



FINFISH STUDY 2019

A.I.P.C.E.-C.E.P

EU Fish Processors and Traders Association

Brussels December 2019

Brussels, December 2019

Finfish Study 2019

A.I.P.C.E.-C.E.P.

This study has been conducted to demonstrate the need for imported seafood, particularly whitefish to produce added value seafood within Europe. The availability of a continuous, sustainable supply of raw materials is a key factor for maintaining and allowing expansion of employment and trade opportunities generated by the fish and seafood processing industry in Europe.

2019 marks a special anniversary for AIPCE-CEP as it is 60 years since the organisation was founded.



Contents

Foreword	8
1 AIPCE-CEP	10
1.1 Who is AIPCE-CEP?	10
1.2 What does AIPCE-CEP do?	10
2 Finfish study	12
2.1 Purpose	12
2.2 Used data	13
3 Consumption and supply	14
3.1 Key findings	14
3.2 Food balance	14
3.2.1 EU domestic supply	14
3.2.2 Imports from third countries	14
3.2.3 Total supply	14
3.2.4 Exports to third countries	16
3.2.5 Total consumption	16
3.2.6 Total consumption per capita	16
3.2.7 Self-sufficiency	16
3.2.8 Current trends	17
4 Regulatory Review	18
4.1 Autonomous Tariff Quotas (ATQs)	18
4.2 Trade agreements	18
4.3 Brexit	18
4.4 IUU and CATCH	19
5 Product categories	20
5.1 General	20
5.2 Whitefish	20
5.2.1 Whitefish overview	20
5.2.2 Cod	22
5.2.3 Saithe	23
5.2.4 Hake	24
5.2.5 Alaska pollock	25
5.2.6 Haddock	26
5.2.7 Redfish	27
5.2.8 Hoki	28
5.2.9 Plaice	29
5.3 Salmon	30
5.3.1 Salmon	30

5.4	Fresh water species.....	31
5.4.1	Pangasius.....	31
5.4.2	Tilapia	32
5.4.3	Nile Perch.....	33
5.5	Sea bass & Sea bream	34
5.5.1	Sea bass.....	34
5.5.2	Sea bream.....	35
5.6	(Small) pelagic fish species	36
5.6.1	Tuna	36
5.6.2	Herring	37
5.6.3	Mackerel	38
5.6.4	Anchovies	39
5.7	Shrimps, Cephalopods & Surimi	40
5.7.1	Shrimps	40
5.7.2	Cephalopods.....	41
5.7.3	Surimi.....	42
6	In Conclusion.....	43

Foreword

It is with great pleasure and pride we can present this special edition of the FinFish Study.

The year 2019 marks the 60th anniversary of AIPCE-CEP, and the FinFish study has now been published for three decades.

Born as the WhiteFish study, we have over the years evaluated into a comprehensive overview of many more fish species than only white fish. The reason is simple: the market has changed and so has our industry.

60 years ago, fish processing and fish trading were considered to be different metiers. It is for that reason that two associations were founded back in 1959: one for the processors (AIPCE) and one for the traders (CEP). Nowadays, fish processing and fish trading have become integrated activities in many companies.

AIPCE and CEP still exist, but have merged into a close cooperation managed by a joint secretariat in Brussels.

In all those years, we have seen new or unknown fish species enter the European market. We have seen product development to offer consumers value added products that are convenient, healthy, nutritious and affordable. We have seen the fish consumption rise in the European market, and that trend is expected to continue. In addition, we have seen so many hard working people in our sector who believe in the values of sustainable seafood, be it wild catch or aquaculture.

Thanks to all those people, we are where we are today, and that goes for our industry and for our associations.

60 years ago, people with a vision and a goal laid down the foundation for the work we still continue to do today.

This year's FinFish Study is the result of all that, and we are confident the work will continue well into the future.

The AIPCE President

Mr Guus Pastoor

A handwritten signature in dark ink, appearing to read 'G. Pastoor', is positioned below the printed name. The signature is fluid and cursive, with the first letter 'G' being particularly large and stylized.

1 AIPCE-CEP

1.1 Who is AIPCE-CEP?

AIPCE¹ (EU Fish Processors and Traders Association) and CEP (European Federation of National Organizations of Importers and Exporters of Fish) were established in 1959 and collaborate on the basis of a cooperation agreement, creating AIPCE-CEP. AIPCE-CEP comprises 20 EU National Associations and 2 associations from third countries. The sectors AIPCE-CEP represent account for more than 3,900 enterprises and 128,000 jobs.



30 Billion turnover²



3,900 enterprises²



128,000 direct employees²



9.4 million tonnes/year EU import



2.2 million tonnes/year EU export

The value of the output of the industry represented amounts to around EUR 30 billion, about three and a half times the turnover of the catch sector.

1.2 What does AIPCE-CEP do?

AIPCE-CEP represents the EU fish processors and traders as a common strong voice in Europe providing for a framework in which companies can grow and prosper to continue offering healthy, sustainable and responsible fish products. AIPCE-CEP works to inform, analyse and monitor the trade in EU fish and seafood providing feedback and pragmatic advice to regulators and other stakeholders. This is not just to ensure compliance with existing regulation but also to create more effective and appropriate future legislation that enhances the reputation of the industry whilst still allowing it to operate.

AIPCE-CEP strives to take an active role in helping shape regulatory matters to best achieve their aims but within a pragmatic framework that ensures proper implementation and effect. AIPCE-CEP is pro-active in leading the dialogue and where appropriate over many years has taken actions within the supply chains ahead of regulatory controls to meet the expectations of stakeholders and consumers. At the same time, AIPCE-CEP is always mindful that this needs to be

¹ AIPCE acronym for 'Association des Industries du Poisson de l'UE'

² Source: AER fish processing industry 2018, edited by AIPCE-CEP

done whilst achieving and maintaining a consistent, regular and competitive offering.

The world of fish is extremely dynamic and AIPCE-CEP is constantly responding to this. The provision of safe, nutritious and affordable food has been the activity of AIPCE-CEP members since its inception. Accepting the responsibilities this imposes on AIPCE-CEP to play its role in managing resources and their proper use has been at the forefront of its activities and AIPCE-CEP is acutely aware of the many considerations that this comes with for others and itself. AIPCE-CEP is confident that the efforts going into precautionary management, resource allocation and sustainability are paying off in many parts of the world.

2 Finfish study

2.1 Purpose

The European fish and seafood added value processing industry relies on a consistent and sustainable supply of raw materials to satisfy consumer demand for fish products, both for domestic and out-of-home markets.

AIPCE-CEP and its members prepare the Finfish Study to use at EU and member state level to exemplify the need for imported seafood, particularly whitefish, in the production of added value seafood within Europe. The ability to rely on a continuous, sustainable supply of raw materials is a key factor in maintaining and allowing expansion of employment and trade opportunities generated by the fish and seafood processing industry in Europe.

Whilst the traditional favourite species continue to dominate consumption in most member states a considerable expansion of the species mix has been seen in recent years as logistics and access have improved. Consumers are also more aware of the broad spectrum of species available globally as the access to information and travel experiences expand.

The rapid expansion of global aquaculture in the last two decades has further fuelled these opportunities and several important species have become well established in the EU markets. Some of this need has been met from local cultivation in the EU but again the majority of supply comes

from outside the EU borders and dependence on imports from aquaculture is at least as high as in wild capture species.

In every sector imports have been the lifeblood of the industry for many years and fulfil an essential role. Reliance only on domestic supply would leave a much smaller industry and limit the scope for both growth and innovation. Using all the varieties and complementing domestic and imported supply has allowed the sector to maintain and increase its relevance across all member states.

The Finfish Study has been prepared by and for the processing industry in Europe for more than 27 years and has been a useful tool in explaining the activities of the fish and seafood processing industry and trading sector.

AIPCE-CEP acknowledges there are other publications and databases that go into more detail about individual species and categories or that follow the daily events of the industry more closely. AIPCE-CEP still attaches value to the preparation and publication of this annual study that shares the association's opinion to how the trade is shaping, explains the perception of key issues affecting trade and the importance of finding pragmatic and viable solutions to sustaining these activities.

The data only focuses on the volume aspect of trade and not value. This is because AIPCE-CEP's interest is in the scale of EU activity in relation to the availability of resources both within the EU and beyond. AIPCE-CEP recognises that price and relative values are an important dynamic of the trade but across the 28 EU member states there are many variations in

formats, products and specifications that distort the prices making it difficult to make direct comparisons.

Competition for fish and seafood has always been on a global stage. In fact, the sector represents one of the largest sectors of all in international food trade and certainly outstrips other proteins. The need to conduct this trade responsibly has never been greater and within AIPCE-CEP we have been engaged in several initiatives to ensure our role in this is properly fulfilled and understood.

2.2 Used data

The report is mainly based on statistics taken from Eurostat 2018 data and refers to the EU28 group who were member states at the beginning of the year. Any other data is ascribed to source.

Eurostat provides information by fishery product, species and/or category. To ensure consistency and to make a common comparison all information in the study have been converted to Whole Fish Equivalent (WFE).

Prior to 2009, the study used the official conversion factors of the German government as the basis of these calculations. Using such official data enables consistency but in the AIPCE-CEP opinion was poorly recognising some increasingly significant differences in regional processing and product formats that in some instances have become key influencers in the EU and indeed global markets.

AIPCE-CEP methodology adopts an own set of conversion factors based on expressed processing yields gleaned from the experience of AIPCE-CEP members. AIPCE-CEP believes this approach more accurately reflects the differences between major processing methodologies now being employed as a result of both technical innovation as well as regional shifts around the world. Importantly this allows us to assess more realistically how much of the global resources are used in the EU market.

The EU Market Observatory (EUMOFA) regularly publishes trade data and it has itself established conversion factors for all CN code through its own research. In the majority of cases, these are the same or very closely match those used by AIPCE-CEP and are helping improve the accuracy of official reporting.

There will always be gaps and anomalies in the official statistics when they are first published and there is a long established process to correcting these retrospectively. Consequently, historical numbers are adjusted in the Finfish study as later versions become available but these changes are normally minor.

3 Consumption and supply

3.1 Key findings

- Total market supply (EU-production + third countries imports) slightly grew to 15.085 million tonnes in 2018 (+0.8%)
- EU domestic supply for consumption marginally increased by 12 thousand tonnes to 5.664 million tonnes (+0.2%)
- Imports for consumption from third countries increased by 115 thousand tonnes to 9.421 million tonnes (+1.2%)
- Exports to third countries expanded by 5.3% to 2.233 million tonnes
- Total EU consumption (EU domestic supply + Imports – Exports) marginally increased to 12.852 million tonnes (+0.1%)
- Consumption per capita in the EU stabilized with 25,1 kg per capita in 2018
- EU import dependence rate fluctuates around 62-63% of total supply

3.2 Food balance

The EU market is highly dependent on imported materials for its markets. EU domestic supply cannot fulfil the EU consumer demands on its own, either in volume or species diversity. Table 3.1 shows the EU food balance for fish and fishery products.

3.2.1 EU domestic supply

EU domestic supply consists of EU catches and EU aquaculture production. In 2018 80% of this supply came from EU catches (5.321 million tonnes) Whereas aquaculture production reached 1.330 million tonnes. Part of EU catches are intended for non-food uses (fishmeal, fish oil; 987 thousand tonnes), which make the total EU domestic supply for food uses 5.664 million tonnes in 2018, an increase of 0.2% compared to 2017 (5.652 million tonnes).

3.2.2 Imports from third countries

Import activity has risen to 9.421 million tonnes, an increase of 115 thousand tonnes compared to 2017 (+1.2%). Imports from third country are essential to increase the available fish volumes and fish diversity in the EU. This puts 2018 about 3.9% above the average since 2010.

3.2.3 Total supply

Total supply for consumption in the EU is based on the available fish products (food use) gathered from domestic supply and imports from third countries together. The total supply breached the 15 million tonnes level, growing to 15.087 million tonnes in 2018 (+0.8%).

EU domestic supply

(5,664 thousand tonnes)



EU import

(9,421 thousand tonnes)



+



Tab. 3.1 Food balance for fish and fishery products

1,000 tonnes live weight

	EU (27)			EU (28)						
	2010	2011	2012	2013	2014	2015	2016	2017	2018 a)	2019 b)
Catches	4.944	4.889	4.604	4.829	5.382	5.144	5.014	5.420	5.321	5.215
+ Aquaculture production c)	1.256	1.227	1.237	1.185	1.252	1.307	1.290	1.317	1.330	1.344
- Non-food uses	1.000	1.000	700	804	821	938	711	1.085	987	987
= Supply for consumption	5.200	5.116	5.141	5.210	5.813	5.513	5.593	5.652	5.664	5.572
+ Imports (Third countries) d)	8.894	9.221	8.858	8.927	9.124	8.990	9.246	9.306	9.421	9.534
= Total supply	14.094	14.337	13.999	14.137	14.937	14.503	14.839	14.958	15.085	15.106
- Exports (Third countries) d)	2.104	1.951	2.086	2.002	2.293	2.012	1.977	2.121	2.233	2.349
= Total consumption	11.990	12.386	11.913	12.135	12.644	12.491	12.862	12.837	12.852	12.757
Total supply per capita (kg) e)	28	29	28	28	29	29	29	29	29	29
by catches for consumption in %	37	36	37	37	39	38	38	38	38	37
by third countries imports in %	63	64	63	63	61	62	62	62	62	63
Consumption per capita (kg) f)	24,0	24,7	23,8	24,0	24,9	24,6	25,2	25,1	25,1	24,8
Self-sufficiency (%) g)	43	41	43	43	46	44	43	44	44	44

Notes: a) Preliminary figures.- b) Forecast.- c) Estimation for 2017-2019.- d) Without fishmeal (feed) and fishoil, product weight converted into live weight.-

e) Total supply / EU-population * 1000 = kg/caput/year.- f) Supply for consumption / EU-population.-

g) Supply for consumption / Total supply * 100 = Rate of self-sufficiency in %.-

Source: Eurostat, Eurostat-Comext, EU catch report, EUMOFA, AIPCE-CEP-Estimations

Edited by: AIPCE 2019

3.2.4 Exports to third countries

Export activity has risen to 2.233 million tonnes in 2018, an increase of 112 thousand tonnes compared to 2017 (+5.2%). Exports represent around 39% of the total EU domestic supply (food use). The assumption is that exports are of EU domestic origin fish rather than re-export of materials. This puts 2018 about 7.9% above the average since 2010.

3.2.5 Total consumption

The net result of domestic supply, import and export gives a calculated consumption of total 12.852 million tonnes, a marginal increase of 15 thousand tonnes (+0,1%). After making some restatement for last year this is the second highest level since EU27/28 was formed and confirms the long term for fish consumption to be rising. The consumption was 3.6% above the average since 2010.



It is helpful to see that domestic supply has contributed more to consumption in 2018 supports the momentum for greater consumption. However, the success of the industry remains dependent on access to fish. It is important to have trade flows

as seamless and smooth as possible due to the reliance of the EU processing industry on a truly global sourcing base.

3.2.6 Total consumption per capita

When taken at per capita level the total available supply is with 29.4 kg rapidly closing in 30 kg, last seen just before the 2008 economic crisis. After adjustment for the increased export activity the marginal increase in both total consumption (= nett supply) and EU population kept the consumption per capita stable on 25.1 kg. This is 2.2% above the average since 2010.

3.2.7 Self-sufficiency

The purpose of the finfish study is to highlight the scale of the industry and its dependence on imports. As mentioned above in 2018 total EU supply reached 15.087 million tonnes for food use products. The potential net consumption for the EU in this year was 12.852 million tonnes. Projecting this in terms of reliance and self-sufficiency results in the following:

- If all EU catches and aquaculture fish were retained in the EU, it could represent 41.3% of total available supply. However, this includes non-food use so is unrealistic as a measure;
- Adjusting for this then in food use terms EU domestic supply represent 37.5% of total available supply;

- Restating above figures the other way around means that import represent 62,5% of all available supply and 73.3% of consumption²

Since the formation of EU25/27 in 2006, the dependence that the EU has on imported materials for its markets has been extremely consistent remaining within the range of 63% +/- 1%.

Note: when taking a purely theoretical approach the most optimistic calculation for self-sufficiency in the EU could assume the exports are retained and displace the equivalent amount of imports one-to-one (so 2.233 million tonnes) then the level of self-sufficiency gets to 44.1% against the consumption of 12.852 million tonnes in 2018.

*EU import
dependance*
62.5%

3.2.8 Current trends

As AIPCE-CEP we keep observing a high diversity in species, frequency and time as innovation in packaging, logistics and therefore access creates more opportunities for consumers to eat more fish often and in alternative ways.

It is not expected that domestic supply will grow significantly, so importing will remain very important to fulfil EU demand. However, competition for fish worldwide will grow. Traditional net fish exporters, like China, are moving towards becoming net fish importers.

The EU processing industry seeks to fulfil the EU consumer demand for fish. To ensure continued access to opportunities industry should not be hampered by unnecessary burdens of tariff and non-tariff barriers.

² Assuming only domestically caught fish makes up the export activity

4 Regulatory Review

4.1 Autonomous Tariff Quotas (ATQs)

One of the key messages from the finfish study is the industries dependence on imports. The Autonomous Tariff Quotas (ATQs) regulation is specifically designed to permit the EU industry access to its raw materials in a way that stimulates growth, employment and investment.

In 2019, the latest cycle of ATQs entered into force (Council Regulation (EU) 2018/1977). Where last cycles were triennial, this latest cycle is biennial due to the need to accommodate any potential changes as a result of an expected Brexit during this period. ATQs had been the subject of extensive negotiations in the last months of 2018 and the final agreement represented an improved product coverage and volume.

Where most of the ATQs for key products improved, the so called “safeguard clause” (which provides for automatic quota increases to prevent the quota being exhausted) is no longer included. Whilst the key products that had this safeguard clause have had compensatory increases in the form of higher import quotas in this regulation round it still creates a level of future uncertainty when demand is rising.

The power of ATQs is that they are product specific. Third country supply of EU processing industry relevant products are not always guaranteed (eg. due to changes in quotas), which requires flexibility to source from alternative

resources. ATQs allow this switching simply and smoothly without losing the beneficial tariffs.

4.2 Trade agreements

As mentioned in previous finfish study the Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada provisionally entered into force on 21st of September 2017.

An Economic Partnership Agreement between the EU and Japan entered into force on the 1st of February 2019.

The Free Trade Agreement between the EU and Vietnam was signed on 30th of June 2019. It is expected that this FTA will enter into force at the end of 2019.

Beside above mentioned more trade agreements are being negotiated. However, these negotiations are of variable importance for EU processing industry as fish resources are constantly moving and changing.

Realizing trade agreements will help improving bilateral relations, increase trade and remove unnecessary trade barriers between the EU and partner third countries.

4.3 Brexit

Brexit will definitely affect all EU regulation including some very specific matters for fish and seafood.

Whilst writing this report it is still uncertain how Brexit will develop. There are many complexities in the subject that can

affect trade flows, the ease (or not) of trade and transactional processes.

Whatever the final post Brexit the ATQ system has been a key servant to the EU industry in supporting investment, growth and also the capability to maintain levels of consumer interest in fish products that benefits the fishermen of the EU member states.

4.4 IUU and CATCH

In respect of the IUU regulation the European Commission continue to use their system of “yellow and red cards” to deter and eliminate Illegal, Unregistered and Unregulated fisheries. Processors and traders take seriously their responsibilities to ensure that IUU fish products does not enter the supply chain.

Thailand saw his “yellow card” removed in January 2019, which had been in place since April 2015. Thailand demonstrated a major upgrade of its fisheries governance, in accordance with the international commitments of the country.

In May 2019, the European Commission launched CATCH: an IT system that aims to digitalise the currently paper-based EU catch certification scheme as laid down by the Regulation (EC) No 1005/2008.

In coming years CATCH will be used on a voluntary basis. While being a considerable driver for the reduction of the administrative burden reduction for all actors involved, the

use of the system will remain voluntary for third countries even after the adoption of the legal basis.

5 Product categories

5.1 General

Since 1992, the Finfish study focussed the dialogue and explanation of trade in the seven key wild whitefish species (cod, Alaska pollock, hake, haddock, saithe, redfish & hoki). This category will be analysed in the first subcategory of this chapter. However, during time more and more species were introduced in the Finfish study (e.g. plaice, salmon, pangasius, seabass, et cetera). These species are analysed, divided and presented in subsequent subcategories.

EU supply will be based on EU-imports, aquaculture production and fisheries catches, where:

- EU-imports are based on Eurostat/Comext data;
- Aquaculture production data comes from the Federation of European Aquaculture Production (FEAP) and estimations from AIPCE-CEP;
- Fisheries catches consist of catches of EU-quoted fish species (EU Catch Report).

Fish volumes are converted to Whole Fish Equivalents (WFE).

5.2 Whitefish

5.2.1 Whitefish overview

The apparent demand of whitefish has grown by 1.7% to 3.176 million tonnes for wild capture species in 2018 (+52

thousand tonnes). These species will represent cod, Alaska pollock, hake, haddock, saithe, redfish & hoki. For the third year in a row, total volume exceeds the 3 Million tonnes (figure 5.1). One of the reasons behind this has been the high quota levels in several of the key fisheries across the Northern hemisphere. However, it is questionable if whitefish supply in 2019 will be as high as in 2018 due to increased global competition and a drop in some of the important whitefish quotas.

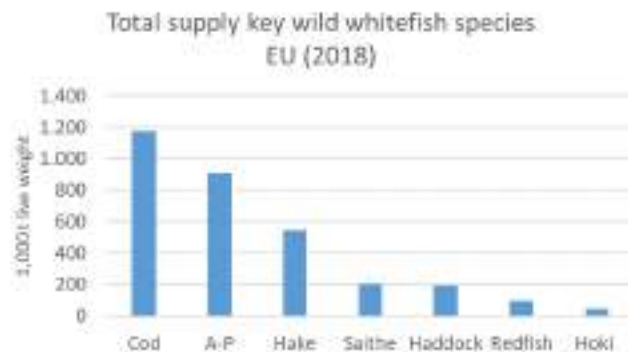


Figure 5.1: Total volumes utilized in the EU of key wild captured whitefish species in 2018; Source: Eurostat/Comext

Whitefish species are of great importance due to the scale of the tonnages involved and also the high level of processing and value addition associated with the items presented in this

trade. Most of the whitefish is imported from outside the EU borders, around 90% in 2018 (2.844 million tonnes). The import volume increased by 2% compared to 2017. Volumes of saithe (+32 thousand tonnes), hake (+39 thousand tonnes), Alaska pollock (+56 thousand tonnes) and redfish (+2 thousand tonnes) increased where cod (-42 thousand tonnes), haddock (-4 thousand tonnes) and hoki (-14 thousand tonnes) decreased. Species like Alaska pollock and hoki are fully dependent on imports from outside the EU (figure 5.2).

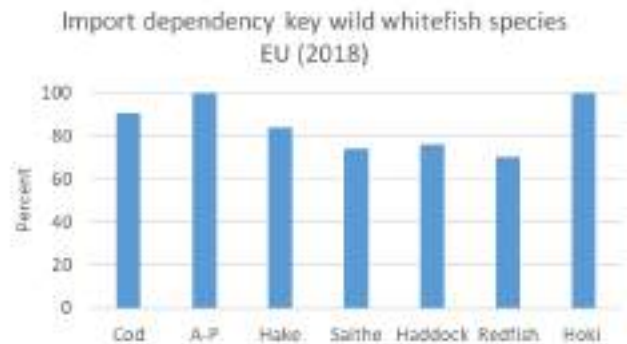


Figure 5.2: Import dependency EU for key wild captured whitefish species in 2018; Source: Eurostat/Comext

Supply from EU catches of quoted species decreased in 2018, from 349 thousand tonnes in 2017 to 332 thousand tonnes in 2018 (-5%). Especially cod (-14 thousand tonnes) and hake (-14 thousand tonnes) were caught in less quantities in 2018.

The domestic production of saithe increased the most (+8 thousand tonnes).

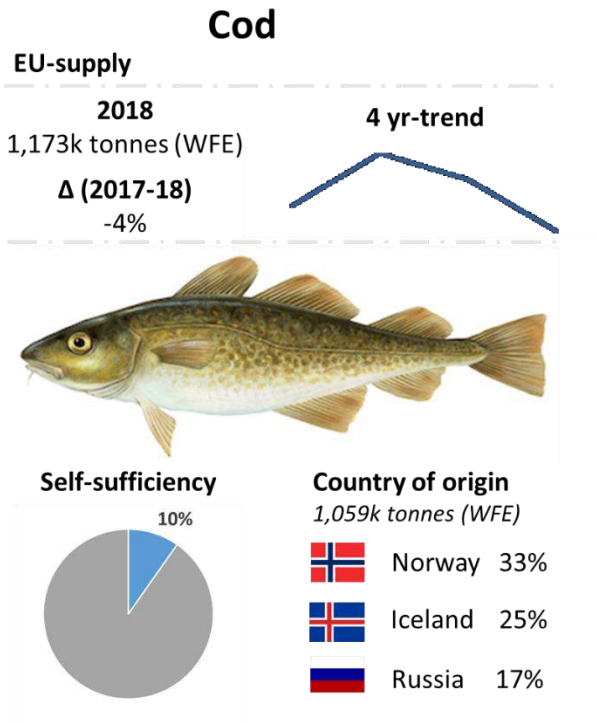
The most important import countries in 2018 were China (589 thousand tonnes; -1%), Norway (470 thousand tonnes; -3%), USA (449 thousand tonnes; +1%), Iceland (390 thousand tonnes; +17%) and Russia (383 thousand tonnes; +8%).

China's share of EU trade has dropped to 21% (in whitefish) at whole fish equivalent mainly due to decreased cod trade. Almost all whitefish import from China are frozen fillets.

“Whitefish species are of great importance due to the scale of the tonnages involved and also the high level of processing and value addition associated with the items presented in this trade”

Whitefish species are well established in the EU and consumers are familiar with it. Continued access to global whitefish fisheries without unnecessary barriers are essential if processing industry is to be viable and in turn maintaining that viability is key to be able to offer long term opportunity to the EU catching sector.

5.2.2 Cod



Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

- EU is the largest single market for all species of cod.
- EU cod supply in 2018 was 1.173 million tonnes.
- Most of the caught Atlantic cod comes from the Barents Sea. Biomass and quotas in the Barents sea decreased in 2018 and 2019, which is an important cause of the drop in EU cod supply in 2018 (-4%).
- The mid-Atlantic region around Iceland is another important source for Atlantic cod. This area shows increasing biomass and quotas for 2018 and 2019. The total share of Icelandic cod increased to 25% in 2018 (22% in 2017). It is expected that the share of Icelandic cod will further increase in 2019.
- 10% of the cod supply came from EU fisheries, 114 thousand tonnes in 2018. The other 1.059 million tonnes of cod was imported from third countries.
- Most important countries for cod in 2018 were Norway (33%), Iceland (25%) and Russia (17%). Where cod volumes of Norway (-5%) and Russia (-11%) decreased, volumes of Icelandic cod increased (+11%).
- Most of the cod imports consisted of frozen fillets (33%) and dried/salted cod (29%).
- Industry benefits from two significant Autonomous Tariff Quota (ATQ) allowances in cod. Base limits have been exceeded in both of these for several years.
- H&G cod (09.2759) has a limit of 95,000 tonnes and cod fillets (09.2776) have a 50,000 tonnes duty free import allowance in 2019. Both quota are there to stimulate growth, employment and investment in EU fish processing industry.

5.2.3 Saithe

Saithe

EU-supply

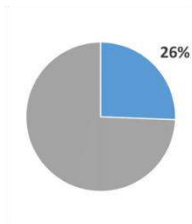
2018
205k tonnes (WFE)

Δ (2017-18)
24%

4 yr-trend



Self-sufficiency



Country of origin

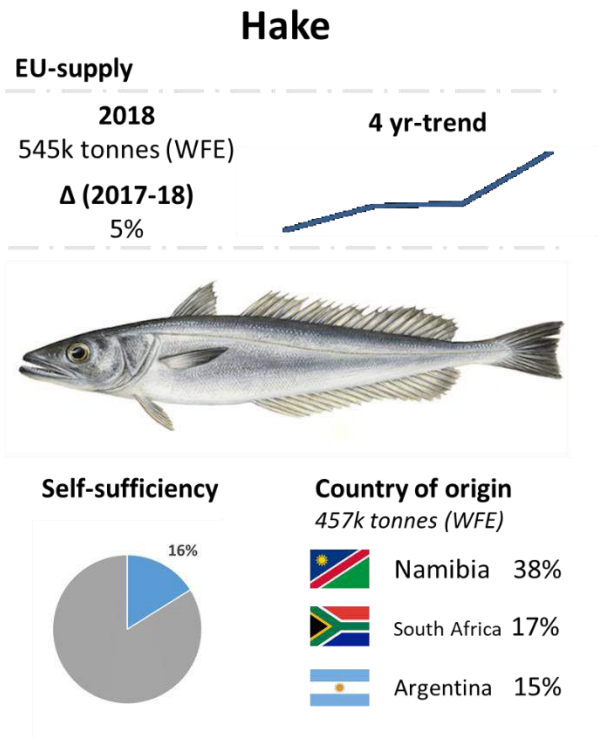
152k tonnes (WFE)

	Iceland	36%
	Norway	34%
	Faroeer	19%

- EU saithe supply increased by 24% to 205 thousand tonnes in 2018.
- Between 2015 and 2018 EU supply increased by 33%.
- Both EU catches as import contributed to the increased saithe supply in the EU.
- Most of the caught saithe comes from the Barents Sea, but also the Atlantic region around EU, Iceland, Faroes and Norway are important areas.
- 26% of the saithe supply comes from EU fisheries, 52 thousand tonnes in 2018. The other 152 thousand tonnes of saithe is import from third countries (74% of total supply).
- Most important countries for saithe in 2018 were Iceland (36%), Norway (34%) and Faroes Islands (19%). Where saithe volumes of Faroes Islands (-9%) decreased, volumes of Icelandic (+52%) and Norway (+34%) saithe increased.
- There are no ATQ allowances in saithe as the supplying countries are all in the EFTA region.
- 56% of the saithe imports consisted of frozen fillets, followed by frozen and fresh whole saithe (both 17%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

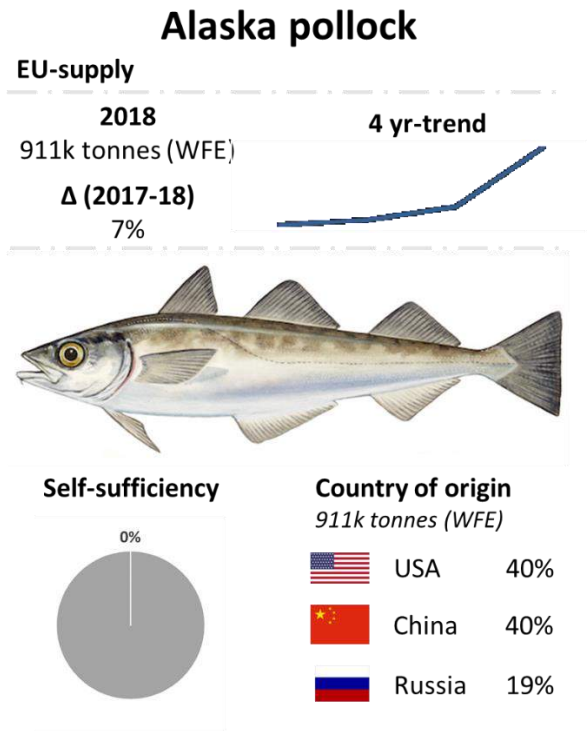
5.2.4 Hake



Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

- EU hake supply increased by 5% to 545 thousand tonnes in 2018.
- Between 2015 and 2018 EU supply increased by 8%.
- EU catches decreased by 14% in 2018, to 87 thousand tonnes. EU self-sufficiency was 16%.
- Despite reduced EU quota in 2018 (-5%; 136 thousand tonnes), less than 65% of it was utilised.
- Import volume increased to 457 thousand tonnes in 2018 (+9%). Most important countries for hake in 2018 were Namibia (38%), South Africa (17%), Argentina (15%) and USA (14%). Where hake volumes of Argentina (-10%) decreased, volumes of Namibian (+5%), South African (+13%) and USA (+36%) hake increased.
- Two ATQ allowances are available for hake. In 2019, frozen hake for processing (09.2760) has a limit of 12,000 tonnes and frozen fillets and other meat from North Pacific hake and Argentine hake (09.2774) have a 25,000 tonnes duty free import allowance. Both quota are there to stimulate growth, employment and investment in EU fish processing industry.
- The base limit for frozen hake fillets and other meat (09.2774) has been exceeded before August in recent years. The higher ATQ quantity in 2019 (+10,000 tonnes) is introduced to help getting the hake product into the EU duty free.
- 76% of the hake imports consisted of frozen fillets, followed by frozen whole hake (14%).

5.2.5 Alaska pollock



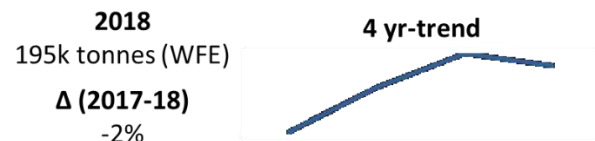
Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

- EU represents a significant and key market for both USA and Russian Alaska pollock.
- Alaska pollock supply increased by 7% in 2018 to 911 thousand tonnes.
- Between 2015 and 2018 EU supply increased by 9%.
- There is no EU catch for Alaska pollock. EU self-sufficiency is 0%.
- Most important countries for Alaska pollock in 2018 were USA (40%), China (40%) and Russia (19%). Where Alaska-pollock volumes of USA (-2%) decreased, volumes of China (+2%) and Russian (+45%) Alaska pollock increased.
- Russian Federation pollock producers increased their focus on EU. Especially MSC certified Alaska pollock found its way to the EU.
- Industry benefits from a significant Autonomous Tariff Quota (ATQ) allowance in Alaska pollock (09.2777), which is the largest single ATQ assignment.
- ATQ quantity (300,000 tonnes within the safeguard system for 20% uplift) in 2018 was 96% used.
- Base limits changed in 2019 to 320,000 tonnes (now without the safeguard system for 20% uplift). It is expected that the available ATQ allowance is enough to fulfil the demand for EU industry in 2019.
- 94% of the Alaska pollock imports consisted of frozen fillets, followed by frozen Alaska pollock meat (6%).
- Alaska pollock is an important source for surimi. Import volumes for surimi are mentioned in chapter 5.7.3.

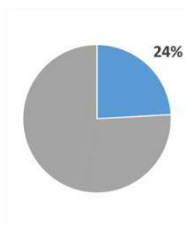
5.2.6 Haddock

Haddock

EU-supply



Self-sufficiency



Country of origin

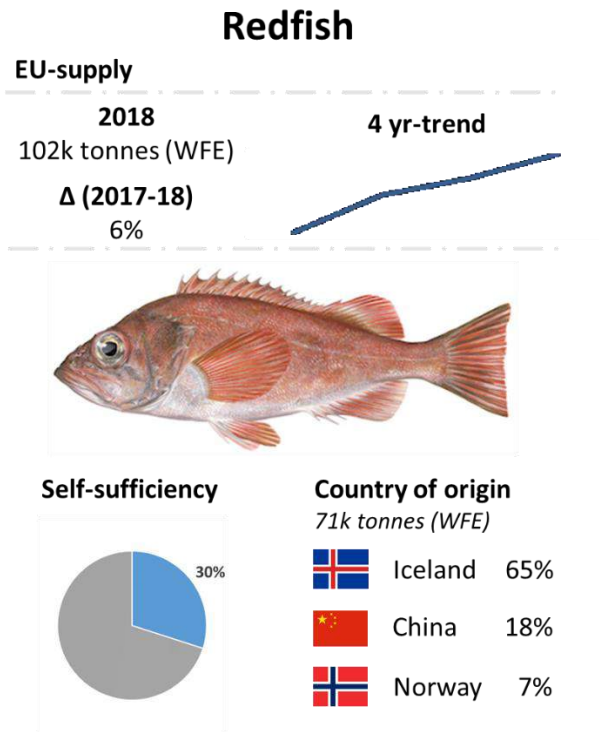
148k tonnes (WFE)

	Norway	41%
	Russia	20%
	Iceland	17%

- EU haddock supply decreased in 2018 by 2%, to 195 thousand tonnes.
- Most of the haddock supply comes from the Barents Sea. Haddock biomass and quota in the Barents Sea decreased in 2018 and 2019, which is an important cause of the drop in EU haddock supply in at least 2018.
- Haddock quotas for EU waters and the mid-Atlantic region around Iceland increased in 2018.
- EU catches are with 47 thousand tonnes stable since 2016. EU self-sufficiency was 24% in 2018.
- Most important countries for haddock in 2018 were Norway (41%), Russia (20%) and Iceland (17%). Where haddock volumes of Norway (-9%) and Russia (-15%) decreased, volumes of Icelandic (+54%) haddock increased.
- There is a modest ATQ for haddock available for EU industry. In 2018, an ATQ of 5,000 tonnes of H&G haddock (09.2824) was available for a 2.6% import duty allowance. For 2019, the haddock ATQ is reduced to 3,500 tonnes. It is questionable if this amount is high enough for covering the industry demand when growth is factored in.
- 50% of the haddock imports consisted of frozen fillets, followed by frozen whole haddock (29%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

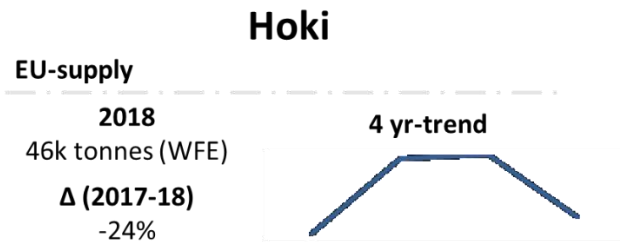
5.2.7 Redfish



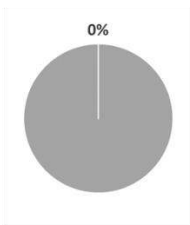
- EU redfish supply increased by 6% to 102 thousand tonnes in 2018.
- Between 2015 and 2018 EU supply increased by 21%.
- EU catches increased by 11% in 2018, to 30 thousand tonnes. EU self-sufficiency grew to 30%.
- Import volume increased to 71 thousand tonnes in 2018 (+3%). Most important country for redfish in 2018 was Iceland (65%), followed by China (18%) and Norway (7%). Where redfish volumes of Norway (-3%) decreased, volumes of Icelandic (+6%) and Chinese (+6%) redfish increased.
- There are no ATQ allowances in redfish as almost all the supplying countries are all in the EFTA region.
- Frozen redfish fillets and frozen redfish whole are responsible for both 32% of the redfish imports, followed by fresh whole redfish (27%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.2.8 Hoki



Self-sufficiency



Country of origin

46k tonnes (WFE)



New Zealand 81%



China 18%

- EU hoki supply decreased by 24% to 46 thousand tonnes in 2018.
- Between 2015 and 2018 EU supply increased by 10% and peaked to 60 thousand tonnes in 2016 and 2017.
- There is no EU catch for hoki. EU self-sufficiency is 0%.
- Most important country for hoki is New Zealand. In 2018 81% of all EU import came from this country. Import from China reached 18%.
- There is an ATQ allowance available for hoki. In 2019, frozen hoki fillets and meat for processing (09.2761) has a limit of 17,500 tonnes duty free import allowance.
- Frozen hoki fillets are responsible for almost all the import volume.

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.2.9 Plaice

Plaice

EU-supply

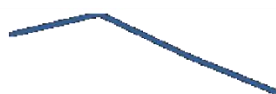
2018

77k tonnes (WFE)

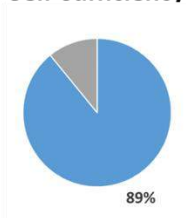
Δ (2017-18)

-14%

4 yr-trend



Self-sufficiency



Country of origin

8k tonnes (WFE)



Iceland 66%



Russia 22%



Norway 7%

- Plaice is not one of the main wild caught imported whitefish species because of high domestic landings, but is of importance for the EU processing industry.
- EU plaice supply decreased by 14% to 77 thousand tonnes in 2018.
- Between 2015 and 2018 EU supply decreased by 21%.
- Despite a very high quota limit for plaice of 159 thousand tonnes the utilisation has fallen away to a level of only 43% in 2018. EU catches decreased by 19% in 2018, to 69 thousand tonnes. It is expected that catches will further decrease in 2019.
- EU self-sufficiency for plaice is high. In 2018, 89% of all plaice came from EU fisheries.
- Import volume increased to 8 thousand tonnes in 2018 (+71%). Most important country for plaice in 2018 was Iceland (66%), followed by Russia (22%) and Norway (7%). Where volumes of Norway (-13%) decreased, volumes of Icelandic (+42%) and Russian plaice increased (new importing country).
- There are ATQ allowances for flatfish fillets (09.2778). This ATQ allowance was fully utilised in recent years. In 2019, ATQ quota went up to 10,000 tonnes. Quota was already fully utilized half way this year. If EU productions stays low further ATQ increase is needed to preserve a healthy flatfish industry and market.
- Fresh plaice whole are responsible for 64% of the plaice imports, followed by frozen whole plaice (23%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.3 Salmon

5.3.1 Salmon

Salmon (all species)

EU-supply

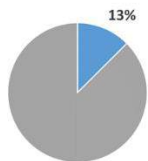
2018
1,398k tonnes (WFE)

Δ (2017-18)
2%

4 yr-trend



Self-sufficiency



Country of origin

1,223k tonnes (WFE)

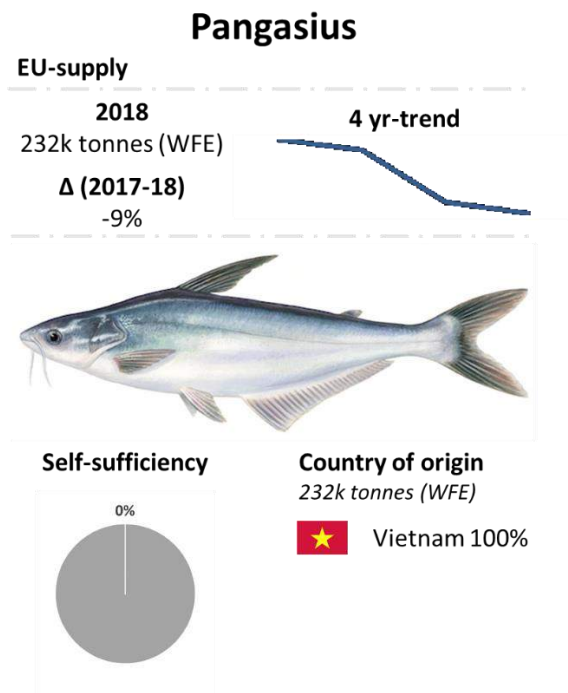
	Norway	80%
	China	7%
	USA	4%

- Salmon is one of the top 3 species consumed in the EU. Atlantic salmon is the most important salmon species.
- An increasing amount of salmon is imported for processing by EU industry.
- EU salmon supply increased by 2% to 1,398 thousand tonnes in 2018.
- Between 2015 and 2018, EU supply decreased by 2% with lowest level (1,370 thousand tonnes) in 2017. Drop was caused by decreased import of Norway salmon.
- The tiny amount of EU catches increased by 20% in 2018 (to 390 tonnes) but the much more important aquaculture volumes decreased by 3% in the same year (to 175 thousand tonnes). EU self-sufficiency was 13%.
- Import volume increased to 1,223 thousand tonnes in 2018 (+3%). Most important country for salmon in 2018 was Norway (80%), followed by China (7%), USA (4%) and Chile (4%). Salmon volumes of China (-11%), USA (-4%) and Chile (-8%) decreased, volumes of Norway (+7%) salmon increased.
- There is an ATQ allowance available for wild caught pacific salmon H&G; however, utilisation is low.
- Most of the salmon for processing comes from EFTA regions.
- Fresh salmon whole are responsible for 72% of the salmon imports, followed by frozen salmon fillets (15%).

Source: Eurostat/Comext; EU Catch Report; FEAP
Edited by AIPCE-CEP 2019

5.4 Fresh water species

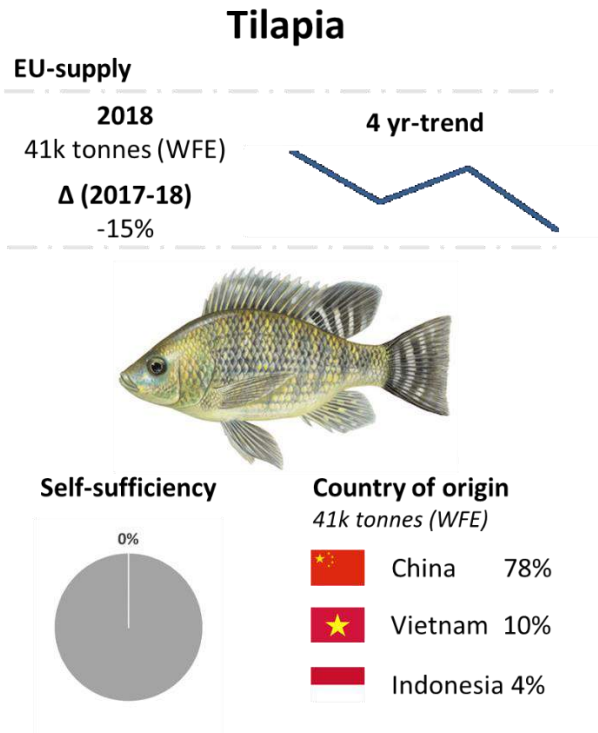
5.4.1 Pangasius



- Pangasius is one of the key cultivated finfish species across the globe.
- The EU in market terms actually represents only a tiny percentage of the consumption.
- Pangasius has been declining sharply in EU consumption and is now only at about one third of its historical peak.
- EU pangasius supply continued to decrease by another 9% to 232 thousand tonnes in 2018.
- Between 2015 and 2018, EU supply has decreased by 38%.
- There is no EU production for pangasius. EU self-sufficiency is 0%.
- Pangasius is an aquaculture product, mainly produced in Vietnam. >99% of the import volume in 2018 came from this third country (232 thousand tonnes). Almost all pangasius was imported as frozen fillets (99%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

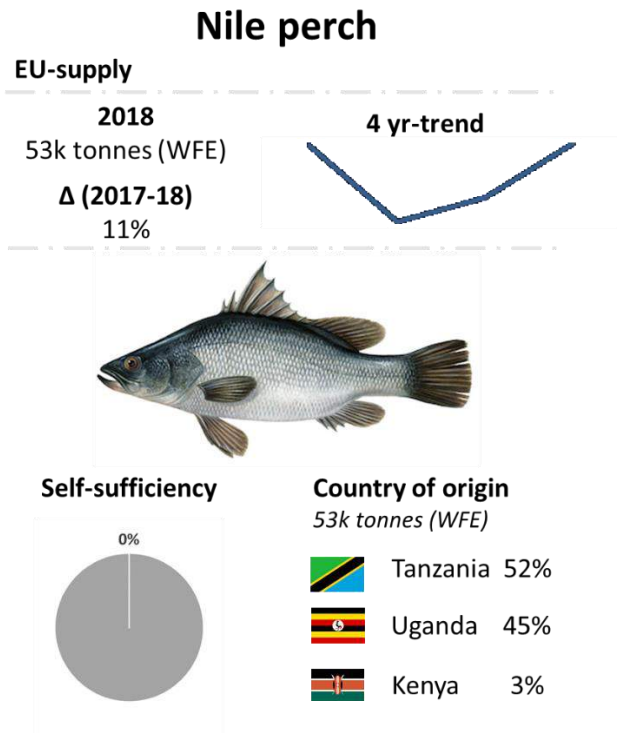
5.4.2 Tilapia



- Tilapia is one of the key cultivated finfish species across the globe second in scale only to Chinese carp.
- The EU in market terms actually represents only a tiny percentage of the consumption.
- Tilapia has global supply of several million tonnes yet the EU, by AIPCE-CEP estimates, consumes only around 40 thousand tonnes or about 1% of global supply in 2018.
- Tilapia supply decreased by 15% to 41 thousand tonnes in 2018.
- Between 2015 and 2018 EU supply decreased by 18%.
- There is practically no EU production for tilapia. EU self-sufficiency is negligible
- Tilapia is an aquaculture product with production in several regions of the world. 78% of the EU import volume in 2018 came from China (32 thousand tonnes). Other important countries were Vietnam (10%) and Indonesia (4%). Tilapia volumes decreased for all above-mentioned countries.
- Most of the tilapia was imported as frozen fillets (73%), followed by frozen whole tilapia (26%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.4.3 Nile Perch



- Nile perch is the most important fresh water export product from Eastern Africa.
- Almost all Nile perch comes from Uganda, Tanzania or Kenya.
- EU imported 53 thousand tonnes of Nile perch in 2018, an increase of 11% compared to 2017
- After a dip in EU supply for 2016 and 2017, volume in 2018 reached the same amount as in 2015.
- There is no EU production for Nile perch. EU self-sufficiency is 0%.
- Most important countries for Nile perch in 2018 were Tanzania (52%), followed by Uganda (45%) and Kenya (3%). Nile perch volumes of Tanzania slightly decreased (-1%), volumes of Ugandan (+29%) and Kenyan (+13%) Nile perch increased.
- Most of the Nile perch was imported as fresh fillets (59%). This product is imported into the EU using the superchilling technique - *a technique that reduces the temperature of fish uniformly to a point slightly below that which is obtained in melting ice* -. Nile perch frozen fillets were good for the other 41% of the total EU import in 2018.

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.5 Sea bass & Sea bream

5.5.1 Sea bass

Sea bass

EU-supply

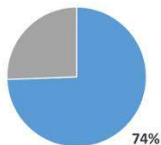
2018
122k tonnes (WFE)

Δ (2017-18)
7%

4 yr-trend



Self-sufficiency



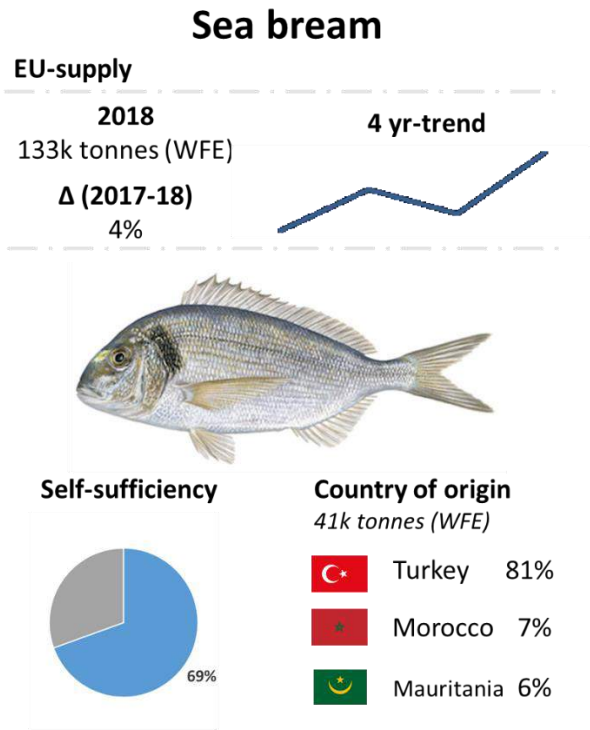
Country of origin

31k tonnes (WFE)

	Turkey	98%
	Albania	1%
	Egypt	1%

- Together Sea bass and Sea bream are two of the most successful species cultivated in the EU. Fish are farmed in sea cages or raceways. There is a very small level of wild capture in Sea bass.
- EU supply increased in 2018 to 122 thousand tonnes (+7%).
- Between 2015 and 2018 EU supply increased by 23%.
- EU wild catches are minimal. EU cultivated sea bass however, reached the volume of 91 thousand tonnes in 2018 (+1%). Self-sufficiency decreased to 74%.
- Main EU producers are Greece, Spain, Italy and France.
- Import volume increased to 31 thousand tonnes in 2018 (+28%). Most important country for sea bass in 2018 was Turkey. 98% of all import came from this country.
- Most of the sea bass was imported as fresh whole product (98%).

5.5.2 Sea bream

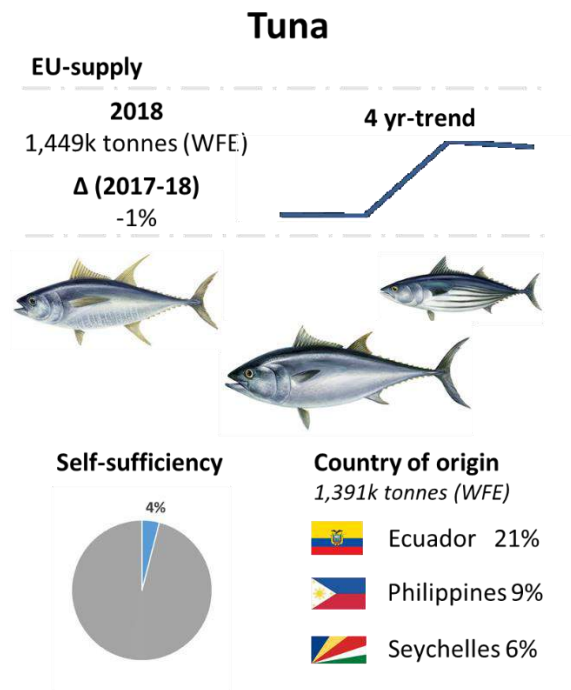


- Sea bass and sea bream are two of the most successful species cultivated in the EU. Fish are farmed in sea cages or raceways.
- Sea bream are consumed as whole fish can be marketed in different sizes (typically around 400-600 grams).
- EU supply increased in 2018 to 133 thousand tonnes (+4%).
- Between 2015 and 2018 EU supply increased by 5%.
- Most of 93 thousand tonnes EU production (99%) came from aquaculture. Self-sufficiency was 69%.
- Main EU producers are Greece, Spain and Italy.
- Import volume increased to 41 thousand tonnes in 2018 (+7%). Most important country for sea bream in 2018 was Turkey (81%), followed by Morocco (7%) and Mauritania (6%).
- Most of the sea bream was imported as fresh whole product (92%).

Source: Eurostat/Comext; EU Catch Report; FEAP
Edited by AIPCE-CEP 2019

5.6 (Small) pelagic fish species

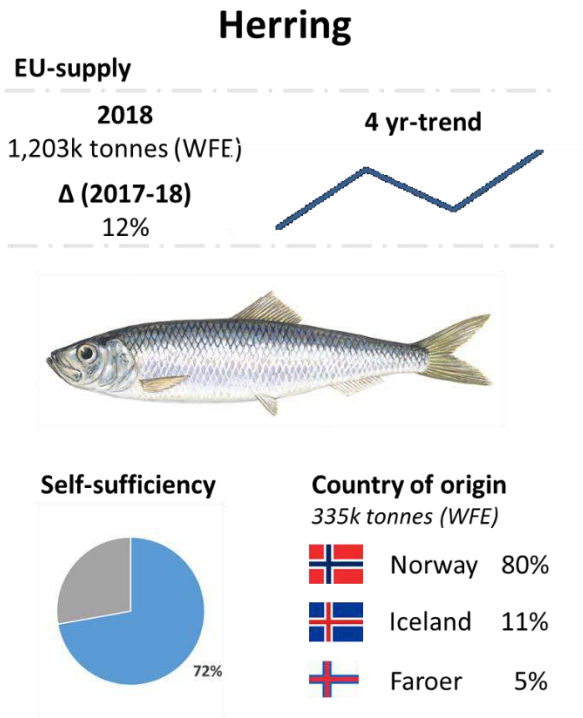
5.6.1 Tuna



Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

- Tuna is one of the top 3 species consumed in the EU. Skipjack tuna and yellowfin tuna are the most important tuna species in terms of volume. Other important species are bigeye tuna, albacore tuna and bluefin tuna.
- Tuna has seen a slight decrease in 2018 (-1%) to 1.449 million tonnes.
- Between 2015 and 2018 EU supply increased by 8%.
- EU catching increased to 58 thousand tonnes in 2018, which realises a self-sufficiency of 4%.
- Import volume decreased to 1,391 thousand tonnes in 2018 (-1%). Most important country for tuna in 2018 was Ecuador (21%), followed by Philippines (9%) and Seychelles (8%). Ecuadorian tuna benefit from free trade agreement between EU and Ecuador.
- However, the supply of large pelagics such as tuna are governed by complex relationships between the EU and the locale of catch. EU flagged vessels operate under licence in many distant water fisheries which in itself provides substantial employment and fishing activity for EU vessels and processors.
- There is a modest ATQ of 30 thousand tonnes for tuna loins for further processing that is exhausted very quickly – within days of opening – but in total actually represents only a small fraction of the total trade.
- Most of the tuna is imported in a prepared format (cans), 50% in 2018. Tuna loins (for canning) represent 27% of total import.

5.6.2 Herring



- Small pelagics such as herring are important species in the EU fishery complex and comprise the largest proportion of the tonnages taken in EU waters under quota species.
- Total herring EU supply increased to 1.203 million tonnes in 2018 (+12%).
- Herring is the largest individual species tonnage caught under EU management and in its waters.
- EU TAC reached 963 thousand tonnes in 2018 (+6%). Quota was 90% utilised.
- EU catches increased by 11% in 2018, to 869 thousand tonnes. EU self-sufficiency grew to 72%.
- Import volume increased to 335 thousand tonnes in 2018 (+12%). Most important country for herring in 2018 was Norway (80%), followed by Iceland (11%) and Faroe Islands (17%). Norway (+14%) and Faroe Island (+147%) volumes increased in 2018, volumes of Icelandic (-3%) herring decreased.
- Fresh herring flaps and frozen herring fillets were responsible for both 31% of the herring imports in 2018, followed by frozen whole herring (15%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.6.3 Mackerel

Mackerel

EU-supply

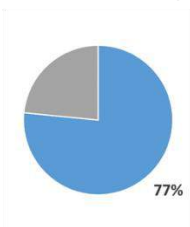
2018
539k tonnes (WFE)

Δ (2017-18)
-14%

4 yr-trend



Self-sufficiency



Country of origin

126k tonnes (WFE)

	Iceland	30%
	Norway	19%
	Faroe	14%

- Small pelagics such as mackerel are important species in the EU fishery complex and comprise the largest proportion of the tonnages taken in EU waters under quota species.
- Total mackerel EU supply decreased to 539 thousand tonnes in 2018 (-14%).
- EU catches decreased by 15% in 2018, to 412 thousand tonnes. EU self-sufficiency was 77%.
- EU quota for mackerel decreased by 17% to 405 thousand tonnes in 2018. Quota was fully utilised.
- Import volume decreased to 126 thousand tonnes in 2018 (-13%). Most important country for mackerel in 2018 was Iceland (30%), followed by Norway (19%) Greenland (14%) and Faroe Islands (14%). Iceland (+29%) volumes increased in 2018, volumes of Norway (-11%), Faroe Islands (-47%) and Greenland (-16%) mackerel decreased.
- Frozen mackerel whole is responsible for 64% of the mackerel imports, followed by frozen mackerel fillets (23%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.6.4 Anchovies

Anchovies

EU-supply

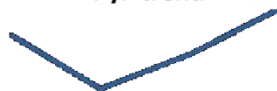
2018

51k tonnes (WFE)

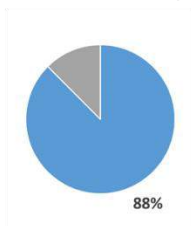
Δ (2017-18)

12%

4 yr-trend



Self-sufficiency



Country of origin

6k tonnes (WFE)



Argentina 47%



Morocco 29%



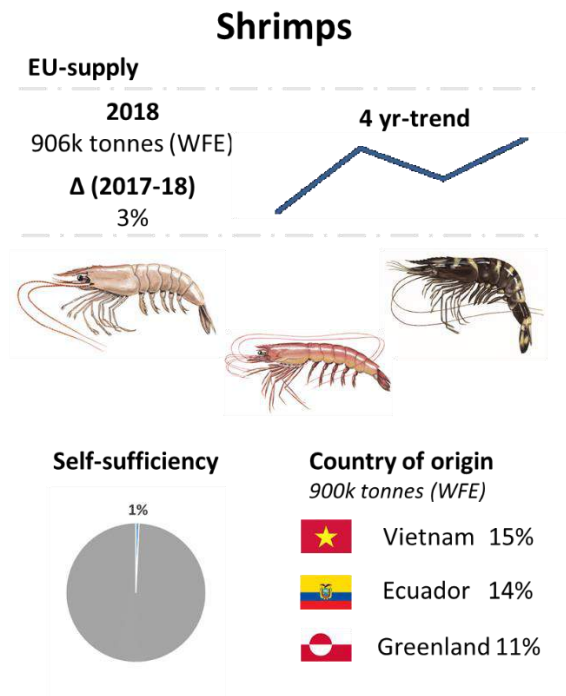
Peru 14%

- Total anchovies EU supply increased to 51 thousand tonnes in 2018 (+12%).
- EU catches increased by 15% in 2018, to 44 thousand tonnes. EU self-sufficiency was 88%.
- EU quota for anchovies increased to 44 thousand tonnes in 2018. Quota was for 80% utilized.
- Most EU anchovies were caught in the bay of Biscay by Spanish and French vessels.
- Import volume decreased to 6 thousand tonnes in 2018 (-5%). Most important country for anchovies in 2018 was Argentina (47%), followed by Morocco (29%) and Peru (14%). Argentina (+16%) volumes increased in 2018, volumes of Morocco (-29%) and Peru (-10%) anchovies decreased.
- Salted anchovies was responsible for 99% of the anchovies imports.

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.7 Shrimps, Cephalopods & Surimi

5.7.1 Shrimps



Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

- Shrimp has seen an increase in 2018 (+3%) to 906 thousand tonnes.
- Between 2015 and 2018 EU supply increased by 6%.
- EU is heavily dependent on imports of shrimp. Self-sufficiency was 1%.
- Import volume increased to 900 thousand tonnes in 2018 (+3%). Most important country for shrimp in 2018 were Vietnam (15%; Pacific white shrimp & Black tiger shrimp), Ecuador (14%; Pacific white shrimp), Greenland (11%; North-Atlantic cold water shrimp), Argentina (11%; Argentine red shrimp) and India (10%; Pacific white shrimp).
- There are various Free Trade Agreements in force that have (or will have) a positive impact on shrimp trade.
- For cold water shrimp, there are three ATQs available for the key *pandalus* species of *borealis*, *montagui* and *jordani* in 2019 (09.2794, 09.2798, 09.2800). Total allowance decreased to 14 thousand tonnes due to the introduction of CETA.
- Warm water prawns have a separate ATQ (09.2802). In recent years quota was 30 thousand tonnes, which was used up in the first half of the years. For 2019 40 thousand tonnes is agreed. Halfway 2019 48% of the quota was utilised and we expect full use by year end.
- Frozen *Penaeus* shrimp was responsible for 38% of total import in 2018, followed by prepared and preserved (cooked) shrimp (35%).

5.7.2 Cephalopods

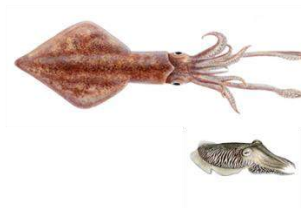
Cephalopods

EU-supply

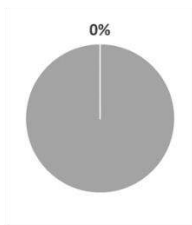
2018
566k tonnes (WFE)

Δ (2017-18)
0%

4 yr-trend



Self-sufficiency



Country of origin

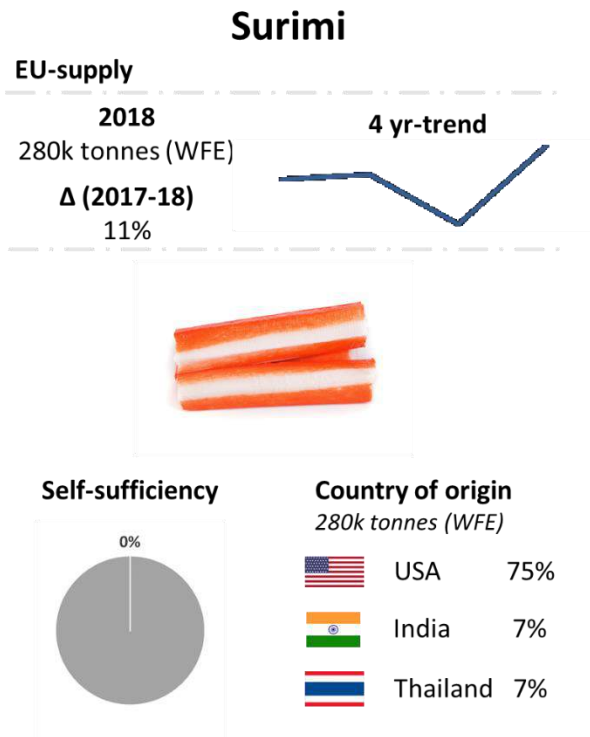
566k tonnes (WFE)

	Peru	15%
	China	14%
	India	13%

- Main products that fall under cephalopods are squid, cuttlefish and octopus.
- Total cephalopods EU supply in 2018 was as high as in 2017 (566 thousand tonnes).
- Between 2015 and 2018 EU supply increased by 5%.
- Most important countries for cephalopods in 2018 were Peru (15%), China (14%) India (13%) and Falkland Isles (13%). Where cephalopod volumes of China (-7%) and India (-16%) decreased, volumes of cephalopods from Peru (+9%) and Falkland Isles (+39%) increased.
- Frozen Loligo squid was responsible for 30% of total import in 2018, followed by frozen octopus (18%).

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

5.7.3 Surimi



- Surimi refers to a paste made from fish. Surimi is a concentrate of whitefish. Main species used are Alaska pollock, blue whiting, blue grenadier and Pacific hake.
- Surimi base (frozen as blocks) are sold to food processors, which transform the material with other ingredients to give it texture, taste and colour. Most common surimi product in the EU is imitation crab as sticks. Most such preparations are ready to eat.
- Import volume increased to 280 thousand tonnes in 2018 (+11%). Most important country for surimi in 2018 was USA (75%), followed by India (7%) and Thailand (7%). USA (+25%) and Thailand (+9%) volumes increased in 2018, volumes of India (-11%) surimi decreased.
- Main surimi processors in the EU are France, Spain and Lithuania. Frozen surimi was responsible for 84% of the surimi imports. The other 16% of imports in 2018 consisted of frozen surimi presentation -in other words finished products-.
- There is an ATQ allowance available for surimi as a raw material for further processing (09.2772). Between 75-85% of total agreed quantity (60 thousand tonnes) was utilised last year.

Source: Eurostat/Comext; EU Catch Report
Edited by AIPCE-CEP 2019

6 In Conclusion

This AIPCE-CEP study is compiled for the benefit and use of AIPCE-CEP members and to help others understand the activities of the organisation AIPCE-CEP.

AIPCE-CEP is not liable for any errors in the accuracy of the data or in its representation.

The study has been published since 1992 and provides insight into the changes that have occurred to the seafood market during that time.

AIPCE-CEP remains confident that the fish and seafood market across the EU can support a successful and vibrant industry. Imports remain the more prominent part of supply but the opportunity for EU fisheries is substantial.

AIPCE-CEP members will continue to work on developing the use of resources from around the globe that are safe, sustainable and properly regulated.

AIPCE-CEP would welcome comments and suggestions about additional topics the reader wishes to see covered in further detail (aipce@kellencompany.com). There are also further publications and commentaries at our website: www.aipce-cep.org.

Underlying tables can be requested by members via the AIPCE-CEP secretariat (aipce@kellencompany.com).

