

**Documentation of statistics for  
Stock account for fish and shellfish 2020**

## 1 Introduction

The stock account for fish and shellfish shows the development in the natural aquatic resources and in aquaculture. The accounts document the development in stocks, growth in stocks, catch/harvest of fish and shellfish for consumption and export of living fish as well as reduction in stocks.

## 2 Statistical presentation

The stock account for fish and shellfish consist of a physical account for natural aquatic resources, as well as a physical and monetary account for aquaculture. These statistics act as a module in the [Environmental-Economic Accounts](#) for Denmark.

### 2.1 Data description

The resource account is a module in the environmental economic accounts for Denmark. The resource account for fish and shellfish consist of a physical account for natural aquatic resources as well as a physical and monetary account for aquaculture. For natural aquatic resources the following parameters have been estimated: Opening stock, closing stock, catch and normal loss. The natural growth is calculated as residual. For aquaculture the following parameters have been estimated: Opening stock, closing stock, harvest, reclassification, and normal loss. The natural growth is calculated as residual. the average price for harvest for consumption is used in the monetary asset account.

### 2.2 Classification system

Not relevant for these statistics.

### 2.3 Sector coverage

The resource account for fish and shellfish do only consider the fishing sector.

### 2.4 Statistical concepts and definitions

Environmental-Economic Accounts: A general term for a system of sub-accounts for economy and environment, which are presented in association with the traditional national accounts. It complements the traditional national accounts and provides a broader and more comprehensive picture of both the economic and environmental development.

### 2.5 Statistical unit

The resource account for fish and shellfish covers Danish quotas and Danish fishing vessels. The account for aquaculture covers Danish freshwater and sea farms.

### 2.6 Statistical population

The stock of wild fish and shellfish and the stock of fish and shellfish in farms and aquaculture in Denmark.

## **2.7 Reference area**

The resource account for fish and shellfish covers fishing areas where Danish fishing vessels have fishing rights/quotas. The account for aquaculture cover Denmark.

## **2.8 Time coverage**

These statistics cover the time period from 2010 and onwards.

## **2.9 Base period**

Not relevant for these statistics.

## **2.10 Unit of measure**

The resource account for fish and shellfish is measured in ton. The account for aquaculture is measured in ton and 1,000 kr.

## **2.11 Reference period**

01-01-2019 - 31-12-2019

## **2.12 Frequency of dissemination**

Annual.

## **2.13 Legal acts and other agreements**

Data are collected by other public authorities and no separate regulation is required for Statistics Denmark. Law on Statistics Denmark (§6) regulates the access of Statistics Denmark to data from administrative sources.

## **2.14 Cost and burden**

Based on administrative data. There is no burden on respondents from Statistics Denmark.

## **2.15 Comment**

Further information can be found on the subject page for [Environmental-Economic Accounts](#) or by contacting Statistics Denmark directly.

### 3 Statistical processing

Statistics Denmark prepares resource accounts for fish and shellfish based on data and quotas and catches compiled by The Danish Fisheries Agency, information on fish stocks developed by International Council for the Exploration of the Sea (ICES), information on aquaculture compiled by The Danish Fisheries Agency.

#### 3.1 Source data

The information on quotas and catches is compiled and registered by The Danish Fisheries Agency. The information is published in "Yearbook of Fishery Statistics 20xx". Information on fish stocks is developed yearly by the International Council for the Exploration of the Sea (ICES). The information is published as "Advice on fishing opportunities, catch, and effort" on species level and fishing area. The reports are available [here](#). Information aquaculture at plant level is compiled by The Danish Fisheries Agency.

#### 3.2 Frequency of data collection

Data are collected yearly.

#### 3.3 Data collection

Data concerning Danish quotas and catch are compiled by The Danish Fisheries Agency. Data concerning fish stocks are compiled and developed by ICES. Data concerning aquaculture are compiled by The Danish Fisheries Agency.

#### 3.4 Data validation

Data concerning quotas and catches are processed and validated by The Danish AgriFish Agency cf. [Documentation of statistics](#). Data concerning fish stocks are processed and validated by ICES. If relevant the data are updated during the year. Data concerning aquaculture are processed and validated by The Danish AgriFish Agency cf. [Documentation of statistics](#). The received data are reviewed and obvious errors are corrected.

#### 3.5 Data compilation

The resource account for natural aquatic resources: data concerning quotas and catches are aggregated to be in line with the areas for which stock assessment are developed including total allowable catch (TAC) are established. The Danish share of the stock is calculated as the share of Danish quotas relative to TAC. Based on this information the following balance is developed:  $\text{Opening stock} + \text{growth} - \text{catch} = \text{Closing stock}$ . The growth is calculated as residual. The grouping used in other statistics have been applied in this account. The resource account for aquaculture is established in a similar way. Resources transferred from one plant to another as well as resources reclassified or transferred to put & take are also taken into account. The growth is calculated as residual. The grouping used in other statistics have been applied in this account except for the group Trout and Salmon which has been separated in freshwater and sea farms. In the monetary account for aquaculture average prices for fish harvested for consumption has been applied. For stocks average prices for two years have been applied.

### **3.6 Adjustment**

No correction except those described under data validation and data processing.

## **4 Relevance**

Stock accounts for fish and shellfish are relevant for national authorities, scientific researchers, organizations, enterprises, the educational sector and anyone with an interest for aquatic resources. . The UN and similar organizations focus on environmental-economic accounts within the statistical framework called System of Environmental-Economical Accounting (SEEA). There is a project from 2015 to 2017 in Statistics Denmark, to establish a complete environmental-economic account statistic, to meet those needs.

### **4.1 User Needs**

The users of these statistics are national authorities, scientific researchers, organizations, enterprises, the educational sector and anyone with an interest for aquatic resources. The UN and similar organizations focus on environmental-economic accounts within the statistical framework called System of Environmental-Economical Accounting (SEEA). There is a project from 2015 to 2017 in Statistics Denmark, to establish a complete environmental-economic account statistic, to meet those needs.

### **4.2 User Satisfaction**

Since this is the first time these statistics are published, there is so far no feedback regarding user satisfaction. User needs have been discussed prior to publication, with a panel of experts on the topic.

### **4.3 Data completeness rate**

There are no EU-regulations for these statistics.

## **5 Accuracy and reliability**

The resource account for natural aquatic resources cover approximately 90 pct. of the Danish stock calculated based on the catch in 2019. The missing coverage can be explained by insufficient information on less important species. The resource account for aquaculture is assessed to cover 100 pct. of the Danish stock ad the fish farms are obliged to report to the authorities annually.

### **5.1 Overall accuracy**

No quantitative assessment of the uncertainties have been performed. The resource account for natural aquatic resources cover approximately 90 pct. of the Danish stock calculated based on the catch in 2019. The missing coverage can be explained by insufficient information on less important species. The resource account for aquaculture is assessed to cover 100 pct. of the Danish stock ad the fish farms are obliged to report to the authorities annually.

## 5.2 Sampling error

Not relevant for these statistics.

## 5.3 Non-sampling error

Measurement errors/reporting errors may occur for Danish catch and fish and activities in aquaculture. These conditions are described in the Documentation of statistics for catches by the Danish fishing fleet and for Danish aquaculture.

## 5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

## 5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

## 5.6 Quality assessment

The coverage for natural aquatic resources is assessed to be high for 90 pct. of the Danish stock. The international stock assessments are based on catch and mathematical models and the quality is assessed to be highest on the most frequently occurring species (by weight). The coverage of the resource account for aquaculture is assumed to be 100 pct.

## 5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

## 5.8 Data revision practice

The statistics have only been published once, so there have been no revisions yet.

## 6 Timeliness and punctuality

These statistics are published 12 months after the end of the reference year. This is the second time that these statistics have been published.

## **6.1 Timeliness and time lag - final results**

These statistics are published 12 months after the end of the reference year.

## **6.2 Punctuality**

These statistics are published without delay.

## **7 Comparability**

The methods and data sources for these statistics are unchanged throughout the period covered by published figures from 2010 and onwards. International comparison is possible with all other national resource accounts based on UN's statistical standard SEEA 2012.

### **7.1 Comparability - geographical**

The resource accounts are produced according to SEEA 2012, the UN statistical standard for environmental economic accounts, and therefore comparable to resource accounts from other countries using this standard.

### **7.2 Comparability over time**

There is full comparability over time since 2010, the start year for the present statistics.

### **7.3 Coherence - cross domain**

The resource accounts are part of the Danish green national accounts, which are compiled using the same classifications as the national accounts, ensuring consistency and comparability to economic data.

### **7.4 Coherence - internal**

Data concerning quotas and catch and stocks are aggregated to obtain consistency between quota/catch areas and fish stocks.

## **8 Accessibility and clarity**

These statistics are published in the StatBank. In the StatBank, these statistics can be found under the subject [Natural resources](#). For further information, go to the subject page on [Environmental-Economic Accounting](#).

### **8.1 Release calendar**

The publication date appears in the release calendar. The date is confirmed in the weeks before.

## 8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

## 8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

## 8.4 News release

No press release in December 2020.

## 8.5 Publications

The stock accounts will be included in the coming report from Statistics Denmark on the Environmental-Economic Accounts.

## 8.6 On-line database

The statistics are published in the StatBank under the subject [Naturressourcer](#) in the following tables:

- [FISK11](#): Fish and shellfish in aquaculture (Physical stock) by balance items and fish- and shellfish species
- [FISK22](#): Fish and shellfish in aquaculture (Value) by balance items and fish- and shellfish specie
- [FISK33](#): Natural aquatic resources (Physical stock) by balance items and fish- and shellfish species

## 8.7 Micro-data access

There is no access to these statistics underlying micro-data.

## 8.8 Other

Information regarding quotas and catch is available on the web page of [The Danish Fisheries Agency](#). Information regarding fish stocks is available on the web page of [ICES](#).

## 8.9 Confidentiality - policy

[Data Confidentiality Policy](#) at Statistics Denmark.

## 8.10 Confidentiality - data treatment

The resource accounts for natural aquatic resources, is based on publicly available data. The resource accounts for aquaculture, is based on confidential data and the data are aggregated to be in line with other statistics on aquaculture.



### **8.11 Documentation on methodology**

These statistics follow the internationally agreed standard concepts, definitions, classifications, accounting rules etc. in the UN [System of Environmental-Economic Accounting \(SEEA\)](#).

### **8.12 Quality documentation**

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## **9 Contact**

The administrative placement of these statistics is in the division of National Accounts. The person responsible is Leif Hoffmann, tel.: + 45 3917 3496, e-mail: [lhf@dst.dk](mailto:lhf@dst.dk).

### **9.1 Contact organisation**

Statistics Denmark

### **9.2 Contact organisation unit**

National Accounts, Economic Statistics

### **9.3 Contact name**

Leif Hoffmann

### **9.4 Contact person function**

Responsible for the statistics

### **9.5 Contact mail address**

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