takes place. In GSBPM this sub-process is specifically referred to validation, it is in fact named 'review & validate'. This sub-process examines data to try to identify potential problems, errors and discrepancies. It can also be referred to as input data validation. At this stage of the process the new data file is checked against the corresponding time series. The new data are checked using predefined validation rules in a set order. In case problems are found, suspicious or erroneous data are marked for manual inspection. At this stage it is also checked whether all data for the reference year were reported, i.e. a check for completeness.

Step 6.2 is named 'Validate outputs'. In this sub-process statisticians validate the quality of the outputs produced in accordance with a general quality framework and with expectations.

In practice this is an iterative process. After those validation steps data are disseminated.

7.3 Validation rules

The countries are asked to check the data before transmission to Eurostat according to the validations rules mentioned below. In case a dataset does not pass the checks on white background, Eurostat will contact the countries and ask for data corrections/clarifications.

The highlighted checks provide to Eurostat mostly additional information on the dataset.

7.3.1 Shared validation rules

The shared validation rules within all fisheries domains are indicated in Table 7 – Common validation rules for the fisheries domain:

Table 7 – Common validation rules for the fisheries domain

| Name | Check |
|--|---|
| Consistency between year reported and file name | Check consistency between reference year reported in the file and the year appearing in the file name |
| Species discontinuity | Check whether a species reported in the previous year is also reported in the current reference year |
| Country-species combinations | Check which species are reported for the first time by the country |
| Existence of aggregates instead of, or in addition to, detailed components | Check whether for a given variable, aggregates are reported instead of, or together with, their detailed components |
| Existence of C-flags in the country file | Check if C-flags are in the dataset |
| Existence of P-flags in the country file | Check if P-flags are in the dataset |
| Existence of B or D-flags in the country file | Check if B or D-flags are in the dataset |

7.3.2 Additional checks for aquaculture

Additional checks applied to aquaculture data sets are indicated on Table 8 – Additional checks for the aquaculture data sets:

Table 8 – Additional checks for the aquaculture data sets

| Name | Check |
|--|--|
| Correctness of aggregates provided in the country file (for all dimensions where aggregates are present) | Check that aggregates provided by the MS are the sum of the parts (+/-0.5 unit) |
| Outliers | Should be listed as outliers only those observations not belonging to the below defined interval AND for which all values reported up to year t (year t included) are higher than 25 |
| Acceptance interval for TLW | [max (Median – 2.25* IQR, Median * 0.2); Median + 2* IQR] |
| Acceptance interval for NAC_T | [max (Median – 3* IQR, Median * 0.5); Median + 2.5* IQR] |
| Missing unit value while positive quantity | Check that for each positive quantity provided a positive unit value is also reported |
| Region-environment combinations | Check whether the environment/region combinations reported in the country file already exist or not |
| Species-method combinations | Check whether the species/method combinations reported in the country file already exist or not |
| Unit-method combinations | Check that reported units are consistent with production method |
| Missing quantity while positive unit value | Check that for each positive unit value provided, a positive quantity is also reported |
| Growth rate of total aquaculture production compared to previous year (N/N-1), both for volume and value | Calculate growth rate of total AQ production of new reference year over total AQ production of previous year |

8

Quality reports

8.1 Introduction

Article 6 of Regulation (EC) No 762/2008 indicates that:

1. Each Member State shall provide the Commission (Eurostat) with a yearly report on the quality of the data submitted.
2. At the submission of the data, each Member State shall submit to the Commission a detailed methodological report. In that report, each Member State shall describe how the data were collected and compiled. This report shall include details of sampling techniques, estimation methods and of sources used other than surveys and an evaluation of the quality of the resultant estimates.

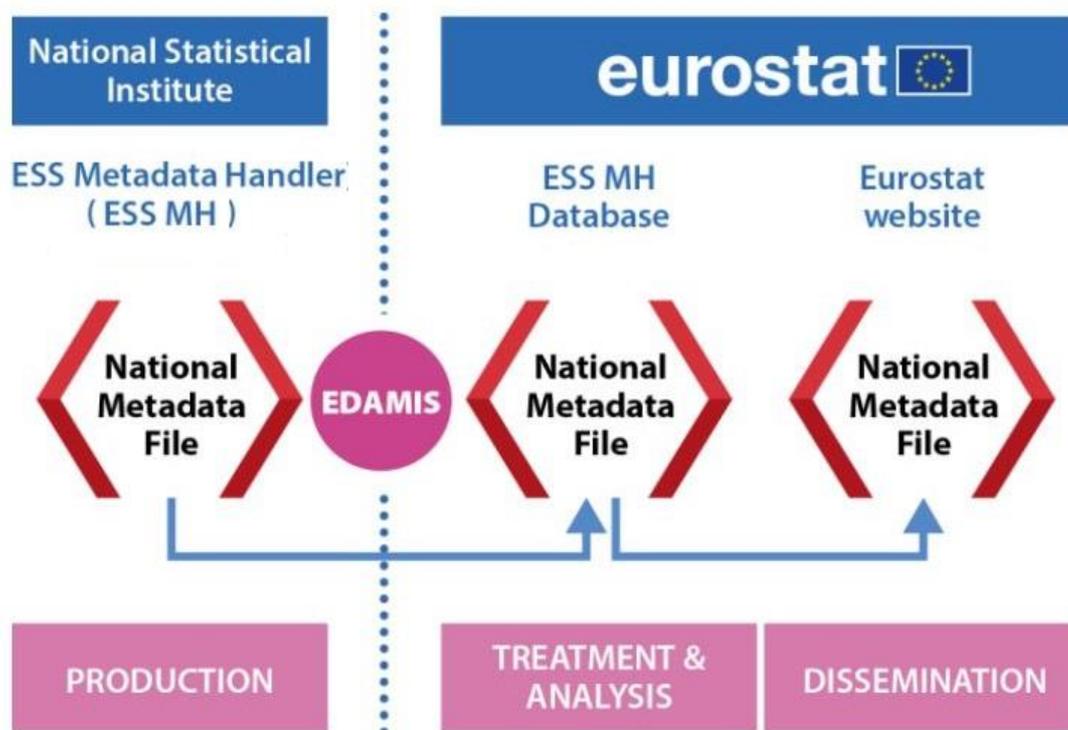
8.2 Quality reports

Member States shall provide the Commission (Eurostat) with reference metadata in accordance with the Euro SDMX Metadata Structure.

Member States shall provide the required metadata (including quality) in accordance with an exchange standard specified by the Commission (Eurostat). The metadata shall be provided to Eurostat through the single entry point.

The reports are published on Eurostat website.

Figure 10 – High level business process for reporting SDMX compliant reference metadata



8.2.1 ESS Standard for Quality Reports

The ESS Standard for Quality Reports Structure (ESQRS) contains the description and representation of statistical metadata concepts to be used for providing detailed information for assessing data quality. The broad concepts used are compatible with the SDMX cross-domain concepts and with the common terminology as published within the SDMX Glossary (2016). The detailed quality concepts are based on the ESS Standard for Quality Reports (ESQR) from 2009.

The ESQRS is addressed to the European Statistical System. It is implemented at Eurostat and at national level: the application of the concepts and sub concepts at European level and at national level are provided in the [ESS Handbook for Quality Reports \(EHQR\) from 2014](#) and the [ESS Guidelines for the implementation of the ESS Quality and Performance Indicators from 2014](#).

The [Single Integrated Metadata Structure v2.0](#) combines both underlying reporting structures (ESMS 2.0 and ESQRS 2.0), and is the standard for quality reporting according to Article 12 of Regulation 223/2009 on European statistics.

8.2.2 Report structure

Table 9 – Main headings of the ESS Standard for Quality Reports

| | Concept Name | Descriptions |
|----------|--------------------------------------|---|
| 1 | Contact | Individual or organisational contact points for the data or metadata, including information on how to reach the contact points. |
| 1.1 | Contact organisation | The name of the organisation of the contact points for the data or metadata. |
| 1.2 | Contact organisation unit | An addressable subdivision of an organisation |
| 1.3 | Contact name | The name of the contact points for the data or metadata. |
| 1.4 | Contact person function | The area of technical responsibility of the contact, such as "methodology", "database management" or "dissemination". |
| 1.5 | Contact mail address | The postal address of the contact points for the data or metadata. |
| 1.6 | Contact email address | |
| 1.7 | Contact phone number | The telephone number of the contact points for the data or metadata. |
| 1.8 | Contact fax number | Fax number of the contact points for the data or metadata. |
| 2 | Statistical presentation | A general description of the statistical process, its outputs, and their evolution over time |
| 2.1 | Data description | Main characteristics of the data set described in an easily understandable manner, referring to the data and indicators disseminated. |
| 2.2 | Classification system | Arrangement or division of objects into groups based on characteristics which the objects have in common. |
| 2.3 | Sector coverage | Main economic or other sectors covered by the statistics. |
| 2.4 | Statistical concepts and definitions | Statistical characteristics of statistical observations. |
| 2.5 | Statistical unit | Entity for which information is sought and for which statistics are ultimately compiled. |
| 2.6 | Statistical population | The total membership or population or "universe" of a defined class of people, objects or events. |
| 2.7 | Reference area | The country or geographic area to which the measured statistical phenomenon relates. |
| 2.8 | Time coverage | The length of time for which data are available. |

| | Concept Name | Descriptions |
|----------|---------------------------------|---|
| 3 | Statistical processing | Operations performed on data to derive new information according to a given set of rules |
| 3.1 | Source data | Characteristics and components of the raw statistical data used for compiling statistical aggregates. |
| 3.2 | Frequency of data collection | Frequency with which the source data are collected. |
| 3.3 | Data collection | Systematic process of gathering data for official statistics. |
| 3.4 | Data validation | Process of monitoring the results of data compilation and ensuring the quality of the statistical results. |
| 3.5 | Data compilation | Operations performed on data to derive new information according to a given set of rules. |
| 3.6 | Adjustment | The set of procedures employed to modify statistical data to enable it to conform to national or international standards or to address data quality differences when compiling specific data sets. |
| 4 | Quality management | Systems and frameworks in place within an organisation to manage the quality of statistical products and processes. |
| 4.1 | Quality assurance | Guidelines focusing on quality in general and dealing with quality of statistical programmes, including measures for ensuring the efficient use of resources |
| 4.2 | Quality assessment | Overall assessment of data quality, based on standard quality criteria. |
| 5 | Relevance | The degree to which statistical information meets the real or perceived user's needs. |
| 5.1 | User Needs | Description of users and their respective needs with respect to the statistical data. |
| 5.2 | User Satisfaction | Measures to determine user satisfaction. |
| 5.3 | Completeness | The extent to which all statistics that are needed are available. |
| 5.3.1 | Data completeness - rate | The ratio of the number of data cells provided to the number of data cells required. |
| 6 | Accuracy and reliability | <u>Accuracy</u> : closeness of computations or estimates to the exact or true values that the statistics were intended to measure <u>Reliability</u> : closeness of the initial estimated value to the subsequent value. |
| 6.1 | Accuracy - overall | Assessment of accuracy, linked to a certain data set or domain, which is summarising the various components into one single measure. |
| 6.2 | Sampling error | That part of the difference between a population value and an estimate thereof, derived from a random sample, which is due to the fact that only a subset of the population is enumerated. |

| | Concept Name | Descriptions |
|---------|------------------------------|--|
| 6.2.1 | Sampling error - indicators | Precision measures for estimating the random variation of an estimator due to sampling. |
| 6.3 | Non-sampling error | Error in estimates which cannot be attributed to sampling fluctuations. |
| 6.3.1 | Coverage error | Divergence between the frame population and the target population. |
| 6.3.1.1 | Over-coverage - rate | The proportion of units accessible via the frame that do not belong to the target population. |
| 6.3.1.2 | Common units - proportion | The proportion of common units covered by both the survey and the administrative sources in relation to the total number of units in the survey. |
| 6.3.2 | Measurement error | Error in reading, calculating or recording numerical value. |
| 6.3.3 | Non response error | The difference between the statistics computed from the collected data and those that would be computed if there were no missing values. |
| 6.3.3.1 | Unit non-response - rate | The ratio of the number of units with no information or not usable information to the total number of in-scope (eligible) units. |
| 6.3.3.2 | Item non-response - rate | The ratio of the in-scope (eligible) units which have not responded to a particular item and the in-scope units that are required to respond to that particular item |
| 6.3.4 | Processing error | The error in final data collection process results arising from the faulty implementation of correctly planned information methods. |
| 6.3.4.1 | Imputation - rate | The ratio of the number of replaced values to the total number of values for a given variable. |
| 6.3.5 | Model assumption error | Error due to domain specific models needed to define the target of estimation. |
| 6.5 | Data revision - policy | Policy aimed at ensuring the transparency of disseminated data, whereby preliminary data are compiled that are later revised. |
| 6.6 | Data revision - practice | Information on the data revision practice. |
| 6.6.1 | Data revision - average size | The average over a time period of the revisions of a key item. The 'revision' is defined as the difference between a later and an earlier estimate of the key item. |

| | Concept Name | Descriptions |
|----------|--|--|
| 7 | Timeliness and punctuality | Timeliness and punctuality |
| 7.1 | Timeliness | Length of time between data availability and the event or phenomenon they describe |
| 7.1.1 | Time lag - first result | The number of days (or weeks or months) from the last day of the reference period to the day of publication of first results. |
| 7.1.2 | Time lag - final result | The number of days (or weeks or months) from the last day of the reference period to the day of publication of complete and final results. |
| 7.2 | Punctuality | Time lag between the actual delivery of the data and the target date when it should have been delivered. |
| 7.2.1 | Punctuality - delivery and publication | The number of days between the delivery/release date of data and the target date on which they were scheduled for delivery/release. |
| 8 | Coherence and comparability | <u>Coherence</u> : adequacy of statistics to be reliably combined in different ways and for various uses. <u>Comparability</u> : the extent to which differences between statistics can be attributed to differences between the true values of the statistical characteristics. |
| 8.1 | Comparability - geographical | Extent to which statistics are comparable between geographical areas. |
| 8.2 | Comparability - over time | Extent to which statistics are comparable or reconcilable over time. |
| 8.2.1 | Length of comparable time series | The number of reference periods in time series from last break. |
| 8.3 | Coherence - cross domain | Extent to which statistics are reconcilable with those obtained through other data sources or statistical domains. |
| 8.6 | Coherence - internal | Extent to which statistics are consistent within a given data set. |

| | Concept Name | Descriptions |
|-----------|----------------------------------|--|
| 9 | Accessibility and clarity | The conditions and modalities by which users can obtain, use and interpret data. |
| 9.1 | News release(s) | Regular or ad-hoc press releases linked to the data. |
| 9.2 | Publications | Regular or ad-hoc publications in which the data are made available to the public. |
| 9.3 | Online database | Information about on-line databases in which the disseminated data can be accessed. |
| 9.4 | Micro-data access | Information on whether micro-data are also disseminated. |
| 9.6 | Documentation on methodology | Descriptive text and references to methodological documents available. |
| 9.7 | Quality documentation | Documentation on procedures applied for quality management and quality assessment. |
| 9.7.1 | Metadata completeness - rate | The ratio of the number of metadata elements provided to the total number of metadata elements applicable. |
| 9.7.2 | Metadata - consultations | Number of consultations within a statistical domain for a given time period. |
| 10 | Cost and Burden | Cost associated with the collection and production of a statistical product and burden on respondents. |
| 11 | Confidentiality | A property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties. |
| 11.1 | Confidentiality - policy | Legislative measures or other formal procedures which prevent unauthorised disclosure of data that identify a person or economic entity either directly or indirectly. |
| 11.2 | Confidentiality - data treatment | Rules applied for treating the data set to ensure statistical confidentiality and prevent unauthorised disclosure. |
| 12 | Comment | Supplementary descriptive text which can be attached to the quality report |

8.2.3 Report content details

No specific instructions are applicable.

8.3. Transmission method (ESS-MH)

Annual methodological reports of the national system for aquaculture statistics are to be submitted by filling the Aquaculture statistics Quality Report template available at the ESS Metadata Handler at: <https://webgate.ec.europa.eu/estat/spe/metaconv/>

Due to issues encountered in the past, we advise to use Firefox or Google Chrome instead of Internet Explorer for editing your quality report.

8.3.1 Logging in with EU Login

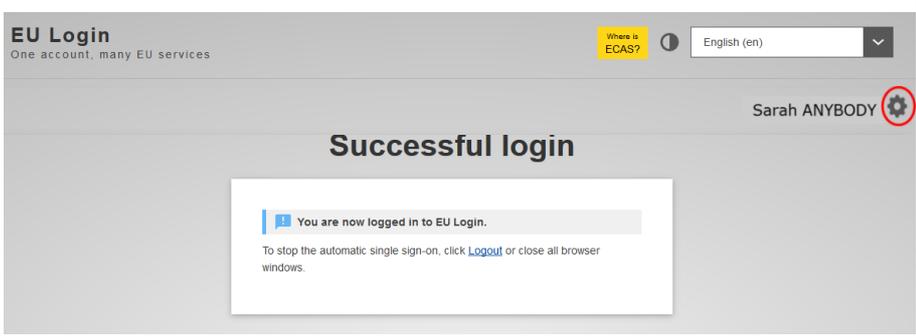
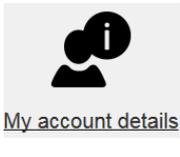
Use you EU Login UID and password to access the ESS Metadata Handler.

Figure 11 – Welcome screen of the ESS Metadata Handler

The EU login is using your email address as a user name. However, access to the ESS MH can currently only be provided using your unique identifier (UID).

This UID usually consists of the first 5 letters of your last name and the first 2 letters of your name, for example: Sarah Anybody -> anybosa.

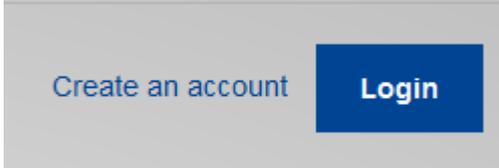
You can find your UID after logging in to the EU Login

| | |
|---|---|
| <p>Go to your name on the upper right side of the page and click on the icon next to it</p> |  |
| <p>Click on 'My Account' and subsequently on "my account details"</p> |  |
| <p>Find your UID on the third line of the details provided ("anybosa")</p> |  |

Please send your EU Login UID to ESTAT-metadata@ec.europa.eu (cc: ESTAT-Fisheries@ec.europa.eu) to be granted access to the ESS MH. Note that no access can be granted without the UID. An email address is not sufficient.

8.3.2 Creating an EU Login

If you do not have an EU Login yet, you can create an account

| | |
|--------------------------------|---|
| <p>On the top right corner</p> |  |
|--------------------------------|---|



8.3.3 Editing the metadata handler template

Once you are logged in, you will find your country file prefilled with information from your previous quality report.

Please fill the report as thoroughly as possible.

For many of the concepts used, we have added guidelines, which you can find directly in the Metadata Handler.

| | |
|---|--|
| <p>Use the 'Edit' button to modify the prefilled answers.</p> | |
| <p>The (i) button gives access to further guidelines</p> | |

Do not forget to save all data entries and submit your final report for validation.

8.3.4 Validating the quality report

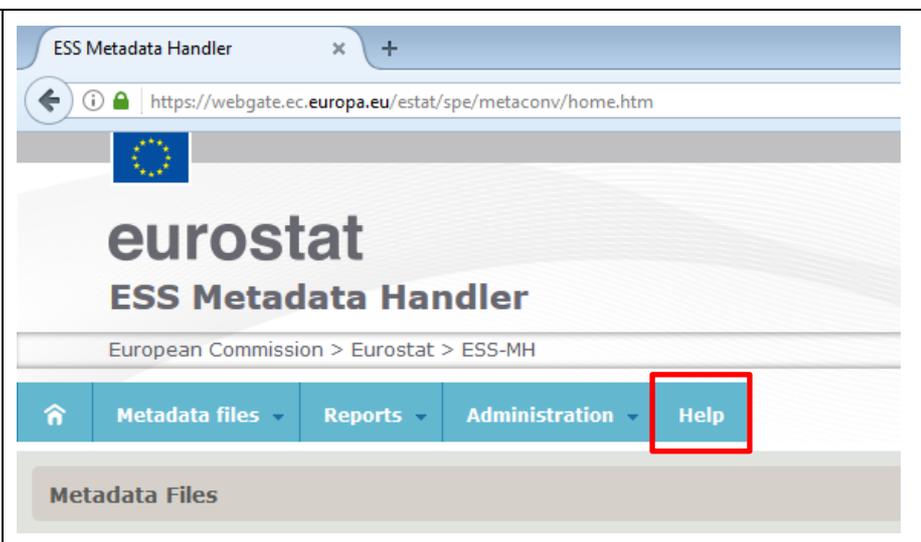
After validation, your national aquaculture statistics quality report will be published on the Eurostat public database.

| | |
|--|--|
| <p>For any information that you do not want to be published, you must tick the appropriate box</p> | |
|--|--|

For further help on the EU Login go to <https://webgate.ec.europa.eu/cas/help.html>

8.3.5 ESS-MH support

Should you experience difficulties with the ESS MH tool, please contact ESTAT-Metadata@ec.europa.eu.

| | |
|---|---|
| <p>The general user guide of the ESS-MH can be found on the 'Help' page of the tool</p> |  |
|---|---|

9

Data dissemination

9.1 Confidentiality

Only non-confidential data are disseminated.

9.2 Flags for data dissemination

Standard Eurostat flags, as much as possible in line with the SDMX-flags, are used in data transmission.

9.3 Codes in data dissemination

As much as possible, the codes which are used for data collection are also used in data dissemination.

9.4 Calculation of EU aggregates

To allow for the calculation of EU aggregates, the detailed data needs to be transmitted to Eurostat.

Eurostat calculates the aggregates before publishing the data, respecting the order shown for national aggregates in Figure 1 – List of priorities for non-confidential national aggregates (from more important to least important).

9.1 Dissemination of tabular data

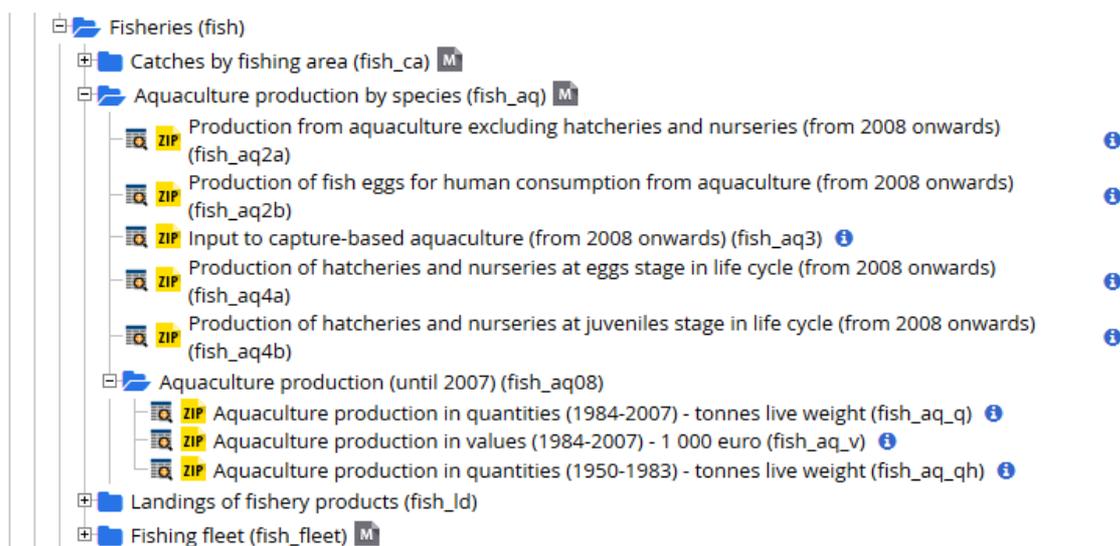
Tables published by Eurostat are available online <https://ec.europa.eu/eurostat/data/database>

Data for aquaculture is available under the agriculture, forestry and fisheries theme.

Figure 12 – Navigation tree on <https://ec.europa.eu/eurostat/data/database> showing the fisheries theme



Figure 13 – Navigation tree on <https://ec.europa.eu/eurostat/data/database> showing the fish_aq tables



A number of buttons allows access to different views of the information

| | |
|---|---|
|  | Access the data explorer |
|  | Download the complete (compressed) table in TSV (tab separated values) format |
|  | Access information on the leaf |
|  | Access to explanatory texts (metadata) |

Figure 14 – General aspect of a table on the data explorer

Production from aquaculture excluding hatcheries and nurseries (from 2008 onwards) [fish_aq2a]

Last update: 17-10-2018

Table Customization [show](#)

TIME: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016

GEO: European Union (current comp), Belgium, Bulgaria, Czechia, Denmark, Germany (until 1990 former t), Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia

Species: All aquatic organisms

Aquaculture method: All methods, Fishing regions, Total fishing areas

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------------------------|--------------|-----------------------------|------------|--------------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|--------------------------|
| European Union (current comp) | 1,271,670.81 | 1,318,086.72 ^(e) | | | | | 1,250,208.27 ^(e) | 1,259,832.85 ^(f) | |
| Belgium | 126 | 576 ^(e) | | | | | 214 ^(e) | 32 | 44 |
| Bulgaria | 7,250.99 | 7,912.17 | 7,920.41 | 7,091.31 | 6,939.96 | 6,292 | 6,883 | 10,652.39 | 12,445.03 |
| Czechia | 20,395 | 20,071 | 20,420 | 21,010 | 20,762.8 ^(e) | 19,360 | 20,163 | 20,200 | 20,950.1 |
| Denmark | 37,216.24 | 34,130.6 | 32,329.8 | | 33,588.12 | | 33,624 | 35,990 | 34,770.03 |
| Germany (until 1990 former t) | 43,977 | 39,957 | 40,694 | | | | 26,222.6 | 26,867.4 | 32,336.4 |
| Estonia | 474.69 | 653.6 | 573.04 | | | | 864.93 | 798.27 | 867.73 |
| Ireland | 44,870.8 | 47,211.68 | 46,187.9 | 43,921 | 34,229 | 32,664.1 | 29,327 ^(e) | 37,581.22 ^(e) | 41,260.4 ^(e) |
| Greece | 114,888 | 121,971 | 120,981 | 111,217.9 | | | 104,451.7 | 105,934.4 ^(e) | 123,323.5 |
| Spain | 252,237.66 | 268,497.13 | 253,784.4 | 274,223 | 266,592.5 | 226,220.8 | 284,976.51 | 293,509.95 | 287,281.81 |
| France | 238,248.6 | 236,439.1 | 203,016.6 | 193,672 | 205,106.4 ^(e) | 200,329.9 ^(e) | 180,344 | 153,303.6 | |
| Croatia | 16,386.5 | 16,328.55 | 15,686 | 17,189 | 13,921.45 | 13,719.71 | 13,767.8 | 16,875.1 | 17,268.98 |
| Italy | 157,865.1 | 162,324.5 | 153,626.06 | 164,127.4 | 137,039.4 | 140,879.82 | 148,730.34 | 148,138.8 ^(f) | |
| Cyprus | 3,776.16 | 3,356.3 | 4,105.8 | 4,666.7 | 4,334.06 | 5,339.3 | 4,835.28 | 5,458.56 | 6,624.8 |
| Latvia | 583.3 | 517.1 | 549.17 | 545.5 | 574.44 | 643.68 | 686.29 | 863 | 779 |
| Lithuania | 3,008 | 3,427.9 | 3,087.65 | 2,877.08 | 3,226.17 | 3,840.82 | 3,350.19 | 4,083.21 | 4,098.85 |
| Hungary | 15,000 | 14,171 | 13,637 | 15,509 | 14,558 | 14,383 | 15,366 | 17,337 | |
| Malta | 6,726.85 | 5,618.82 | 6,881.1 | 4,072 | 7,440.1 | | 8,605.59 | 10,800.33 | 12,466.49 |
| Netherlands | 46,621.4 | 55,560.7 | 66,795.2 | 43,719.9 | 45,954.4 ^(e) | 46,605.36 | 63,089.02 ^(e) | 62,204.29 ^(e) | 61,763.44 ^(e) |
| Austria | 2,087 | 2,141 | 2,167 | 2,908.89 | 3,128.33 | 3,238.49 | 3,293.31 | 3,503.06 | 3,485.5 |
| Poland | 36,813 | 36,503 | 36,503.3 | 34,245.83 ^(e) | 33,225.66 | 31,257.97 | 36,335.83 | 33,559.64 | 35,452.01 |
| Portugal | 7,352 | 6,726.6 | 8,224.99 | 9,166.02 | 10,317.4 | 10,067.23 ^(e) | 10,794.62 ^(e) | 9,562.95 ^(e) | 11,262.73 |
| Romania | 12,496 | 13,131 | 8,781.43 | 8,353.27 | 10,004.69 | 10,146.78 ^(e) | 10,676.97 | 11,015.77 ^(e) | 12,585.48 |
| Slovenia | 1,315 | 1,308 | 778.3 | | | 1,234.3 | 1,442 | 1,590 | 1,825.9 |

Available flags: b break in time series, c confidential, d definition differs, see metadata, e estimated, f forecast, i see metadata (phased out), n not significant, p provisional, r revised, s Eurostat estimate (phased out), u low reliability, z not applicable

Special values: : not available

Source of data: Eurostat

Annex I

Code lists

COUNTRY

| CODE | LABEL |
|------|------------------------|
| BE | Belgium |
| BG | Bulgaria |
| CZ | Czech Republic |
| DK | Denmark |
| DE | Germany |
| EE | Estonia |
| IE | Ireland |
| EL | Greece |
| ES | Spain |
| FR | France |
| HR | Croatia |
| IT | Italy |
| CY | Cyprus |
| LV | Latvia |
| LT | Lithuania |
| LU | Luxembourg |
| HU | Hungary |
| MT | Malta |
| NL | Netherlands |
| AT | Austria |
| PL | Poland |
| PT | Portugal |
| RO | Romania |
| SI | Slovenia |
| SK | Slovakia |
| FI | Finland |
| SE | Sweden |
| UK | United Kingdom |
| CH | Switzerland |
| IS | Iceland |
| LI | Liechtenstein |
| NO | Norway |
| AL | Albania |
| BA | Bosnia and Herzegovina |
| ME | Montenegro |
| MK | FYR Macedonia |
| RS | Serbia |

| | |
|----|--------|
| TR | Turkey |
| XK | Kosovo |

CURRENCY

| EUR | Euro |
|-----|--|
| ATS | Austrian schilling |
| BEF | Belgian franc |
| BGN | Bulgarian lev |
| CYP | Cyprus pound |
| CZK | Czech koruna |
| DEM | German mark |
| DKK | Danish krone |
| EEK | Estonian Kroon |
| ESP | Spanish peseta |
| FIM | Finnish markka |
| FRF | French franc |
| GBP | Pound sterling |
| GRD | Greek drachma |
| HRK | Croatian kuna |
| HUF | Hungarian forint |
| IEP | Irish pound |
| ITL | Italian lira |
| LTL | Lithuanian litas |
| LUF | Luxembourg franc |
| LVL | Latvian lats |
| MTL | Maltese lira |
| NLG | Dutch guilder |
| PLN | Polish zloty |
| PTE | Portuguese escudo |
| RON | Romanian leu |
| SEK | Swedish krona |
| SIT | Slovenian tolar |
| SKK | Slovak koruna |
| CHF | Swiss franc |
| ISK | Icelandic krona |
| NOK | Norwegian krone |
| ALL | Albanian lek |
| BAM | Bosnian convertible mark |
| MKD | Denar (of the former Yugoslav Republic of Macedonia) |
| RSD | Serbian dinar |
| TRY | Turkish lira |

UNIT

| CODE | LABEL |
|-------------|---|
| TLW | Tonnes live weight |
| TPW | Tonnes product weight |
| EUR | Euro |
| NAC | National currency |
| EUR_T | Euro/Tonne |
| NAC_T | National currency (including 'euro fixed' series for euro area countries)/tonne |
| M | Meter |
| M3 | Cubic meter |
| THS_M3 | Thousands cubic meters |
| HA | Hectare |
| CONV_FACTOR | Conversion factor to live weight |
| NBR | Number |
| KG | Kilogram |
| GT | Gross tonnage (GT) |
| KW | Kilowatt |

ENVIRONMENT

| CODE | LABEL |
|-------------|---|
| TOTAL | Fresh-, Sea- and Brackish water (FRW+SBW) |
| FRW | Freshwater |
| SBW | Saltwater (BRK+SEA – total) |
| NSP | Not specified |

METHOD

| CODE | LABEL |
|-------------|-----------------------|
| CAG | Cages |
| ENC | Enclosures and pens |
| OFB | Off bottom |
| ONB | On bottom |
| OTH | Other method |
| PON | Ponds |
| RES | Recirculation systems |
| TNK | Tanks and raceways |
| NSP | Not specified |
| TOTAL | All methods |

REGION

| CODE | LABEL |
|-------------|-------------------------------|
| 0 | TOTAL of all production areas |
| 1 | Africa - Inland waters |
| 4 | Asia - Inland waters |
| 5 | Europe - Inland waters |
| 10 | Marine areas |
| 27 | Atlantic, Northeast |
| 34 | Atlantic, Eastern Central |
| 37 | Mediterranean and Black Sea |
| NSP | Area not specified |

STAGE IN LIFE

| CODE | LABEL |
|-------------|-------------------------|
| EGGS | Eggs (in millions) |
| JUVENILES | Juveniles (in millions) |

INTENDED USE

| CODE | LABEL |
|-------------|--|
| ENVC | Transferred to a controlled environment (for on-growing) |
| WILD | Released to the wild |

Aggregate structure for fisheries species

See below the aggregated structure for fisheries species.

The full list can be found on <http://www.fao.org/fishery/collection/asfis/en>

| Eurostat | | ISCAAP | | | | |
|--|--|--|-------------------------------------|---|----------------------------------|---------------------------------------|
| F00 TOTAL FISHERY PRODUCTS | F01 TOTAL ANIMALS | F08 TOTAL FINFISH AND SHELLFISH | F07 TOTAL FINFISH | F02 TOTAL FRESHWATER AND DIADROMOUS FISH | F10 Freshwater fishes | 11 Carps, barbels and other cyprinids |
| | | | | | | 12 Tilapias and other cichlids |
| | | | | | | 13 Miscellaneous freshwater fishes |
| | | | | F20 Diadromous fishes | 21 Sturgeons, paddlefishes | |
| | | | | | 22 River eels | |
| | | | | | 23 Salmons, trouts, smelts | |
| | | | | 24 Shads | | |
| | | | | 25 Miscellaneous diadromous fishes | | |
| | | | F04 TOTAL SHELLFISH | F30 Marine fishes | 31 Flounders, halibuts, soles | |
| | | | | | 32 Cods, hakes, haddocks | |
| | | | | | 33 Miscellaneous coastal fishes | |
| | | | | | 34 Miscellaneous demersal fishes | |
| | | 35 Herrings, sardines, anchovies | | | | |
| | | 36 Tunas, bonitos, billfishes | | | | |
| | | 37 Miscellaneous pelagic fishes | | | | |
| | | 38 Sharks, rays, chimaeras | | | | |
| | | 39 Marine fishes not identified | | | | |
| | | F40 Crustaceans | | 41 Freshwater crustaceans | | |
| | | | | 42 Crabs, sea-spiders | | |
| | | | | 43 Lobsters, spiny-rock lobsters | | |
| | | | 44 King crabs, squat-lobsters | | | |
| | | | 45 Shrimps, prawns | | | |
| | | | 46 Krill, planktonic crustaceans | | | |
| | | | 47 Miscellaneous marine crustaceans | | | |
| F50 Molluscs | 51 Freshwater molluscs | | | | | |
| | 52 Abalones, winkles, conchs | | | | | |
| | 53 Oysters | | | | | |
| | 54 Mussels | | | | | |
| | 55 Scallops, pectens | | | | | |
| | 56 Clams, cockles, arkshells | | | | | |
| | 57 Squids, cuttlefishes, octopuses | | | | | |
| | 58 Miscellaneous marine molluscs | | | | | |
| | F60 Whales, seals and other aquatic mammals | 61 Blue-whales, fin-whales | | | | |
| | | 62 Sperm-whales, pilot-whales | | | | |
| | | 63 Eared seals, hair seals, walruses | | | | |
| 64 Miscellaneous aquatic mammals | | | | | | |
| F70 Miscellaneous aquatic animals | 71 Frogs and other amphibians | | | | | |
| | 72 Turtles | | | | | |
| | 73 Crocodiles and alligators | | | | | |
| | 74 Sea-squirts and other tunicates | | | | | |
| | 75 Horseshoe crabs and other arachnoids | | | | | |
| | 76 Sea-urchins and other echinoderms | | | | | |
| | 77 Miscellaneous aquatic invertebrates | | | | | |
| F80 Miscellaneous aquatic animal products | 81 Pearls, mother-of-pearl, shells | | | | | |
| | 82 Corals | | | | | |
| | 83 Sponges | | | | | |
| F90 Aquatic plants | 91 Brown seaweeds | | | | | |
| | 92 Red seaweeds | | | | | |
| | 93 Green seaweeds | | | | | |
| | 94 Miscellaneous aquatic plants | | | | | |

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