

Monthly Highlights

No. 3 / 2022

In this issue

On 25 March 2022, the European Commission adopted an Implementing Decision, triggering the crisis mechanism of the European Maritime, Fisheries and Aquaculture Fund (EMFAF) as a consequence of the Russian war of aggression against Ukraine.

Of the 10 commodity groups (CGs) recorded in December 2021, the first sales of the "Other marine fish" were the second highest in value and third highest in volume.

Over the 36-month observation period from January 2019 to December 2021, the weighted average first-sales price of blackspot seabream in Spain was 21,09 EUR/kg.

Price of fresh or chilled gilthead seabream from Turkey showed an upward trend from the beginning of 2022.

Over the past three years (January 2019 – December 2021) Italian consumers spent an average 13,95 EUR per month for a kilogram of octopus, whereas consumers in Portugal spent 9,38 EUR on average.

In 2021, total EU imports from Ecuador reached 297.000 tonnes for EUR 1.4 billion. Of this, warmwater shrimps contributed 49% and tuna 45% of the total volumes.

In 2019, landings of squid species in the EU amounted to 32.707 tonnes for a total value of EUR 176 million.

The One Ocean Summit took place between 9-11 February in Brest, France, calling for action against threats to the ocean.



EUMOFA

European Market Observatory for Fisheries and Aquaculture Products



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Impacts of the Russian war of aggression against Ukraine

The EU fishery and aquaculture sectors are directly impacted by the consequences of the war in Ukraine. The increase of energy prices, in particular marine fuel and electricity, has led to an increase of cost at production and processing stages. Temporary interruptions of activities have been observed at the beginning of the crisis since a high share of EU fishing vessels were below their break-even revenue point and do not cover their operating costs. Transport and logistic (sea, road, air) have also been negatively impacted creating disruption in food supply chains.

Shortages of key raw materials and inputs are affecting the processing sector (e.g. sunflower oil) and aquaculture sector (e.g. fishfeed) as Ukraine and Russia are major global suppliers of these goods. Shortages are also expected for substitutes due to competition from other agri-food sectors and from bioenergy production. This negative supply shock is increasing pressure on prices which is likely to generate increase of prices up to the consumers in the coming weeks.

For some raw material such as Alaska Pollock, highly dependent from Russia, there are still stocks but some operators refuse to purchase products of Russian origin. There is a lack of sourcing alternatives, since Alaska Pollock is only sourced from Russia and the United States, and substitutes like cod are not available in sufficient quantities. The disruption on the supply side is expected to be combined shortly with a negative demand shock. The combination of expected increase of retail prices of fishery and aquaculture products and general pressure on households purchasing power, could lead to a substitution effect toward cheaper (imported) fishery and aquaculture products or other sources of proteins.

This significant disruption of the functioning of the market of fishery and aquaculture products caused by the military aggression of Russia against Ukraine lead the European Commission to adopt an Implementing Decision on 25 March 2022, triggering the crisis mechanism of the European Maritime, Fisheries and Aquaculture Fund (EMFAF). On that basis, it is possible for Member States to grant financial compensation to all operators of the fishery and aquaculture sector to mitigate the effects of the market disruption, in particular for their income forgone, and for additional costs incurred. Moreover, recognised producer organisations and associations of producer organisations which store fishery or aquaculture products in accordance Regulation (EU) No 1379/2013 (common organisation of the markets) may also benefit from financial compensations to implement this storage mechanism. On 13 April 2022, the Commission also proposed an amendment to Regulation 508/2014 to introduce similar measures in the European Maritime and Fisheries Fund (EMFF), under which financial resources are still available.

1. First sales in Europe

Between **January** and **December 2021**, 12 EU Member States (MS), Norway, and the United Kingdom reported firstsales data for 10 commodity groups¹. First-sales data are based on sales notes and data collected from auction markets.

First-sales data analysed in this section, *"First sales in Europe"*, are extracted from EUMOFA², as collected from national administrations.

1.1. January-December 2021 compared to the same period in 2020

Increases in value and volume: Bulgaria, Cyprus, France, Lithuania, Portugal, and the United Kingdom all recorded increases. A higher supply of smelt and herring in Lithuania, and of octopus and anchovy in Portugal, led to the sharp increases experienced in these countries.

Decreases in value and volume: The Netherlands and Sweden recorded decreases. A decrease in first sales of herring was the cause of the declines in both countries.

Table 1. JANUARY - DECEMBER OVERVIEW OF FIRST SALES FROM THE REPORTING COUNTRIES (volume in tonnes and value in million EUR) *

	January - D 201	ecember 9	January - [202	ecember 0	January – 20	December 21	Change bo January - D 2020 & Ja Decembe	etween ecember nuary - r 2021
Country	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Belgium	13.717	59,1	12.439	54,7	11.814	60,3	-5%	10%
Bulgaria	4.949	2,8	2.600	1,8	4.012	2,9	54%	64%
Cyprus	1.028	4,2	817	3,3	822	3,7	1%	12%
Estonia	65.516	15,8	67.897	17,0	65.762	17,3	-3%	1%
France	178.595	614,7	161.515	538,8	165.179	619,8	2%	15%
Italy	93.918	366,5	88.063	329,3	82.593	350,6	-6%	6%
Latvia	51.773	8,8	48.549	9,9	46.642	10,0	-4%	0%
Lithuania	966	0,7	2.422	1,0	2.667	1,2	10%	22%
Netherlands	248.158	387,3	244.336	358,1	219.237	335,6	-10%	-6%
Portugal	127.760	263,1	100.778	227,8	129.992	291,5	29%	28%
Spain	536.291	1614,7	508.294	1426,1	471.774	1460,9	-7%	2%
Sweden	175.380	90,9	141.997	79,8	89.138	56,6	-37%	-29%
Norway	2.758.768	2561,2	2.907.134	2471,8	2.871.015	2651,1	-1%	7%
United Kingdom	280.554	596,5	295.115	490,5	310.834	585,4	5%	19%

Possible discrepancies in % changes are due to rounding.

* Volumes are reported in net weight for EU Member States, and in live weight equivalent (LWE) for Norway. Prices are reported in EUR/kg (without VAT). For Norway, prices are reported in EUR/kg of live weight.

¹ Bivalves and other molluscs and aquatic invertebrates, cephalopods, crustaceans, flatfish, freshwater fish, groundfish, salmonids, small pelagics, tuna and tuna-like species, and other marine fish.

² First-sales data updated on 15.02.2022.

1.2. December 2021 compared to December 2020

Increases in value and volume: First sales increased in Belgium, Cyprus, France, Latvia, Lithuania, and Portugal. The increase in Belgium was mainly due to common sole and cuttlefish. Gilthead seabream was among the causes for the increase in Cyprus.

Decreases in value and volume: First sales decreased in Estonia and Sweden. The decrease in Estonia was mainly due to herring and pike. Sweden recorded a sharp decrease due to decreased sales of sprat and lobster *Homarus* spp.

	Decembo	er 2019	Decembe	er 2020	Decembo	er 2021	Change t December Decembe	oetween r 2020 & er 2021
Country	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Belgium	1.293	6,0	1.123	4,2	1.320	6,3	18%	51%
Bulgaria	164	0,2	86	0,1	79	0,1	-9%	0%
Cyprus	28	0,2	19	0,1	30	0,2	59%	46%
Estonia	6.119	1,2	7.872	1,6	6.926	1,4	-12%	-9%
France	13.408	57,8	13.696	55,2	14.175	62,1	3%	13%
Italy	6.804	29,1	6.573	27,7	5.895	30,1	-10%	9%
Latvia	3.513	0,6	4.259	0,9	4.402	1,0	3%	10%
Lithuania	112	0,1	241	0,1	282	0,1	17%	2%
Netherlands	22.187	33,4	30.610	32,9	26.324	39,8	-14%	21%
Portugal	5.314	13,9	3.511	13,0	4.293	18,0	22%	38%
Spain	30.783	138,6	28.725	124,7	26.148	129,4	-9%	4%
Sweden	4.668	4,1	14.143	6,7	5.894	4,6	-58%	-30%
Norway	57.120	81,2	99.007	103,6	93.911	138,1	-5%	33%
United Kingdom	11.664	34,6	11.637	28,8	11.193	36,3	-4%	26%

Table 2. DECEMBER OVERVIEW OF FIRST SALES FROM THE REPORTING COUNTRIES (volume in tonnes and value in million EUR) *

Possible discrepancies in % changes are due to rounding.

* Volumes are reported in net weight for EU Member States and the UK, and in live weight equivalent (LWE) for Norway. Prices are reported in EUR/kg (without VAT). For Norway, prices are reported in EUR/kg of live weight.

The most recent weekly first-sales data (**up to week 14 of 2022**) are available via the EUMOFA website and can be accessed **here**.

The most recent monthly first-sales data **for February 2022** are available via the EUMOFA website and can be accessed **here**.

1.3. First sales in selected countries

First-sales data analysed in this section are extracted from EUMOFA³.

Table 3. FIRST SALES OF THE MAIN COMMERCIAL SPECIES⁴ IN BELGIUM

Belgium	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 60,3 million,	11.814 tonnes,	Value: common sole, monkfish, ray, turbot.
Jan-Dec 2020	+10%	-5%	Volume: ray, European plaice, squid.
Dec 2021 vs	EUR 6,3 million,	1.320 tonnes,	Common sole, cuttlefish, European plaice, ray.
Dec 2020	+51%	+18%	





Table 4. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN BULGARIA

Bulgaria	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 2,9 million,	4.012 tonnes,	Clam, sprat, red mullet, other marine fish*.
Jan-Dec 2020	+64%	+54%	
Dec 2021 vs	EUR 0,14 million,	79 tonnes,	Clam, other marine fish*, red mullet.
Dec 2020	+0,3%	-9%	





Percentages show change from the previous year. *EUMOFA aggregation for species.

³ First-sales data update on 15.02.2022.

⁴ Data on fisheries and aquaculture products harmonised by EUMOFA allow comparisons along the different supply chain stages.

🥳	First-sales value	First-sales	Main contributing species
Cyprus	/ trend %	volume / trend %	
Jan-Dec 2021 vs	EUR 3,7 million,	822 tonnes,	Swordfish, other marine fish*, other seabream*, picarel.
Jan-Dec 2020	+12%	+1%	
Dec 2021 vs	EUR 0,2 million,	30 tonnes,	Other seabream* (other than gilthead seabream), other
Dec 2020	+46%	+59%	marine fish*, picarel, gilthead seabream.

Table 5. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN CYPRUS





Table 6. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ESTONIA

Estonia	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 17,3 million,	65.762 tonnes,	Value: Sprat, other marine fish*, herring.
Jan-Dec 2020	+1%	-3%	Volume: herring, other freshwater fish*, pike-perch, smelt.
Dec 2021 vs	EUR 1,4 million,	6.926 tonnes,	Herring, other freshwater fish, pike, carp.
Dec 2020	-9%	-12%	

Figure 4. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ESTONIA, DECEMBER 2021



Percentages show change from the previous year. *EUMOFA aggregation for species.

France	First-sales value / trend %	First-sales volume / trend %	Main contributing species	Notes
Jan-Dec 2021 vs Jan-Dec 2020	EUR 619,8 million, +15%	165.179 tonnes, +2%	Octopus, scallop, monkfish, cuttlefish.	In December 2021 compared to December 2020, octopus recorded
Dec 2021 vs Dec 2020	EUR 62,1 million, +13%	14.175 tonnes, +3%	Octopus, squid, monkfish, herring.	one of the highest increases in first sales. Octopus has strong fluctuations in its abundance due to biological and environmental factors, but there is currently no evidence available to explain the abrupt boost recorded. Variations in volume are likely to be driven by climate change and environmental conditions because these species are highly sensitive to hydroclimatic conditions. On the other hand, variations in markets are probably explained by the capability to export to other markets (Spain and Portugal) with more competitive prices for octopus.

Table 7. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN FRANCE





Table 8. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ITALY

Italy	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 350,6 million,	82.593 tonnes,	Value: miscellaneous shrimps*, anchovy, red mullet.
Jan-Dec 2020	+6%	-6%	Volume: clam, anchovy, deep-water red shrimp.
Dec 2021 vs	EUR 30,1 million,	5.895 tonnes,	Value : miscellaneous shrimps, anchovy, squillid.
Dec 2020	+9%	-10%	Volume : clam.



Figure 6. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN ITALY, DECEMBER 2021

Table 9. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LATVIA

Latvia	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 10,0 million,	46.642 tonnes,	Value: herring, sprat, other freshwater fish*.
Jan-Dec 2020	0%	-4%	Volume: sprat, smelt, European flounder.
Dec 2021 vs	EUR 1,0 million,	4.402 tonnes,	Herring, sprat, smelt.
Dec 2020	+10%	+3%	

Figure 7. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LATVIA, DECEMBER 2021



Table 10. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LITHUANIA

Lithuania	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 1,2 million,	2.667 tonnes,	Smelt, herring, other groundfish*, turbot.
Jan-Dec 2020	+22%	+10%	
Dec 2021 vs	EUR 0,14 million,	282 tonnes,	Herring, trout, smelt.
Dec 2020	+2%	+17%	



Figure 8. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN LITHUANIA, DECEMBER 2021

Percentages show change from the previous year. *EUMOFA aggregation for species.

Table 11. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE NETHERLANDS

The Netherlands	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 335,6 million,	219.236 tonnes,	Herring, mackerel, blue whiting, European plaice, sprat.
Jan-Dec 2020	-6%	-10%	
Dec 2021 vs	EUR 39,8 million,	26.234 tonnes,	Value : mackerel, Atlantic horse mackerel, common sole.
Dec 2020	+21%	-14%	Volume : herring, sprat, shrimp <i>Crangon</i> spp.

Figure 9. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE NETHERLANDS, DECEMBER 2021



Table 12. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN PORTUGAL

Portugal	First-sales value / trend %	First-sales volume / trend %	Main contributing species	Notes
Jan-Dec 2021 vs Jan-Dec 2020	EUR 291,5 million, +28%	129.992 tonnes, +29%	Octopus, anchovy, sardine, skipjack tuna.	The main commercial species of Portugal is "squid". This term includes eight squid species reported in the Electronic Reporting
Dec 2021 vs Dec 2020	EUR 18,0 million, +38%	4.293 tonnes, +22%	Squid octopus, clam, other seabream* (other than gilthead seabream).	System (ERS). Neon flying squid (<i>Ommastrephes bartramii</i>) is mainly responsible for sharp increases in first sales of squid in December 2021, in comparison to December 2020. It is a short-lived species of squid, which reacts rapidly to changes in the regional environmental conditions of







Table 13. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SPAIN

R Spain	First-sales value / trend in %	First-sales volume / trend %	Main contributing species	Notes
Jan-Dec 2021 vs Jan-Dec 2020	EUR 1,5 billion, +2%	471.774 tonnes -7%	Value: swordfish, octopus, miscellaneous shrimps*. Volume: mackerel, Atlantic horse mackerel, skipjack tuna.	In December 2021, first-sales value of swordfish recorded nearly a two-fold increase compared to December 2020. Recently, companies are opting for
Dec 2021 vs Dec 2020	EUR 129,4 million, +4%	26.148 tonnes, -9%	Value : swordfish, yellowfin tuna*, octopus. Volume : hake.	preparation of the raw material, moving from gutted products towards gilled, headed, skinned, and tailed frozen swordfish. The value added through this onboard processing accounts for the greater increase in value relative to volume.

⁵ Yu, W., Chen, X., Chen, C., Zhang, Y., 2017. Impacts of oceanographic factors on interannual variability of the winter-spring cohort of neon flying squid abundance in the Northwest Pacific Ocean. Acta Oceanologica Sinica 36, 48–59. https://doi.org/10.1007/s13131-017-1069-0 Wang, J., Cheng, Y., Lu, H., Chen, X., Lin, L., Zhang, J., 2022. Water Temperature at Different Depths Affects the Distribution of Neon Flying Squid (Ommastrephes bartramii) in the Northwest Pacific Ocean. Frontiers in Marine Science 8. https://doi.org/10.3389/fmars.2021.741620



Figure 11. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SPAIN, DECEMBER 2021

Percentages show change from the previous year. *EUMOFA aggregation for species.

Table 14. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SWEDEN

Sweden	First-sales value / trend in %	First-sales volume / trend in %	Main contributing species	Notes
Jan-Dec 2021 vs Jan-Dec 2020	EUR 56,6 million, -29%	89.138 tonnes, -37%	Herring, coldwater shrimp, sprat, Norway lobster, other groundfish*.	In December 2021, sprat sales significantly decreased compared to December 2020, a fall of 17% relative to December 2019. It might seem
Dec 2021 vs Dec 2020	EUR 4,6 million, -30%	5.894 tonnes, -58%	Sprat, lobster <i>Homarus</i> spp., cod, herring.	that market demand and supplies of sprat were usual in December 2021 and unusual in December 2020, when sprat suppliers intensified sprat fishing activities.

Figure 12. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN SWEDEN, DECEMBER 2021



Table 15. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN NORWAY

Norway	First-sales value / trend %	First-sales volume ⁶ / trend %	Main contributing species
Jan-Dec 2021 vs Jan-Dec 2020	EUR 2,65 billion, +7%	2,87 million tonnes, -1%	Value : herring, miscellaneous small pelagics*, crab, mackerel. Volume : Blue whiting, other groundfish*.
Dec 2021 vs Dec 2020	EUR 138,1 million +33%	93.911 tonnes, -5%	Value: cod, haddock, saithe, other marine fish*. Volume: herring, other crustaceans*, mackerel.

⁶ Volume reported in live weight equivalent (LWE).

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context



Figure 13. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN NORWAY, DECEMBER 2021

Percentages show change from the previous year. *EUMOFA aggregation for species.



The United Kingdom	First-sales value / trend %	First-sales volume / trend %	Main contributing species
Jan-Dec 2021 vs	EUR 584,4 million,	310.834 tonnes,	Norway lobster, lobster <i>Homarus</i> spp., crab, mackerel, blue whiting.
Jan-Dec 2020	+19%	+5%	
Dec 2021 vs	EUR 36,3 million,	11.193 tonnes,	Value : monkfish, crab, Norway lobster.
Dec 2020	+26%	-4%	Volume : sprat

Figure 14. FIRST SALES OF THE MAIN COMMERCIAL SPECIES IN THE UNITED KINGDOM, DECEMBER 2021



Percentages show change from the previous year.

1.4. Comparison of first-sales prices of selected species in selected countries⁷



Figure 15. FIRST-SALES PRICES OF SPRAT IN ESTONIA, LATVIA, AND SWEDEN

EU first sales of **sprat** occur in multiple countries, including **Estonia**, **Latvia**, and **Sweden**. In December 2021, the average first-sales prices of sprat were 0,19 EUR/kg in Estonia (down by 1% from the previous month and up by 1% from the previous year); 0,23 EUR/kg in Latvia (unchanged from November 2021, and up by 10% from December 2020); and 0,39 EUR/kg in Sweden (down from the previous month by 22%, and up from the previous year by 43%). In December 2021, supply decreased in Sweden by 87%, and increased by 17% in both Estonia and Latvia, relative to the previous year. Volumes sold in the three markets exhibit a clear seasonality: January, and October–November in Estonia, March–April and October in Latvia, and January–February in Sweden. Over the past 36 months, sprat prices showed an upward trend in all the three countries. At the same time, supply showed a downward trend in Latvia and Sweden, and an upward trend in Estonia.



Figure 16. FIRST-SALES PRICES OF SWORDFISH IN ITALY, PORTUGAL, AND SPAIN

EU first sales of **swordfish** occur predominantly in **Spain**, as well as in **Italy**, and **Portugal**. In December 2021, the average first-sales prices of swordfish were: 11,11 EUR/kg in Italy (up from the previous month and year by 33%, and 31%, respectively); 9,46 EUR/kg in Portugal (up from both November 2021 and December 2020 by 28%, and 20%, respectively); and 8,69 EUR/kg in Spain (down from the previous month by 3%, and up from the previous year by 58%). In December 2021, supply decreased in Italy (–29%), and increased in both Portugal and Spain (+37%, and +22%, respectively), relative to the previous year. Supply is seasonal with different peaks in all three markets: July in Italy, October–December in Portugal, March–April and July–August in Spain. Over the 36-month period observed, swordfish prices exhibited an upward trend in all three markets. During the same period, supply showed an increasing trend in Portugal, and the opposite in Italy and Spain.

⁷ First-sales data updated on 15.02.2022.



Figure 17. FIRST-SALES PRICES OF WHITING IN FRANCE, ITALY, AND THE NETHERLANDS

EU first sales of **whiting** occur predominantly in **France**, as well as in **Italy** and **the Netherlands**. In December 2021, the average first-sales prices of whiting were 1,95 EUR/kg in France, (down from the previous month by 4% and up from the previous year by 14%; 1,73 EUR/kg in Italy (down by 41% from both November 2021 and December 2020); and 0,69 EUR/kg in the Netherlands (down from the previous month by 11%, and up from the previous year by 286%). In December 2021, supply increased in Italy (+81%), and decreased in France and the Netherlands (-10% and -46%, respectively), relative to the previous year. Volumes sold in the three markets are seasonal: in France supply peaks in January–March; in Italy in October; and in the Netherlands in January–February, as well as in August–September. Over the past three years, in all the three countries, prices exhibited an upward trend, while supply went down.



Figure 18. FIRST SALES COMPARISON AT CG, MCS, AND ERS LEVELS FOR REPORTING COUNTRIES⁹, JANUARY

1.5. Commodity group of the month: Other marine fish⁸

Of the 10 commodity groups (CGs) recorded in December 2021, the first sales of the "other marine fish" were the second highest in value and third highest in volume. Across the reporting countries covered by the EUMOFA database, first sales of "other marine fish" reached a value of EUR 45.2 million and a volume of 9.453 tonnes, representing an increase in value of 5% and a decrease in volume of 6%, compared to December 2020. In the past 36 months, the highest first-sales value of "other marine fish" was recorded at EUR 53,2 million in May 2019, while the lowest was recorded at EUR 31,8 million in March 2020. The "other marine fish" commodity group includes the following main commercial species (MCS): cusk-eel, dogfish, gurnard, John Dory, monkfish, picarel, ray, red mullet, scabbardfish, European seabass and other seabass, gilthead seabream and other seabreams, smelt, weever, other marine fish, and other sharks¹⁰. At the Electronic Recording and Reporting System (ERS) level, Angler (6%) and Blackspot seabream (3%) together accounted for 9% of total "other marine fish" first-sales value recorded in December 2021.

1.6. Focus on Angler (or monkfish)¹¹



Angler (Lophius piscatorius), commonly known as monkfish, European angler or common monkfish, is a monkfish in the family Lophiidae. It is found in coastal waters of the Eastern Atlantic, specifically the southwestern Barents Sea to the Strait of Gibraltar, including the Mediterranean and Black seas. They are found along the coast of Greenland and Iceland¹². Angler is present in waters from the low intertidal zone down to depths of 550 m. They grow up to 200 cm in length and are very distinctive. Angler are found mostly on sandy or muddy habitats but can also be present on shell, gravel, and occasionally rocky areas¹³. A male angler

matures at the age of four and grows to be 40 cm long, whereas female angler take a further two years to mature¹⁴. Angler spawn at different times, depending on geographic location. Females can live up to 25 years in the wild, and males can reach 21 years¹⁵. They are caught with bottom trawls and bottom longlines, although in Nordic countries they are mainly caught by large-meshed gillnets¹⁶. Angler is subject to TACs based on the Council Regulation fixing the fishing opportunities in Union waters and for Union fishing vessels in certain non-Union waters¹⁷. The minimum conservation reference size for angler in the Mediterranean is 30 cm¹⁸.

⁸ First-sales data updated on 15.02.2022.

⁹ Norway and the UK excluded from the analyses.

¹⁰ EUMOFA aggregation for species (Metadata 2, Annex 3: http://eumofa.eu/supply-balance-and-other-methodologies).

¹¹ In the further text angler (=monk) refers to angler

¹² https://www.iucnredlist.org/species/198610/21911225

¹³ https://www.marlin.ac.uk/species/detail/2123

¹⁴ http://bioweb.uwlax.edu/bio203/f2012/weibel_emma/reproduction.htm

¹⁵ Froese, R., D. Pauly. 2018. "FishBase" (On-line). Lophius piscatorius. https://animaldiversity.org/accounts/Lophius_piscatorius/#CF2B7B12-D6CA-11E8-AD69-005056AB59D3

¹⁶ https://www.fishbase.se/summary/lophius-piscatorius.html

¹⁷COUNCIL REGULATION (EU) 2022/109 https://eur-lex.europa.eu/legal- content/EN/TXT/?uri=uriserv%3A0J1__2022.021.01.0001.01.ENG&toc=0J%3AL%3A2022%3A021%3ATOC

¹⁸ COUNCIL regulation (EC) No 2406/96 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31996R2406&from=EN

Selected countries

Table 17. COMPARISON OF ANGLER FIRST SALES, MAIN PLACES OF SALE, AND CONTRIBUTION TO OVERALL SALES OF "OTHER MARINE FISH" IN SELECTED COUNTRIES

Angler		Changes in any Jan-Dec 2021	gler first sales (%)	Contribution of angler to total "other marine	Main places of sale in Jan-Dec 2021 in terms		
2			Compared to Jan-Dec 2019	fish" first sales in Dec 2021 (%)	of first-sales value		
Italy	Value	+24%	-1%	10%	Ancona, Civitanova Marche,		
	Volume	+18%	-2%	5%	Sur Benedetto del Honto.		
Netherlands	Value	+26%	+4%	18%	Urk, IJmuiden/Velsen, Scheveningen		
	Volume	-3%	-2%	5%	Scheveningen.		
Spain	Value	-12%	-12%	10%	Vigo, A Coruña, Ondárroa.		
	Volume	-14%	-5%	6%			

Figure 19. ANGLER: FIRST SALES IN ITALY, JANUARY 2019 - DECEMBER 2021



In **Italy**, from January 2019 to December 2021, the first sales of angler were higher in the first half of each year due to fishing season which occur winter and spring. The highest first-sales volume was observed in March 2019 when 71 tonnes were sold, while the highest first-sales value at EUR 0,5 million was recorded in June 2021.







In **the Netherlands,** from January 2019 to December 2021, the highest first-sales volume of angler was recorded in August 2020, when 33 tonnes were sold, while first-sales value reached its peak in July 2021 with EUR 0,14 million. The Dutch angler fishery is the busiest during summer.







Figure 23. ANGLER: FIRST SALES IN SPAIN, JANUARY 2019 - DECEMBER 2021

In **Spain** over the 36 months from January 2019 to December 2021, the highest first-sales volume of angler occurred in May 2019 when 430 tonnes were sold, while first-sales value reached its peak in May 2019 when sales of EUR 2,7 million were registered. Of the surveyed countries, Spain catches the highest quantities of angler.



Figure 24. FIRST SALES: COMPOSITION OF "OTHER MARINE FISH" (ERS LEVEL) IN SPAIN, IN VALUE AND

Figure 25. ANGLER: FIRST-SALES PRICES IN SELECTED COUNTRIES, JANUARY 2019 - DECEMBER 2021



Over the 36-month observation period from January 2019 to December 2021, the weighted average first-sales price of angler in Italy was 7,37 EUR/kg, 93% higher than in the Netherlands (3,82 EUR/kg), and 16% higher than that of Spain (6,33 EUR/kg).

In Italy in December 2021, the average first-sales price of angler (9,03 EUR/kg) increased by 17% compared with December 2020 and 7% in comparison to December 2019. Over the observation period from January 2019 to December 2021, average price ranged from 6,32 EUR/kg for 51 tonnes in January 2021, to 9,03 EUR/kg for 35 tonnes in December 2021.

In the Netherlands in December 2021, the average first-sales price of angler (5,45 EUR/kg) increased by 25% and 14% compared to the same months in 2020 and 2019, respectively. During the observed period, the lowest average price (2,28 EUR/kg for 13 tonnes) was seen in April 2020, while the highest average price was recorded in December 2021, at 5,45 EUR/kg for nine tonnes.

In Spain in December 2021, the average first-sales price of angler (7,79 EUR/kg) increased by 9% compared to December 2020 and decreased by 1% compared to December 2019. During the observed period, the lowest average price of 4,74 EUR/kg for 366 tonnes was seen in June 2020, while the highest average price was recorded in December 2019, at 7,86 EUR/kg for 340 tonnes.

1.7. Focus on Blackspot (red) seabream



Blackspot seabream (*Pagellus bogaraveo*), also known as red seabream, is a marine ray-finned fish species in the family Sparidae. It is widespread in the Eastern Atlantic from Norway to Mauritania, including Macaronesia and the western Mediterranean. The maximum recorded standard length is 70 cm, but a more common standard length is 30 cm. Blackspot seabream is an omnivorous species which mainly feeds on crustaceans, molluscs, and larvae.¹⁹ Spawning occurs throughout the year depending

on the area (January-April in Bay of Biscay; January- May in the Mediterranean Sea)²⁰. Blackspot seabream is an important fish, which is marketed in both fresh and frozen form around the Mediterranean. Fishing is undertaken using trawls, gillnets, trammel nets, and bottom longlines. The species is targeted by artisanal fishermen, although it is also popular in sport and recreational fishing. It is regularly available in the fish markets of France, Spain, and Italy, and occasionally in Greece and Croatia. In the EU in 2022, the maximum quota for longlines and handlines was set at 225 tonnes, with all volume allocated to Spain²¹. Currently, in EU seas, the minimum conservation reference size is set at 33 cm. Imposed technical measures include the prohibition of direct fishing for blackspot seabream using gillnets, entangling nets, or trammel nets with a mesh size of less than 100 mm, and with longlines with hooks of a total length of less than 3,95 cm and a width of less than 1,65 cm.

Selected countries

Table 18. COMPARISON OF BLACKSPOT SEABREAM FIRST SALES, MAIN PLACES OF SALE, AND CONTRIBUTION TO OVERALL SALES OF OTHER MARINE FISH IN SELECTED COUNTRIES

Blackspot seabream		Changes in blac first sales Jan-I	kspot seabream Dec 2021 (%)	Contribution of blackspot seabream	Main places of sale in Jan-Dec 2021 in terms	
		Compared to Jan-Dec 2020 Jan-Dec 2019		to total "other marine fish" first sales in Dec 2021 (%)	of first-sales value	
Italy	Value -37%		+47%	0,8%	Monopoli, Sestri Levante, Anzio.	
	Volume	-33%	+22%	0,2%		
Portugal	Value	+31%	+28%	22%	Vila Praia da Vitória, in Ilha Terceira, Ribeira Grande,	
	Volume	+10%	+15%	7%	Graciosa Island Apt.	
Spain	Value	+10%	+2%	1,9%	A Coruña, Burela, Aviles.	
	Volume	+3%	-5%	0,3%		



Figure 26. BLACKSPOT SEABREAM: FIRST SALES IN ITALY, JANUARY 2019 - DECEMBER 2021

¹⁹ Regulation (EU) 2019/1241 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R1241&rid=4

²⁰ http://species-identification.org/species.php?species_group=fnam&menuentry=soorten&id=1900&tab=beschrijving

²¹ Council Regulation (EU) 2022/110 of 27 January 2022 https://eur-lex.europa.eu/legal-

content/EN/TXT/?uri=uriserv%3A0J.L_.2022.021.01.0165.01.ENG&toc=0J%3AL%3A2022%3A021%3ATOC

In **Italy**, over the observed three years, the highest first-sales value and volume of blackspot seabream occurred in June 2021 when 14 tonnes sold for EUR 0,2 million. First sales are the most intense during the fishery season in summer, when the average sea temperature is higher.



In **Portugal** in the past three years, the highest first-sales volume of blackspot seabream was registered in June 2021 when 73 tonnes were sold, while the peak in first-sales value was recorded in August 2021 when sales valued at EUR 1,1 million were recorded. In general, the fishery is at its most intense during the summer, while in colder months there is less activity.

Figure 28. FIRST SALES: COMPOSITION OF "OTHER MARINE FISH" (ERS LEVEL) IN PORTUGAL IN VALUE AND VOLUME, DECEMBER 2021





Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption | 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context In **Spain**, over the three analysed years, the highest first-sales volume of blackspot seabream was registered in January 2019 when 22 tonnes were sold, while in terms of value, first sales were the highest in December 2020 when EUR 0,6 million was recorded. In Spain there are some "good" months (January, December) and "less good" months (November) for the blackspot seabream fishery, while the other months see fluctuations in catches from seven to 18 tonnes.

Price trend

Figure 30. BLACKSPOT SEABREAM: FIRST-SALES PRICE IN SELECTED COUNTRIES* (JANUARY 2019 - DECEMBER 2021)



Over the 36-month observation period from January 2019 to December 2021, the weighted average first-sales price of blackspot seabream in **Spain** was 21,09 EUR/kg. This was nearly 50% higher than in **Portugal** (14,39 EUR/kg), and 35% higher than in **Italy** (15,59 EUR/kg).

In **Italy** in December 2021, the average first-sales price of blackspot seabream was 22,86 EUR/kg for roughly one tonne - the highest recorded price in the past three analysed years. For comparison, this price was 7% higher than in December 2020, and 61% higher compared to December 2019. The lowest price in the past three years was registered in November 2019, at 3,92 EUR/kg for 0,5 tonnes.

In **Portugal** in December 2021, the average first-sales price of blackspot seabream was 18,48 EUR/kg, representing decreases of 7% and 3% compared to December of 2020 and 2019, respectively. The lowest price experienced in the past three analysed years was registered in March 2020 at 10,06 EUR/kg for 35 tonnes, while the highest price of 20,48 EUR/kg for 33 tonnes was observed in November 2021

In **Spain** in December 2021, the average first-sales price of blackspot seabream was 30,16 EUR/kg. This was 13% lower than in December 2020 and 8% down from December 2019. In the last three years (January 2019-December 2021), the lowest price was registered in March 2020 at 14,64 EUR/kg for 10 tonnes, while the highest price of 34,76 EUR/kg for 18 tonnes was recorded in December 2020.

2. Extra-EU imports

The weekly extra-EU import prices (weighted average values per week, in EUR per kg) for nine different species are examined every month. The three most relevant species in terms of value and volume remain consistent: fresh whole Atlantic salmon from Norway, frozen Alaska pollock fillets from China, and frozen tropical shrimp (*Penaeus* spp.) from Ecuador. The other six species change each month; three are chosen from the commodity group of the month, and three are randomly selected. The commodity group for this month is "other marine fish", and the featured species are fresh or chilled monkfish from Norway, frozen monkfish from Namibia, and fresh or chilled gilthead sea bream from Turkey. The three randomly selected species this month are oysters, still in shell, smoked, dried, salted or in brine from Republic of Korea, live, fresh, or chilled mussels with or without shell from Norway, and prepared or preserved salmon, whole or in pieces, from the United States.

Data analysed in the section "Extra-EU imports" are extracted from EUMOFA, as collected from the European Commission²².

Table 19. EVOLUTION OF WEEKLY PRICE AND VOLUME OF THE THREE MOST RELEVANT FISHERIES AND AQUACULTURE PRODUCTS IMPORTED INTO THE EU

Extra-EU Imports		Week 06/2022	Preceding 4- week average	Week 06/2021	Notes		
Fresh whole Atlantic salmon imported from Norway (Salmo salar, CN code 03021400)	Price (EUR/kg)	8,17	7,10 (+15%)	4,92 (+66%)	Since week one of 2022 prices showed an upward trend, in contrast with a downward trend seen over the past three years. Prices ranged from 4,32 (week 44 of 2020) to 8,17 EUR/kg (week 6 of 2022).		
	Volume (tonnes)	10.577	11.501 (– <mark>8%</mark>)	13.397 (<mark>–21%</mark>)	Volumes ranged from 6.189 to 19.435 tonnes and had an upward trend in the past three years. Since week one of 2022 weekly volumes showed a downward trend.		
Frozen Alaska pollock fillets imported from China (<i>Theragra</i> <i>chalcogramma</i> , CN code 03047500)	Price (EUR/kg)	3,34	3,18 (+5%)	2,48 (+35%)	Over the past three years weekly prices showed an upward trend, as well as in the first six weeks of 2022, when they rose above 3,00 EUR/kg. Prices ranged from 2,26 (week 52 of 2020) to 3,34 EUR/kg (week six of 2022).		
	Volume (tonnes)	765	1.972 (<mark>–61%</mark>)	2.252 (– <mark>66%</mark>)	Weekly volumes fluctuated from 345 to 5.432 tonnes over the past three years, following a downward trend in line with the trend in 2022.		
Frozen tropical shrimp imported from Ecuador (genus <i>Penaeus</i> , CN code 03061792)	Price (EUR/kg)	5,87	6,22 (<mark>–6%</mark>)	5,47 (+7%)	Weekly prices had a downward trend in 2022, while they remained stable over the past three years. Prices ranged from 4,27 (week 38 of 2020) to 6,56 EUR/kg (week 49 of 2021).		
	Volume (tonnes)	2.074	1.756 (+18%)	1.323 (+57%)	Volumes exhibited a downward trend in 2022, in contrast with the trend over the past three years. Weekly volumes fluctuated from 713 to 4.925 tonnes.		

²² Last update: 01.03 2022.

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption | 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context

2.00











Figure 33. IMPORT PRICE OF FROZEN TROPICAL SHRIMP FROM ECUADOR, 2019 - 2022

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context

Table 20.	EVOLUTION OF WEEKLY PRICE AND VOLUME OF THIS MONTH'S THREE FEATURED COMMODITY
	PRODUCTS IMPORTED INTO THE EU

Extra-EU Imports		Week 06/2022	Preceding 4- week average	Week 06/2021	Notes		
Fresh or chilled monkfish imported from Norway (<i>Lophius</i> spp., CN code 03028950)	Price (EUR/kg)	9,11	7,75 (+18%)	5,02 (+81%)	Upward trend over the past three years. Prices fluctuated from 2,67 (week 13 of 2020) to 10,27 EUR/kg (week 50 of 2021). Some price spikes correlated with a drop in supply from the previous week.		
	Volume (tonnes)	7	7 (0%)	23 (-69%)	Downward trend over the past three years. High fluctuations in supply from 0,874 (week 52 of 2020) to 63 tonnes (week 37 of 2019). 64% of the weekly supply was over 20 tonnes.		
Frozen monkfish imported from Namibia (<i>Lophius</i> spp., CN code 03038965)	Price (EUR/kg)	5,86	7,06 (–17%)	5,64 (+4%)	Downward trend over the past three years. Price ranged from 4,37 (week 14 of 2021) to 10,23 EUR/kg (week 08 of 2020). Price spike correlated with a significant decrease in supply from the previous week.		
	Volume (tonnes)	11	65 (– <mark>83%</mark>)	2 (+483%)	Stable trend over the past three years. Fluctuations in supply, from 0,276 (week 33 of 2021) to 232 tonnes (week 21 of 2020). 80% of the weekly volumes were less than 100 tonnes.		
Fresh or chilled gilthead seabream imported from Turkey (<i>Sparus aurata</i> , CN code 03028530)	Price (EUR/kg)	4,18	4,15 (+1%)	3,51 (+19%)	Stable trend from 2019 to 2022, with prices ranging from 3,39 (week 53 of 2020) to 4,33 EUR/kg (week 29 of 2020). 69% of the weekly prices were less than 4,00 EUR/kg.		
	Volume (tonnes)	767	893 (–14%)	783 (<mark>–2%</mark>)	Upward trend from 2019 to 2022. Supply ranged from 330 (week 13 of 2020) to 969 tonnes (week 15 of 2021); 96% of volumes were over 500 tonnes.		

Figure 34. IMPORT PRICE OF FRESH OR CHILLED MONKFISH FROM NORWAY, 2019 - 2022





Figure 35. IMPORT PRICE OF FROZEN MONKFISH FROM NAMIBIA, 2019 - 2022

Figure 36. IMPORT PRICE OF FRESH OR CHILLED GILTHEAD SEA BREAM FROM TURKEY, 2019 - 2022



Since the beginning of 2022, price of fresh or chilled **monkfish** from **Norway** showed an upward trend. At the same time, volume showed a downward trend. Price ranged from 6,82 to 9,11 EUR/kg, and supply from 6 to 15 tonnes.

In 2022, price and volume of frozen **monkfish** from **Namibia** showed a downward trend. Price ranged from 5,86 to 8,24 EUR/kg, and volume from 11 to 138 tonnes.

Price of fresh or chilled **gilthead seabream** from **Turkey** showed an upward trend since the beginning of 2022. At the same time, volume showed an opposite trend. Price ranged from 3,87 to 4,24 EUR/kg, and volume from 767 to 964 tonnes.

Table 21. EVOLUTION OF WEEKLY PRICE AND VOLUME OF EU IMPORTS OF THREE OTHER FISHERIES AND AQUACULTURE PRODUCTS RELEVANT TO THE EU MARKET

Extra-EU Impor	ts	Week 06/2022	Preceding 4- week average	Week 06/2021	Notes
Oysters - smoked, dried, salted or in brine (still in shell) imported from Republic of	Price (EUR/kg)	76,64	n/a ²⁴	77,51 (–1%)	Upward trend from 2019 to 2022. Prices fluctuated from 5,15 EUR/kg (week 31 of 2021) to 105,33 EUR/kg (week 27 of 2021). On average the weekly prices were around 40 EUR/kg.
Korea ²³ (CN code 03071900)	Volume (tonnes)	0,0001	n/a ²⁵	1 (-100%)	High fluctuations in supply, varying between 0,1 kg (weeks 44 of 2020, 27 of 2021, and six of 2022) and 2,4 tonnes (week 30 of 2020). Overall downward trend.
Live, fresh or chilled mussels, with or without, shell imported from	Price (EUR/kg)	3,35	3,68 (– <mark>9</mark> %)	3,32 (+1%)	Stable trend over the past three years. Price spikes were not related to a drop in supply from the previous week. Price fluctuations, varying from 0,94 (week five of 2021) to 6,30 EUR/kg (week 29 of 2019).
spp., CN code 03073110)	Volume (tonnes)	0,598	0,568 (+5%)	0,835 (<mark>–28%</mark>)	Stable trend over the past three years.
Prepared or preserved salmon, whole or in pieces, imported from the United States (CN code 16041100)	Price (EUR/kg)	10,79*	16,11** (-33%)	13,99*** (– 23%)	Upward trend from 2019 to 2022, with prices fluctuating from 3,84 (week 27 of 2019) to 110,70 EUR/kg (week 44 of 2019). Price spikes correlated with significant decreases in supply from the previous week. Most of the prices were less than 10,00 EUR/kg.
,	Volume (tonnes)	20*	41** (-52%)	0,010*** (+197071%)	From 2019 to 2022, volumes fluctuated from 0,0001 (week 40 of 2020) to 143 tonnes (week 09 of 2021), with an overall downward trend.

* Data refers to week 05 of 2022 (the most recent available);** data refers to weeks 01 to 04 of 2022;***data refers to week 05 of 2021.

Figure 37. IMPORT PRICE OF SMOKED, DRIED, SALTED OR IN BRINE OYSTERS FROM REPUBLIC OF KOREA, 2019 - 2022



 4. Fisheries and aquaculture in Ecuador
 5. Squids in the EU
 6. Global highlights

 7. Macroeconomic context

²³ The majority of data is missing; trends are estimated on the available data (28%)

²⁴ There were no sales recorded for the 4 preceding weeks

²⁵ Ibidem



Figure 38. IMPORT PRICE OF LIVE, FRESH OR CHILLED MUSSELS, WITH OR WITHOUT SHELL, FROM NORWAY, 2019 - 2022

Figure 39. IMPORT PRICE OF PREPARED OR PRESERVED SALMON, WHOLE OR IN PIECES, FROM THE UNITED STATES, 2019 - 2022



Price of smoked, dried, salted or in brine **oysters** (still in shell) from **the Republic of Korea** have exhibited an upward trend in 2022. At the same time, the volume showed the opposite. Price ranged from 6,59 to 76,64 EUR/kg and weekly supply from 0,0001 to 0,0003 tonnes.

Since the beginning of the year, both price and volume of live, fresh or chilled **mussels**, with or without shell, from **Norway** had a downward trend. Price ranged from 3,35 to 3,93 EUR/kg and supply from 0,229 to 930 kg.

In 2022, price of prepared or preserved **salmon**, whole or in pieces, from **the United States** exhibited a downward trend, while volume showed an upward trend. Price ranged from 6,37 to 32,33 EUR/kg and supply from 0,051 to 57 tonnes.

3. Consumption

3.1. HOUSEHOLD CONSUMPTION IN THE EU

Data analysed in the section "Consumption" are extracted from EUMOFA, as collected from Europanel²⁶.

In December 2021 compared with December 2020, household consumption of fresh fisheries and aquaculture products increased in both volume and value in Denmark (+3%, and +9%, respectively), Italy (+3% and +13%), and the Netherlands (+3% and +10%). In Poland, value increased but volume decreased. In Germany, value decreased while volume remained stable. In the rest of the countries analysed, consumption decreased. The increase in Denmark was due mainly to mussels *Mytilus* spp. (+80% in volume, +171% in value). In Italy, hake (+18% in volume, +28% in value) and European seabass (+21% in volume, +34% in value) were the main contributors to the observed increase. In the Netherlands, shrimp *Crangon* spp (+48% in volume and +31% in value) and trout (+23% in volume and +22% in value) contributed to the consumption increase. Ireland and Spain were among the Member States registering the highest decrease in consumption. Cod contributed the most to the decrease in Ireland (-39% in volume and -31% value), whereas in Spain mackerel was the main cause (-50% in volume and -37% in value). Portugal also saw a decrease in consumption due mainly to octopus (-30% in volume, -14% in value). Hake (-43% in volume, -31% in value) and monkfish (-20% in volume, -17% in value) were the main contributors to the decrease in France.

Table 22. DECEMBER OVERVIEW OF THE REPORTING COUNTRIES (volume in tonnes and value in million EUR)

Country	Per capita consumption 2019* (live weight	December 2019		December 2020		November 2021		December 2021		Change from December 2020 to December 2021	
	equivalent, LWE) kg/capita/year	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Denmark	42,56	1.227	21,43	1.176	20,95	1.073	18,21	1.206	22,94	3%	9%
France	33, 26	24.937	295,07	28.207	333,51	17.463	200,12	26.243	326,87	7%	2%
Germany	13,08	7.612	109,04	9.920	138,41	5.688	77,03	9.871	131,04	0%	5%
Hungary	6,28	2.421	12,80	2.388	11,97	320	2,09	1.980	11,66	17%	3%
Ireland	25,50	953	13,50	1.041	15,08	925	14,19	882	13,43	15%	11%
Italy	31,21	39.640	483,13	40.676	438,25	22.933	257,05	41.975	494,33	3%	13%
Netherlands	20,60	3.449	60,12	3.933	71,47	2.501	41,75	4.070	78,45	3%	10%
Poland	13,11	11.724	61,36	12.101	65,94	3.799	26,17	10.652	72,82	12%	10%
Portugal	59,91	6.034	45,85	7.556	57,65	5.145	38,37	6.476	54,60	14%	5%
Spain	46,02	52.686	479,80	63.681	591,89	48.004	423,47	55.558	538,81	13%	9%
Sweden	25,16	821	11,12	1.220	15,48	697	13,03	1.134	15,15	7%	2%

*Data on per capita consumption of all fish and seafood products for all EU Member States can be found at: https://www.eumofa.eu/documents/20178/477018/EN_The+EU+fish+market_2021.pdf/

²⁶ Last update: 14.02.2022.

Over the past three years, the average household consumption of fresh fisheries and aquaculture products in December in both volume and value has been above the annual average in most of the Member States analysed, with the exception of Ireland where it was below the average.

The most recent weekly consumption data (up to **week 13 of 2022**) are available on the EUMOFA website and can be accessed **here**.

3.2. Octopus

Habitat: A benthic species living in temperate and tropical waters, mainly in habitats such as rocks, coral reefs, and seagrass beds²⁷.

Catch area: Central-east Atlantic off the coast of Africa, from Morocco to Senegal; the Mediterranean Sea; Inland Sea of Japan²⁸.

Main producing countries in the EU: Portugal, Spain, Greece, Italy, France.

Production method: Caught.

Main consumers in the EU: Portugal, Spain, Greece, Italy, France.

Presentation: Whole or chopped.

Preservation: Fresh, frozen, marinated, canned, smoked, and dried. **Preparation:** Grilled, boiled, seasoned.



3.2.1. Overview of household consumption in Italy and Portugal

Portugal and Italy are among the EU Member States where the per capita apparent consumption²⁹ of fisheries and aquaculture products is among the highest in the EU. In Portugal, this amounted to 59,91 kg, the highest in the EU in 2019. It was nearly three times higher compared to the EU average (23,97 kg LWE). Compared to 2018, it decreased by 2%.

In Italy, the per capita apparent consumption of fisheries and aquaculture products was 31,21 kg, 48% lower than that of Portugal. It increased by 1% compared to the previous year. Compared to the EU average, it was 30% higher.

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption

 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights |

 7. Macroeconomic context

²⁷ https://eumofa.eu/documents/20178/393194/PTAT+Octopus_EN.pdf

²⁸ https://eumofa.eu/documents/20178/149985/MH+5+2019+EN.pdf/

²⁹ "Apparent consumption" is calculated by using the supply balance sheet that provides an estimate of the supply of fisheries and aquaculture products available for human consumption at EU level. The calculation of the supply balance sheet is based on the equation: *Apparent consumption* = [(total catches – industrial catches) + aquaculture + imports] – exports. Catches targeted for fishmeal (industrial catches) are excluded. Non-food use products are also excluded from imports and exports. It is worth underlining that the methodologies for estimating apparent consumption at EU and Member State levels are different, the former is based on data and estimates as described in the Methodological background, while the latter also requires the adjustment of abnormal trends due to the higher impact of stock changes.

Over the past three years (January 2019 – December 2021), total Spanish household consumption of octopus was 38.594 tonnes, nearly three times higher than the total household consumption in Portugal. Italian consumers spent on average 13,95 EUR per month for a kilogram of octopus, whereas consumers in Portugal spent 9,38 EUR on average.

We have covered **octopus** in previous *Monthly Highlights*:

First Sales: France 8/2018, 6/2017; Italy 1/2021, 8/2018, 6/2017; Portugal 1/2021, 8/2018, 6/2017, 3/2016, 1/2015, 8-9/ 2013, 2/2013, Spain 1/2021.

Consumption: Italy 5/2019, 8/2017, 1/2016; Portugal 5/2019, 8/2017, 1/2016.

Extra-EU Imports: Indonesia 9/2020, 8/2018; Mauritania 1/2018; Morocco 8/2021, 6/2021, 1/2020, 2/2019, 1/2018.

Topic of the month: Octopus in the EU 10/2018, Octopus in Portugal 6/2013.





Figure 41. HOUSEHOLD PURCHASES OF OCTOPUS IN ITALY AND PORTUGAL



Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption | 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context

3.2.2. Household consumption trends in Italy

Long-term trend (January 2019 to December 2021): Upward trend in price and downward trend in volume. Yearly average price: 13,60 EUR/kg (2019), 13,97 EUR/kg (2020), 14,28 EUR/kg (2021). Yearly consumption: 13.943 tonnes (2019), 12.292 tonnes (2020), 12.358 tonnes (2021).





3.2.3. Household consumption trends in Portugal

Long-term trend (January 2019 to December 2021): Upward trend in both price and in volume. Yearly average price: 9,15 EUR/kg (2019), 9,29 EUR/kg (2020), 9,71 EUR/kg (2021). Yearly consumption: 3.321 tonnes (2019), 3.726 tonnes (2020), 3.041 tonnes (2021).



Figure 43. RETAIL PRICE AND VOLUME OF OCTOPUS PURCHASED BY HOUSEHOLDS IN PORTUGAL,

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption 4. Fisheries and aquaculture in Ecuador 5. Squids in the EU 6. Global highlights 7. Macroeconomic context

Case study - Fisheries and aquaculture in Ecuador

Introduction 4.1

Ecuador is a land characterised by regional variation, from the Pacific coastal lowlands to the mountains and volcanoes of the Andes and the rainforests of the Amazonian east. It is famous for its rich ocean waters stocked with fish of all sizes, from small pelagic species to apex predators such as tuna. Ecuador is situated at the meeting point of two very different ocean currents. From the south, the cold Humboldt current brings nutrients, plankton, and krill, while from the north the warmer El Niño current arrives from the waters of Central America. As these waters mix, a favourable environment for small pelagic fishes is created. This creates the basis for an entire food chain, with larger fish preying and feeding on the smaller species resulting in is rich fishing grounds for both sport and commercial fishers.

0 50 km COLOMBIA Esmeraldas Ibarra ningo Nueva Loi *QUITO Manta Quevedo 4 Portoviejo .Ambatc Rioba PACIFIC Guavaguil La Libertad -Cuenc Machala Puerto Bolívar In Ecuador, fisheries are divided into tuna purse-seine fisheries, small pelagic PERU Loia fisheries, and artisanal fisheries. Ecuador is the largest tuna producer in the

Americas, with 116 purse seiners and a processing capacity of 450.000 tonnes providing 24.000 jobs in 2016³⁰.



The small pelagic purse seiner fleet is comprised of 267 vessels, and approximately 23.000 people are employed within the small pelagic fish supply chain. Furthermore, Ecuador home to the largest is small-scale artisanal fishing fleet in the Southeast Pacific Ocean, with approximately 15.500 fishing vessels, employing over 58.000 $people^{31}$.

In addition, sport fishermen are attracted by well-known sport fishing tournaments targeting "billfish". "Billfish" fishing varies moderately throughout the year, with a high season from June to November and a low season from February to April. There is no closed season³².

Ecuador is the world's third largest producer of whiteleg shrimp (Litopenaeus vannamei) and the largest producer in South America. Its shrimp sector is unique in terms of the high level of vertical integration within companies. In addition, large share of shrimp volumes are produced in extensive production systems. Ecuador has advantages over its competitors in Asia, including relatively low, farm-level production costs, high quality, high uniformity of raw materials, and relatively large harvest sizes of shrimp. These are popular on the European market, as well as in China's restaurant sector as a premium product³³. Today, Ecuador has become a leading producer and exporter of farmed shrimp as well as tuna.

4.2 **Fisheries and aquaculture**

Fisheries and aquaculture in Ecuador have had an upward trend since 2009. Fisheries production varied between 400.000 tonnes (2010) to 715.000 tonnes (2016), averaging around 570.000 tonnes. In 2019, production reached 608.000 tonnes. While wild catches vary more from year to year, aquaculture has seen steady growth and for the first time, overtook fisheries production in 2019, reaching 696.000 tonnes.

4. Fisheries and aquaculture in Ecuador 5. Squids in the EU 6. Global highlights

³⁰ https://camaradepesqueria.ec/wp-content/uploads/2016/03/ECUADOR-A-TUNA-LEADER.pdf

³¹ https://globalmarinecommodities.org/en/gmcecuador/#:~:text=Ecuador%20is%20home%20to%20the,transportation%2C%20refrigeration%2C%20etc

³² https://v w.ecuador.com/blog/ecuadors-fishing-industry/

³³ Seafood TIP, part of Kontali https://seafood-tip.com/sourcingintelligence/countries/ecuador/shrimp/#:~:text=Shrimp%20farming%20in%20Ecuador%20is,areas%20of%20Manabi%20and%20Esmeraldas.

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption



Figure 44. FISHERIES AND AQUACULTURE PRODUCTION IN ECUADOR (volume in tonnes)

Source: FAO.

Fisheries

Most of the fisheries production volume in Ecuador is accounted for by tuna, small pelagic species, and mahi-mahi fisheries. Skipjack tuna (*Katsuwonus pelamis*) contributes an average of 33% to the total volume; in 2019, with 229.000 tonnes, it contributed 38% to the total volume. Besides skipjack, other tuna species present in the catches are frigate and bullet tuna (*Auxis thazard, A.rochei*), yellowfin tuna (*Thunnus albacares*) and bigeye tuna (*Thunnus obesus*) which along with skipjack tuna, accounted for 67% of catch volume in 2019.

Species	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Skipjack tuna	109.071	177.504	184.231	193.357	194.592	224.000	199.658	198.958	194.046	229.023
Frigate and bullet tuna	37.670	43.812	56.403	28.856	42.808	64.533	51.905	55.443	64.647	84.541
Yellowfin tuna	29.884	34.497	34.352	29.347	42.192	50.274	56.355	57.344	59.275	47.613
Bigeye tuna	32.899	32.297	46.640	39.304	39.770	51.054	37.970	41.412	44.172	45.483
Pacific chub mackerel	52.751	31.799	51.838	88.795	88.394	99.630	94.674	75.482	29.591	37.375
Croakers, drums	596	806	28	1.732	2.328	588	2.178	3.236	10.617	16.569
Pacific anchoveta	741	13.012	2.758	6.534	7.931	26.803	42.377	22.966	34.053	15.874
Pacific thread herring	29.369	20.273	33.089	13.204	25.625	32.900	11.586	17.789	13.249	15.830
Butterfishes, pomfrets	2.774	1.295	269	1.506	2.552	563	801	6.955	3.016	12.093
Shortfin scad	21.097	6.917	10.543	16.146	21.583	25.676	76.742	15.974	11.141	10.907
Other	83.022	144.218	92.157	94.566	194.580	67.259	141.250	127.128	133.659	92.733
Total	399.874	506.430	512.308	513.347	662.355	643.280	715.496	622.687	597.466	608.042

Table 23. TOP 10 SPECIES FROM FISHERIES (volume in tonnes)

Source: FAO.

Industrial fishing in Ecuador began in the 1950s. Fisheries targeted small amounts of tuna for export, and the canning industry, which was established in the late 1950s. By 1965, less than ten years later, Ecuador was catching 13 times more tuna. Today the tuna fisheries are important to both the industrial and small-scale sectors. In approximately the same time period, an industrial purse seining fleet was developed to fish small pelagic species, but also to target large pelagic species and travel further offshore. As the industrial sector has grown, so too has the artisanal fishing sector. This is evident in the increasing numbers of ports, boats, and fishers, making this relatively small country globally known in the fisheries and

aquaculture sector³⁴. The Ecuadorian tuna purse-seiner fleet is the largest in the Eastern Pacific Ocean and has the biggest processing capacity.

Aquaculture

Since 2009, aquaculture production in Ecuador has more than tripled, going from 219.000 tonnes to 696.000 tonnes in 2019. In terms of value, from 2015 to 2019 there was an increase of 13%, as total production value rose from 2.305 million EUR to 2.602 million EUR. Aquaculture in Ecuador is dominated by whiteleg shrimp production (*L. vannamei*). Its production has more than tripled since 2009, reaching 680.000 tonnes in 2019 (120.000 tonnes more than in 2018). Other species present in Ecuadorian aquaculture are Nile tilapia, which has declined in production since 2009 (decreasing from 48.000 tonnes to 11.000 tonnes in 2019), rainbow trout, for which production was at 4.000 tonnes in 2019, and others that are cultured in small scale.

Shrimp aquaculture

In 2019, 98% of total aquaculture production volumes in Ecuador consisted of whiteleg shrimp, which was almost completely destined for export. Shrimp aquaculture is dominated by large producers that operate in vertically integrated companies (which own their own hatcheries, farms, and processing plants). There are about 350 commercial hatcheries located along the coast, mostly around Manabí. In the northern areas of Manabí and Esmeraldas, farmers are mostly smaller scale. The feed sector accounts for about 600.000 tonnes of production yearly.

Ecuador is focused on the frozen exports of HOSO shrimp (head-on shell-on), especially for its exports to the EU and China. HLSO products (head-less shell-on) are preferred on the US market. Shrimp is mainly shipped from the port of Guayaquil.

4.3 Trade

Export from Ecuador

In 2021, Ecuador exported a total of 1.3 million tonnes of fishery and aquaculture products, at a value of 5,4 billion EUR, an increase of 3% in terms of volume and 12% in terms of value compared to 2020. In the last five years, exports have grown steadily in terms of volumes and values (with the exception of 2020, when values decreased by 3% compared to the year before). Ecuador mainly exports shrimp and tuna (whose combined exports represent more than 70% of total exports in terms of volume), followed by fishmeal and mackerel (covering together 5-10% of the total in terms of volume). The largest markets for Ecuadorian exports are China, the EU, and the US, which in 2021 contributed to the total market share in terms of volume by 32%, 23%, and 17%, respectively. Since 2016, China has established its position on the buyers' market and increased its imports of Ecuadorian shrimp to secure raw materials for the domestic market, as Asian shrimp farms have been ravaged by Early Mortality Syndrome (EMS)³⁵. With the FTA between Ecuador and the EU, Ecuador may become overall more competitive compared to Asian suppliers which do not have GSP status or an FTA³⁶. Nevertheless, the EU remains an important market for Ecuadorian exports. When it comes to tuna, it is important to underline that only a proportion of exported fish originates from Ecuador, while the remainder is imported from other sources for processing in Ecuador.

³⁴ https://www.researchgate.net/publication/271909831_Marine_Fisheries_Catch_Reconstructions_for_Continental_Ecuador_1950-2010 ³⁵ EMS is a disease that typically affects shrimp postlarvae within 20-30 days after stocking and usually causes up to 100% mortality (https://www.globalseafood.org/advocate/early-mortality-syndrome-affects-shrimp-in-asia/)

³⁶ Generalized System of Preferences (GSP); Free Trade Agreement (FTA).

	2017		20	18	20	19	2020		20	2021	
	Volume	Value									
China	71	164	124	545	407	1.938	403	1.728	401	1.772	
United States	117	752	128	742	137	774	177	985	217	1.289	
Spain	99	465	94	415	114	484	96	387	114	477	
Colombia	69	156	73	175	82	187	96	221	70	175	
France	36	206	37	190	41	213	45	201	53	263	
Italy	39	234	45	259	41	240	40	223	43	235	
Other EU	67	306	70	321	76	325	92	381	76	338	
Other	459	1.856	412	1.551	262	833	273	716	290	861	
Total	957	4.140	984	4.199	1.160	4.994	1.222	4.842	1.263	5.410	

Table 24. EXPORTS OF FISHERY AND AQUACULTURE PRODUCTS FROM ECUADOR (volume in 1.000 tonnes and value in million EUR)

Source: EUMOFA elaboration of data from Global Trade Atlas - IHS Markit.

Import to Ecuador

Imports had an increasing trend from 2017 to 2019, but dropped in 2020 and continued the same trend in 2021³⁷. In 2021, total import volumes were 83.000 tonnes for a value of 98 million EUR. Compared to 2020, there was a drop of 65% in terms of both volumes and values. Ecuador imports come mostly from Peru, and in the period 2017-2019 they contributed to more than 70% of total import volumes. In terms of volume, however, in 2020 and 2021, the share of imports from Peru dropped to 66% and 36%, respectively. Most of the imported fishery and aquaculture products in Ecuador consist of tuna, fishmeal, and fish oil, followed by anchovies and hake. Skipjack tuna is mainly imported from Venezuela, South Korea and the Seychelles, yellowfin tuna from Venezuela and the US, while fishmeal and fish oil come mostly from Peru and Chile.

Table 25. IMPORTS OF FISHERY AND AQUACULTURE PRODUCTS TO ECUADOR (volume in tonnes and value in 1.000 EUR)

	2017		20	2018		2019		2020		2021	
Country	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	
Peru	210.995	193.865	219.862	195.385	229.349	197.261	154.531	135.259	29.482	26.742	
Panama	270	296	2.876	3.375	8.962	6.449	9.111	6.541	8.971	5.925	
Venezuela	n/a	n/a	n/a	n/a	4.172	3.577	6.312	6.750	6.120	7.978	
Nauru	n/a	5.332	7.224								
Seychelles	279	275	4.428	2.895	4.068	3.754	1.762	1.139	4.350	4.501	
United States	9.722	41.157	12.953	47.678	11.633	41.228	9.275	31.426	4.260	9.902	
Chile	2.380	6.432	4.836	9.599	4.578	9.204	6.302	9.465	4.133	8.745	
Other	27.403	60.901	42.468	80.241	46.597	84.863	48.189	89.037	20.044	27.275	
Total	251.048	302.926	287.424	339.173	309.359	346.337	235.483	279.617	82.692	98.292	

Source: EUMOFA elaboration of data from Global Trade Atlas - IHS Markit. *2021 data appears to be incomplete and should be treated by caution.

³⁷ Data for 2021 appears to be incomplete (both by country and month) and should be treated with caution

EU imports from Ecuador

EU imports of warmwater shrimps and tuna species (skipjack, yellowfin, and other miscellaneous tunas) from Ecuador contribute to more than 90% of total EU imports of fish from Ecuador in terms of both volume and value. In 2021, total EU imports from Ecuador reached 297.000 tonnes for 1.4 billion EUR. Of this, warmwater shrimps contributed 49% and tuna 45% of the total volumes, and 58% and 38% of total values, respectively. Imports from Ecuador have steadily increased over the last five years. From 2017 to 2021, shrimp imports increased by 57%. From 2020 to 2021, they increased by 17%. Accumulated tuna imports (skipjack, yellowfin, miscellaneous) have been decreasing since 2019 by 11%, and 6% since 2020. In terms of value, shrimp imports are generally higher compared to tuna, and in 2021 they reached an average price of 5,60 EUR/kg, which is an increase of 8% compared to 2020. Warmwater shrimp imported to the EU from Ecuador mostly consist of frozen, farmed shrimp of the species *Penaeus vannamei*.

	2017		20	018	20	2019 2020		2021		
Species	Volume	Value								
Shrimp, warmwater	91.888	618.514	98.876	586.802	99.258	580.741	123.574	639.248	144.737	812.144
Tuna, skipjack	94.366	408.790	89.021	385.259	117.324	470.504	110.064	409.854	97.024	366.947
Tuna, yellowfin	24.297	123.949	28.963	141.696	23.891	118.354	20.741	107.599	24.142	115.640
Tuna, miscellaneous	17.109	74.447	16.430	68.917	17.605	74.720	10.701	43.600	12.363	51.944
Mackerel	2.152	2.242	1.680	2.127	603	3.124	2.145	5.062	7.551	10.931
Swordfish	1.051	3.033	2.208	8.118	2.700	11.616	1.862	7.257	2.827	14.473
Shrimp, miscellaneous	1.647	18.220	2.205	21.414	3.417	23.688	2.330	14.865	2.380	18.096
Fishmeal	220	310	491	558	238	443	1.008	2.747	1.888	3.858
Fish oil	3.403	3.942	2.183	2.764	573	714	198	237	1.212	1.718
Other	2.981	7.513	3.697	10.119	3.721	13.070	3.711	10.672	2.669	7.570
Total	239.114	1.260.958	245.754	1.227.776	269.330	1.296.974	276.335	1.241.142	296.793	1.403.321

Table 26. EU* IMPORTS FROM ECUADOR (volume in tonnes and value in 1.000 EUR)

*UK excluded from the analysis.

Source: EUMOFA elaboration of EUROSTAT-COMEXT data.

EU exports to Ecuador

Export volume and value from EU MS to Ecuador are generally lower than imports. From 2017 to 2019, there was an increasing trend in export volume, which rose from 43.000 tonnes to 78.000 tonnes; however, they decreased by 48% in 2020 compared to the year before, most likely due to the COVID-19 pandemic. In 2021, total export volumes reached 61.000 tonnes, which was an increase of 50% compared to the year before. In terms of values, exports generated the total value of 75 million EUR in 2021, which was an increase of 54% compared to 2020. Tuna species are top exported products from EU to Ecuador (with skipjack tuna in a leading position), followed by mackerel and other FAPs.

	20	17	20	18	20	19	2020		2021	
Species	Volume	Value								
Tuna, skipjack	28.413	43.887	56.216	66.744	58.998	64.416	30.367	32.860	45.015	50.903
Tuna, yellowfin	5.356	9.707	10.230	16.097	8.073	11.107	5.859	7.636	8.959	12.217
Tuna, bigeye	8.895	13.507	11.065	13.878	9.049	11.214	3.251	3.798	5.243	6.102
Tuna, miscellaneous	66	13	269	57	696	717	77	102	467	423
Mackerel	0	0	88	186	0	0	52	77	149	201
Other	586	1.694	1.016	2.706	1.354	3.656	757	4.403	899	5.386
Total	43.316	68.808	78.886	99.667	78.170	91.110	40.364	48.875	60.731	75.232

Table 27. EU* EXPORTS TO ECUADOR (volume in tonnes and value in 1.000 EUR)

*The UK is excluded from the analysis.

Source: EUMOFA elaboration of EUROSTAT-COMEXT data.

4.4 Processing and certification

Shrimp processing is dominated by a small number of large companies that process and export shrimp from Ecuador. HOSO and HLSO products are preferred by Ecuadorian processors, as opposed to other peeled or value-added products, as labour costs are high compared to those in Asian countries. Shrimp that end up on the EU market are either sold as raw materials for the cooking industry, or HOSO products packed in bulk and frozen as semi-IQF³⁸. Furthermore, these products can be found in high-end EU supermarkets which purchase organic and Aquaculture Stewardship Council (ASC) certified products for a premium price. Despite the competition for ASC certified products from other producers in Asia, there is no competition for organic production, since *L.vannamei* is not a native species to Asia and therefore cannot be certified as organic.

Dominated by a small number of main players, the Ecuadorian tuna industry is largely vertically integrated and robust, allowing for supply chain traceability, environmental sustainability, and certified options. The processing and canning industries are mainly located in Manta, Ecuador's main tuna port, and Manabí. Ecuador is also a major supplier of tuna raw material to brands and processors, with options ranging from canned products to sashimi/sushi quality. Tuna products are mainly exported from Manabí harbour, which is well connected to international shipping routes.

³⁸ Individually quick frozen (IQF).

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5. Case study - Squids in the EU

Squids are among the most landed fishery products in the global seafood market. In the EU, most of the supply is imported frozen, especially from Morocco, the Falkland Islands and parts of Asia. In 2021, total extra-EU imports reached 226.868 tonnes at an approximate value of EUR 1,1 billion. EU landings amounted to 32.707 tonnes in 2019, with Spain and France being the main landing countries. First sales show a strong seasonality with volumes typically peaking in autumn.



Source: Scandinavian Fishing Yearbook.

5.1 Biology, resource, and exploitation

Biology

Squids are cephalopods in the superorder Decapodiformes with elongated bodies, large eyes, eight arms, and two tentacles. Like all other cephalopods, squids have a distinct head, bilateral symmetry, and a mantle. They are mainly soft-bodied, like octopuses, but have a small internal skeleton in the form of a rod-like gladius or pen, made of chitin. There are hundreds of species of squids reported across all oceans. The EU fleet targets several of those species, mostly belonging to the *Loligo* and *Illex* families. *Loligo vulgaris* (common squid or European squid) is the abundant species in EU waters.

European squid (*Loligo vulgaris*) lives in coastal waters throughout the Mediterranean Sea and the eastern Atlantic Ocean from the North Sea to the Gulf of Guinea. The species lives within depths of 50-100 m but moves to shallower waters to spawn. They become sexually mature within their first year and have a maximum life span of 1,5 to 2 years for females and 3 to 3,5 years for males. Male and female adults usually die shortly after spawning or brooding, respectively³⁹. In the western Mediterranean, European squid spawn throughout the year, peaking in March and April. They feed on bony fish, other cephalopods, worms, and crustaceans⁴⁰. European squid growth, migration, and spawning behaviour is highly correlated with water temperature meaning that squid abundance can vary greatly over time⁴¹.

Resource, exploitation and management in the EU

In the Atlantic and Mediterranean, European squid is exploited by commercial fisheries and is also caught as bycatch in fisheries targeting various fish species. Bottom trawl nets are one of the main gear types used to catch European squid. It is also caught using beach-seines, gillnets, and trammel nets. In the Mediterranean, near the coasts where the species concentrates during autumn and winter for spawning, small-scale artisanal and sport fishers usually target the species using squid-jigs⁴². There is no dedicated management for European squid at the EU level, except a technical measure that sets minimum mesh size at 40 mm for direct squid fishing⁴³. Due to its short life cycle and its variable fecundity (impacted by environmental variations), the abundance of squid stocks is highly variable. Squid fisheries are highly seasonal due to the life cycle of the species, and most catches occur when squids come into coastal waters to spawn in summer and autumn.

³⁹ https://www.sealifebase.ca/summary/Loligo-vulgaris.html

⁴⁰ https://www.sealifebase.ca/summary/Loligo-vulgaris.html

⁴¹ http://safinacenter.org/documents/2012/03/squid-european-veined-full-species-report.pdf/

⁴² https://www.ices.dk/sites/pub/Publication%20Reports/Cooperative%20Research%20Report%20(CRR)/CRR303.pdf

⁴³ REGULATION (EU) 2019/1241 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R1241&from=EN

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5.2 Production

Catches



Global production of squid species amounted to 2,5 million tonnes in 2019. The main species caught were the jumbo flying squid (37% of total catch volume), various squids nei (21%), common squid nei (14%), and the Argentine shortfin squid (10%). Catches of European squid accounted for only 0,1% of total world catch.

Squid species are caught in all fishing regions around the world. Leading producers in 2019 were China (29%) and Peru (21%), followed by Indonesia (9%), India, Russia, and Argentina (4% each). EU catches of squid species accounted for only 1% of global catch, with 35.193 tonnes caught. In China and Peru, the main caught species is the jumbo flying squid, in Russia the schoolmaster gonate squid, and in Argentina the Argentine shortfin squid.

Over the last decade (2010-2019), catches of squid species have experienced a slight decrease (-3%). However, total catch has experienced fluctuations with a peak at 3,6 million tonnes in 2014 and a sharp decrease in 2016 to 2,3 million tonnes. Almost all major producing countries reported significant increasing trends over the decade (+19% in China, +44% in Peru, and +138% in Indonesia). However, some producing countries reported strong decreases, especially South Korea (-67%), Thailand (-21%), and Japan (-74%). Over the same period, EU catch dropped by 28%.

⁴⁴ Bobtail squids and cuttlefishes are not included as belonging to the Sepiolida order.

					•					
Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
China	608.433	640.393	773.845	788.058	1.080.250	1.208.741	642.062	806.379	775.919	722.799
Peru	374.620	406.981	517.946	467.672	624.971	536.304	330.261	297.311	362.832	538.281
Indonesia	94.167	141.723	140.924	140.499	150.623	221.483	165.175	143.754	218.295	224.030
India	-	-	-	-	-	94.222	114.886	131.774	119.299	112.727
Russian Federation	65.244	69.222	75.648	85.446	111.020	53.878	87.077	83.402	102.420	98.165
Argentina	86.363	76.859	95.384	191.857	168.845	126.741	59.962	99.216	108.330	96.294
South Korea	230.506	246.045	268.803	259.979	334.512	310.359	145.408	140.542	66.262	75.852
Thailand	94.857	97.695	85.005	81.558	70.927	71.975	91.586	75.632	89.445	75.226
Japan	284.707	309.694	218.793	229.392	210.740	167.811	110.902	103.414	83.591	74.700
Falkland Is. (Malvinas)	61.532	35.525	71.232	39.529	49.255	42.022	41.014	57.590	73.715	73.448
Others	691.021	700.306	650.854	639.504	838.577	714.542	520.555	563.846	542.752	416.778
Total	2.591.450	2.724.443	2.898.433	2.923.494	3.639.720	3.548.078	2.308.887	2.502.860	2.542.859	2.508.300

Table 28. TOTAL WORLD CATCHES OF SQUID SPECIES (volume in tonnes)

Source: EUROSTAT.

Landings in the EU

In 2019, landings of squid species⁴⁵ in the EU amounted to 32.707 tonnes for a total value of EUR 176 million. Fresh landings accounted for 76% of the total volume and 91% of the total value, while the rest was landed frozen. Patagonian squid (27% of the total volume), inshore squids nei (25%), and northern shortfin squid (14%) were the most landed species. Spain was the most important landing EU country, accounting for 32% of landing volume and 23% of value. Other major landing countries were France (19% of landing volume), Italy (14%), and the UK (11%).

Over the 2010-2019 period, EU squid landings experienced an 8% decrease in volume, affecting especially Spain (-43%) and Italy (-24%) while France (+44%), Ireland (+748%), and Portugal (+117%) experienced significant increases. In terms of value, total EU landings slightly increased (+1%) in real terms from 2010, due to an average landing price increase by 10% in real terms⁴⁶.

⁴⁶ Values are deflated by using the GDP deflator (base=2015).

⁴⁵ Including Loligo gahi (Patagonian squid), Loliginidae (Inshore squids nei), Illex illecebrosus (Northern shortfin squid), Illex argentinus (Argentine shortfin squid), Loligo spp (Common squids nei), Loligo forbesi (Veined squid), Todaropsis eblanae (Lesser flying squid), Alloteuthis media (Midsize squid), Ommastrephidae (Ommastrephidae squids nei), Alloteuthis subulata (European common squid), Ommastrephes bartrami (Neon flying squid), Alloteuthis spp (Alloteuthis squids nei), Ommastrephes spp (Flying squids nei), Thysanoteuthis rhombus (Diamondback squid), Sthenoteuthis pteropus (Orangeback flying squid), Loligo reynaudii (Cape Hope squid), Todarodes caroli (Webbed flying squid), Illex spp (Shortfin squid), Sthenoteuthis veranyi (Long-armed squid), Octopoteuthis sicula (Ruppell's octopus squid), Todarodes sagittatus (European flying squid), Todarodes angolensis (Angolan flying squid), Loligo pealeii (Longfin squid), Illex coindetii (Broadtail shortfin squid), Loligo vulgaris (European squid), Martialia hyadesi (Sevenstar flying squid), Loliginidae, Ommastrephidae (Various squids nei).

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Spain	18.593	16.955	37.381	37.747	44.488	27.901	14.492	23.045	19.515	10.585
France	4.103	6.340	6.682	4.873	6.429	5.973	5.836	6.185	5.698	5.922
Italy	5.976	4.971	3.932	3.711	4.073	3.818	3.638	6.094	5.718	4.521
United Kingdom	3.669	2.911	1.847	1.906	2.939	1.903	2.047	3.517	2.920	3.588
Ireland	291	332	360	211	424	724	834	880	546	2.462
Portugal	880	1.102	683	732	605	719	550	498	1.133	1.910
Greece	1.663	1.676	2.252	1.978	1.662	1.997	1.517	2.165	1.679	1.732
Netherlands	125	79	55	57	137	906	1.018	1.408	1.373	1.434
Others	176	121	161	539	641	577	582	675	431	553
Totals	35.475	34.485	53.353	51.754	61.398	44.517	30.514	44.467	39.013	32.707

Table 29. LANDINGS OF SQUID SPECIES IN THE EU (volume in tonnes)⁴⁷

Source: EUROSTAT.

Marketing and consumption

Squids are highly appreciated across the world. In the EU, the most consumed species is the European squid, which is mostly marketed fresh but also frozen cut in rings or tentacle blocks, and sometimes canned or dried. Small squids (juveniles) are marketed as whole fish and bigger ones are sold gutted and cleaned⁴⁸.

5.3 Squid: first sales in the EU

Monthly first-sales data cover a large share of squid landings in EU and provide an interesting source of data for analysing the seasonality of volumes and prices. In 2021, squid first sales in reporting countries amounted to 25.304 tonnes for a value of EUR 103 million and an average price of 4,08 EUR/kg. Spain accounted for 65% of the total volumes, followed by France (14%) and Portugal (13%). Squids were mostly sold fresh (65% of total volume) and frozen (35%). The average price for fresh squid (4,91 EUR/kg) was significantly higher than that for frozen squid (2,55 EUR/kg).

The vast majority of frozen first sales occurred in Spain and concerned Argentine shortfin squid. For fresh squid first sales in major producing EU countries, volumes show a clear seasonality with a peak in autumn and early winter.

Through the year, monthly first-sales volumes in Spain fluctuate between 170 and 1.965 tonnes, whereas they are lower in France (between 63 and 928 tonnes between 2019-2021) and in Portugal (between 33 and 1.094 tonnes). In 2021, the main place of first sales for fresh squid in Spain was A Coruña, accounting for 21% of total first-sales volume in Spain. Other important ports were Santa Eugenia De Ribeira (15%) and Vigo (12%). In France, the main place of sale was by far Boulogne-sur-Mer, accounting for 24% of total first-sales volume, followed by Les Sables-d'Olonne (12%). In Portugal, the main places of sale for fresh squid were Nazaré (37% of total volume), Figueira da Foz (22%), and to a lesser extent Aveiro (14%) and Matosinhos (10%).

Variations in first-sales prices seem inversely correlated with volumes, with peaks in summer and lower prices during the high fishing season in autumn. In France, prices are the highest recorded among major producing countries (4,65 to 10,64 EUR/kg over the 2019-2021 period). In Spain and Portugal, prices seem more volatile, with strong variations between 2,00 and 11,00 EUR/kg.

⁴⁷ Totals do not correspond exactly to actual sums because of roundings.

⁴⁸ https://www.guidedesespeces.org/fr/ecomet

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption | 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context













Source: EUMOFA.

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5.4 International trade

EU trade flows and supply

In the CN nomenclature used for registering EU import-export data, squid is specifically reported as live/fresh, frozen and in other preservation states⁴⁹.

In 2021, the EU had a trade deficit for squid products, amounting to EUR 993 million. In 2021, extra-EU imports reached 226.868 tonnes for almost EUR 1,1 billion, dominated by frozen products (95% of total import value). Morocco, the Falkland Islands, and India were the main countries of origin, accounting together for 59% of the import value of squid products. Extra-EU exports of squid products were limited (EUR 69 million for 19.321 tonnes in 2021), dominated by frozen products (95% in value terms). The main export partner was Morocco (35%) followed by Albania (11%), Namibia, and China (7% each).

In 2021, intra-EU exports reached EUR 520 million for 98.840 tonnes of squid products. Of the total value, 76% was accounted for by frozen products, and 21% by fresh products. Spain was by far the main squid supplier to other EU countries, accounting for 73% of total intra-EU export value, whereas Italy was by far the main destination (52%).



Source: EUMOFA elaboration of EUROSTAT-COMEXT data.

⁴⁹ 03074192 Squid "Loligo spp." live, fresh or chilled, with or without shell; 03074199 Squid "Ommastrephes spp.", "Nototodarus spp. and Sepioteuthis spp.", live, fresh or chilled, 03074230 Squid "Ommastrephes spp., Nototodarus spp., Sepioteuthis spp.", live, fresh or chilled; 03074230 Squid "Loligo spp.", frozen (03074230 Squid "Loligo spp.", frozen (03074331 Squid "Loligo spp.", frozen (03074333 Squid "Loligo pealei", frozen; 03074335 Squid "Loligo gahi", frozen; 03074338 Squid "Loligo spp.", frozen (excl. "Loligo vulgaris", frozen; 03074391 Squid "Ommastrephes spp., Nototodarus spp., Sepioteuthis spp.", frozen; 03074395 European flying squid "Todarodes sagittatus", frozen; 03074338 Squid "Loligo spp.", frozen (excl. "Loligo vulgaris", frozen; 03074395 European flying squid "Todarodes sagittatus, Ommastrephes sagittatus", frozen; 03074931 Frozen squid "Loligo pealei", with or without shell; 03074935 Forzen squid "Loligo pealei", with or without shell; 03074935 Squid "Loligo pealei", frozen; 03074938 Squid "Loligo pealei", frozen; 03074938 Squid "Loligo pealei", with or without shell; 03074935 Forzen squid "Loligo pealei", with or without shell; 03074935 Squid "Loligo pealei", frozen; 03074938 Squid "Loligo pealei", frozen; 03074938 Squid "Loligo pealei", frozen; 03074938 Squid "Loligo pealei", with or without shell; 03074935 Squid "Loligo spp.", frozen (excl. loligo vulgaris, pealei and patagonica); 03074940 Squid "Loligo spp.", smoked, dried, salted or in brine; 03074950 Squid "Ommastrephes spp.", Nototodarus spp.", and "Sepioteuthis spp.", with or without shell; 03074960 European flying squid "Todarodes sagittatus, Ommastrephes sagittatus"; 03074959 Frozen squid "Ommastrephes sagittatus", smoked, dried, salted or in brine, 03074950 Squid "Ommastrephes sagittatus", smoked, dried, salted or in brine; 03074950 Squid "Ommastrephes sagittatus"; So3074959 Squid "Loligo spp.", dried, salted or in brine, with or without shell; 0307910 Live, fresh or chilled, European flying squid "Todarodes sagittatus"; 030749

Overview | 1. First sales in Europe | 2. Extra-EU imports | 3. Consumption | 4. Fisheries and aquaculture in Ecuador | 5. Squids in the EU | 6. Global highlights | 7. Macroeconomic context

6. Global highlights

EU / One Ocean Summit / Conservation: The One Ocean Summit took place from 9-11 February in Brest, France, "to take action against the threat to the ocean." One Ocean was realized by the French Presidency of the Council of the European Union, and was supported by the United Nations. At the Summit, EU Commission President von der Leyen launched the high-ambition coalition on Biodiversity Beyond National Jurisdiction (BBNJ). The initiative underlines the EU's role as a leading actor on global marine conservation. Areas beyond national jurisdiction represent 95% of the ocean and their biodiversity provides invaluable ecological and socio-economic benefits to humanity. One Ocean's goal



was to unite the ambitions of the international community in providing solutions to marine issues and transform them into tangible policy commitments⁵⁰.

EU / Baltic Sea / Conservation: On 26 February, a new measure to protect Baltic Proper harbour porpoises from being caught in fishing operations came into effect. Baltic Proper harbour porpoises live in areas of the sea that are also subject to fishing and sometimes become entangled in fishing nets. To prevent this, 11 marine areas are now closed to fishing with static nets. Permitted fishing gears must be equipped with acoustic deterrent devices to help reduce bycatch of marine mammals. The measures are based on the scientific advice from the International Council for the Exploration of the Sea (ICES) and are the outcome of almost two years of joint efforts by the Commission and eight Baltic Sea Member States⁵¹ to tackle bycatch.

GFCM / European eel / Research: Over the past 18 months, the General Fisheries Commission for the Mediterranean (GFCM) research programme on European eel has made great strides towards achieving a coordinated framework for management of eel as part of the preparation of a multi-annual management plan in the Mediterranean. On 23 February 2022, experts and partners gathered to share the results of this research programme with the Mediterranean community and more widely. Learn more about the research programme on European eel here⁵².

World / USA / Aquaculture: The Fisheries section of the National Oceanic and Atmospheric Administration (NOAA) has released the Guide to Permitting Marine Aquaculture in the United States (2022). This guide was created to improve the regulatory transparency of aquaculture in the United States. It outlines the key requirements necessary to obtain federal permits to conduct commercial aquaculture activities and provides a high-level overview of the federal statutes and regulations governing aquaculture in the United States⁵³.

UK / Salmon / Consumption: Despite a fall in overall fish purchases, the latest economic report from Salmon Scotland has revealed the growing popularity of Scottish salmon among UK consumers. UK market demand over 2021 saw fresh, chilled salmon retail sales rise by 4,9% from EUR 1,26 billion in 2020, with the volumes consumed increasing 7,8% to 63.300 tonnes, up from 58.700 tonnes. The total fresh chilled fish market increased by 4,2% in terms of sales to EUR 3.1 billion, but there was a slight fall in the overall fish market of 0,2%⁵⁴.

Italy / Sea urchin / Closure: On 22 January, the environment minister of Sardinia, Gabriella Murgia, imposed an island-wide ban on the harvesting of sea urchins, saying research showed that the urchin population had fallen to nearly zero in some areas⁵⁵.

⁵² https://www.fao.org/gfcm/news/detail/en/c/1470634/

 4. Fisheries and aquaculture in the Philippines
 5. Eurobarometer survey
 6. Global highlights

 7. Macroeconomic context

⁵⁰ https://ec.europa.eu/commission/presscorner/detail/en/ip_22_843

⁵¹ https://ec.europa.eu/oceans-and-fisheries/news/baltic-sea-conservation-eu-acts-protect-harbour-porpoises-2022-02-25_en

⁵³ https://media.fisheries.noaa.gov/2022-02/Guide-Permitting-Marine-Aquaculture-United-States-2022.pdf

⁵⁴ https://thefishsite.com/articles/scottish-salmon-consumption-up-nearly-8-percent-in-uk

⁵⁵ https://www.reuters.com/world/europe/sardinian-fishermen-say-ban-harvesting-sea-urchins-spells-ruin-2022-01-28/

7. Macroeconomic Context

7.1. Marine fuel

Average prices for marine fuel in **March 2022** ranged from 0,91 to 0,94 EUR/litre in ports in **France, Italy, Spain**, and the **UK**. Average prices increased significantly by 32% compared with the previous month and by an average of 114% compared with the same month in 2021. Fuel prices have soared as a consequence of the Russian war of aggression against Ukraine.

Table 30. AVERAGE PRICE OF MARINE DIESEL IN ITALY, FRANCE, SPAIN, AND THE UK (EUR/litre)

Member State	Mar 2022	Change from Feb 2022	Change from Mar 2021
France (ports of Lorient and Boulogne)	0,93	37%	121%
Italy (ports of Ancona and Livorno)	0,91	34%	122%
Spain (ports of A Coruña and Vigo)	0,94	25%	96%
The UK (ports of Grimsby and Aberdeen)	0,94	34%	119%

Source: Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; MABUX.

Figure 50. AVERAGE PRICE OF MARINE DIESEL IN ITALY, FRANCE, SPAIN, AND THE UK (EUR/litre)



Source: Chamber of Commerce of Forlì-Cesena, Italy; DPMA, France; MABUX.

7.2. Consumer prices

The EU annual inflation rate was at 6,2% in February 2022, up from 5,6% in January 2022. A year earlier, the rate was 1,3%.



able 31. HARMONISED INDEX OF CONSUMER PRICES IN THE EU (2015 = 100)										
	Feb 2020	Feb 2021	Jan 2022	Feb 2022	Chang Jan J	je from 2022	Chang Feb	e from 2021		
Food and non- alcoholic beverages	108,65	109,58	114,48	115,61	•	1,0%	+	5,5%		
Fish and seafood	112,36	113,52	119,49	119,08	ŧ	0,3%	t	4,9%		

Source: Eurostat.

7.3. Exchange rates

Table 32. EURO EXCHANGE RATES FOR SELECTED CURRENCIES

Currency	Mar 2020	Mar 2021	Feb 2021	Mar 2022
NOK	11,5100	9,9955	9,9465	9,7110
JPY	118,90	129,91	129,31	135,17
USD	1,0956	1,1725	1,1199	1,1101

Source: European Central Bank.

In March 2022, the euro appreciated against the Japanese yen (4,5%) and the US dollar (0,1%), and depreciated against the Norwegian krone (-2,4%), relative to the previous month. For the past six months, the euro has fluctuated around 1,13 against the US dollar. Compared with March 2021, the euro has appreciated 4,0% against the Japanese yen, depreciated 2,8% against the Norwegian krone, and depreciated 5,3% against the US dollar.

Figure 51. TREND OF EURO EXCHANGE RATES



Source: European Central Bank.

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This report has been compiled using EUMOFA data and the following sources:

First sales: EUR-Lex, DG MARE- European Commission, Acta Oceanologica Sinica, Frontiers in Marine Science, IUCN, MarLIN, Animal Diversity Web (ADW), FishBase.

Consumption: EUROPANEL.

Case studies: Camara de Pescera, Global Marine Commodities, Ecuador.com, Seafood TIP, FAO, Research Gate, Global Seafood, SeaLifeBase, Safina Center, ICES, EU Council, EUROSTAT, Guide des Especes.

Global highlights: DG Mare - European Commission, FAO, NOAA Fisheries, The Fish Site, Reuters.

Macroeconomic context: EUROSTAT, Chamber of Commerce of Forlì-Cesena, Italy: DPMA, France: ARVI, Spain: MABUX, European Central Bank.

The underlying first-sales data is in an annex available on the EUMOFA website. Analyses are made at aggregated (main commercial species) level and according to the EU Electronic recording and reporting system (ERS).

In the context of this Monthly Highlight, analyses are led in current prices and expressed in nominal values.

The **European Market Observatory for Fisheries and Aquaculture Products (EUMOFA)** was developed by the European Commission, representing one of the tools of the new Market Policy in the framework of the reform of the Common Fisheries Policy. [Regulation (EU) No 1379/2013 art. 42].

As a **Market intelligence tool**, EUMOFA provides regular weekly prices, monthly Market trends, and annual structural data along the supply chain.

The database is based on data provided and validated by Member States and European institutions It is available in 24 languages.

The EUMOFA website is publicly available at the following address: <u>www.eumofa.eu</u>.

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