ANNEX 1: HISTORY OF THE EUROPEAN UNION

1946, September, 19	Winston Churchill, like Victor Hugo a century earlier, calls for "United States of Europe".
1950, May, 9	Paris: French Foreign Minister, Robert Schuman, makes a declaration.
1951, April, 18	Treaty of Paris: Belgium, Germany, France, Italy, Luxembourg, and the Netherlands (the six) sign a treaty establishing the European Coal and Steel Community (ECSC).
1957, March, 25	Treaty of Rome: the Six sign treaties setting up the European Economic Community (EEC) and the Atomic Energy Community (EURATOM).
1960	Implementation of the European Social Fund created in 1958
1962	Implementation of the Common Agricultural Policy, first common European policy.
1965, April, 8	Treaty signed merging the three European Communities (EEC, EURATOM, ECSC), further on called the "EC".
1968, July	Custom union implemented between the Six.
1973, January, 1	Denmark, Ireland and the United Kingdom join the EC.
1974	Heads of States and Governments decide to meet regularly as the European Council to deal with Community affairs and political co-operation.
1975	Establishment of the European Regional Development Fund (ERDF) and first Lomé Convention signed between the European countries and 46 developing countries from Africa, the Caribbean and the Pacific.
1979, March, 13	The European Monetary System (EMS) and the ECU (European Currency Unit) take effect.
1979, June	First election of the European Parliament (with a 5-year mandate) through direct universal suffrage.
1981, January, 1	Greece joins the EC.
1985, June, 14	Presentation of the White paper on completion of a single market.
1985, June	Signature of Schengen Agreement (Articles 30-31-32-34-62-63-66-95 of the Amsterdam Treaty) on free movement of persons between Belgium, France, Germany, Luxembourg and the Netherlands.
1986, January, 1	Portugal and Spain join the EC.
1986, February	Single European Act (SEA) enters into force, supplementing the Treaties of Rome. The SEA starts the deepening process within the EC, and sets January 1, 1993 as the completion date of the single market.
1988, March, 29	Presentation of the Cecchini report, quantifying the advantages of a single market and assessing the cost of non-completing Europe.
1989, December	Adoption by 11 Member States (without the UK) of the European Social Charter, and declaration approving the German reunification and integrating the Eastern Lander into EC.
1989	PHARE (Poland and Hungary Assistance for Restructuring of the Economy) program is launched. It was progressively extended to the other Central European Countries in the following years. (European

	Commission, 1998a)
1990	Opening of the inter-governmental conference preparing the EMU (Economic and Monetary Union) and the Political Union.
1991, October, 21	Agreement on setting up the European Economic Area (EEA) uniting in a single market the 380 million inhabitants of the 12-EC Member States and the seven countries (Austria, Finland, Iceland, Liechtenstein, Norway, Sweden, Switzerland) of the European Free Trade Association (EFTA).
1992, February	Signature in Maastricht of the Treaty instituting the European Union, a far-reaching project, building on three major pillars: the EC (Custom Union, Single Market, Common Agricultural Policy, Structural Policy, Economic and Monetary Union), the Common Foreign and Security Policy, and the Co-operation in Justice and Home Affairs.
1993	The single market enters into force on January 1, and the Treaty on the European Union (EU) on November 1, after ratification by the 12 EU Member States.
1994	Hungary and Poland apply to join the EU in April.
1994, December, 9	Essen Summit and agreement on the strategy to bring Central and Eastern European States closer to the EU.
1995, January, 1	Austria, Finland and Sweden join the EU.
1995	Romania and the Slovak Republic apply to join the EU in June, Latvia in October, Estonia in November, Lithuania and Bulgaria in December.
1996	The Czech Republic applies to join the EU in January, and Slovenia in June.
1997, July, 16	The European Commission presents the Agenda 2000 outlining the EU strategy for the coming decade and dealing with challenges of the reinforcement of its policies and accession of new members within a strict financial framework. It also presents its opinions on the membership applications of the ten acceding countries. As a result, 5 first-tier countries are designated: the Czech Republic, Estonia, Hungary, Poland and Slovenia, along with a second-tier: Bulgaria, Latvia, Lithuania, Romania, and the Slovak Republic.
1997, October	Signature of the Amsterdam Treaty, modifying and supplementing the Maastricht Treaty.
1997, December, 12-13	European Council in Luxembourg: agreement reached on the enlargement process and the refocusing of PHARE.
1998, March, 1	Signature of the Memorandum of understating (MOU) between the European Commission, the World Bank, the EBRD and the EIB, on the co-operation of these institutions in the enlargement process.
1998, March, 30	The EU launches its accession process by providing individual Accession Partnerships to all ten acceding countries. These documents set out the priority areas where further work is needed, and indicate the assistance available from the EU.
1998, April	Formal negotiations for accession are launched with Poland, Hungary, the Czech Republic, Slovenia, Estonia and Cyprus
1998, May	Designation of the EU Member States respecting the Maastricht criteria for entering the EMU and adopting the Euro.
1998, November	The European Commission issues its reports on progress towards

	accession by each of the candidate countries.
1999, January	The Euro becomes the single European currency (UK obtained an "opting out" facility).
1999, March, 25	Heads of States and Governments, gathered in the Berlin European Council, ask Romano Prodi to set up a new Commission. They agree on a new Agenda 2000 package, concerning the financial perspectives for the period 2000-2006 and the draft regulations governing the Structural Funds, the pre-accession financial instruments for candidate countries and the CAP.
1999, May, 1	The Amsterdam Treaty (Part 1, Part 2) enters into force after ratification by the fifteen EU Members States.
1999, June	The Council adopts the new Agenda 2000 package.
1999, October	The European Commission issues its second set of reports on progress towards accession by each of the candidate countries. The EC proposes to start negotiations with all of them, ending the distinction between the "first five", already in negotiations, and "second five" countries, undergoing a screening process on implementation of all Acquis, prior to negotiations. Invitations to negotiate for Bulgaria and Romania are conditional.

The process of European integration showed a very clear acceleration during the Nineties, with:

- the deepening of the single market;
- its partial extension to Iceland, Norway and Liechtenstein through the European Economic Area (EEA), established 1 January 1994 (Egeberg & Trondal, 1999);
- the accession of Austria, Finland and Sweden on 1 January 1995, the signature of the treaty of Amsterdam on 2 October 1997;
- a reorientation of the Community interventions in the social field;
- the opening of the negotiations of adhesion on 30 March 1998 with Estonia, Hungary, Poland, the Czech Republic and Slovenia;
- the passage for 11 of the Member States of the European Union to the economic and monetary union (MOVED) on 1 January 1999 (Union européenne, 1999).

The progressive enlargements of Europe since its creation in 1957 by the Treaty of Rome mean that in 2003 the European Union is one of the most important markets for aquatic products in the world with 370 million consumers in the EU-15 countries and a potential market of more than 480 million with the inclusion of future member states. Over the last decade, fisheries production has been characterised by stagnation in landings but strong growth in aquaculture production (Anon., 2000a; DG-Fisheries, 2000). There is strong intra-regional trade in products because of the wide range of tastes between the Member States. In addition, the European Union has become the largest importer of aquatic products alongside Japan and the United States.

ANNEX 2: DEFINITION OF COMPONENTS AND FLOWS TO CONSIDER

The figure below shows the level of importance conceded to the 10 different components and the 16 diverse flows of the fish "production-trade-consumption" system. Two sub-systems have been defined: the food use system and the non-food use one. The first deals with fish as food for human consumption, from the producer (aquaculture and capture producer) to the consumer; the second concerns the capture of industrial species, their reduction to fishmeal and oils and their integration into the composition of food stuff for aquaculture and livestock.

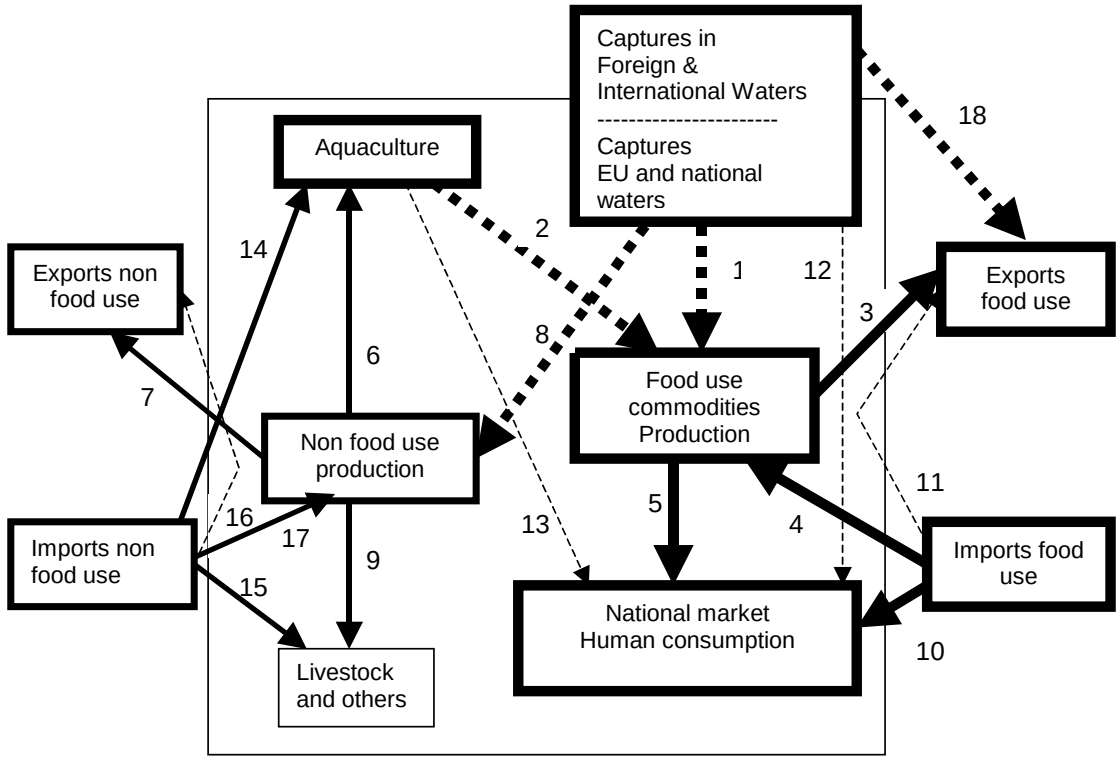


Figure Annex 2-1: Hierarchy of aspects covered by the study

Brief definition of components and comments on the data:

- Captures in foreign and international waters and Captures in EU and national waters: nominal catches landed by current EU-15 member states and countries that should join the EU in the future. All catches are in live weight equivalent and are designated for human or industrial purposes. Captures could have occurred inside the EU or national waters, in foreign waters through fishing agreements or in international waters (tuna mainly). These captures could have been landed in the country to which the boat belongs or in another country. From the databases received, it was not always possible to distinguish what was landed in a vessel's flag country from what was landed elsewhere. Similarly, the distinction between captures for fish reduction and captures for human consumption was not possible for some countries.

- Aquaculture: nominal production of fish species from aquaculture sites in the selected European countries. Usually, there is good accuracy of data at the country level except when there are changes in the nomenclature or the data collection procedure.

- Food use commodity production: production of commodities (see list below). Two types of products constitute the commodity production: (a) products that are processed on board from captures or on site from aquaculture and (b) products that are processed on land. The first category can be assimilated to the nominal production (same weight); the second one comes from the processing of landings and imports. Not all European countries keep good records of commodity production: most of the time, the number of products (labelled to species) is far less important than the number of species coming from captures and aquaculture. The level of production is also underestimated for most types of products. Many adjustments were made in the light of information collected. The important point here is that there is no bridge between captures and aquaculture components and commodity production. Captures are intended for both human and animal consumption and are not necessarily landed in the vessel's flag country. To produce foodstuffs that contain fish one can use the production of aquaculture, fishing and the import of raw material and semi-finished commodities. It is therefore improper to compare production from aquaculture and capture, and commodity production.

- Exports and imports for food use: products suitable for the human consumption occur in three different forms: raw material for entering into the production of fish commodities (fish for surimi, for example), semi-finalized product that will be processed to a more advance stage (gutted fresh fish, for example) or displayed on the consumer fish market, and finalized products that are ready for consumption (canned tuna, for example). Landings in foreign ports are considered as imports for the country where they are landed and exports for the country of the vessel that landed the fish. However, many countries do not make this distinction, so some catches landed in foreign ports are recorded as nominal catches but disappear in trade statistics if both countries (boat country and landing country) do not take these flows into account[36].

- National market human consumption: products that come from the national production of commodities sector and/or imports. The national market is addressed in the study by the food use net supply and the consumption per capita per year. The food use net supply corresponds to the total fish products available at a country level. The consumption per capita is the net supply divided by the number of inhabitants of the country. It gives an annual average of the weight of fish consumed per capita. Variation of consumption inside a country is presented in the Part 2 when information was available.

- Non-food use production: production of fishmeal and fish oil essentially. It is important to consider the non-food use production because of its implication to the

[36] A good example is the sardinella caught in Mauritanian waters by Dutch vessels (150 000 tonnes per year on average since 1996), landed in Las Palmas (Spain overseas territory), and shipped to Nigeria, Ivory Coast, Ghana and China. The only record of this is in the nominal catches database. These sardinella do not appear as exports in the Netherlands fish trade database, nor as imports and re-exports in Spain fish trade records.

potential growth of aquaculture of carnivorous species like salmon. The production of non-food use is also linked to livestock production. Using the national databases, it was not possible to make a distinction between what was for aquaculture feeding and what was for livestock purposes. The market for non-food products is aquaculture and livestock and others sectors.

- Exports and imports for non-food use: products unsuitable for human consumption and constituted by fish reduction, industrial species for reduction and other types of marine resources that can't enter into the human consumption sector (for cosmetics, for example). So, imports can be used as input to the fishmeal industry, livestock or aquaculture sector or other economic sectors (cosmetic and pharmaceutical sectors essentially). Exports have the same composition as imports. Re-exports of fishmeal were not taken into account in this study because of the difficulties in identifying them clearly and also because it was not considered as strategic information regarding the non-food use net supply.

- Livestock and others: sectors that use fishmeal and fish oil for the feeding of animals or other purposes. These sectors have not been investigated in the study.

A short definition of flows:

- Arrows 1, 2 and 18: flow of aquaculture and capture production toward the commodity production component inside the country (1 and 2) or outside (18). In many cases, the production of fish is made aboard the catching vessel, with the result that the Captures and Aquaculture components can be assimilated into the commodity production component. No data exist at the country level on these two flows. For the 22 regions (NUTS 3 level[37]) that were studied in 1991 and 1999 in order to assess their level of dependence on fishery and aquaculture activities, data are available but do not cover all of the regions that process fish in a country (Failler, 2003a). Thus, these two flows were estimated subjectively on the basis of the structure of the industry and the national level of supply.

- Arrows 3, 4, 5 and 10: production, imports and exports flows of fish products are the main flows described and analysed in this study. They define the country's net supply or the apparent consumption of edible products. Assumptions for the projections to 2030 relate to changes in these four types of flows. The distinction between flows 4 and 10 is not obvious, as the data doesn't give information on the destination of the product: market or processing plants.

- Arrows 6 and 8 are respectively the flow of raw material for the non-food use industry and the flow of fishmeal and oil for the nutrition of carnivorous species in aquaculture. These flows, which are from time to time described in the literature (professional essentially), have been most of the time supposed a priori.

- Arrows 7 and 9: flows of non-food use products that seem to be correctly recorded in country fish trade databases.

[37] European regional nomenclature.

- Arrows 12 and 13 are the flow of fish products that have not reached the official market and are not taken into account in the estimation of the net supply. To compensate for the absence of this information, some panel consumption surveys were used to compare the national net supply obtained from the addition of the national production and imports less exports to the national supply derived from the extrapolation of a sample to the total population.

- Arrows 14, 15, 17: flows of non-edible products that reach the aquaculture, fishmeal and oil processing, livestock and other sectors. There is no direct relationship between the evolution of the non-food use net supply and the evolution of aquaculture. The livestock sector plays a significant role here since for some countries there are opposite trends between the non-food use net supply and aquaculture.

- Arrows 11 and 16: imports re-exported without any transformation. They are not described in detail in the study but they have been taken into account.

Importance of the various components:

- Highly Important: the focus of the study being the human consumption, all components included in the sub-system "food use" were considered as highly important and as a consequence received special attention in terms of data collection, information, and the assumptions made for the projections to 2030. These components are presented in detail in the report, both for their recent history and the future situations.

- Important: "non-food use" sub-system, which included production of flour and oil, imports, exports. Aquaculture is also part of this sub-system as the nutrition base for the carnivorous species is fish protein from captures. Nevertheless, aquaculture received more attention as a unit of production for food use than as a unit of consumption of fishmeal and oils.

- Unimportant: the livestock and other sectors' situation in each country were not taking into account, either in terms of their recent history or the future. It was considered too much beyond of the scope of the study.

Classification of the flow importance:

- Highly important: All the flows related to the net supply of edible products (1, 2, 3, 4, 5, 10, 18);

- Important: All the flows related to the non-food use products (6, 7, 8, 9, 14, 15, 17);

- Unimportant: Flows of captures and aquaculture species that don't enter into the official market (12, 13), and the flows of food use and non-food use products that are imported and re-exported without any transformation (11, 16).

ANNEX 3: SOCIO-ECONOMIC OVERVIEW OF EUROPEAN COUNTRIES

It is useful to clarify a certain number of socio-demographic characteristics within the European Union. This enables us to evaluate the respective significance of each country and to demonstrate any trends over the study period (European Parliament, 1999b-f, 2000a-f)

Table Annex 3-1: Main indicators (1998)

Country	Area	Population (1 000 people)	Life Expectancy		Demo depend %	GDP (Million €)	GDP/H	Real growth rate %	Human Dev. Index
			Female	Male					
Austria	84	8075	80.6	74.3	51.3	188453	23338	2.9	0.932
Belgium	31	10192	80.6	74.6	50.3	223142	21894	2.9	0.932
Denmark	43	5295	78.5	74.1	50.4	155789	29422	2.7	0.927
Finland	338	5147	80.8	73.4	51.1	114782	22301	5.0	0.94
France	544	58727	82.2	74.5	52.9	1297764	22098	3.2	0.946
Germany	357	82057	80.3	73.6	46.2	1921764	23420	2.2	0.924
Greece	132	10511	80.8	74	46.8	108580	10330	3.7	0.923
Ireland	69	3694	78.6	73.4	49.5	75850	20533	8.9	0.929
Italy	301	57563	81.3	74.9	47.1	1058697	18392	1.3	0.921
Luxembourg	3	424	79.8	74.1	49.6	16389	38653	5.0	0.899
Netherlands	41	15654	80.5	75.2	48.7	349675	22338	3.7	0.94
Portugal	92	9957	78.8	71.6	47.5	97637	9806	3.5	0.89
Spain	505	39348	81.7	75.6	49.3	520196	13220	4.0	0.934
Sweden	411	8848	81.8	76.7	51.2	212003	23961	3.0	0.936
United Kingdom	242	59090	79.6	74.6	53.6	1252776	21201	2.2	0.931
EU-15	3193	374582	80.4	74.3	49.5	7593497	20272	2.7	
Cyprus	9.2	700	80	75	55.5	6700	9571	5.0	0.913
Czech Rep	78.9	10300	78.1	71.1	44.9	46418	4507	-2.3	0.884
Estonia	45.2	1400	76	64.7	50.6	4872	3480	4.0	0.758
Hungary	93	10100	75.1	66.4	46.8	40789	4039	5.1	0.887
Poland	312.7	38700	77.3	68.9	48.8	132795	3431	4.8	0.851
Slovenia	49	5400	76.7	68.6	47.7	17095	3166	4.4	0.875
Total countries	6 588	66600				248669	3734	3.5	
EUR-21	3781	441182	78.8	71.7	49.3	7842166	17775	3.1	
Bulgaria	110.9	8200	74.2	67.1	47.7	8996	1097	4.0	0.789
Latvia	64.6	2400	74.9	63.8	50.6	4930	2054	3.8	0.704
Lithuania	65.2	3700	76.8	65.9	50.4	9382	2536	4.4	0.75
Malta	0.3	400	80.1	74.9	49.9	3100	7750	7.6	0.899
Romania	237.5	22500	73.3	65.5	47.1	31082	1381	-5.5	0.767

Country	Area	Population (1 000 people)	Life Expectancy		Demo depend %	GDP (Million €)	GDP/H	Real growth rate %	Human Dev. Index
Slovakia	20.3	2000	78.7	71.1	43.3	16236	8118	3.9	0.887
Norway	324	4400	81	75.5	48.1	130770	29720	2.1	0.943
Total 7 countries	822.8	43600			48.2	204496	4690	2.9	
EUR-28	4603.8	484782	77.9	70.4	48.7%	8046662	16599	3.5	

Source: Eurostat, 2000a and 2000b; UNDP, 1997; United Nations, 1999

Germany had the strongest GDP in 1998, followed by France, the United Kingdom and Italy and these countries generated 69 percent of the total EUR-28 GDP in 1998. With respect to GDP per capita, however, Luxembourg had the highest rate, followed by Norway and Denmark. There are 13 countries with a GDP per capita higher than 18 000 €, 7 countries between 7 000 and 14 000 and 8 countries between 5 000 and 1 000 €. Ireland and Malta had the strongest growth in excess of 7 percent, while the Czech Republic and Romania exhibited negative rates. The growth rate of the EU-15 was, on average, weaker in 1998 than the growth rates of the potential applicants for enlargement (Euractiv, 1999).

With respect to social indicators, life expectancy at birth was higher in the EU-15 countries in 1998, than in the other European countries. Average life expectancy for EUR-28 was approximately 78 years for women and 70 years for men. It appears that women live longer in France, with an average of 82 years, and that men live longer in Sweden, with an average of 77 years. In 1998, France, Norway, Finland and the Netherlands ranked highest with respect to the index of human development while the weakest ranking countries were the Baltic States, Romania and Bulgaria.

ANNEX 4: POPULATION PROJECTIONS 1998-2030

In 1998, the overall population of the EUR-28 countries was approximately 485 million. According to projections made by the United Nations and the EU (1999, 2000), this figure will exceed 500 million in 2015 and will reach about 504 million in 2030, representing a growth over this period of approximately 4 percent. In 1998, Germany had the largest population (17 percent of total EUR-28), followed by the United Kingdom, France and Italy. These four countries accounted for 53 percent of the total population of the EUR-28 and with

Table Annex 4-1: Population projections from 1998 to 2030

Pop nb X 1000	1998	1999	2000	2005	2010	2015	2020	2025	2030
Austria	8075	8096	8116	8220	8326	8384	8443	8502	8562
Belgium	10192	10216	10240	10361	10484	10571	10658	10746	10835
Denmark	5295	5308	5321	5386	5452	5489	5526	5563	5601
Germany	82057	82286	82516	83675	84854	84762	84670	84578	84486
Greece	10511	10557	10603	10838	11079	11174	11269	11365	11462
Finland	5147	5159	5171	5230	5290	5320	5350	5380	5411
France	58727	58944	59161	60261	61387	62104	62831	63565	64307
Ireland	3694	3699	3705	3732	3760	3834	3909	3986	4064
Italia	57563	57569	57575	57604	57633	57085	56543	56005	55473
Luxemburg	424	428	431	451	471	486	501	517	533
Netherlands	15654	15735	15817	16231	16659	16929	17204	17483	17766
Portugal	9957	9985	10012	10151	10293	10402	10513	10625	10737
Spain	39348	39432	39517	39941	40372	40339	40307	40275	40242
Sweden	8848	8875	8902	9038	9176	9322	9470	9620	9773
United Kingdom	59090	59177	59265	59703	60146	60590	61038	61489	61943
EU-15	**374582**	**375465**	**376351**	**380823**	**385382**	**386790**	**388232**	**389698**	**391194**
Cyprus	700	700	717	761	808	858	913	969	1029
Czech Rep	10300	10300	10310	10335	10361	10386	10412	10438	10463
Estonia	1400	1400	1408	1428	1448	1468	1489	1510	1531
Hungary	10100	10100	10114	10149	10184	10219	10254	10289	10325
Poland	38700	38768	38900	39500	39521	39606	39069	39153	39238
Slovenia	2000	2000	2003	2011	2018	2026	2034	2042	2050
Total 6 countries	63200	63268	63452	64184	64340	64564	64171	64402	64636
EUR-21	**437782**	**438733**	**439803**	**445007**	**449722**	**451354**	**452403**	**454100**	**455830**
Bulgaria	8200	8200	8201	8205	8208	8212	8215	8218	8222
Latvia	2400	2400	2410	2435	2460	2486	2512	2538	2565
Lithuania	3700	3700	3717	3760	3803	3847	3892	3937	3982

Pop nb X 1000	1998	1999	2000	2005	2010	2015	2020	2025	2030
Malta	400	400	403	411	419	427	436	445	453
Romania	22500	22500	22659	23063	23473	23891	24320	24753	25194
Slovakia	5400	5400	5402	5408	5414	5419	5425	5431	5436
Norway	4400	4421	4443	4551	4663	4756	4851	4948	5046
Total 7 countries	**47000**	**47021**	**47236**	**47833**	**48441**	**49039**	**49651**	**50269**	**50898**
EUR-28	**484782**	**485754**	**487039**	**492840**	**498164**	**500393**	**502054**	**504369**	**506728**

Source: Database and Eurostat, 2000; UNDP, 1997; United Nations, 1999

Spain and Poland this percentage is over 69 percent. The tables below present the estimated population for each country from 2000 to 2030[38] and the growth rates.

Table Annex 4-2: Population growth rates, from 1998 to 2030

(Geometric average) (in percentages)

	1998/2010		2010/2020	
	whole period	annually	Whole period	annually
Belgium	2.82	0.24	1.65	0.16
Denmark	2.92	0.24	1.35	0.13
Germany	3.35	0.28	-0.22	-0.02
Greece	5.26	0.44	1.70	0.17
Spain	2.57	0.21	-0.16	-0.02
France	4.43	0.37	2.33	0.23
Ireland	1.77	0.15	3.89	0.39
Italia	0.12	0.01	-1.91	-0.19
Luxemburg	10.51	0.88	6.17	0.62
Netherlands	6.22	0.52	3.22	0.32
Austria	3.06	0.26	1.40	0.14
Portugal	3.32	0.28	2.11	0.21
Finland	2.74	0.23	1.13	0.11
Sweden	3.64	0.30	3.15	0.32
United Kingdom	1.77	0.15	1.47	0.15

	1998/2020	
	Whole period	annually
Cyprus	26.57	1.21
Czech Rep	1.08	0.05

[38] The geometric average has been used to estimate the population for each period considered. The rate of growth is based on the EU and United Nations projections for the period 2000-2010-2020.

Estonia			6.16	0.28
Hungary			1.51	0.07
Poland	2.10	0.17	0.95	0.04
Slovenia			1.69	0.08
Total 6 countries			1.52	0.07
Bulgaria			0.18	0.01
Latvia			4.56	0.21
Lithuania			5.06	0.23
Malta			8.62	0.39
Romania			7.78	0.35
Slovakia			0.46	0.02
Norway	5.81	0.48	3.95	0.40

Source: United Nations, 1999; Eurostat, 2000; UNDP, 1997.

ANNEX 5: PRESENTATION OF PRODUCTION, TRADE AND CONSUMPTION, 1989-1998

European fishing sector: facts and the Common Fishery Policy

Fishing and aquaculture are important economic activities in the European Union, even if their contribution to the gross national product of Member States generally represents less than one percent. However, those sectors can provide more than 10 percent of all jobs in certain zones, such the Atlantic coast of Spain or Scotland (Goulding *et al*., 2000).

In the EU-15 member states, landings of fish in 1990 were 6.38 million tonnes, rising to 7.45 million tonnes in 1995 (Eurostat, 2000c). Since then they have declined slightly to 6.3 million tonnes in 1998, with an estimated value of € 7.3 billion. Overall, the EU fleet accounts for about 7.5 percent (by quantity) of global marine capture fisheries. Although Denmark lands some 30 percent of the EU-15 total by volume (1.9 million tonnes) most of this is used for reduction, and is of relatively low unit value. With the exception of Sweden, in most other countries the landings are utilized mainly for human consumption, and have much higher unit value. After Denmark, Spain had the next highest landings, with 964 603 tonnes, followed by the UK, France, Netherlands and Italy. EU-15 vessels, particularly UK and Spanish ones, landed 423 000 tonnes outside the EU in 1998.

A growing gap between Community supply and demand for fish and fish products generates increasing dependence of the European market on imports from third countries. The deficit increased between 1990 and 1999 by 63 percent to reach € 8.6 billion, i.e. an amount equivalent to the value of the EU landings. Insofar as the imported quantities increased only by 32 percent, this reveals that those are high value imports. In 1997, the average value of the tons landed by Member States was € 995, that of Community aquaculture €1850, that of the tons exported by the EU € 1167, while the average of the imported ton amounted to € 2208 (European Commission, 2001a).

The Common Fisheries Policy (CFP) is the EU's instrument for the management of fisheries and aquaculture. Justification for the Community's involvement in fisheries is perfectly clear being based on Articles 38 and 39 of the Treaty of Rome signed in 1957 (Parlement européen, 1994). It means there must be common rules adopted at Community level and implemented in all Member States, covering all aspects of the fishing industry from the sea to the consumer.

It was only in 1970 that the first common measures were taken. Rules were set for access to fishing grounds, for a common market and for a structural policy to coordinate the modernization of fishing vessels, port infrastructures and processing plants (Commission européenne, 1996; Anon., 2000a). It was agreed that, in principle, all fishers should have equal access to all waters under the Community jurisdiction. However, a coastal band was reserved for local fishers and those who traditionally fished those areas. In 1976, Member States followed the worldwide movement to extend their rights from 12 to 200 miles. The change in the international access to fishing grounds really gave impetus to build the actual CFP, born after difficult negotiations in 1983 (Commission of the European Communities, 1991 and 2000, La Commission des Communautés européennes, 1993).

The CFP deals with the biological, social and economic dimensions of fisheries. To integrate those multiple areas, it relies on five instruments:

- The policy and conservation management of resources (allocations of TACs and quotas, restructuring plans, technical measures on fishing gears..).

- The structural policy for fisheries (modernization of the fleet, adaptation of activity vis-à-vis depletion of resources).

- The Common Organization of the Markets (prices of withdrawal, distinction between fishery products and aquaculture products, quality strategies, etc.).

- International relations (participation of the EU in several international and regional conventions, fisheries agreement with third countries).

- The monitoring and inspection policy (of growing importance within the CFP framework).

The Agenda 2000 introduced new guidelines for a better CFP, where concepts such as "responsible fishing" and "sustainable development" were highlighted (Vrignaud, 2002).

In March 2001, the Commission published a "Green Paper" intending to reform the CFP (European Commission, 2001b). The overall objective of this future Common Fishery Policy would be to reduce the European fleet and develop its aquaculture industry while paying more attention to environmental and consumer protection.

The new CFP was to take effect by January 2003 but given the strong objections from the Member States towards the Commission’s proposals, it seems that the first semester 2003 is a better schedule for the CFP's implementation.

Production: captures, aquaculture and commodities 1989-1998

Captures

The data for catches are expressed in live weight landing equivalents (i.e. weight of landed product multiplied by a suitable conversion coefficient). Consequently, these data exclude fishery products captured but not landed such as by-catch and fish rejected at sea (e.g. non-commercial species, fish below the minimal size). The origin of the landings depends on the flag of the fishing vessel, except in the case of joint-venture companies and chartering.

Total catches for the 28 countries reached an average 10.4 millions tonnes between 1989 and 1998. During the 1990s, this volume ranged from its lowest level in 1990 with 8.6 million tonnes to its highest level in 1995 at 10.8 million tonnes.

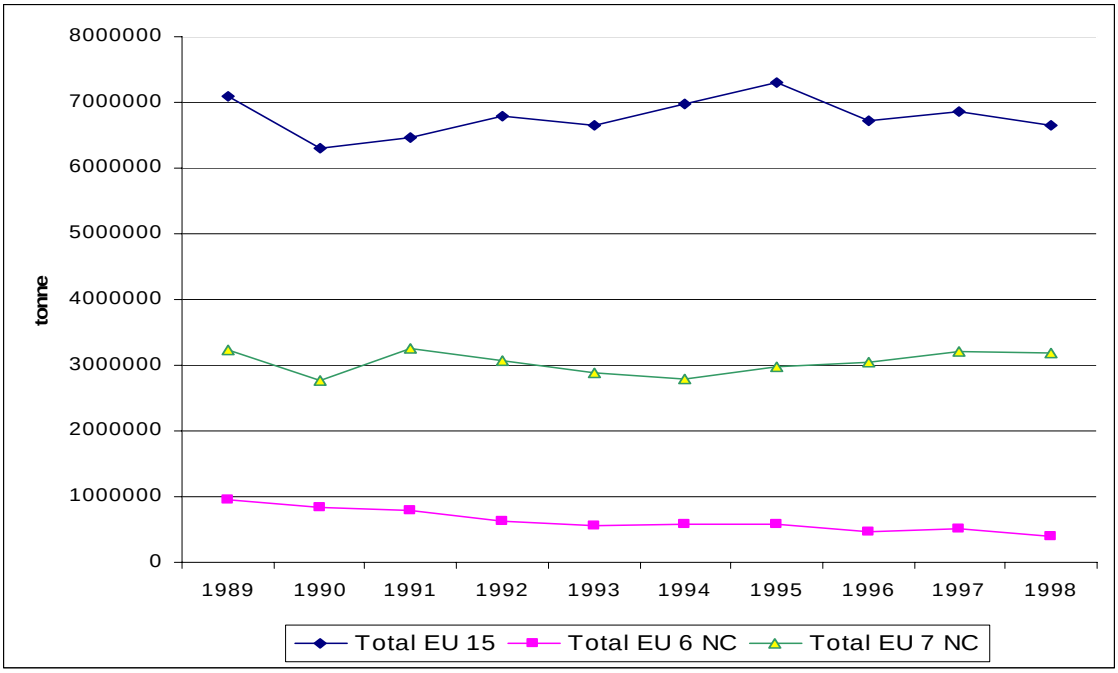


Figure Annex 5-1: Evolution of captures from 1989 to 1998

Between 1994 and 1998, the catches by the 15 countries currently in the European Union accounted for 66 percent of the total tonnage. The largest producers in this group were Denmark (26 percent), Spain (16 percent), the United Kingdom (13 percent) and France (10 percent). Norway is the largest European producer and represents nearly 27 percent of total EUR-28, followed by Denmark with 17 percent of the total. During the 1990s, Norwegian catches increased markedly by almost 40 percent, while Danish catches fell by 10 percent. Spanish and French catches also decreased by almost 10 percent, while total landings by the UK, except during the year 1990, recorded a regular overall increase of approximately 5 percent. The decline in landings by Poland, Romania and the Baltic States following the disintegration of the former Soviet Union should also be noted.

Table Annex 5-1: Volume of captures by country from 1989 to 1998

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Ave 89-98
Austria	550	533	500	479	420	388	404	450	465	451	464
Belgium	39633	41459	39890	37119	36097	34255	35595	30822	30499	30834	35620
Denmark	1896296	1475676	1751211	1953581	1618687	1877750	2006022	1681461	1826810	1557203	1764470
Finland	150536	141833	128169	151753	156294	164269	167484	179077	180098	181304	160082
France	716371	697014	653305	667708	680458	702958	687246	644640	643293	603265	669626
Germany	344724	323908	232377	216557	252540	230150	239843	236388	259328	266579	260239
Greece	135391	136818	144206	159249	166879	190965	165333	162424	170493	128230	155999
Ireland	220308	248373	265509	279887	310303	327382	420888	366859	328063	360830	312840
Italy	419754	383348	407885	396466	395843	398232	396393	367755	342776	317600	382605
Netherlands	421287	406189	407164	433062	461771	420170	438097	410843	451842	536638	438706
Portugal	331036	325960	325583	295267	292549	267697	265281	263242	224821	228770	282021
Spain	1306309	1106244	1064977	1077414	1077674	1092277	1148914	1129602	1145129	1109043	1125758
Sweden	249840	251088	237063	307524	341871	386829	404612	371002	357408	410898	331814

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Ave 89-98
United Kingdom	865635	771690	797221	818667	865780	884493	918421	874284	895121	927911	861922
Total EU-15	**7097670**	**6310133**	**6455059**	**6794732**	**6657166**	**6977815**	**7294534**	**6718849**	**6856146**	**6659555**	**6782166**
Cyprus	2560	2619	2619	2662	2703	2795	2589	2636	2388	2490	2606
Czech Republic	na	na	na	na	3178	3954	3926	3520	3317	3949	3641
Estonia	404930	367682	358464	131347	147175	124091	132576	108609	126057	121594	202253
Hungary	14969	16222	8440	8669	7886	8307	7314	7606	7406	7172	9399
Poland	538532	446535	427876	475571	404400	435729	426235	341171	361852	246966	410487
Slovenia	na	na	na	3882	2264	2310	2121	2329	2331	2177	2488
Total EUR-6 NC	**960991**	**833058**	**797399**	**622131**	**567606**	**577186**	**574761**	**465871**	**503351**	**384348**	**628670**
Bulgaria	91214	49099	50011	23986	13688	6405	8187	8846	11217	10716	27337
Latvia	545218	465023	413633	156778	141891	138167	149190	142642	105681	102330	236055
Lithuania	416744	345327	469964	188385	116998	49150	47784	55183	18319	20767	172862
Malta	916	6357	4965	4763	669	893	841	806	849	957	2202
Norway	1991575	1815394	2217309	2634280	2597621	2569478	2725332	2828848	3058240	3039779	2547786
Romania	177375	92739	95368	70759	13819	22215	49275	18259	8154	8965	55693
Slovakia	na	na	na	na	1179	1620	1936	1406	1376	1348	1478
Total EUR-7 NC	**3223042**	**2773939**	**3251250**	**3078951**	**2885865**	**2787928**	**2982545**	**3055990**	**3203836**	**3184862**	**3042821**
Total EUR-28	**11281703**	**9917130**	**10503708**	**10495814**	**10110637**	**10342929**	**10851840**	**10240710**	**10563333**	**10228765**	**10453657**

Source: database

Between 1989 and 1998, the main landings of the EUR-28 countries were comprised of small pelagics and demersal fish. Of the small pelagic species, Atlantic herring (1.6 millions tonnes in 1998), European sprat, Atlantic mackerel and European pilchard dominated and of the demersal species, cod, saithe and flatfish were most important and were the economic heavy weights of the sector. Species such as sandeels, sprat and blue whiting are primarily intended for industrial uses such as fishmeal and fish oil. Blue mussels and the common edible cockle make up the main molluscs production. There was also significant production from aquatic plants (brown seaweed) and crustaceans such as northern prawns and Norway lobsters. Others catches include freshwater fish, cephalopods (octopus, squid) and the diadromous fish such as sea trout and salmon. Almost all of the catches of the EU fleet are taken in fishing regions adjacent to the European Union.

It has to be noted that the demersal species group contain both high value species and industrial species such as Norway pout and sandeels. For instance, at the EUR-28 level, these industrial species represent more than 30 percent of the demersal species landings. For this reason, the level of demersal species seems to be stable over the last decade. But it fact, at the EU-15 level, there is a drop of cod catches by 40 percent between 1989 and 1998, 50 percent for the European plaice and saithe, and 40 percent for the hake, compensated by an important increase of the Norwegian landings of sandeels (+76 percent, 350 000 tonnes in 1998), Cod (+70 percent, 330 000 tonnes in 1998), saithe (+35 percent, 200 000 in 1998), haddock (+100 percent, 80 000 tonnes in 1998). So the global picture hides a significant decline in the EU-15 high value demersal species.

The share per group of species of the EU-15 catches in 1998 is presented below. Small pelagic species, like herring (730 000 tonnes), sprat (460 000 tonnes), European pilchard (390 000 tonnes), Atlantic mackerel (375 000 tonnes), Atlantic horse mackerel (370 000 tonnes) represent 41 percent of the total landings. Demersal, mainly composed of sandeels (690 000 tonnes), cod (260 000 tonnes), haddock (105 000 tonnes), European plaice (90 000 tonnes) and others, weight for 36 percent of the total EU-15 landings. Tuna species are mainly

Skipjack (135 000 tonnes) and Yellow Fin in the Indian Ocean and West African waters notably through the European fishing agreements with Seychelles, Senegal, Mauritania, Guinea Bissau and Ivory Coast.

Mussels accounting for a significant part of the EU-15 mollusc production in 1998 (120 000 tonnes in 1998) are mainly product in Denmark and Italy. The Common Edible cockle, produced in the Netherlands (70 000 tonnes), the Striped Venus from Italy (30 000 tonnes) and the Great Atlantic scallop caught in France and the United Kingdom (35 000 tonnes) also contributed to the 6 percent share of the total EU-15 catches.

Cephalopods, essentially octopus, squids and cuttlefish are caught both in European and West African waters[39] (Mauritania and Senegal).

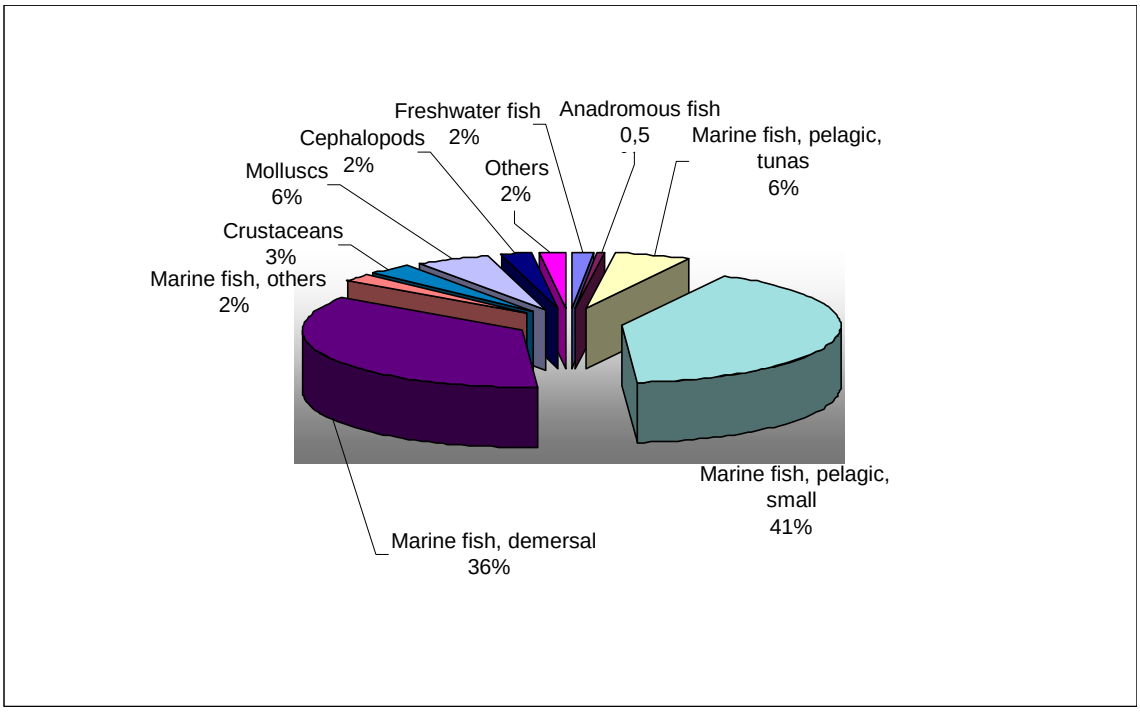


Figure Annex 5-2: EU-15 shares of captures by FAO groups of species in 1998

In 1998, captures form Cyprus, Czech Republic, Estonia, Hungary, Poland and Slovenia were mainly composed of small pelagic and demersal species. Poland and Estonia account for 94 percent of the total catches of this group of 6 countries even if their catches have been in constant decline since 1989: they lost more than 580 000 tonnes over the decade.

Of a total of 180 000 tonnes of small pelagic species, the main part is due to the caches of sprat (90 000 tonnes) and herring (65 000 tonnes) in the Baltic Sea, and Atlantic mackerel (75 000 tonnes) in the North Sea. Alaska pollock (82 000 tonnes), despite a large reduction of catches over the period 1989-1998 (- 70 percent) is still the main demersal species, followed by cod (28 000 tonnes) mainly caught in the Baltic Sea by Poland and Estonia. Catches of sprat, herring, cod and salmon in the Baltic Sea are under quota regulation. Every year, the International Baltic Sea Fishery Commission[40] set up a quota in volume for the three first

[39] Before the end of the fishing agreement with Morocco in 1999, the main pat of the octopus was fish in Moroccan waters. The EU agreement with Mauritania is supplying to the Spanish market more or less 15 000 tonnes of octopus per year.

[40] See http://www.ibsfc.org/

species and a quota in number for salmon. Some new demersal species, like Roundnose grenadier, are caught in Northern waters by Polish vessels.

Freshwater fish are mainly produced by the Czech Republic, Hungary and Poland. Common carp (6 500 tonnes), freshwater bream (4 700 tonnes) and European perch (2 700 tonnes) are the principal species produced by the EUR-6NC.

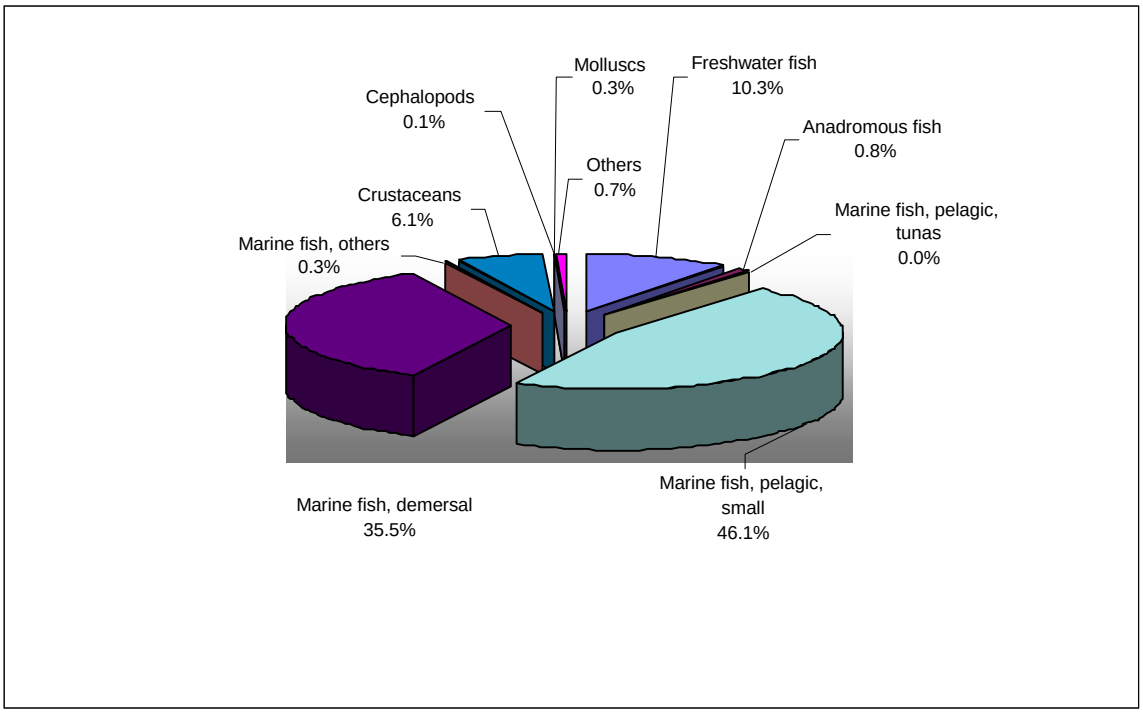


Figure Annex 5-3: EUR-6 NC shares of captures by FAO groups of species in 1998

Norway is fishing 95 percent of the total catches of the EUR-7 NC composed of Bulgaria, Latvia, Lithuania, Malta, Norway, Romania, and Slovakia. Industrial species are predominant in the catches of this set of countries and account for more than 1.5 Mt Small pelagic catches increased significantly over the last 10 years.

Atlantic herring catches, used for both human consumption and reduction, went from 300 000 tonnes in 1989 to more than 850 000 tonnes in 1998. The increase of Norwegian industrial species catches is linked to the rapid growth of aquaculture over the same period. For example, Blue whiting catches increased by 96 percent (570 000 tonnes in 1998), sandeels by 80 percent (350 000 tonnes), European sprat by 140 percent (95 000 tonnes) even if catches for the two Baltic States went down significantly. Only Capelin catches diminished by 22 percent during the same period to reach a volume 90 000 tonnes.

Cod dominates the demersal species for human consumption (335 000 tonnes). Like the industrial species, cod production has increased significantly over the period with a rate of 78 percent. Saithe (Pollock) is the second demersal species fished by Norwegian vessels (195 000 tonnes, +35 percent). Atlantic redfishes (30 000 tonnes, -40 percent) and Ling (22 000 tonnes, -12 percent) are the two other main demersal species caught.

The production of algae is quite significant in Norway with 180 000 tonnes. The production has been stable during the last decade. The fertilizer industry is using these algae to mix with other components to produce fertilizer for agriculture.

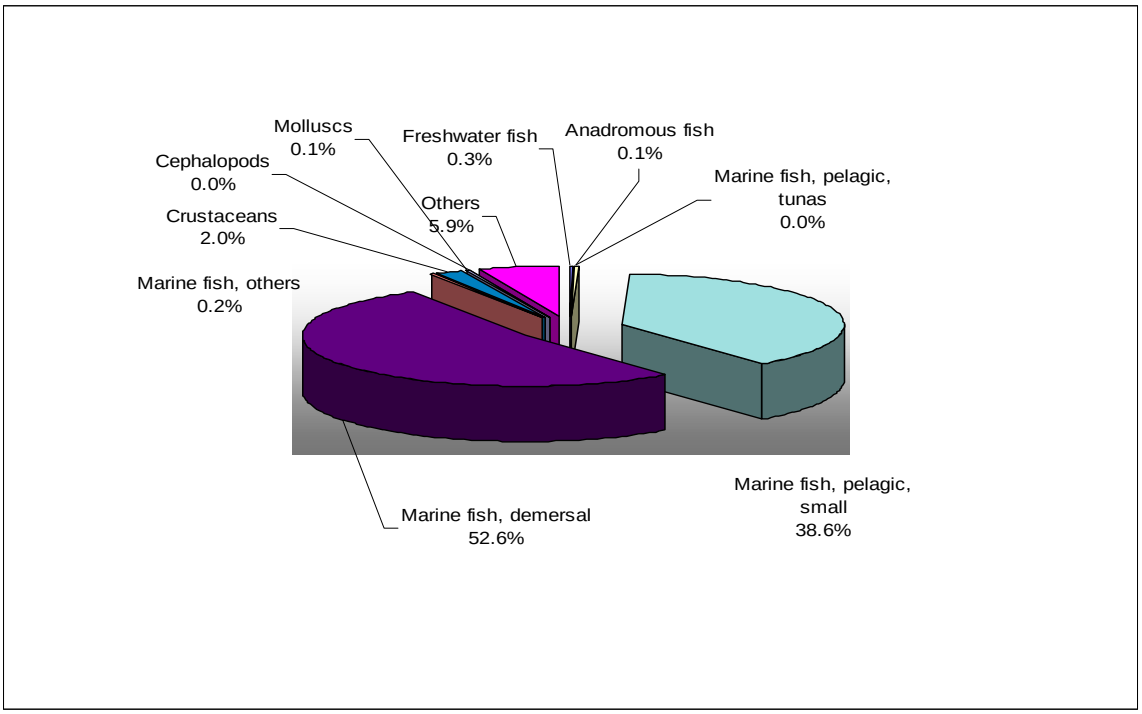


Figure Annex 5-4: EUR-7 NC shares of captures by FAO groups of species in 1998

As demonstrated in the figure below, catches of demersal species have been relatively stable between 1988 and 1998, as were catches of pelagic species. Landings of pelagic tuna increased slightly up to 1995 but then decreased by approximately 30 percent. Crustaceans and molluscs are the only species groups for which production has increased significantly over the 1990s.

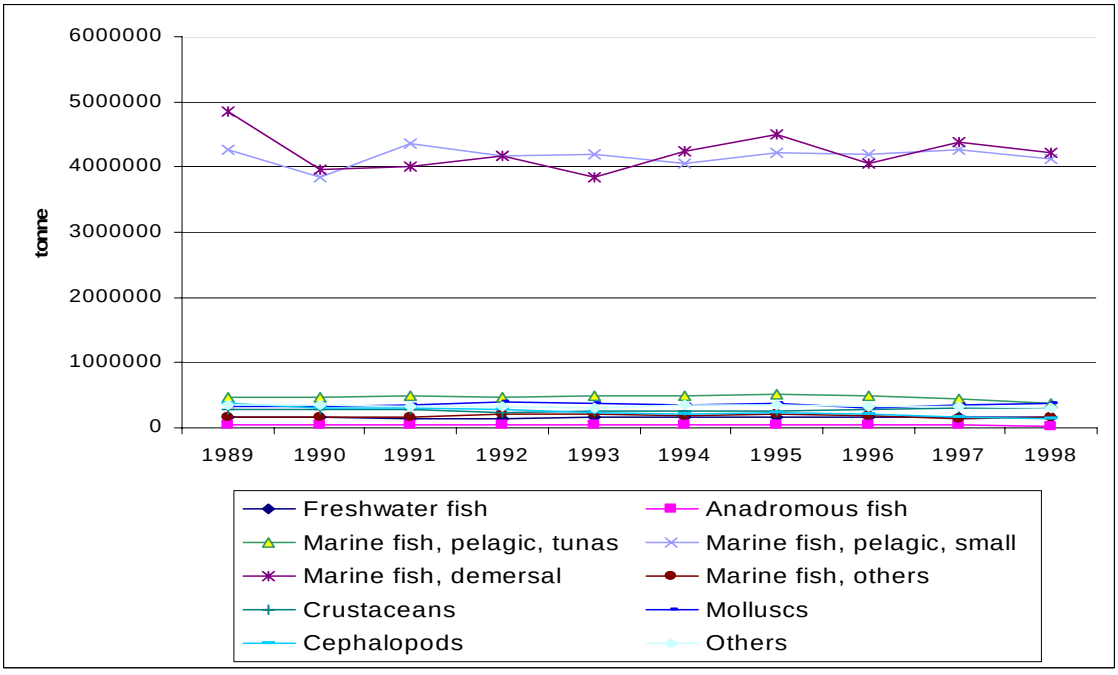


Figure Annex 5-5: Evolution of the principal groups of species from 1989 to 1998

Farmed production

Farmed production is defined here as the breeding of aquatic species, particularly fish, molluscs, shellfish and plants. In turn, 'breeding' is used to describe an intervention in the natural lifecycle process to increase production (e.g. regular stocking, feeding and protection from predators). Breeding also implies some form of personal or collective ownership of the breeding stock.

In 1998, EUR-28 production from aquaculture was 1.8 Mt with 900 000 tonnes of fin fish species worth €3 000 million and the same volume of molluscs. In 1998 the EU produced 8 percent by weight of world-wide aquaculture production[41]. Total production remained fairly stable between 1989 and 1993 at approximately 1.2 million tonnes and then increased by 19 percent (see figure below).

It is estimated that 80 000 people (54 000 full time equivalents) are employed in aquaculture activities in the EU, 3.5 percent of the active population. Each full time equivalent accounts for approximately 20 tonnes of production including upstream and downstream activities. Ireland has the greatest proportion of its active population employed in aquaculture followed by Spain and Greece (Macalister Elliott, 1999).

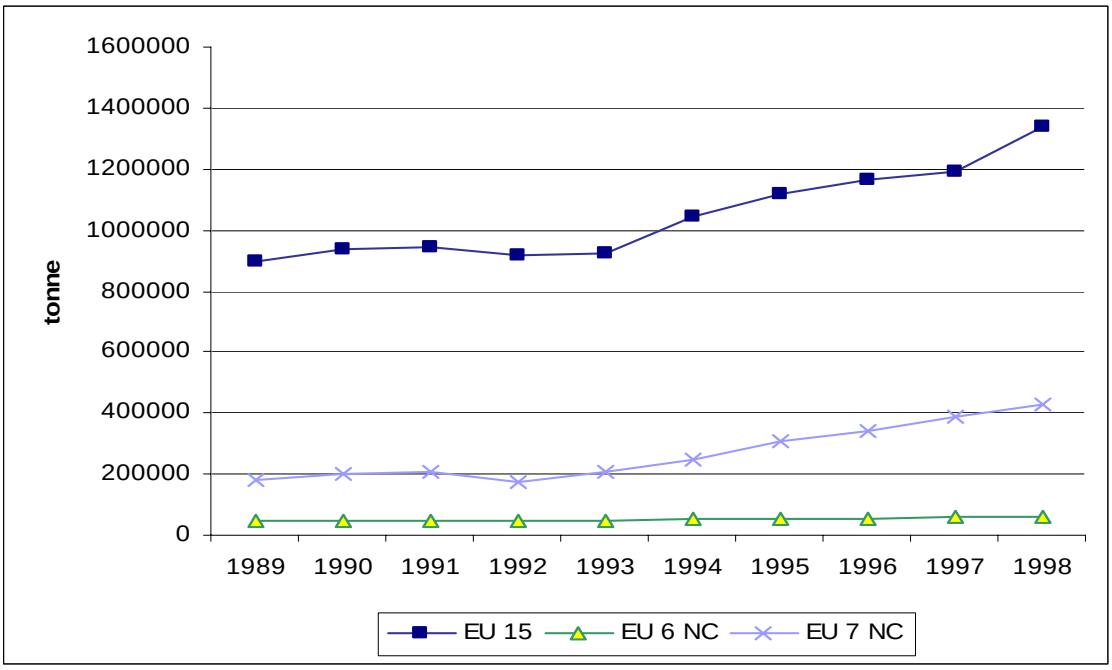


Figure Annex 5-6: Evolution of aquaculture from 1989 to 1998

The main fin fish species are salmon, trout, sea bass and bream, carp, eels, turbot and cod. Among EU-15 member states, France, Italy and the United Kingdom are the main producers in terms of value at between €350-400 000 followed by Spain at €210 000. All have a large production of shellfish and fin fish, although the latter are much the most important in the United Kingdom where salmon is the most valuable. Greece is the main producer of the Mediterranean species bass and bream and Germany is the most important producer of carp (Aldana, 2000; Anon. 2000b and Freddi, 2000).

[41] The major producing countries outside Europe are China, Thailand, Indonesia, and South American countries such as Ecuador.

Norway is the largest European aquaculture producer outside the EU-15. The value of salmon sold in Norway in 1998 was NOK 9.5 billion, from 365 000 tonnes. The value of trout sold was NOK 1.00 billion from 40 000 tonnes.

On average, production by the EU-15 countries represented 75 percent of entire European production over the 1990s and of these countries the largest producers were France (18 percent), Spain (15 percent) and Italy (14 percent). Norway was the largest aquaculture producer in Europe, however, with 20 percent of the total production in 1998 and Norwegian production increased threefold between 1989 and 1998, reaching more than 400 000 tonnes. Over the same period, the EU-15 production increased by approximately 40 percent including a virtual doubling of production by the UK and an increase in French production by approximately 20 percent. Italian and Spanish production also increased significantly at 60 percent and 30 percent, respectively. However, farmed production from the Baltic States, Hungary, Bulgaria and Romania completely collapsed during the 1990s, while Austrian, Finnish, Swedish and Portuguese production also experienced strong falls.

Although the European aquaculture sector is diverse, being characterized by numerous species, zones of production and cultivation techniques, several species dominate total production by weight. The principal farmed species produced by the EUR-28 are diadromous fish, particularly salmon and rainbow trout and molluscs such as mussels and oysters (Groen, 2000; Shaw and Gabott, 1992). There are also some fish farms producing demersal species such as seabream and seabass, freshwater species such as carp or pelagic species like mullet (Shaw and Curr, 1989). Aquatic plants and crustaceans such as shrimp and crayfish are also cultivated commercially.

Table Annex 5-2: Aquaculture production per country from 1989 to 1998

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	4450	3126	3135	3140	3140	3103	2918	2949	2940	2861	3176
Belgium	735	675	845	845	845	845	845	945	845	845	827
Denmark	33059	41946	42098	43264	43231	42892	44730	41424	38908	42364	41392
Finland	18479	18393	19125	17824	17526	16682	17345	17659	16426	16024	17548
France	224037	256073	245077	250254	277323	280954	280785	285616	287490	273848	266146
Germany	63052	61693	68092	90019	63000	42352	58096	75237	59433	67018	64799
Greece	4741	9559	12615	20306	32578	33177	32644	39851	48833	59923	29423
Ireland	20790	26573	27699	27081	30158	28615	27366	34925	36854	40335	30040
Italy	132170	153542	175191	170376	176319	206420	235725	214372	216719	249625	193046
Netherlands	108875	100995	51648	54105	71125	109379	83938	99871	98210	120024	89817
Portugal	8528	4963	6234	6371	5954	6546	4969	5346	7162	7513	6359
Spain	219825	200831	222703	168710	126103	177929	223944	231535	239105	313485	212417
Sweden	7938	9142	8000	7141	5923	7428	7567	8266	6706	5500	7361
United Kingdom	49304	50026	60874	56811	68762	85693	93826	109886	129695	137411	84229
Total EU-15	**895983**	**937537**	**943336**	**916247**	**921987**	**1042015**	**1114698**	**1167882**	**1189326**	**1336776**	**1046579**
Cyprus	82	125	127	155	259	290	441	776	968	1178	440
Czech Republic	na	na	na	na	20240	18650	18671	18197	17557	17230	18424
Estonia	1232	936	1337	693	322	414	308	255	255	260	601
Hungary	20502	17499	14357	14191	9492	9895	9360	8077	9331	10219	12292

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Poland	25951	26400	29500	30200	18609	24500	25111	27700	28680	29791	26644
Slovenia	na	na	na	851	698	774	755	843	897	884	815
Total EU6 NC	**47767**	**44960**	**45321**	**46090**	**49620**	**54523**	**54646**	**55848**	**57688**	**59562**	**51603**
Bulgaria	11615	7849	7798	8132	7897	6100	4615	4727	5437	4242	6841
Latvia	6288	2235	2685	641	339	560	525	380	345	412	1441
Lithuania	4526	4611	4750	3899	2907	1874	1714	1537	1516	1516	2885
Malta	na	na	200	500	650	900	900	1552	1800	1950	1057
Norway	113762	150024	160705	137619	173497	218471	277636	321542	367298	408862	232942
Romania	47260	34950	29530	24620	21100	20400	19830	13900	11148	9463	23220
Slovakia	na	na	na	na	1586	1857	1614	950	1235	636	1313
Total EUR-7 NC	**183451**	**199669**	**205668**	**175411**	**207976**	**250162**	**306834**	**344588**	**388779**	**427081**	**268962**
Total EUR-28	**1127201**	**1182166**	**1194325**	**1137748**	**1179583**	**1346700**	**1476178**	**1568318**	**1635793**	**1823419**	**1367143**

Source: database

Production of diadromous species increased significantly during the 1990s decade and salmon production increased threefold in these years (see Figure below) (Iseth *et al.*, 1991; Steen *et al.*, 1998). The production of rainbow trout also increased by approximately 40 percent during this period. Mollusc production, particularly of blue mussels and oysters, increased by 30 percent during the decade and the production of cultivated crustaceans and aquatic plants also exhibited a marked increase. Improved techniques and knowledge saw the production of demersal species increase from about 3000 tonnes in 1989 to approximately 70 000 tonnes in 1998.

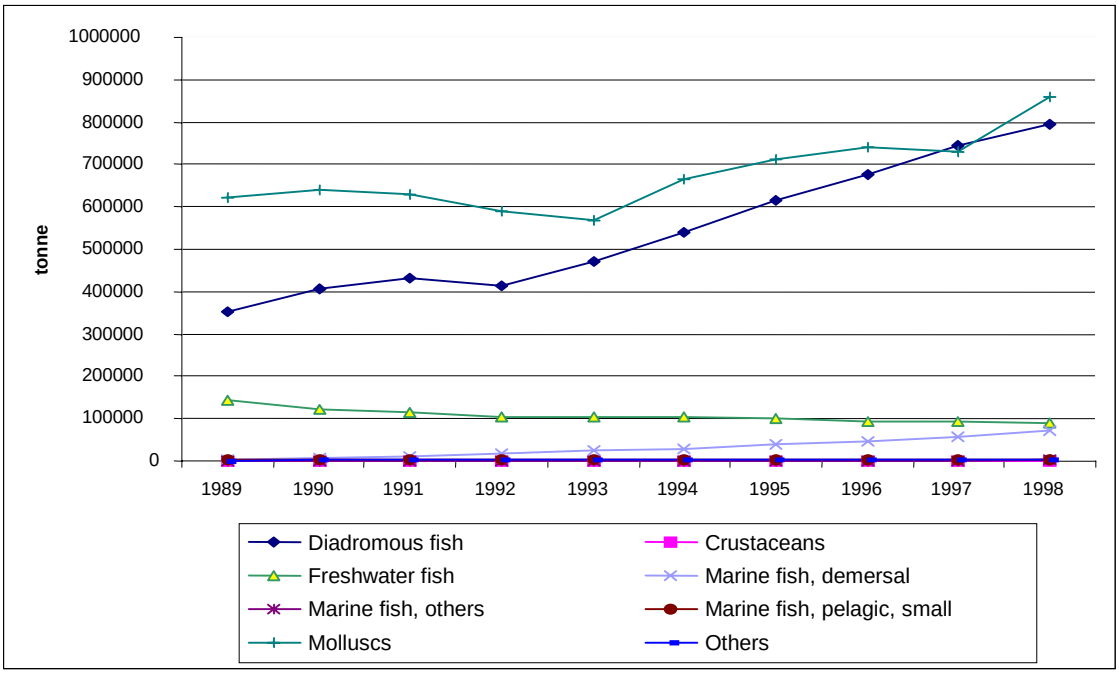


Figure Annex 5-7: Evolution of main aquaculture species from 1989 to 1998

The only fall recorded during this period was in the production of freshwater species, particularly carp. However, although the production of carp represents a small proportion of

aquaculture in terms of volume and value across the EUR-28 countries, it can be economically significant on a regional scale. The countries of Eastern Europe, in particular, cultivate large quantities of carp and in 1998, 150 000 tonnes were produced, representing 80 percent of all freshwater fish produced in the region (Fiche, 2000).

In the decade from 1988-1998 freshwater aquaculture production in Europe dropped from about 600 000 tonnes to 430 000 tonnes. This compares with marine aquaculture that increased from 150 000 tonnes to 660 000 tonnes, excluding molluscs and aquatic plants. These gross figures, however, hide significant differences between Western and Eastern Europe. While production in Western Europe increased from 195 000 tonnes to 250 000 tonnes during the period, in Eastern Europe it fell from 410 000 tonnes to 180 000 tonnes, mainly as result of turbulent economic times. There are also major differences in species composition. In the East carps dominated with around 86 percent while salmonids were restricted to 9.4 percent (although trout production did increase during the period). In the West the reverse was true with salmonids just over 85 percent and carps almost 9 percent. The balance in the West represents diversification to small quantities of eel, and smaller quantities of sturgeon and catfish (Kouka, 1995).

It is impossible to avoid the conclusion that, as a result of a variety of factors, freshwater aquaculture has been eclipsed by marine aquaculture both in importance and diversity. The task of identifying these factors is not simple and the core question is whether they can be resolved in order to allow sectorial development.

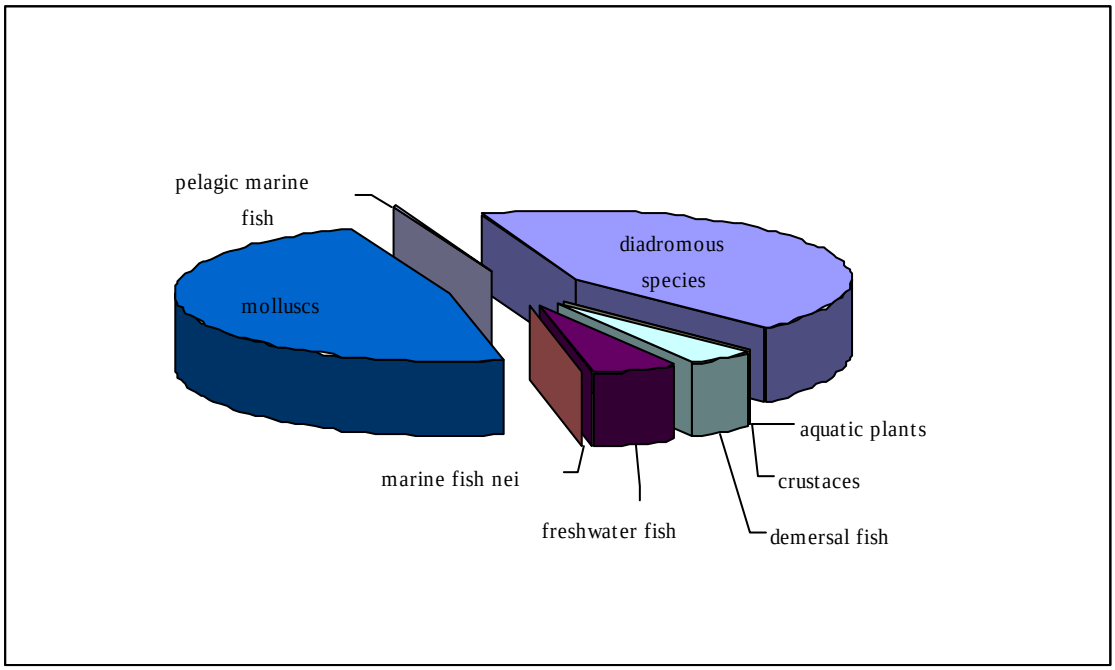


Figure Annex 5-8: Share of main FAO groups of species in aquaculture in 1998

Finally, as aquaculture production increases both globally and within the EU, the supply of feed could become a limiting factor in the growth of the industry (Barlow, 2003). Fish oil and fishmeal production is currently at 1.2 million tonnes and 7 million tonnes respectively, and this level is not expected to increase in the future. Further research and experimentation with substitute proteins (such as plant proteins) will be needed if aquaculture is to keep expanding. In addition, the reduction of fish to oil and meal has an environmental impact. Barlow (1999) recommends that this issue can be addressed by both substituting alternative feeds and by establishing new markets for omnivorous species such as catfish and tilapia.

The production of fishery products in the aquaculture industry has increased significantly over the past decade. Today, it represents 31 percent of the total value of fishery production in the European Union. The value of aquaculture production in some member states, such as Finland and Greece, is greater than the value of landings in those countries. The increase in the production of fishery products available through aquaculture has partly compensated for the decrease in the quantities of fish caught at sea.

Total capture and aquaculture production

Total production comprises the sum of catches and farmed production. During the 1990s, the total production of the EUR-28 increased from some 10 Mt to approximately 12 Mt with the proportion attributable to aquaculture increasing consistently. In 1989, for instance, aquaculture accounted for 10 percent of this total but by 1998, contributed 15 percent. Total production is divided according to its use for either human consumption products or for non-human consumption (meal, oil). In 1998, the share of production directed towards non-human foodstuff represented more than 25 percent for the EUR-28.

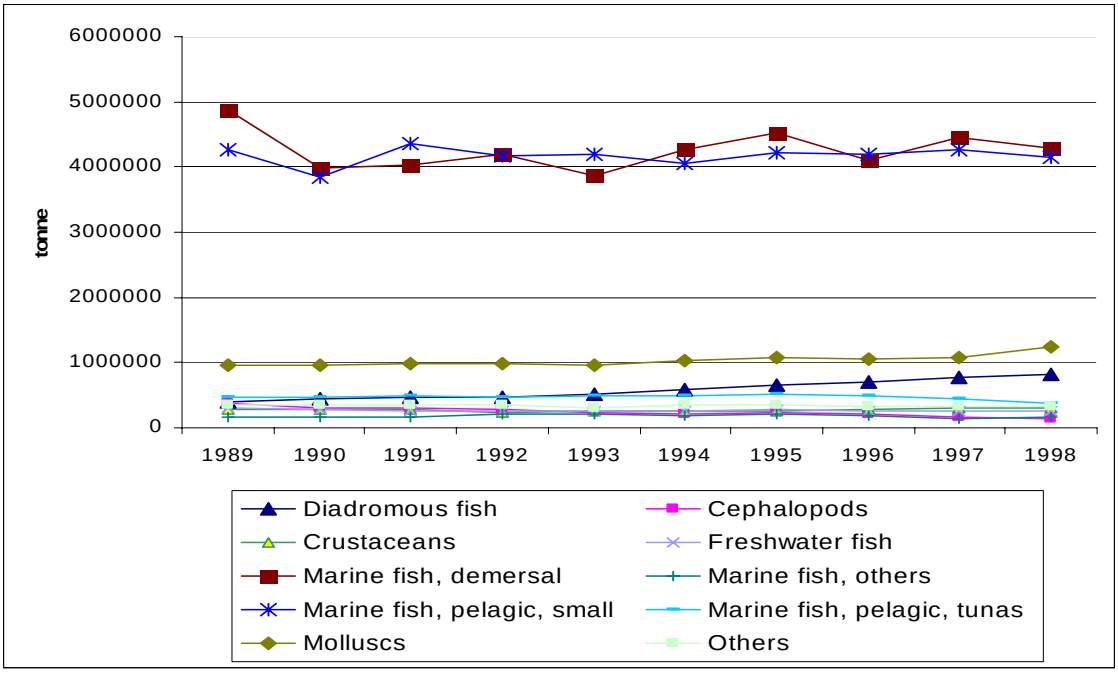


Figure Annex 5-9: Total production EUR-28 by FAO groups of species from 1989 to 1998

Adding aquaculture to captures doesn't differ too much from what was obtained for captures: small pelagics and demersal species are still the dominated groups of species. Nevertheless, diadromous species and molluscs, which were crushed in the bottom of the capture graph, appear here and show a continuous growth over the period.

Table below presents per country the volume of the total production. The main captures countries (France, Spain, UK and Norway) are also the main aquaculture countries. Adding both production sectors reinforces the already predominant position of these countries to the other ones.

Table Annex 5-3: Total production per country from 1989 to 1998

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	5000	3659	3635	3619	3560	3491	3322	3399	3405	3312	3640
Belgium	40368	42134	40735	37964	36942	35100	36440	31767	31344	31679	36447
Denmark	1929355	1517622	1793309	1996845	1661918	1920642	2050752	1722885	1865718	1599567	1805861
Finland	169015	160226	147294	169577	173820	180951	184829	196736	196524	197328	177630
France	940408	953087	898382	917962	957781	983912	968031	930256	930783	877113	935771
Germany	407776	385601	300469	306576	315540	272502	297939	311625	318761	333597	325039
Greece	140132	146377	156821	179555	199457	224142	197977	202275	219326	188153	185421
Ireland	241098	274946	293208	306968	340461	355997	448254	401784	364917	401165	342880
Italy	551924	536890	583076	566842	572162	604652	632118	582127	559495	567225	575651
Netherlands	530162	507184	458812	487167	532896	529549	522035	510714	550052	656662	528523
Portugal	339564	330923	331817	301638	298503	274243	270250	268588	231983	236283	288379
Spain	1526134	1307075	1287680	1246124	1203777	1270206	1372858	1361137	1384234	1422528	1338175
Sweden	257778	260230	245063	314665	347794	394257	412179	379268	364114	416398	339175
United Kingdom	914939	821716	858095	875478	934542	970186	1012247	984170	1024816	1065322	946151
Total EU-15	**7993653**	**7247670**	**7398395**	**7710979**	**7579153**	**8019830**	**8409232**	**7886731**	**8045472**	**7996331**	**7828744**
Cyprus	2642	2744	2746	2817	2962	3085	3030	3412	3356	3668	3046
Czech Republic	na	na	na	na	23418	22604	22597	21717	20874	21179	22065
Estonia	406162	368618	359801	132040	147497	124505	132884	108864	126312	121854	202854
Hungary	35471	33721	22797	22860	17378	18202	16674	15683	16737	17391	21691
Poland	564483	472935	457376	505771	423009	460229	451346	368871	390532	276757	437131
Slovenia	na	na	na	4733	2962	3084	2876	3172	3228	3061	3302
Total EUR-6 NC	**1008758**	**878018**	**842720**	**668221**	**617226**	**631709**	**629407**	**521719**	**561039**	**443910**	**680273**
Bulgaria	102829	56948	57809	32118	21585	12505	12802	13573	16654	14958	34178
Latvia	551506	467258	416318	157419	142230	138727	149715	143022	106026	102742	237496
Lithuania	421270	349938	474714	192284	119905	51024	49498	56720	19835	22283	175747
Malta	916	6357	5165	5263	1319	1793	1741	2358	2649	2907	3047
Norway	2105337	1965418	2378014	2771899	2771118	2787949	3002968	3150390	3425538	3448641	2780727
Romania	224635	127689	124898	95379	34919	42615	69105	32159	19302	18428	78913
Slovakia	na	na	na	na	2765	3477	3550	2356	2611	1984	2791
Total EUR-7 NC	**3406493**	**2973608**	**3456918**	**3254362**	**3093841**	**3038090**	**3289379**	**3400578**	**3592615**	**3611943**	**3311783**
Total EUR-28	**12408904110992961169803311633562112902201168962912328018118090281219912612052184118208 00**										

Source: Database

It does not matter the level (EU-15, EUR-6 NC, EUR-7 NC), the two first species are small pelagic and demersal. For the EU-15, molluscs occupy the third rank with 1.2 Million tonnes in 1998, followed by diadromous fish (400 000 tonnes) and tunas (380 000 tonnes). For the EUR-6 NC, freshwater fishes (90 000 tonnes), with carp, constituted in 1998 the main group of species after small pelagics and demersal fishes. Diadromous fishes (410 000 tonnes), mainly salmon, are the third principal species in the group of EUR-7 NC.

Commodity production

Commodity production is the production of fish (processed and unprocessed) for human consumption and of fish reduction for animal feeding purposes. For the EU-15, there is more or less 20-25 percent of fish that is sold without any transformation. From the quantities that are processed, 40 percent is for the fishmeal and oil reduction, and 60 percent for the human consumption (Josupeit, 1998).

At a country level, there is "no-bridge" between capture and aquaculture production and commodity production since: 1- the production of commodities is based on both national capture and aquaculture production and imports (and the national production of raw material can be exported) and 2-the capture production is used for human food production or fish reduction. For small pelagic species like herring or sprat it is impossible from the capture statistics to know if the production will be used as human consumption or fishmeal. For these reasons, the tables of commodity production cannot be compared to the tables that show the capture and aquaculture production. Tables below show the commodity production per country, by FAO groups of species and by OECD groups of commodities.

Food use commodity production

Fish is a product with a wide range of products forms and tastes and levels of processing. That goes from traditional fresh fish, smoked salmon, pickled herring, canned tuna, smoked sprat to some more advanced process commodities like surimi and ready to eat meals. The versatility of fish processing is increasing because of the new processing methods and the high demand for new products.

In EU-15, the value of the production is twice the value of the capture sector. The estimated total output of the processing industry was about 11 billion € in 1997. Spain, France, Denmark, Germany, and Portugal produce the greatest value of processed fish, each with an output over 1 billion € per year in 1996/97 (see figure below). Spain is by far the largest producer, with an output of 2.25 billion € in 1996, accounting for 20 percent of the EU production. In Spain, the activity is concentrated in the North (especially in Galicia), along the Atlantic coast and in the Canary Isles. France accounts for 17 percent of output, mainly from the North and Brittany and the Atlantic coast. Denmark and Germany (with Austria) are also major producers of processed fish, with outputs corresponding to 13 percent and 11 percent of EU value (MacAllister Elliot and Partners, 1999).

As mentioned above, linkages between fish landings and the processing sector are weak. So, at a country level, the importance of the processing sector is not linked to national landings. In Germany, for example, the value of landings is less than 2 percent of the EU-15 one but the value of the processing sector corresponds to 12 percent of the EU-15 total. Portugal, with only 4 percent by value of EU landings, produces 9 percent of the processed fish. On the opposite, Italy, which provides 15 percent of the EU-15 landings, only accounts for 5 percent of the EU-15 total value of the processing sector. The differences reflect the extent to which the market uses processed rather than fresh fish, and the use of imports rather than local supplies as raw material for processing (European Commission, 2001a).

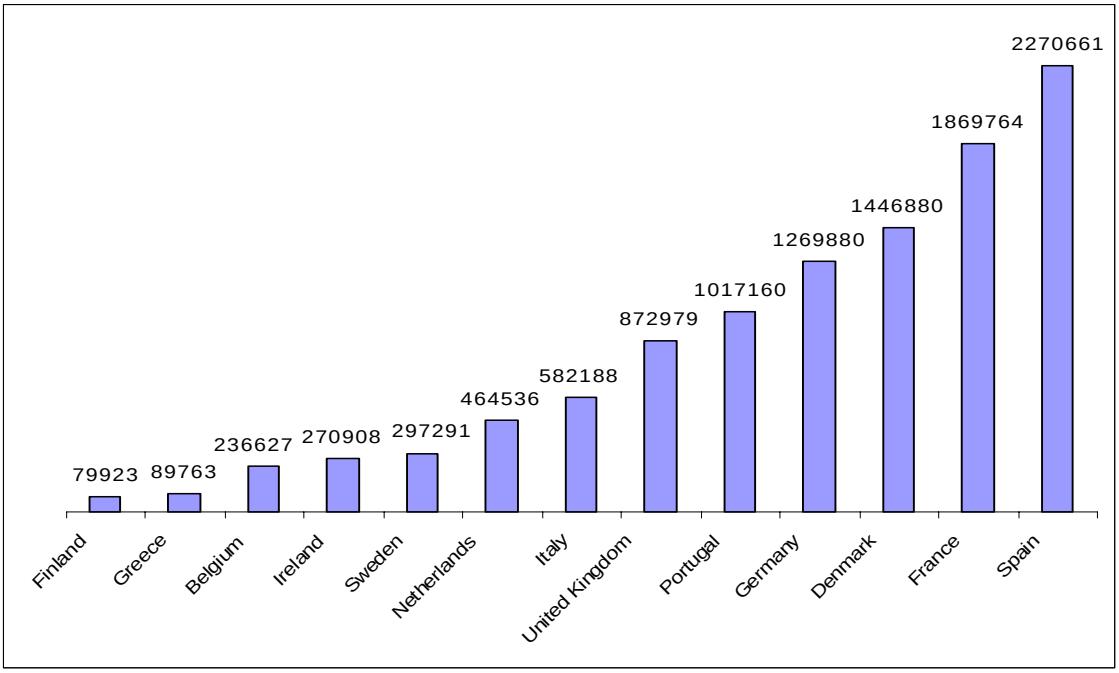


Figure Annex 5-10: Value (thousand of €) of the output of the processing sector (1996/1997) EU-15

The European processing industry is made up of mainly small and medium enterprises coping with insufficient, irregular and non-competitive supplies, health and hygiene requirements, competition from third countries and the appearance of major retail companies which set prices at lower levels (European Commission, 2001a). Significant Community structural aid has been given to the sector[42]. There are some 2000 processing enterprises in this industry. These are mainly small or medium enterprises (SMEs) which have had to cope with a number of problems: insufficient, irregular and non-competitive supplies, combined with difficulties due to outdated production equipment, partial conformity with health and hygiene requirements, major competition from third countries' products and the appearance of the major retail companies which set prices at lower levels.

Supplies are a major problem, since the EU has a deficit in fishery products and diminishing Community resources make the situation worse. The Community industry is able to import fish at a reduced duty rate in order to be competitive. Imports primarily involve semi-processed and frozen products that the Community firms in turn process, adding value to these products.

In response to the problems the industry has experienced in recent years, there was an important restructuring drive. This gave rise to a concentration process and the emergence of major companies (often integrated into agricultural-feedstuff, financial or major distribution groups) generally having at least a national or European dimension, and producing multi-products with high added-value, or of major vertically integrated companies developed around the principle of privileged access to raw material. These conglomerates have become major players in the sector (European Commission, 2001a).

Between 1986 and 1999, the Community's policy on aiding the processing industry evolved from an accompanying policy to develop and modernize the sector, to a policy of restructuring and encouraging the adoption of production techniques aimed at an overall improvement of competitiveness.

[42] For the period 1994-1999, the structural financial aid amounted to 530 M€.

The distribution of employment in fish processing is quite different to that of employment in marine fishing. Fish processing is more evenly distributed throughout the EU, with the UK accounting for 18 140 jobs (20 percent of the EU total in this activity). France with 11 899 (13 percent) employed in the sector, and Spain with 15 449 (17 percent), also have significant employment in fish processing. Italy and Greece, despite having relatively high numbers employed in fishing (18 percent and 17 percent of fishers) have only relatively low levels of employment in processing (accounting for 7 percent and 3 percent of processing employment). This is the converse of the situation in Germany, which has a relatively large processing sector of 11 280 (13 percent of the EU processing employment), compared to employment in fishing of only 2 932 (1 percent of fishers).

Despite expansion of the EU, employment in fish processing fell from 104 316 in 1990 to 89 468 in 1998 (a decline of just over 14 percent). Portugal and Denmark experienced the largest apparent declines in employment in processing. Significant declines were also suffered in Italy, France and the UK (around 20 percent over the period). Spain experienced a lesser decline (around 12 percent) and numbers employed in fish processing appear to have increased slightly in Belgium and Germany (European Commission, 2001a).

Table Annex 5-4: Commodity production by country from 1989 to 1998

(tonnes)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	5000	3659	3635	3619	3560	3491	3322	3399	3405	3312	3640
Belgium-Luxembourg	42351	44292	43121	40181	39049	37214	38687	34076	33458	33632	38606
Denmark	385380	405155	487356	479606	484107	413690	376793	426294	437794	431636	432781
Finland	92179	99255	95872	107637	105127	94243	128011	125196	123768	125383	109667
France	862386	880206	841756	872393	893149	922348	905896	873759	870866	823382	874614
Germany	378510	359987	286105	284742	295399	271531	298562	316933	356148	379538	322746
Greece	143320	148008	165595	194169	204232	218171	211316	221087	246585	211013	196350
Ireland	256941	236511	315245	346347	434782	338069	457100	433627	418867	412839	365033
Italy	540725	525470	571591	561987	564887	597498	621527	570819	547653	555240	565740
Netherlands	533517	518749	475936	508488	535691	531812	475288	497302	596631	583937	525735
Portugal	310787	287205	259306	277128	271417	252631	245841	231271	219246	218783	257361
Spain	1275485	1071744	1068934	1080237	1124928	1187383	1273386	1239259	1227474	1266636	1181546
Sweden	217456	233300	208238	304792	316369	340200	323410	319729	340401	361288	296518
United Kingdom	1039952	924872	1136779	1117695	1170465	1066431	1081607	1087102	1172872	1309692	1110747
Total EU-15	**6083989**	**5738415**	**5959468**	**6179020**	**6443161**	**6274710**	**6440747**	**6379853**	**6595167**	**6716309**	**6281084**
Cyprus	2642	2744	2746	2817	2962	3085	3030	3412	3356	3668	3046
Czech Republic					34346	36146	33584	33839	31306	31500	33454
Estonia					153044	154110	123462	121833	130235	130269	135492
Hungary			26221	25204	19701	20967	19328	18337	19326	20844	21241
Poland	472419	391106	377583	469939	382403	430745	424431	369780	398146	269207	398576
Slovenia				2921	2784	3084	2876	3096	3228	3061	3007
Total EUR-6 NC	**475061**	**393850**	**406550**	**500882**	**595240**	**648137**	**606711**	**550296**	**585597**	**458549**	**522087**
Bulgaria					24583	18562	30133	27066	20740	18815	23316
Latvia				148169	138287	134513	147994	188181	171349	142795	153041

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Lithuania				192284	120472	56610	61557	65709	29915	35991	80363
Malta	916	6357	5165	5263	1319	1793	1741	2358	2649	2907	3047
Norway	958439	963294	1066111	1088974	1229338	1485972	1559749	1668015	1846418	1657886	1352419
Romania	210550	121487	120005	88680	34708	42458	69023	32045	19194	18385	75654
Slovakia					2765	3477	3550	2356	2611	1984	2791
Total EUR-7 NC	**1169905**	**1091138**	**1191281**	**1523370**	**1551472**	**1743384**	**1873747**	**1985730**	**2092877**	**1878762**	**1610167**
Total EUR-28	**7728956**	**7223404**	**7557299**	**8203271**	**8589873**	**8666231**	**8921205**	**8915879**	**9273641**	**9053621**	**8413338**

Source: Database

The total production of the EUR-28 was about 9 Mt in 1998. EU-15, with France, Germany, Italy, Spain and UK, is the main producer of fish products in EUR-28, with 6.7 Mt in 1998. Norway on its own has produced 1.6 Mt on average since 1995. The collapse of the Eastern European coastal and distant water fleet still affects the commodity production in 1998 since the reorganization of industry was just starting, notably with the commencement of the EU joining process.

The relative stability of the EU-15 during the last decade contrasts with the important increase of the Norwegian production of salmon, small pelagic and demersal species (Tveteras and Hesmati, 1998). The increasing difficulties in obtaining traditional processed species and the decline of the EU fleet are the main factors that affect the onshore industry. In 1999, the non-renewing of the fishing agreement with Morocco[43] created a new crisis for the Spanish industry that was dependent on its distant water fleet of 400 000 tonnes for demersal (hake mainly), shrimp, tuna and cephalopods (through EU fishing agreements).

Whereas numbers employed in processing have fallen by 14 percent, employment in fishing has declined by 21 percent over the same period. In many sectors of the EU processing industry there is no direct proportional link between employment at sea and employment in processing. It is known that the EU imports substantial quantities of fish to be used as raw material for processing and the importance of imported raw material in sustaining employment in the fish processing industry is recognized by the Common Fisheries Policy in the establishment of import tariffs for fishery products (European Commission, 2001a).

Some of the major imports are white fish fillet blocks, herring, tuna for canning and frozen crustacean. Overall, only an estimated 53 percent of processing jobs appeared to be dependent on EU landings in 1996/97. Sectors of the EU processing industry which are still considered to be substantially dependent on EU landings are tuna and sardine canning, and the primary processing of white fish (European Commission, 2001a; Commerce and Peigne, 1998).

The tuna canning sectors of Spain, France and Portugal are substantially dependent on EU landings into Galicia, Brittany and the Azores respectively. The Italian tuna canning industry is considered to be exceptional, since it is now almost 100 percent dependent on imported raw material from third countries (European Commission, 2001a).

Sardine canning provides employment linked exclusively to local landings in Spain (Huelva in the South), Portugal (mainland) and France (Brittany and Bay of Biscay). In Italy about 35 percent of fish processing employment is linked to local landings, mainly in the sardine canning and anchovy conserving sectors (European Commission, 2001a).

[43] Slightly compensated by the increasing of vessels number in Mauritania for cephalopods (Failler, 2002).

In most of the more northern EU countries such as Belgium, Germany, Denmark, Sweden, and in parts of the UK, the EU-landing related employment in processing is limited to primary processing of whitefish and some shellfish processing (e.g. shrimp processing in Netherlands and Denmark) (Lambert, 1990). In Germany, nearly 100 percent of the processing inputs (fillet blocks and herring) are imported, and there are few, if any links to landings. Similarly, in Belgium, the larger industrial processors rely on imports. In Denmark, although the fishmeal industry does rely exclusively on local landings, it provides little employment relative to the volume of material processed (European Commission, 2001a).

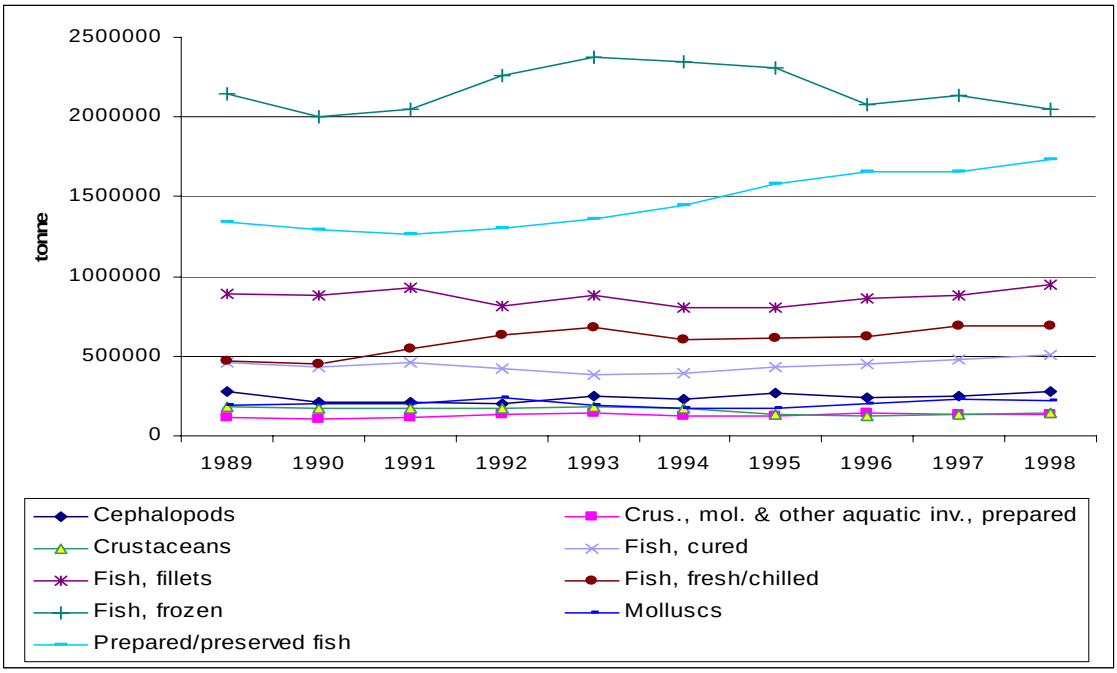


Figure Annex 5-11: Commodity production in the EU-15 from 1989 to 1998 (t live weight)

The Austrian fish-processing sector employs some 80 people mainly for the production of smoked trout fillet. Most of the time processing plants are part of fishing farms.

In Belgium[44], processing output was € 236.6 million in 1997. The larger processing firms are generally not dependent on local landings but rely on imports of frozen fish. In 1997 there were 1 261 people employed in the Belgian processing industry; this number includes wholesale traders and importers due to the fact that small scale processing and wholesaling are substantially integrated. Employment is concentrated in the Oostende and Brugge region. It is estimated that almost half (569) of the workers are female.

The Danish processing industry is highly capitalized. In 1998 there were a total of 193 fish processing and preservation factories with a total production output value of € 1.19 billion. The processing industry (all sectors including fishmeal) in Denmark employed a total of 7 650 people in 1998.

In 1998 there were around 172 establishments engaged in fish processing in Finland. The industry is highly concentrated with the 10 largest companies accounting for over 50 percent of the production volume. The total amount of fish (mainly Baltic herring and farmed rainbow trout) processed for human consumption was 38 711 tonnes, of which 85 percent tonnes was domestic production and the rest was imported raw material.

[44] Country description are from the European Commission Green Paper (2001), volume II.

Processing in France is split into primary processing and wholesaling (*mareyage*) and secondary processing. The output value of *mareyage* in 1998 was recorded as € 1.4 billion. This activity employed 4 007 people registered in over 300 enterprises, with the majority (42 percent) being located in Brittany. Secondary processing in 1997 produced a further € 2.1 billion of output value and employed 11 899 people in 173 enterprises. Auction hall and fish market employment in 1998 totalled 819 FTE in 43 establishments and sales amounted to € 652.9 million.

Germany has a large fish processing industry with a total production output value of 1 273 million € in 1997. The processing industry is relatively independent of the German and EU landings, as it relies largely on imported raw materials from third countries, Norway in particular. The North Sea centres of Bremerhaven, Cuxhaven and Hamburg account for almost 70 percent of the 11 280 processing jobs recorded in 1997.

Fish processing is relatively less important in Greece than in other EU Member States. The majority of the fish processing takes place in Thessaloniki, Attica and Kavala. Most processing facilities are old and rely on both local production and imports from abroad. The processing sector in Greece provided employment for 1 455 full time and 954 part time workers. Women made up 32 percent of those employed in this sector.

The Irish fish processing industries had a throughput of 145 000 tonnes in 1998 with a total value € 285 million. Ireland is a net exporter of fish products, with exports predominately in mackerel, horse mackerel and salmon. The processing sector employed 2 746 people in 1998; 57 percent of these workers are part-time and the largest concentration of processing employment is in County Donegal, where over 1 000 people are involved.

The Italian fish-processing sector is broadly divided into small scale artisanal processing and larger scale industrial processing. There were 393 processing firms in Italy in 1997, plus 40 industrial canning firms, concentrating on tuna and sardines. Production of processed tuna products amounted to 34 000 tonnes in 1997. Anchovy processing occurs mainly on the Adriatic coastline. The tuna-canning sector is coming under pressure from cheaper third country imports, and many factories now use frozen imported loins to reduce labour costs. Sardine processing is also under pressure from imports; production in 1997 was only 2 000 tonnes. In 1997 the processing sector provided employment for 6 447 people. In contrast to the harvesting sector, many of these are women (up to 87 percent in the case of Sardinia and Sicily) and significant numbers are part time workers (in some regions up to 28 percent of the total employed).

In 1997 there were an estimated 6 051 involved in the processing and distribution sectors in the Netherlands. About one third of process workers are women. The main activities are in the processing of flat fish and shellfish.

Processing in Portugal is dominated by the production of *bacalhau* (dry salted cod), which accounts for 37 percent of output volume and 46 percent by value (and almost exclusively, uses imported raw material) (Lem & Di Marzio, 1996a). Total value of processing output (sales) in 1998 was € 503.7 million, corresponding to 138 653 tonnes of finished product. Industrial canning on the mainland uses mainly imported tuna, and in the Azores uses both locally caught and imported fish.

Traditionally the Spanish fish-processing sector was based on fish canning (mainly tuna and sardine). Nowadays, however, the production of frozen value-added fish products is the major activity. In 1996, there were 15 449 people employed in the fish-processing sector; more than 79 percent were located in Galicia and the Basque country. An estimated 56 percent of employees in fish processing are women.

There were 160 processing establishments in Sweden in 1997, mainly processing cod and herring. The Swedish processing industry imports 55 percent of its raw material, which includes substantial amounts of frozen whitefish fillet blocks. Total production value in 1997 was € 346.8 million. The processing sector in Sweden employs 1 933 persons and women make up 52 percent of the workforce.

The UK has one of the EU's largest fish processing industries. Demersal species account for 83 percent of the total volume of fish (433 000 tonnes) processed in England and Wales. The main processing activities include primary processing of white fish derived from North Sea fisheries and value-added processing of fish and shellfish. Salmon processing is also a significant activity in the West of Scotland. The main locations for the fish-processing sector are Humberside in the north of England and NE Scotland. In 1997 the processing industry in the UK employed 18 140. About 9 598 were employed in England and Wales (mainly Grimsby, with 2 300 FTEs) and about 8 500 were employed in Scotland. An estimated 83 percent of jobs are full time; women occupied an estimated 49 percent of all jobs in this sector.

For the EUR-6 NC, former communist countries have inherited a large processing industry mostly focused on canned and frozen products. This industry has had to adapt from a centrally planned economy to a market economy that resulted in a reorganization of the sector. The loss of cheap supply from the distant water fleets that collapsed in the beginning of the nineties due to a lack of subsidies was one of the consequences of this transition. Another big shock for this industry was the Russian crisis around 1998 that resulted in heavily reduced exports towards this reference market for several countries (Poland among others). Landlocked countries such as Hungary and the Czech Republic are characterized by limited and generally decreasing freshwater fish processing, running at full capacity only during the traditional Christmas period. As a rule, in recent years much effort has been put expended in all these countries to try to comply with the health and safety regulations of the European Union with the prospect of accession.

In 1999, there were 25 fish processing plants in the Czech Republic, but they were working at full capacity only during December in order to meet the demand for fish products during the Christmas season (FAO, 1999b). The share of fish cured products (mostly dried and salted or smoked freshwater fish) has been declining since 1993 but remain the first commodity produced in the country. Carp is the main species used in the processing industry and is produced in various forms. Hungary’s processing industry also relies heavily on carp products but mostly in frozen from. This traditional species is also sold fresh or prepared in a variety of ways. Production has remained stable over the past few years.

In Estonia, production of fish and seafood is the fourth largest sector in the food industry after the production of milk products, beverages, meat and meat products. Estonia targets both the Eastern (canned and frozen products) and Western markets (fillets and delicatessen) (Eurofish, 2003).

Main Polish food use commodities are fish fillets and prepared/preserved fish (canned pelagic). These two products represent on average 50 percent of total Polish food use commodity production. Polish production was badly hit in 1998 with the collapse of the traditional Eastern markets in the aftermath of the Russian crisis of 1998-1999 (Eurofish, 2003).

Slovenian production of food use commodities is very limited and mostly comprises frozen and canned products aimed at exports to the Eastern markets, while Cyprus does not possess any processing industries. All fish produced on the island is sold fresh, and exports are very limited.

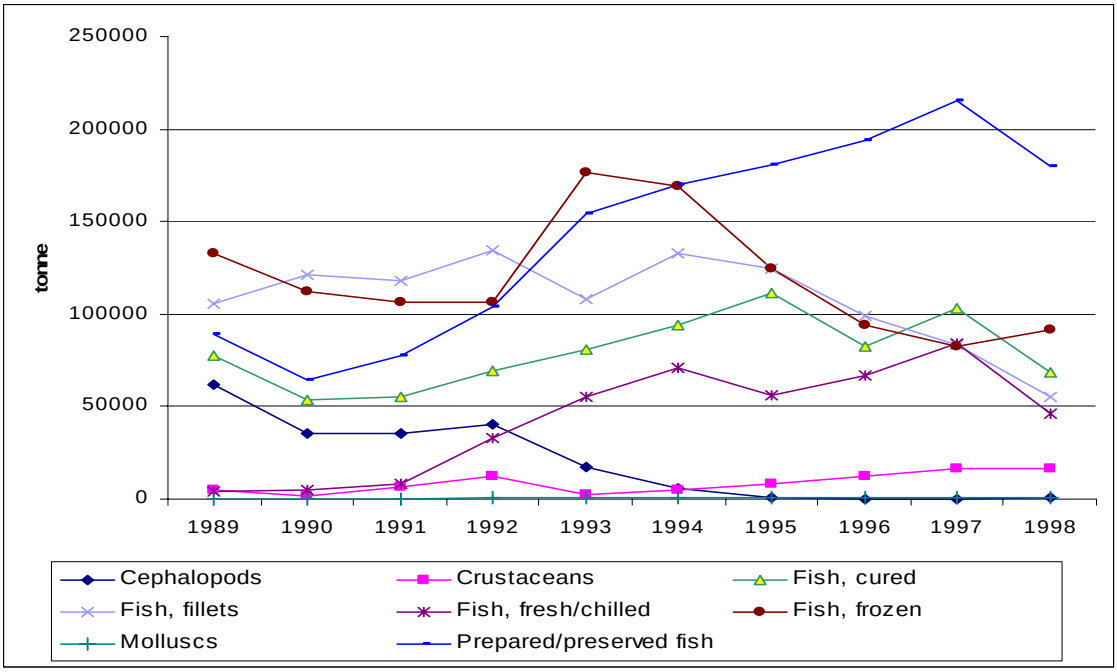


Figure Annex 5-12: Commodity production of the EUR-6 NC from 1989 to 1998 (t live weight)

The pattern for the former communist countries of the EUR-7 NC is similar to that of the EUR-6 NC, with a large aging frozen and canned industry inherited from the communist era that has undergone a drastic reorganization, leading to a dramatic fall in production at the beginning of the nineties. Since then much effort has been put into diversifying the range of products and modernizing production facilities to comply with the European Union health and safety regulations (Klinkhardt, 2001).

Nowadays, the range of processed fish products in Latvia is large and includes a wide choice of chilled, frozen, salted, smoked and canned fish, delicatessen fish products and preserves (Eurofish, 2003). The sector is one of the most important contributors to Latvia's food exports and industrial fish production represented about 3.4 percent of GDP in 1996.

As with many countries in the region, the processing industry in Lithuania has suffered since the dismantling of the Soviet Union, with production decreasing by almost 75 percent between 1990 and 1994. The sector has been recovering in recent years but the European Parliament (1998a and 1998b) reported in 1998 that better administrative practices and improvements of hygiene and environmental standards were a prerequisite for any further development.

Romanian food use commodity production is fairly low at around 18 000 tonnes and has not yet recovered from the collapse of the centrally planned economy when production levels of 200 000 tonnes were achieved. Bulgarian production experienced a similar fate and stagnates around the same level. Low domestic fish consumption is another factor negatively affecting the processing sector in these two countries.

The Slovakian processing industry is mostly based on domestic freshwater production with its main products consisting of frozen, fresh and cured freshwater species (mostly carps).

No transformation takes place in Malta, and commodity production is therefore limited to the sale of fresh/chilled fish. Species involved are large pelagic coming from capture fisheries and sea bass and sea bream coming form the aquaculture sector.

Food use commodity production is a buoyant industry in Norway and production levels have doubled since 1989. This increase in production has been fuelled by both an increase in landings and a rise in aquaculture production. Most of the production is exported and increasing the processing level of exports has become a priority for the Norwegian industry (OECD, 2003). Frozen fish (herring), aimed at Eastern markets is the main commodity produced in Norway, followed by fresh fish (dominated by salmon), fish fillets and cured fish (dominated by cod) mostly directed towards Western Europe.

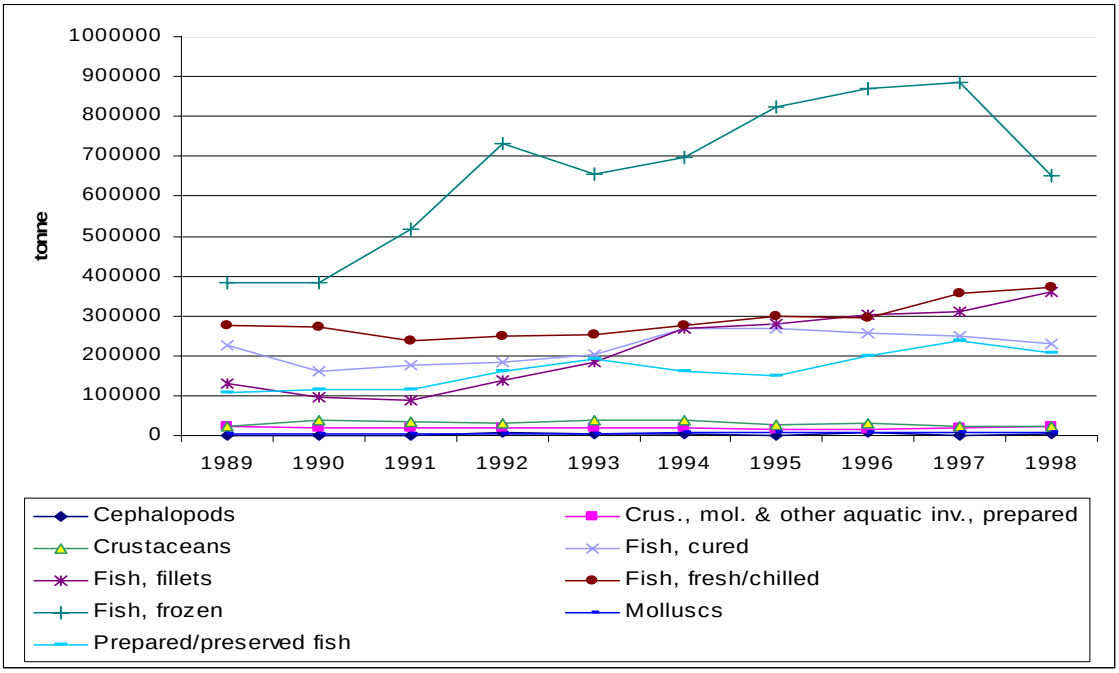


Figure Annex 5-13: Commodity production of the EUR-7 NC from 1989 to 1998 (t live weight)

Detailed tables on food use commodity production are available in Annex 13.

Non-food use commodity production

The fishmeal and oil industry, which started in northern Europe and North America at the beginning of the 19th century, was based mainly on surplus catches of herring from seasonal coastal fisheries. This was essentially an oil production activity; the oil finding industrial uses in leather tanning and in the production of soap and glycerol and other non-food products. The residue was originally used as fertilizer, but since the turn of this century it has been dried and ground into fishmeal for animal feed. In fact, one definition of fishmeal is that it is a solid product, ground, that has been obtained by removing most of the water and some or all of the oil from fish or fish waste. Its main use is in the diets of poultry, pigs and fish that need higher quality protein than other farm stock, such as cattle and sheep (FIN, 2003).

The production of non-food use commodities is essentially fishmeal and fish oil as an ingredient of the livestock and aquaculture carnivorous species food. The usage by sector is approximately 50 percent fish, 20 percent poultry, 20 percent pig. In EU, the main producer is Denmark, which exports the main part of its production to Norway and other EU countries. Norway is both a producer and consumer since the aquaculture production of salmon requires a substantial amount of small pelagic meal to feed it. Tables below present the non-food use production of fishmeal and fish oil and other fish commodities that are not for human consumption.

Fishmeal production also provides a means of utilizing the trimmings from the food fish processing sector that would otherwise be dumped at extra cost to the environment and the consumer. In the EU, Spain, France, Germany, Ireland and the UK produce fishmeal (primarily from trimmings) that accounts for 44 percent of the fishmeal produced in the EU-15 (FIN, 2003).

Table Annex 5-5: Non-food use production per country from 1989 to 1998

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	0	0	0	0	0	0	0	0	0	0	0
Belgium-Luxembourg	1129	1096	838	844	847	725	761	390	465	422	752
Denmark	1568203	1132224	1305119	1569601	1176786	1478622	1608365	1240717	1379410	1257998	1371704
Finland	28099	19596	15831	17642	13169	40290	42595	40241	31500	10190	25915
France	101477	96313	82280	91246	92320	85920	85689	77842	84273	82521	87988
Germany	25502	23531	19929	20774	22865	16909	14562	12757	12489	16805	18612
Greece	0	3383	4321	4563	5277	7155	4871	5051	5900	2083	4260
Ireland	27400	40610	58255	67658	62374	50602	65584	64859	51375	67243	55596
Italy	11199	11420	11485	4856	7275	7154	10591	11307	11842	11984	9911
Netherlands	0	0	0	0	0	0	0	0	0	0	0
Portugal	31300	28250	30401	41053	35851	28155	28730	26176	22737	13990	28664
Spain	250649	235331	218746	167118	78848	82824	99444	121878	156761	155892	156749
Sweden	55320	53643	52951	78828	85887	116453	150543	111790	82598	123117	91113
United Kingdom	283859	268185	230535	226370	240607	256813	242775	194055	197423	159657	230028
Total EU-15	**2384137**	**1913582**	**2030691**	**2290553**	**1822107**	**2171622**	**2354511**	**1907062**	**2036771**	**1901901**	**2081294**
Cyprus	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	0	0	0	0	0	0	0	0	0	0	0
Estonia	0	0	0	0	6791	2958	5296	3756	2870	3454	2512
Hungary	0	0	0	0	0	0	0	0	0	0	0
Poland	92064	81829	79793	86285	66284	75219	62001	43555	64876	52005	70391
Slovenia	0	0	0	834	178	0	0	76	0	0	109
Total EUR-6 NC	**92064**	**81829**	**79793**	**87119**	**73254**	**78177**	**67297**	**47387**	**67746**	**55459**	**73012**
Bulgaria	0	0	0	0	0	0	0	0	0	0	0
Latvia	0	0	0	27749	26249	16218	17963	21112	13062	12528	13488
Lithuania	0	0	0	0	0	0	0	8645	7054	3699	1940
Malta	0	0	0	0	0	0	0	0	0	0	0
Norway	819159	849460	1179424	1468389	1426628	927747	945810	929447	1129469	1312539	1098807
Romania	14085	6202	4893	6699	211	157	82	114	108	43	3259
Slovakia	0	0	0	0	0	0	0	0	0		
Total EUR-7 NC	**833244**	**855661**	**1184318**	**1502837**	**1453088**	**944122**	**963855**	**959318**	**1149692**	**1328810**	**1117495**
Total EUR-28	**3309445**	**2851072**	**3294802**	**3880509**	**3348449**	**3193921**	**3385664**	**2913768**	**3254210**	**3286169**	**3271801**

Source: Database

The fish used in the production of fishmeal can be divided into three groups: (i) No use for human consumption (inedible feed grade fish - sandeel, capelin, Norway pout) (ii) Potential use for human consumption but mainly used for fishmeal because of limited outlets for human consumption (blue whiting, sprat) (iii) Primary use is human consumption but surplus may be used for fishmeal (herring, horse mackerel).

At the present time, the main sources for fishmeal production are made up of Norwegian pout stocks that can be caught in the North Sea, the capelin in the Arctic seas and the Blue whiting in the seas around the Faeroes and west of the British Isles.

Due to its high content of proteins with an extremely well balanced composition of amino acids, fishmeal is a highly regarded ingredient of compounded feeds for poultry and pigs, etc. Fishmeal constitutes about 2-8 percent of these feeds.

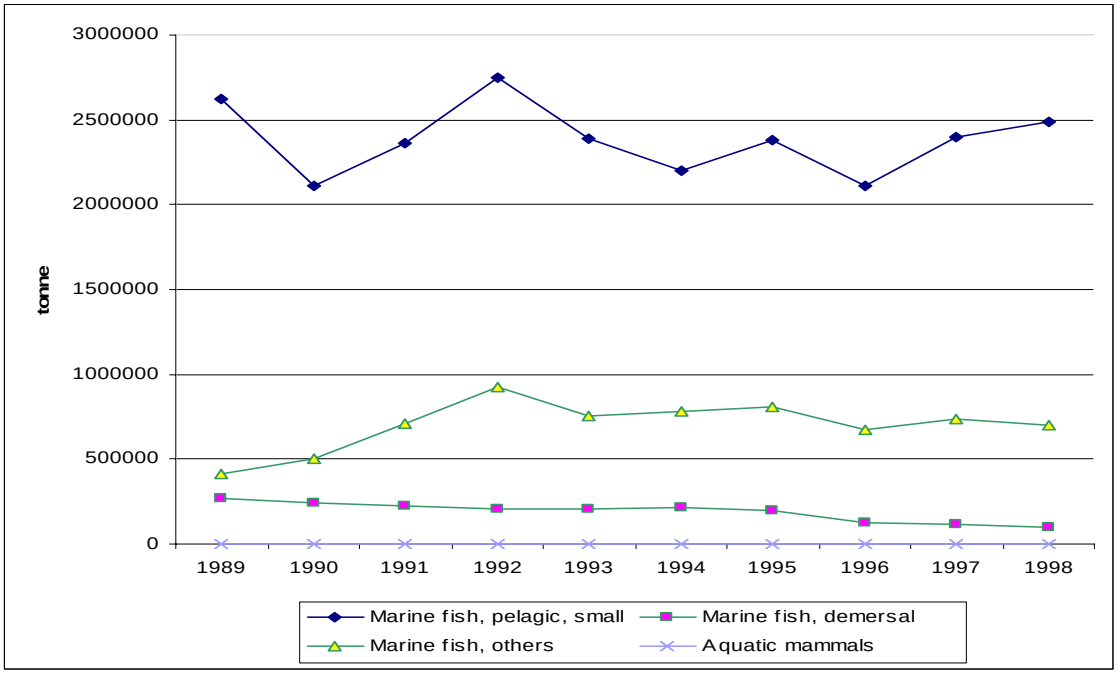


Figure Annex 5-14: Non-food use commodity production by FAO groups of species EUR-28 from 1989 to 1998 (t live weight)

There are seven main species used to produce fishmeal and fish oil in Europe (FIN, 2003):

- Sandeel: mainly caught in the North Sea with average landings of 800 000 tonnes per year.
- Norway pout: The status of the stock is mainly determined by natural processes and less by the fishery. So, captures vary from a few thousand tonnes to nearly a million tonnes.
- Sprat: Sprat is a short-lived species with large natural fluctuations occurring annually in stock biomass.
- Capelin: There are two capelin stocks: the Barents Sea capelin and the Icelandic capelin. Both of them are heavily dependent on the natural environmental conditions. Stock is healthy. Every year a precautionary quota is set up by ICES.
- Horse mackerel: Mainly caught in the North Sea, this species has been under pressure for many years but seems to recover.
- Blue whiting: Blue whiting stocks are receiving special consideration at the moment due to their low biomass.

- Herring: The herring fishery predominantly divides up between the North Sea (spawning in autumn and spring), Icelandic waters (spring and summer spawning) and the North East Atlantic (Norwegian spring spawning). North Sea spring spawners have been stable over the last five years but there are some indications that the stock is currently being harvested outside of biological limits. All other stocks were considered to be within safe biological limits with no indications of overfishing.

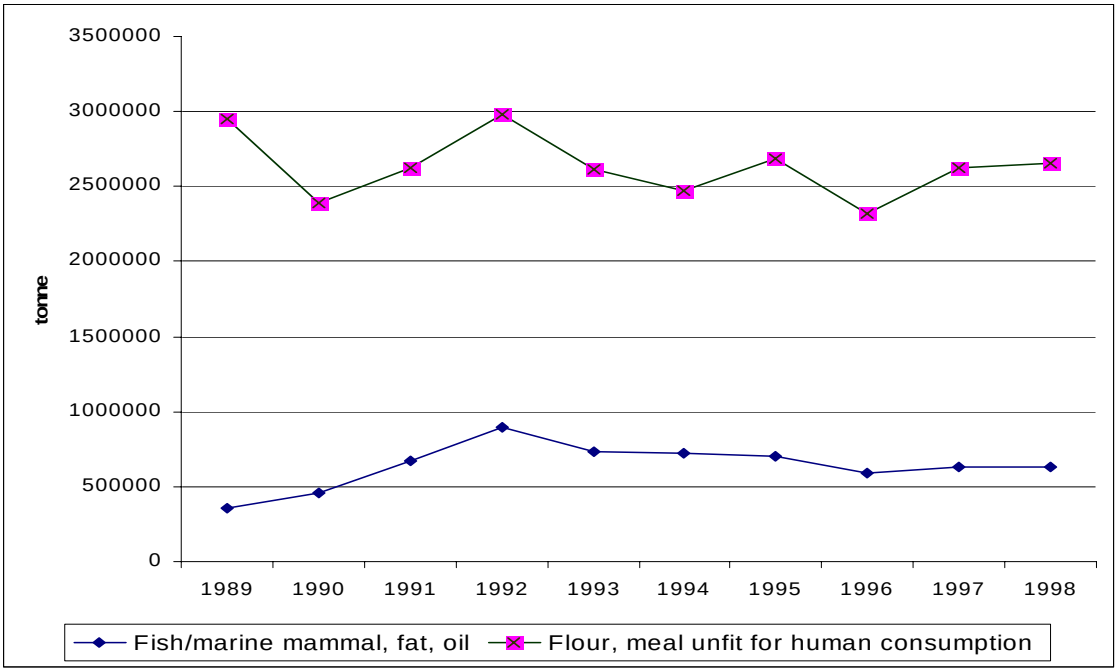


Figure Annex 5-15: Non-food use commodity production EUR-28 from 1989 to 1998 (t live weight)

Detailed tables on non-food-use commodity production are available in Annex 10.

Foreign Trade 1989–1998

Foreign trade during the1990s was characterized by strong growth in exports, together with more moderate growth in imports as intra-regional trade continued to increase. In the future, it is likely that increased consumption, linked with declining national resources, will lead to Europe's growing dependence on foreign suppliers.

Imports 1989–1998

Imports regulations

Third (non-EU) countries are classified into two categories. Particular account is taken of the third country legislation; of the organization and powers of the third country competent authority and inspection services; the actual health conditions (see Annex 8 for imports controls).

Countries (+ Norway and Iceland as members of the European Economic Area) included in List 1 are "harmonized" or "approved" countries (Anon., 2000d). This means that their legislation requirements are at least equivalent to those governing the EU domestic

production, and that an EU inspection team has audited the competent authority, which satisfied EU requirements. A specific decision has been adopted for each of those countries fixing specific import conditions, including the official recognition of the competent authority, a specific model of health certificate and a list of approved establishments (Anon., 2000e).

List 2 includes third countries that have given, at least on paper, enough guarantees concerning their inspection system and their legal sanitary requirements. But these countries have not yet been visited by an EU team of inspectors to audit the competent authority. After 2004, imports from non-approved countries will be banned. This list of countries, of which the United States is one, constitutes the so-called "pre-listed" or "pre-harmonized" group. Products imported from these countries may be subject to additional national legislation. Some Member States may request lists of approved establishments. A list may be fully accepted by one Member State, and partially rejected by another one. The US is one of the countries scheduled to be part of the first list by the end of 2003.

All other countries not mentioned in either List 1 or 2 cannot export any fish and fishery products to the European Union. If a third country, not listed on List 1 or 2, wants to export fish and fishery products to the EU, it has first to contact the European Commission to provide information on its legal system concerning controls on seafood establishments. Discussions and negotiations may lead to an official visit to the country by a team of EU inspectors who will make a recommendation on whether the country in question should be approved or not.

Overview 1989-1998

Between 1989 and 1998, imports to all 28 countries increased by 20 percent, from 10.2 million to approximately 12.5 million. Imports to the EU-15 accounted for 83 percent of this total. The principal importing countries were Germany (15 percent of total EUR-28), France (14 percent), Spain (10 percent) and the United Kingdom (10 percent).

EU-15 depends on the rest of the world for much of its fisheries products and imports come mainly from countries bordering the North Atlantic (Norway, Iceland, Faroes), some South American countries (Argentina, Ecuador, Chile), South East Asia (Thailand, India) and Africa. Russia, China and the United States are also significant suppliers. Norway has considerably increased its imports from Russia, generating a fall in trade with the EU-15 countries (PEE-CFCE, 1999).

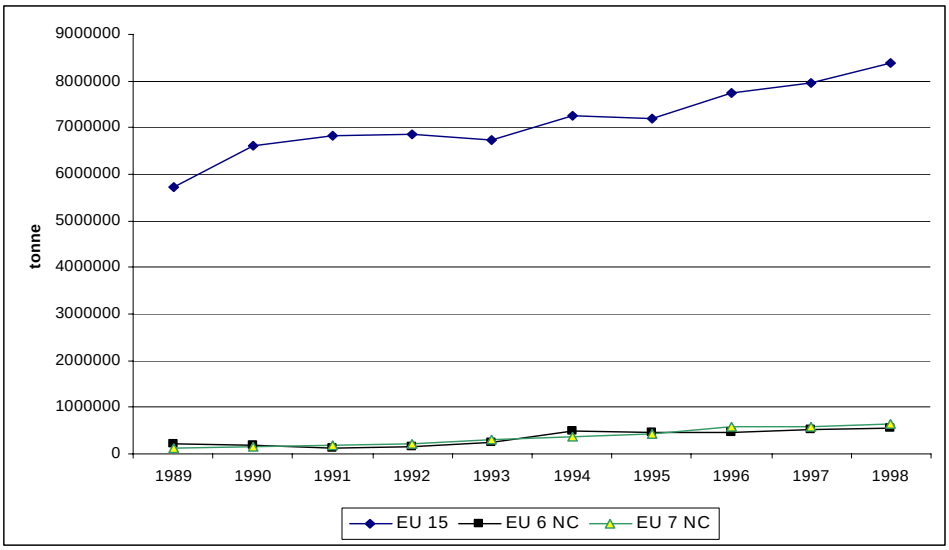


Figure Annex 5-16: Food use imports from 1989 to 1998

Imports for human consumption to the EU-15 rose from 61 percent of the whole in 1989 to 75 percent in 1998. For the EUR-28, imports for human consumption rose from 59 percent of the whole in 1989 to 76 percent in 1998. In summary, imports of products for human consumption have risen sharply over the last decade, whilst the import of products for non-human consumption has fallen in all EUR-28 countries except Norway and France.

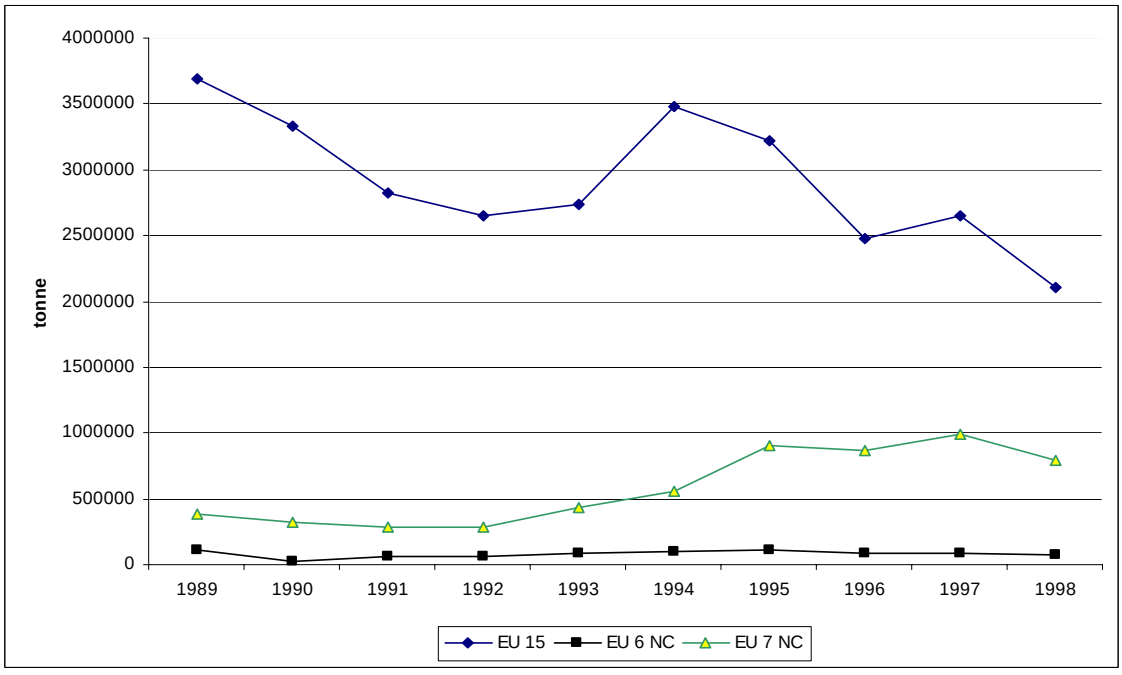


Figure Annex 5-17: Non-food use imports from 1989 to 1998

Food use imports 1989-1998

The value of the EU-15 food-use imports from foreign countries was around 10 billion € in 1998. The main suppliers of the EU-15 are Norway (18 percent of the total), Iceland (7.5 percent) Thailand (5), Russia (4 percent), United States (4 percent) and Morocco (4 percent).

France is the largest importer of products for human consumption (16 percent of total EUR-28 for human consumption), followed by Germany (14 percent), Spain (12 percent) and Italy. With respect to products for non-human consumption, Norway is the principal importer (25 percent of total EUR-28 for non-human foodstuffs), followed by Germany (19 percent) and the United Kingdom (15 percent).

Table Annex 5-6: Food use imports per country from 1989 to 1998

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	64981	67563	68862	78304	75658	93781	76872	91615	88920	90060	79662
Belgium-Luxembourg	236876	267826	259439	271333	257635	303940	322568	300029	347769	360938	292835
Denmark	370473	410065	407891	449997	452784	555624	526430	559828	571457	606866	491142
Finland	73388	68736	67506	65249	68940	86355	51975	62896	68571	68009	68162
France	1174013	1324913	1328477	1314559	1272085	1297612	1352657	1397788	1366505	1495849	1332446
Germany	800537	958771	1024362	1043666	1034482	1195067	1172412	1182576	1232062	1331055	1097499
Greece	90564	90554	86161	83698	84722	90010	99005	116127	132963	152477	102628
Ireland	35416	53604	46673	46034	34460	25262	30874	37324	39231	44194	39307
Italy	802757	832747	881899	836249	822661	842038	802638	892342	896853	954835	856502
Netherlands	348397	437419	513539	533575	478677	538316	568080	568231	601000	586029	517326
Portugal	358815	414679	454721	425083	434825	449841	470810	503292	494235	513342	451964
Spain	673796	881349	947350	862292	908014	923416	887468	1075112	1144060	1176660	947952
Sweden	109161	116566	116851	124137	118389	146840	159245	194162	212170	216680	151420
United Kingdom	570922	677201	637838	710515	676383	720555	678349	767230	764630	783954	698758
Total EU-15	**5710096**	**6601994**	**6841571**	**6844691**	**6719717**	**7268658**	**7199382**	**7748552**	**7960426**	**8380949**	**7127604**
Cyprus	9577	9694	9993	12725	11548	12147	14282	12181	12556	14647	11935
Czech Republic					55103	76622	73668	84835	80828	74944	74333
Estonia					6974	26762	30192	31447	75087	79173	41606
Hungary			17398	16182	18300	22207	20867	19971	23842	26384	20644
Poland	214120	167037	98399	130145	130929	324154	298359	297866	319908	356736	233765
Slovenia				9050	11916	12753	13855	14440	12951	13351	12617
Total EUR-6 NC	**223697**	**176731**	**125789**	**168102**	**234769**	**474645**	**451223**	**460741**	**525172**	**565235**	**340610**
Bulgaria					5637	6597	9481	4213	16963	21450	10724
Latvia				7344	12568	35865	37582	52966	68658	44511	37071
Lithuania				1976	7734	48324	44027	104689	110218	106787	60536
Malta	7213	4400	6375	7791	6279	7504	8575	8991	10444	10326	7790
Norway	88106	113824	190492	206386	243671	214504	271070	325723	338390	367196	235936
Romania	11983	27560	1840	1737	8564	23536	10630	28551	23420	54237	19206
Slovakia					31541	35981	35200	46768	26099	26848	33740
Total EUR-7 NC	**107303**	**145784**	**198707**	**225234**	**315994**	**372312**	**416565**	**571901**	**594193**	**631355**	**357935**
Total EUR-28	**6041095**	**6924509**	**7166067**	**7238027**	**7270479**	**8115616**	**8067170**	**8781195**	**9079791**	**9577539**	**7826149**

Source: Database

The principal species groups imported for human consumption are shrimp, salmon, tuna and cod:

- Salmon is generally imported fresh or frozen, with the vast majority coming from Norway, which exports nearly two thirds of its production to the EU-15. Imported processed salmon generally originates from the United States and Canada (Lem and Di Marzio, 1996b).

- Much of the fresh or frozen tuna originates from South American countries, but Spain and France are also significant suppliers. The main imported product to the EU-15 is processed tuna of which the majority comes from the Ivory Coast and Thailand. The main markets for imported tuna are in the United Kingdom and France.

- The principal producers of fresh and frozen cod are Norway, Russia and Iceland. Dried or salted cod is also produced by Norway and Iceland, of which Portugal is the principal importer.

- Shrimp are the largest imported shellfish group, with Spain, Denmark and France as the principal importers. Crayfish and lobsters also form a significant share of imported shellfish with France the main market.

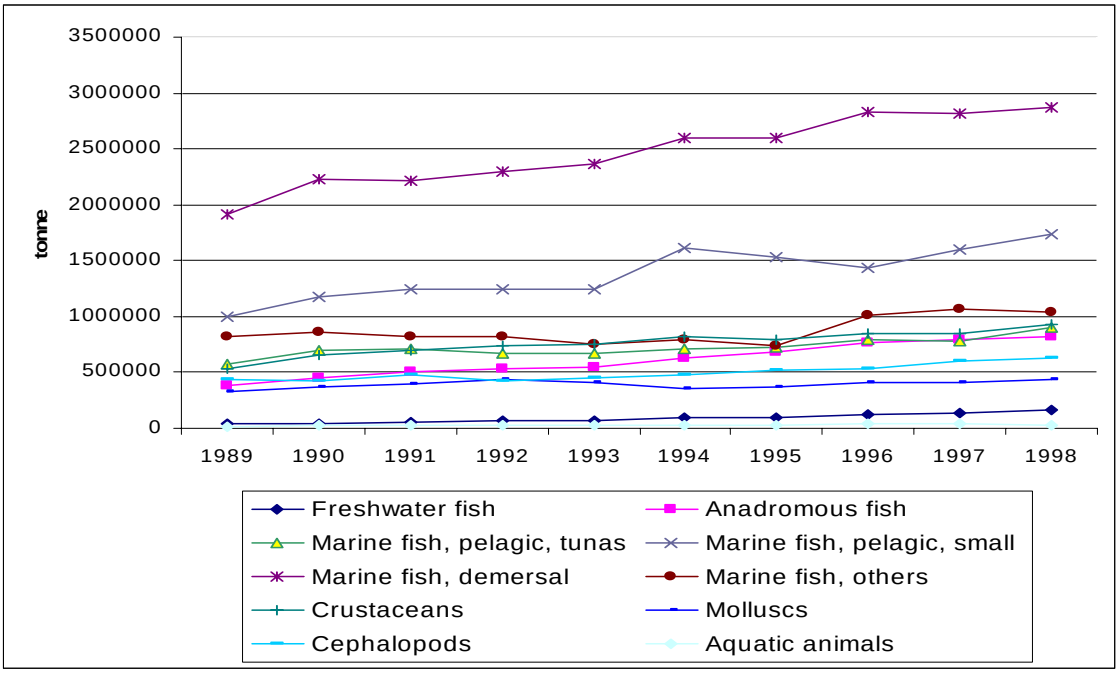


Figure Annex 5-18: Food use imports by FAO groups of species EUR-28 from 1989 to 1998

Of the imported molluscs, cuttlefish, octopus and squid are the most significant with Spain and, to a lesser extent, India and Thailand the principal suppliers to the larger markets such as Spain and Italy. Mussels provide considerable intra-European trade between exporters such as the Netherlands, Spain, Denmark and importers such as France and Italy. France is the main producer of oysters, of which Italy is the main importer while European imports of scallops come largely from China, with France the main importer.

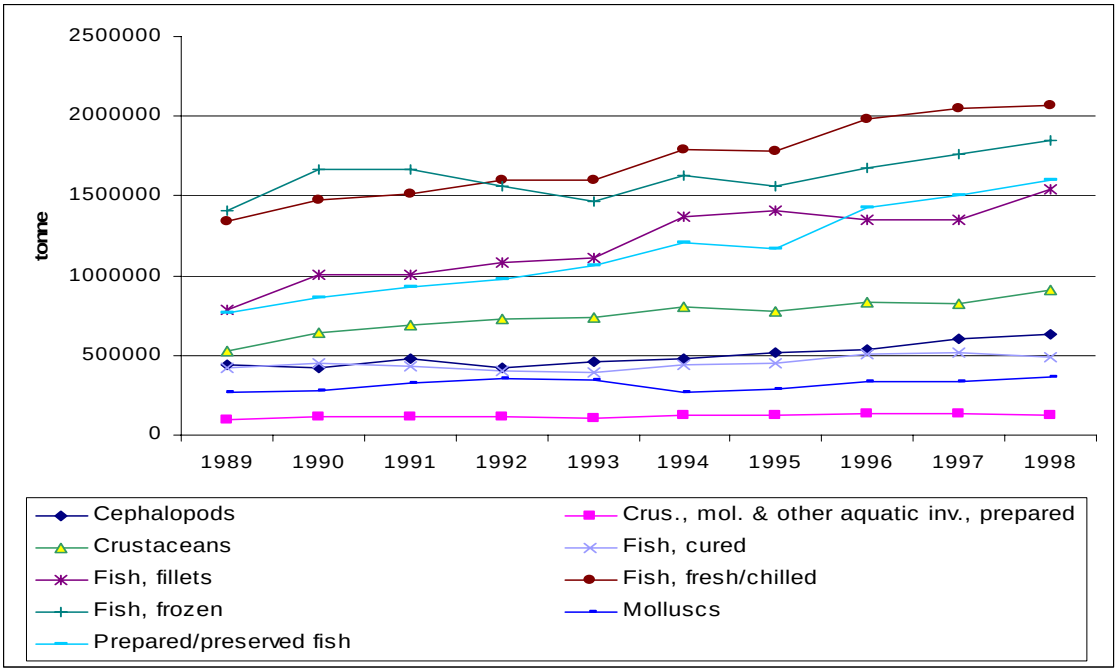


Figure Annex 5-19: Food use imports by OECD groups of commodities EUR-28 from 1989 to 1998

Among other prepared and canned fish, herring species are the principal product (Motte, 1999). Most of these products are directed to Germany, with Poland the principal supplier. Processed sardines are imported from Morocco and to a lesser extent, Peru and Namibia.

Imports of fresh, breaded or frozen fillets also represent significant volumes of traded products. The principal importers are Italy, Germany and France, with the major suppliers being Germany, Denmark and the Netherlands.

Detailed tables of imports by FAO groups of species and by OECD groups of commodities are available in Annex 14.

Non-food use imports 1989-1998

EUR-28 imports of non-food use products have decreased over the last decade. The volume has passed form 4.1 Mt to 3 Mt (-27 percent). The most spectacular decrease is within the EU-15 where imports dropped by 45 percent to reach a level of 2 Mt in 1998. EUR-6 NC maintained a stable volume of imports during the same period with an annual average of 80 000 tonnes. EUR-7 NC, along with Norway, increased its level of imports to support the growth of aquaculture production. Imports have more than doubled in 10 years reaching a million tonnes in 1997.

Imports are mainly fishmeal and fish oil composed of small pelagic species and other fish for reduction (Norwegian pout, sandeels). These two kinds of commodities have had a common evolution during the period 1989-1998. From 1989 to 1992, the decreased consumption of the EU-15 was greater than the aquaculture demand in Norway: slopes are decreasing. Between 1993 and 1995, the boom in salmon production in Norway more than compensated for the diminishing use of fishmeal and oil in the EU-15: positive sense of slopes. During the last period, 1996-1998, the demand occasioned by the growth of Norwegian aquaculture was not sufficient to maintain overall imports at the 1995 level. Restrictions on inputs in Norway have

also contributed to the reduction of fishmeal uses for salmon feeding purposes.

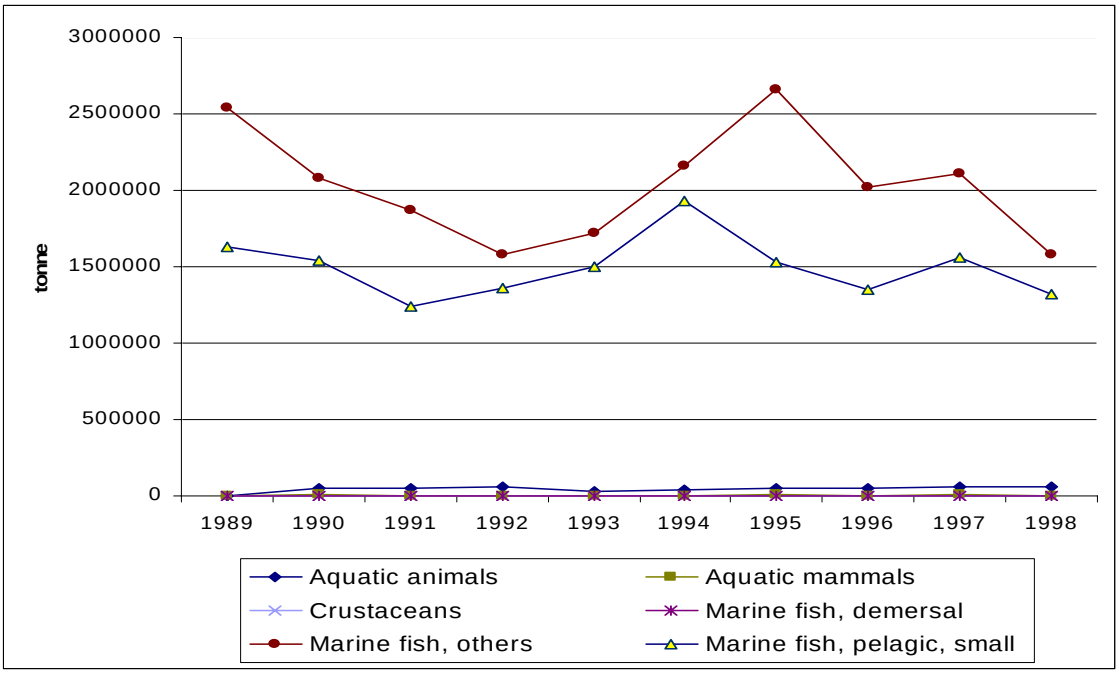


Figure Annex 5-20: EUR-28 non-food use imports per species from 1989 to 1998

The main provider countries of the EU-15 and Norway are Iceland, Chile and Peru. On average (1995-1997), Iceland, with more than 1 Mt of exports (live weight equivalent) coming from the capelin catches, exported 95 percent of its production to the EU-15 and Norway and 5 percent to North America. Chile, which produces about 5 Mt a year of fishmeal, exported 20 percent of its production to EU-15 and Norway. Peru, with 8 Mt on average (1995-1997) of fishmeal production form anchovy, exported 1.8 Mt to EU-15 and only a few thousand tonnes to Norway. Peru is the main fishmeal provider of the EUR-28.

See annex 10 for detail tables per country, by FAO groups of species and by OECD groups of commodities.

Exports 1989-1998

Between 1989 and 1998, there was a significant increase in exports from the EUR-28 countries, growing from 7 million to 10.7 million tonnes. Norway was the biggest exporter, representing almost 21 percent of the total exported in 1998 (2.4 million), followed by the Netherlands (10 percent), Denmark (9 percent), Spain, Germany and the United Kingdom. This growth in exports from EUR-28 countries is largely attributable to growth in Norway, where trade more than doubled between 1989 and 1998 (Faehn & Grunfeld, 1999). Spanish and English exports also demonstrated strong growth during the period, with increases of 85 percent and 48 percent respectively.

The figure below presents the exports of food use commodities from the EUR-28 countries. The significant increase of the food use exports is due to three factors. The first one is the facilitation of the buying process in the EU through electronic auctions. The second one is the diminution of the transport costs inside the EU. The third one is the increasing demand from outside of Europe, i.e. Japan.

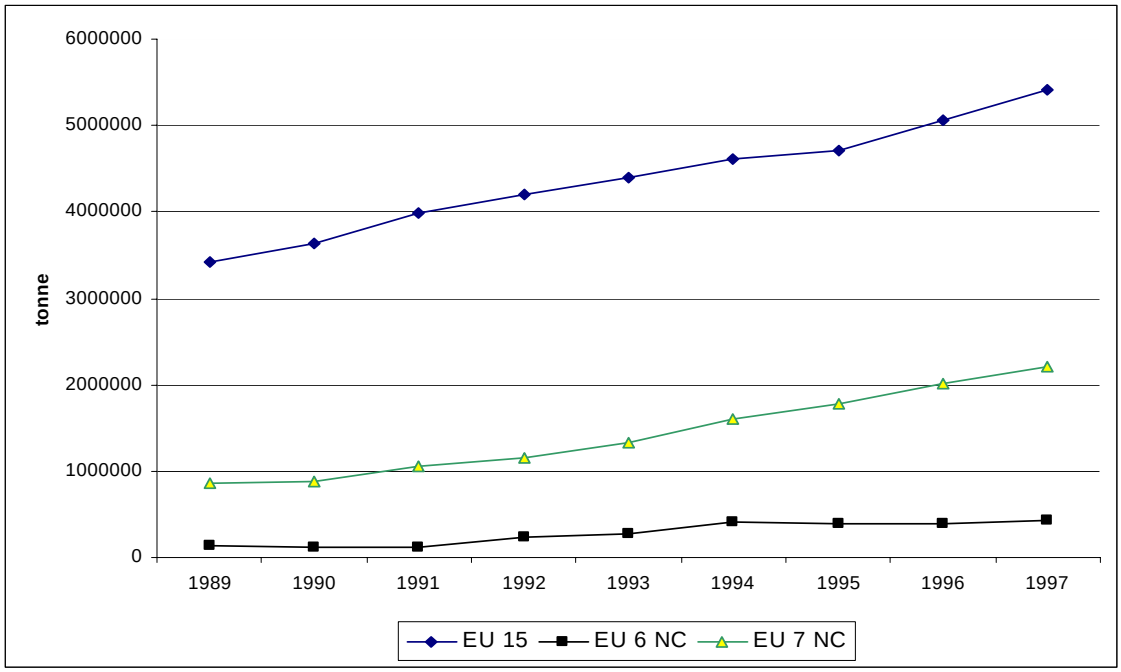


Figure Annex 5-21: Evolution of food use exports from 1989 to 1998

Non-food use exports didn't follow the same pattern as food-use exports in the sense that they declined after 1996. The majority of EU-15 non-food use exports are within the EU or to Norway. The growth of the aquaculture in Norway didn't sustain the EU-15 exports after 1996, since Norway significantly increased its production of fishmeal during the same period.

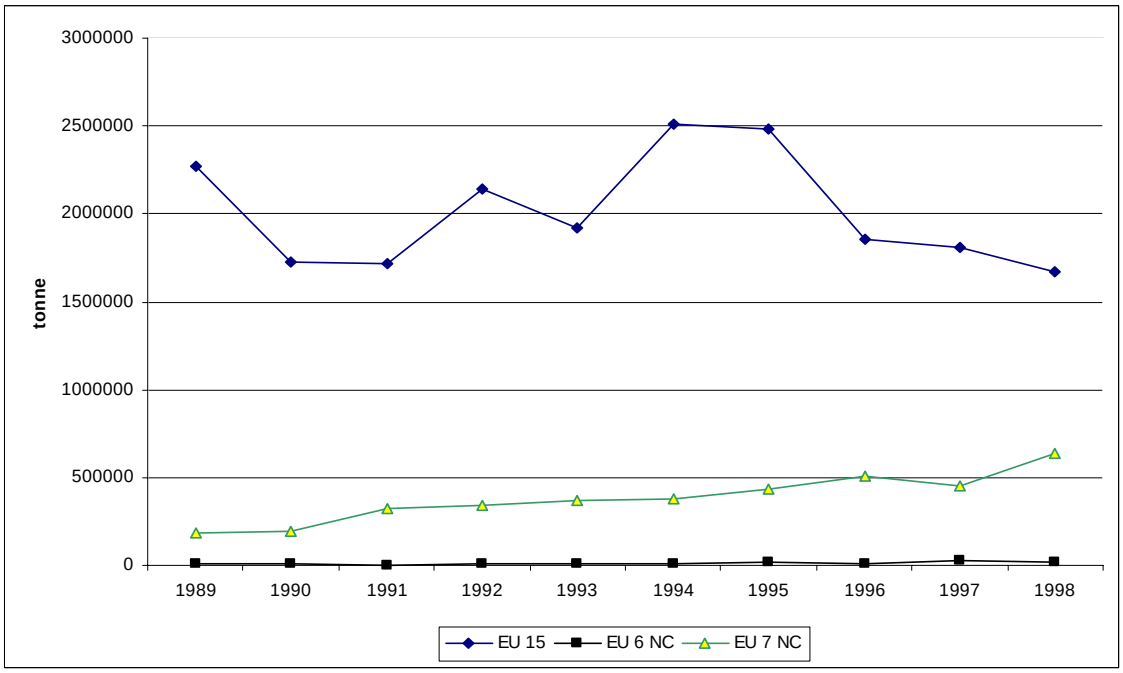


Figure Annex 5-22: Evolution of non-food use exports from 1989 to 1998

Food use exports 1989-1998

Main EU-15 exporters are Denmark, Spain and the Netherlands. Most exports from the EU-15 are directed to neighbouring countries, but more recently Asian countries (particularly Japan) have become major customers for high quality products. Exports from the EU-15 group to Eastern European countries, already weak at the end of the 1980s, dropped still further. However, Norway increased its exports to Russia during this period.

Table Annex 5-7: Food use exports per country from 1989 to 1988

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	841	982	1126	2128	2103	2570	7212	4908	3980	3837	2969
Belgium-Luxembourg	67844	76918	73282	69227	78620	105033	111617	118661	148043	159867	100911
Denmark	652140	699833	778078	791831	803457	840819	779016	856771	893763	915058	801076
Finland	3969	4509	2070	3104	3122	8648	8457	13499	21336	17243	8596
France	343448	380493	372948	396751	427514	460786	472164	475354	479346	453746	426255
Germany	291681	336711	401178	389339	369959	413582	420141	503744	502101	508974	413741
Greece	35135	24371	23858	40705	47141	38366	44960	65716	86958	87218	49443
Ireland	215176	219571	297172	327866	385576	294215	406753	403081	381272	379050	330973
Italy	132547	118158	119431	133829	143165	165943	146570	170513	168334	166223	146471
Netherlands	676251	774664	771333	815128	806036	826102	782924	806869	942844	932983	813513
Portugal	89631	95007	105128	95388	106913	107323	129095	116119	122187	123076	108987
Spain	424085	397202	429262	346632	453506	517828	579379	692867	779422	823799	544398
Sweden	139713	145075	135930	192727	201873	247702	244547	280173	304342	325676	221776
United Kingdom	356731	363238	468138	594962	566768	591924	584809	545502	584917	667737	532473
Total EU-15	**3429192**	**3636732**	**3978933**	**4199617**	**4395751**	**4620843**	**4717644**	**5053778**	**5418844**	**5564487**	**4501582**
Cyprus	14	12	929	446	1324	369	422	459	296	473	474
Czech Republic					13263	16349	13841	14417	10637	12144	13442
Estonia					91822	125853	127948	128360	178220	188781	140164
Hungary			3601	2383	1750	3051	3119	3316	2953	4501	3084
Poland	133738	124875	121864	220928	154092	254860	237791	241430	239808	187303	191669
Slovenia				4905	3674	4026	2539	3643	3188	3010	3569
Total EUR-6 NC	**133752**	**124887**	**126394**	**228662**	**265925**	**404508**	**385660**	**391626**	**435102**	**396213**	**289273**
Bulgaria					9121	9950	8264	10238	7685	4332	8265
Latvia				38532	37213	60277	82107	132315	146648	97368	84923
Lithuania				20610	8566	27479	61273	80099	72879	87451	51194
Malta	83	924	615	434	1274	1014	643	1398	1594	1599	958
Norway	855692	886050	1062742	1097007	1272758	1498873	1624889	1794852	1981224	1821960	1389605
Romania	9655	54	241	402	29	182	6	278	638	1359	1284
Slovakia					118	325	508	753	887	1047	606
Total EUR-7 NC	**865430**	**887028**	**1063598**	**1156987**	**1329078**	**1598100**	**1777690**	**2019932**	**2211554**	**2015116**	**1492451**
Total EUR-28	**4428373**	**4648647**	**5168925**	**5585266**	**5990754**	**6623451**	**6880994**	**7465336**	**8065500**	**7975816**	**6283306**

Source: Database

Exports of human consumption products increased from 65 percent of the total in 1989 to 75 percent in 1998. Human consumption products in the EU-15 also represented 75 percent of trade in 1989. During the 1990s, exports of human consumption products from the 28 countries increased by 75 percent, while exports for non-human consumption only increased by 7 percent. Denmark is the largest exporter of product for non-human foodstuff (48 percent of the total non-human food in 1998) while Norway is the largest exporter for human consumption (22 percent of the total human consumption in 1998).

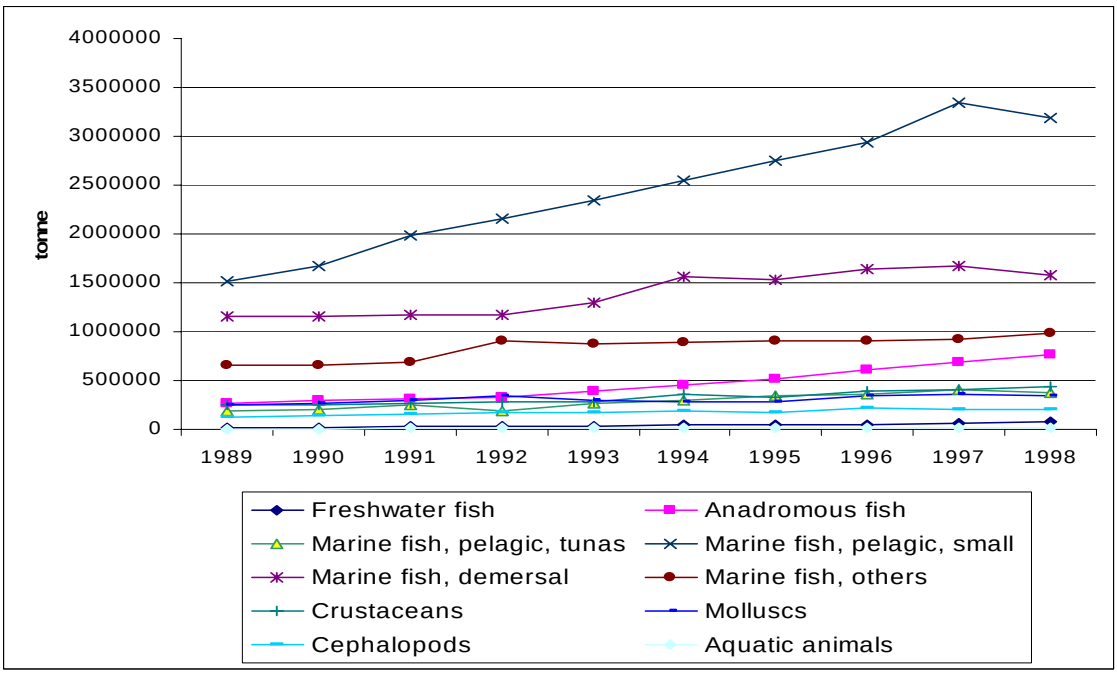


Figure Annex 5-23: Food use exports by FAO groups of species EUR-28 from 1989 to 1998

Exports from Spain and the Netherlands are in some cases re-exportations of fish of Norwegian (cod, salmon) or Argentinean (hake) provenance. Frozen fish is the main category of their exports.

Exports for human consumption are comprised mainly of salmon, cod, herring, shrimp and prawn species. Other exports consist of saithe, haddock, mackerel, tuna (mainly canned) and hake (Real, 2000).

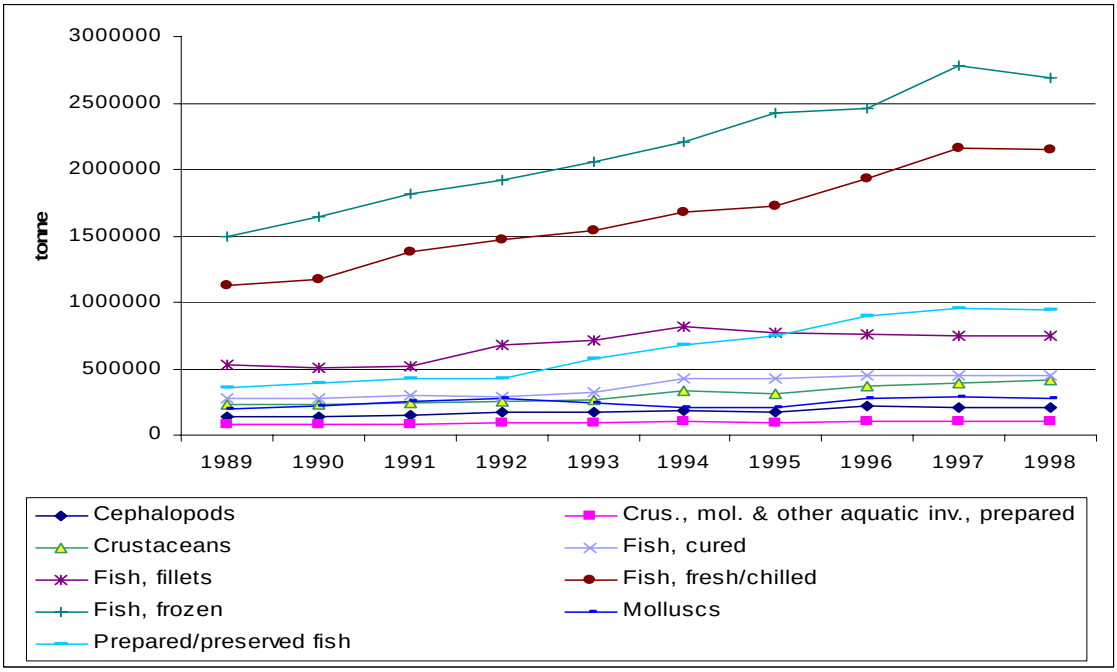


Figure Annex 5-24: Food use exports by OECD groups of commodities EUR-28 from 1989 to 1998

Detailed tables of food use exports by FAO groups of species and OECD group of commodities are presented in Annex 14.

Non-food use exports 1989-1998

Exports of non-foodstuff from the EU are mainly driven by the level of production, and to a lesser extent by imports from Iceland, Chile and Peru, and their subsequent re-exportation. The value of small pelagics and demersal fish for reduction (marine fish, others in the graph below) fluctuated in parallel between 1989 and 1998, converging at 1.2 Mt at the end of the period.

Denmark and Germany were the two main EU-15 countries that exported fishmeal during the period 1989-1998, exporting on average 65 percent and 15 percent respectively. Danish exports were oriented first to Norway, Italy, Netherlands, Greece, Thailand and Japan while Germany exported mainly to its neighbouring countries like Hungary, France, Netherlands, Austria, and Belgium. Norway on its side had exports oriented quasi-exclusively to the EU-15, with more than half of it going to the UK.

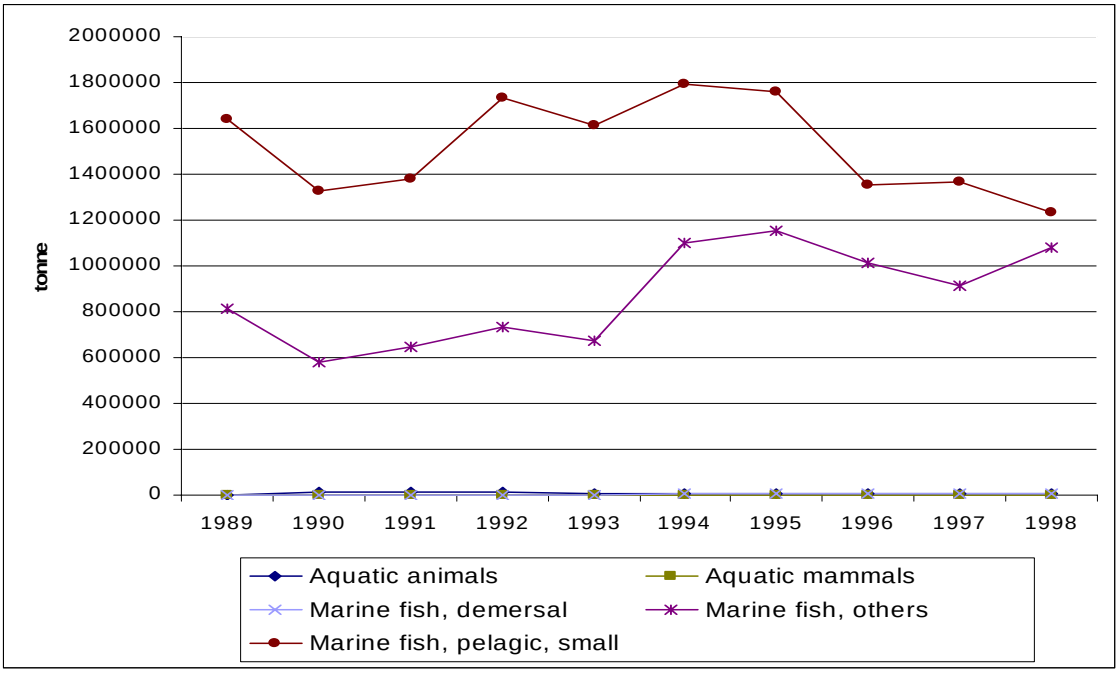


Figure Annex 5-25: EUR-28 Exports of non-food use products from 1989 to 1998

See annex 10 for detail tables per country, by FAO groups of species and by OECD groups of commodities.

Intra-EU Trade 1989-1998

The main trade flows within the EU are directed north to south. As the major centres of primary production, the UK, Denmark and the Netherlands export large quantities of primary and processed products to southern states within the EU where consumption rates and demand are particularly high (Corre *et al*., 1999). France performs a similar function but often acts as an intermediary, importing products from northern European countries such as the UK and Denmark, processing them and then exporting them to southern European customers such as Spain or Italy. Trade flows between the southern EU countries are less significant, the most important being the export of tuna products from Spain to Italy.

Whereas trade between EU and non-EU states may reflect political links and historic trade flows, new trading relationships that have evolved within the EU may reflect contemporary trends in production, processing and demand between states (Filhol, 1995). Several key bilateral trading links have evolved in this way over the last decade. In general, analysis of bilateral trade within the EU in the 1990s shows France, Spain and, to a lesser extent, Italy to be the major recipients of products from the major exporters in the EU (France, Spain, the UK and Norway).

Overall, intra-EU trade represents 60 percent of the total EU trade, which means that only 40 percent of what is exported or imported is leaving or coming into the EU-15 (Paquotte, 1999a). The intra-trade within the former Soviet countries is also important and accounts for more than 80 percent of the trade flows. The trade route from the Baltic States and to a lesser extent from Poland to Russia is still the one that drains 80 percent of the products.

Food use net supply 1989-1998

The net supply of aquatic products is the sum of total production and imports minus exports and can be divided into net supply for human consumption or food use (FU) and for non-human foodstuff or non-food use (NFU).

For the 28 countries combined, the net supply of fish products (FU and NFU) in 1998 was approximately 14 million tonnes. This volume is very similar to that in 1989. The net supply for human consumption, which was equivalent to 65 percent of the total in 1989, currently represents approximately 75 percent of the total. This increase is due to a growth in human consumption up to 10 percent over the period, and to a fall in the supply of non-human foodstuff by 20 percent.

Food use net supply by country from 1989 to 1998

Currently, with 15 member states, Europe comprises a very large market of approximately 370 million consumers of relatively high income. In 1998, apparent consumption or net supply was approximately 9.5 million tonnes with six countries (France, Spain, Italy, United Kingdom, Germany and Portugal) representing 84 percent of the overall consumption.

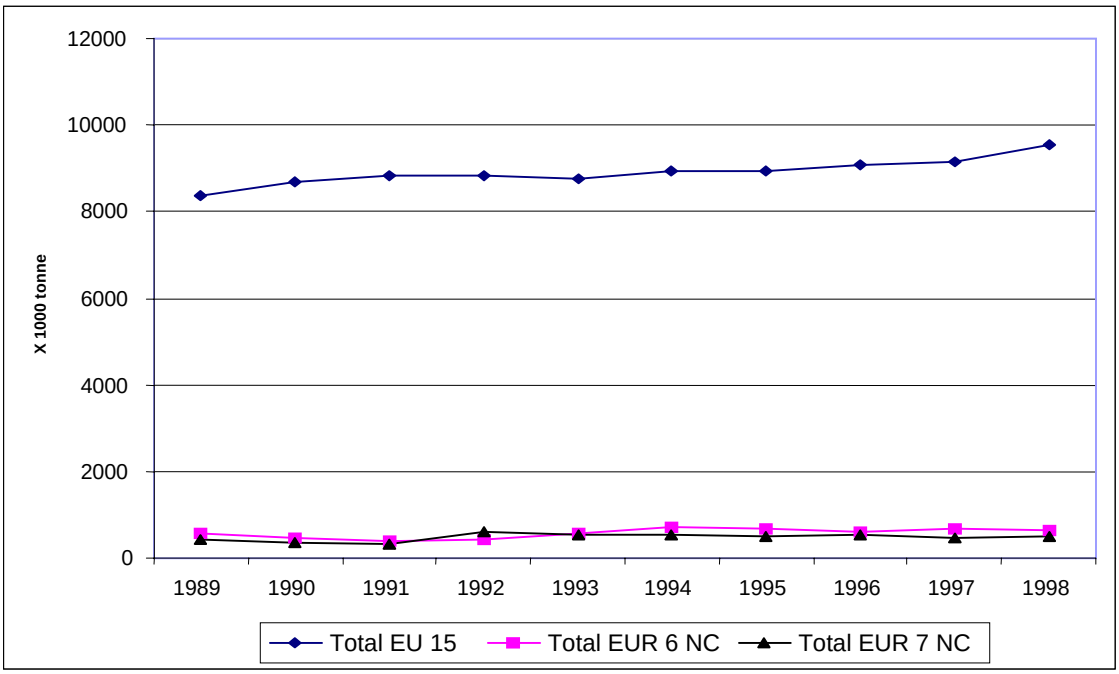


Figure Annex 5-26: Food use net supply, EU-15, EU 6NC and EUR-7 NC from 1989 to 1998 (live weight)

Apparent consumption increased in the 1980s to stabilize around its current level of 9 million tonnes. During the 1980s, the market developed by 21 percent in volume, from 7 million tonnes to approximately 8.5 million tonnes in 1989. This increase mirrored the development of world production that increased by more than a third from 75 to over 100 million tonnes over the same period. Since 1989, the net supply has been stable at around 9 million tonnes (except in 1998 when it was at 9.5 million tonnes). By contrast, the actual average unit value of product consumed decreased in the 1990s, whereas the nominal value in 1995 was equivalent to the value a decade earlier.

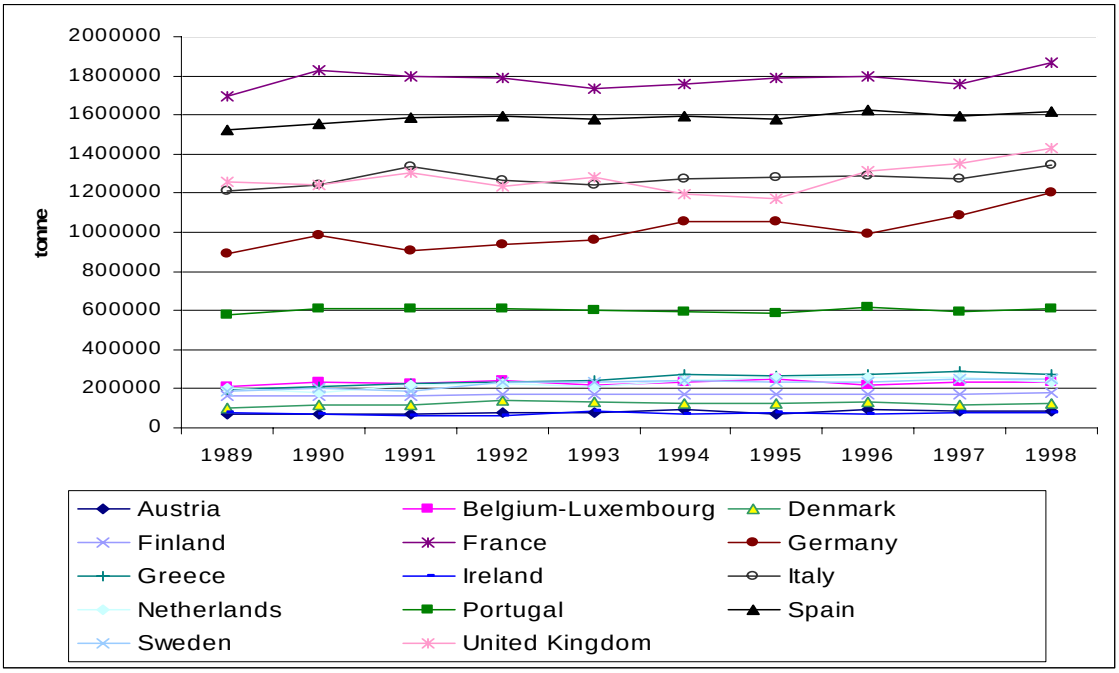


Figure Annex 5-27: Food use net supply EU-15 from 1989 to 1998 (t. live weight)

At the end of the 1980s and the beginning of the 1990s, the separation of many Eastern countries from the Soviet regime led to a dramatic drop in catches: difficulties of accession to coastal states' fishing grounds (West Africa and Russia mainly), suppression of subsidies (especially fuel). The net supply of these Eastern Europe countries diminished consequently. The two figures below show the net supply of fish for respectively the 6 and 7 new countries.

In 1998, France, Spain, the United Kingdom and Italy recorded the most significant net supply of human consumption. Norway, the United Kingdom, Germany and Spain recorded the largest net supply of non-human consumption foodstuffs in 1998.

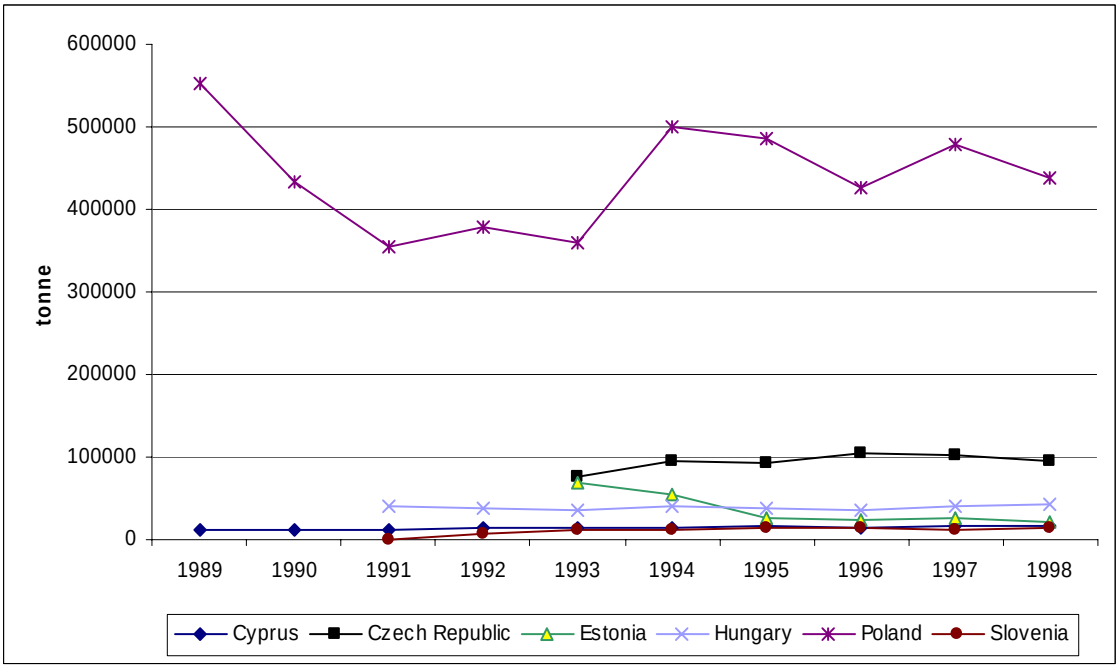


Figure Annex 5-28: Food use net supply of the EUR-6 new countries (t. live weight), from 1989 to 1998

In the mid-90s, the transition to a market economy led the Baltic States to implement reforms aimed at developing aquaculture, and the capture fisheries in the Baltic Sea. These developments slowed down the yearly rate of net supply lost.

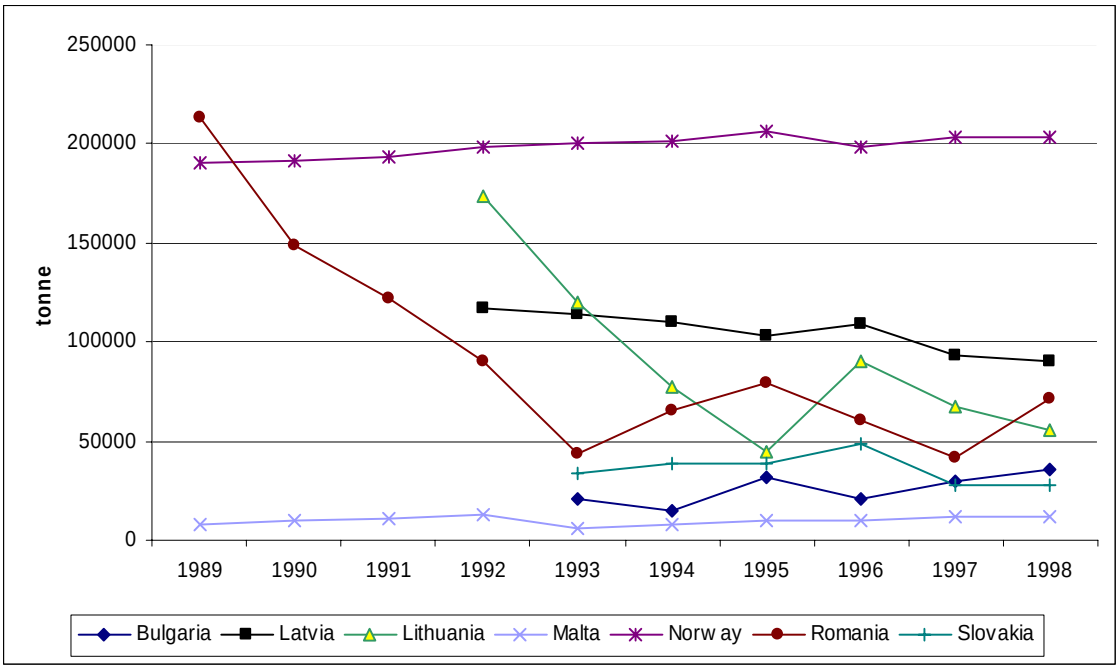


Figure Annex 5-29: Food use net supply of the EUR-7 new countries (t. live weight), from 1989 to 1998

Romania didn't have of the opportunity to develop new fishing grounds: its net supply decreased sharply from 200 000 tonnes in 1989 to only 75 000 tonnes in 1998. Norway maintained its 200 000 of fish supply over the period 1989-1998.

Food use net supply by OECD type of commodities 1989-1998

Over the period 1989-1998, the net supply of fish for human consumption at the EU-15 level showed 3 tendencies:

- stable: crustaceans, molluscs and other aquatic products prepared, fish cured, fish fresh/chilled, cephalopods, molluscs, crustaceans;
- increase: fish fillets and prepared/preserved fish;
- decrease: fish frozen.

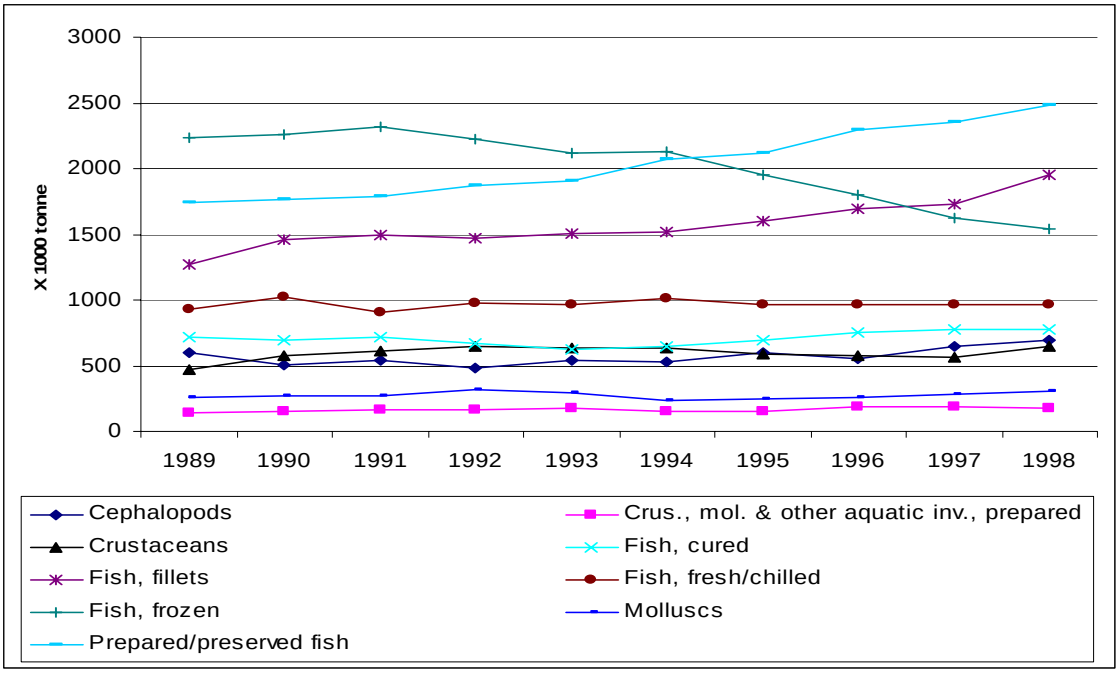


Figure Annex 5-30: EU-15 food use net supply by OECD type of commodities (live weight)

As the figure below shows, the 3 tendencies we can observe for the EUR-6 NC are mainly:

- stability, with certain fluctuations of cephalopods, crustaceans, molluscs and other prepared aquatic invertebrates;
- erratic fluctuation of fish fillets and frozen fish which in 1998 were more or less at the same level as in 1990;
- an increase in the prepared/preserved fish net supply.

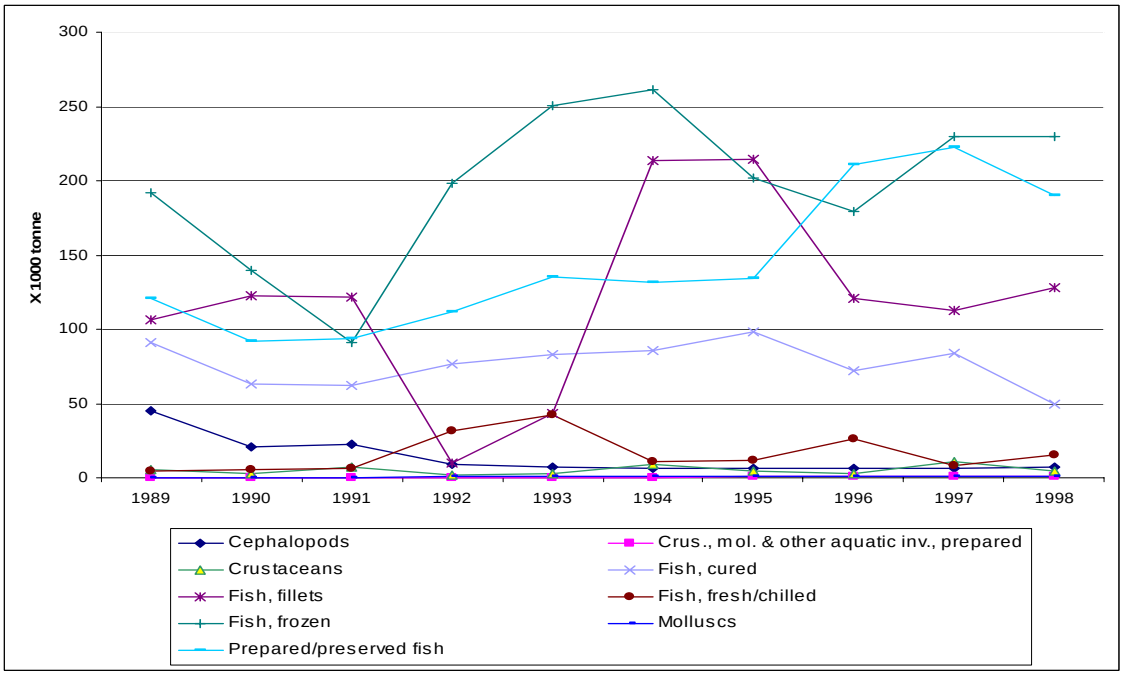


Figure Annex 5-31: EUR-6 NC Commodities net supply (live weight)

Regarding the EUR-7 NC, the main observed tendencies are:

- light increase of prepared/preserved fish net supply and frozen fish (with an important augmentation in 1992 and a decrease since 1996);
- important increase of the fish fillet net supply, especially from 1997 to 1998;
- stability of the other commodities.

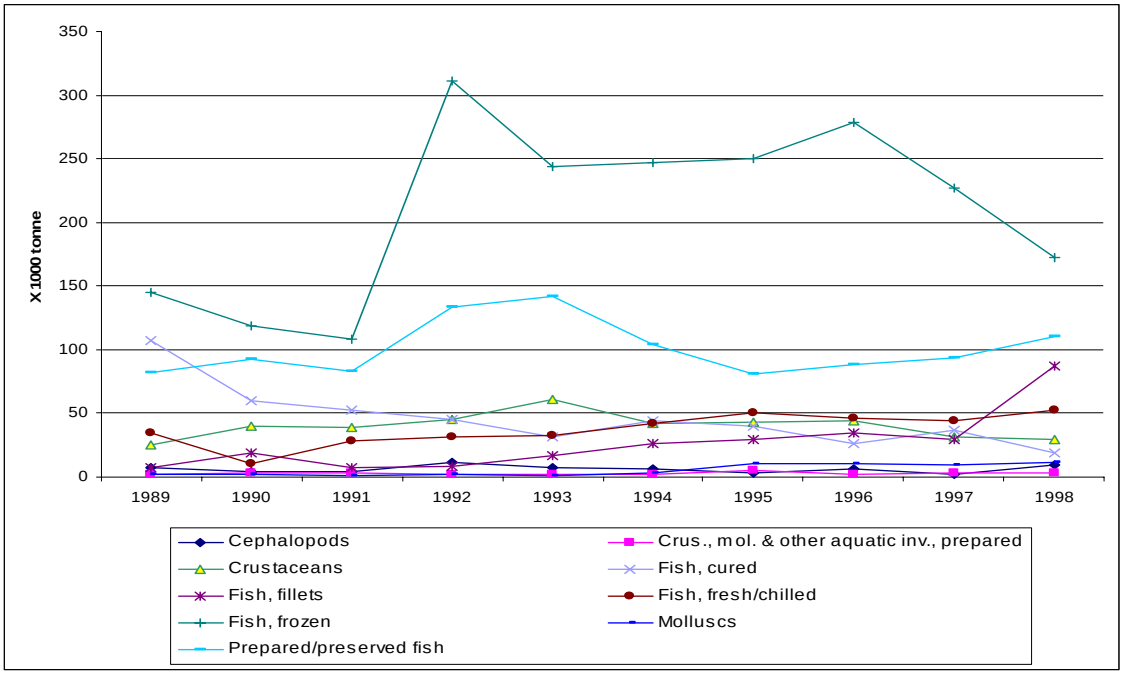


Figure Annex 5-32: EUR-7 NC Commodities net supply (live weight)

The table below shows the net supply by FAO groups of species (net supply in net weight is presented in Annex 8).

Table Annex 5-8: Food use net supply in live weight by FAO groups of species from 1989 to 1998

(x 1000 tonnes)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Freshwater fish	39	43	34	35	49	63	72	95	95	111	64
Diadromous fish	432	495	540	560	517	581	623	670	688	700	581
Marine fish, pelagic, tunas	1416	1562	1435	1451	1417	1393	1463	1461	1444	1595	1464
Marine fish, pelagic, small	1430	1395	1412	1405	1360	1482	1420	1287	1247	1149	1359
Marine fish, demersal	2133	2241	2253	2204	2265	2321	2182	2321	2282	2357	2256
Marine fish, others	1439	1461	1551	1552	1516	1522	1571	1666	1700	1799	1578
Crustaceans	493	605	640	697	699	665	615	605	598	678	630
Molluscs	372	383	395	422	390	354	355	391	409	429	390
Cephalopods	597	503	544	487	538	526	603	554	642	694	569
Aquatic animals	15	17	18	11	15	14	19	24	32	21	19
Total EU-15	**8365**	**8704**	**8822**	**8824**	**8767**	**8923**	**8922**	**9075**	**9137**	**9533**	**8907**
Freshwater fish	0	0	18	20	39	29	32	31	37	35	24
Diadromous fish	1	1	1	2	2	2	3	3	7	8	3
Marine fish, pelagic, tunas	1	1	1	3	5	5	8	9	10	14	6
Marine fish, pelagic, small	93	66	60	162	171	282	334	140	157	205	167
Marine fish, demersal	5	4	5	7	10	20	14	33	39	61	20
Marine fish, others	415	350	292	234	327	363	269	394	408	290	334
Crustaceans	5	2	7	2	3	9	5	2	11	5	5
Molluscs	0	0	0	1	1	1	1	1	1	2	1

Cephalopods	45	21	23	9	7	7	6	7	6	7	14
Aquatic animals	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TotalEUR-6 NC	**565**	**446**	**406**	**440**	**564**	**718**	**672**	**619**	**676**	**628**	**573**
Freshwater fish	0	0	0	0	5	6	6	6	4	4	3
Diadromous fish	41	44	28	13	17	9	4	3	23	15	20
Marine fish, pelagic, tunas	1	8	7	7	4	5	7	6	6	8	6
Marine fish, pelagic, small	4	2	9	47	37	123	85	193	131	158	79
Marine fish, demersal	3	9	41	21	3	11	10	53	20	111	28
Marine fish, others	328	237	194	442	400	309	339	212	246	146	285
Crustaceans	26	43	42	47	63	44	48	46	34	32	42
Molluscs	2	3	1	2	1	4	11	11	10	12	6
Cephalopods	7	4	4	12	8	6	3	6	2	9	6
TotalEUR-7 NC	**412**	**350**	**326**	**592**	**538**	**518**	**513**	**538**	**476**	**495**	**476**
Total EUR-28	**9342**	**9499**	**9554**	**9856**	**9870**	**10158**	**10107**	**10232**	**10288**	**10655**	**9956**

Source: database

Non-food use net supply 1989-1998

The non-food use net supply shows differing tendencies depending on the group of EU countries observed. EU-15 member states use less and less fishmeal and fish oil: the apparent consumption was almost halved between 1989 and 1998 (3.8 Mt in 1989 to 2.3 Mt in 1998). EUR-6 NC presents a flat evolution of the non-food use net supply, whilst EUR-7 NC, largely due to Norway (see Annex 10) has increased its apparent consumption from 1 Mt in 1989 to 1.5 Mt in 1998. The rise in aquaculture production is the reason behind this positive trend.

The three slopes in the graph below have the same shape as the ones for imports and exports, which suggests a positive correlation between these three components and indicates that European production doesn't have a significant impact on the apparent consumption. Overall, there is a slight a propensity to increase re-exports both for the EU-15 and for Norway.

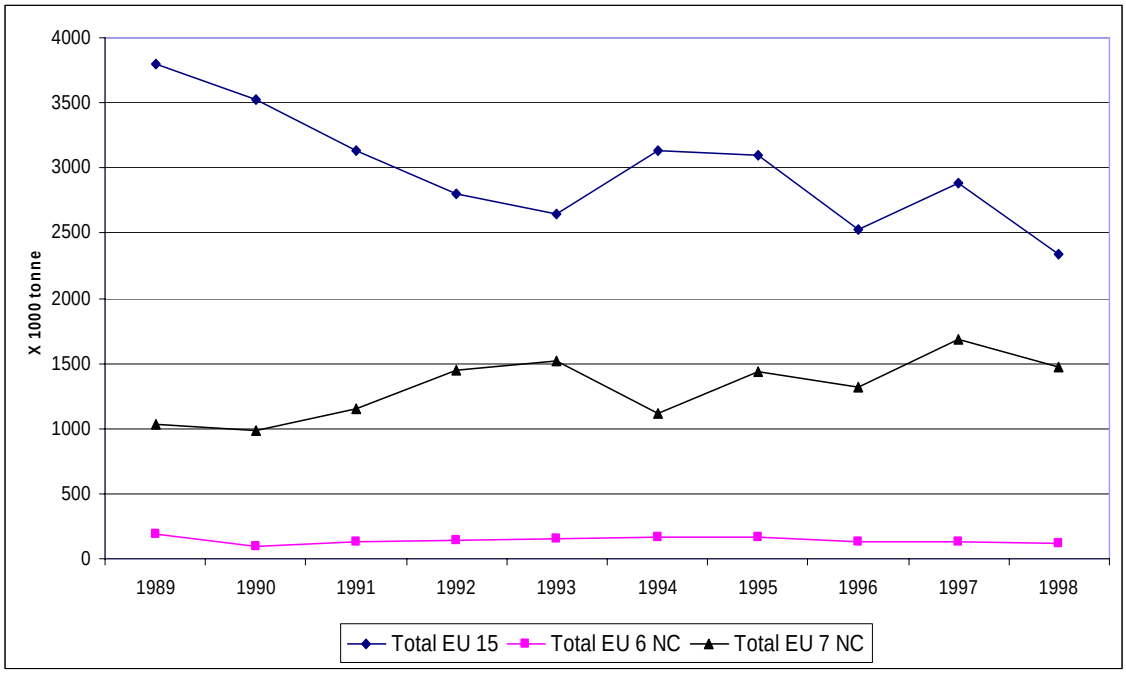


Figure Annex 5-33: Non-food use net supply EU-15, EUR-6 NC, and EUR-7 NC (live weight)

All graphs showing net supply per country and by FAO groups of species and OECD group of commodities are presented in Annex 10.

Consumption 1989-1998

Overview 1989-1998

For the EU-15, consumption of fish went up 20 percent during the period 1979 to 1998, but was relatively stable over the last decade (an increase of only 8 percent). Moreover, the variety of products available to the consumer also increased significantly. This increase in quantity and diversity of consumption goods is due to a number of factors including the development of transport infrastructure, shifts in consumption behaviour, the availability of new forms of prepared and conditioned products, and the development of aquaculture (Nauman *et al.*, 1995).

Historically, seafood consumption was limited to coastal areas because of the high perishability of marine products and the incapacity of transport systems to deliver fresh products of high quality inland. The development of transport facilities allowed the distribution of aquatic products to inland regions. These improvements also contributed to a wider range of species available. Better communications have brought centres of production and centres of consumption closer together.

In addition, the emergence and growth of the supermarkets' share in the distribution of seafood, together with other products for current human consumption, continues to facilitate a greater penetration of seafood products in areas remote from the coast. Changes in diets and eating habits have generated an increased demand for ready-to-cook or ready-to-eat products and increased health consciousness has also changed consumption behaviour (Neubacher, 1999). The processing industry has benefited from these changes by providing a broader variety of cooked dishes and demonstrating its ability to adapt and innovate for new markets (Karasawa, 2000).

The development of aquaculture has also contributed by expanding supplies of fish to national markets. From a production of about 800 000 tonnes in the middle of the 1980s, aquaculture in European Member States has expanded to supply the market with almost 1.4 million tonnes in 1998.

Europeans have always been fish eaters, but the recent rise in health consciousness has also led to a worldwide up trend in fish consumption. This is because it has become widely recognized that fish is ideal for a balanced diet, being full of essential amino acids and minerals and high in unsaturated fatty acids, particularly EPA, which is useful in protecting against heart disease, and DHA, which is important to the development process of the brain (Anon., 2001c; O'Donnell, 1991).

Consumption per capita 1989-1998

From 1989 to 1998, consumption per capita grew in the EU-15 countries, but decreased overall in the EUR-28 countries by approximately 9 percent. This fall is mainly due to reduced consumption caused by a fall in purchasing power in countries from the old communist block (Baltic States, Romania, Slovakia and Poland).

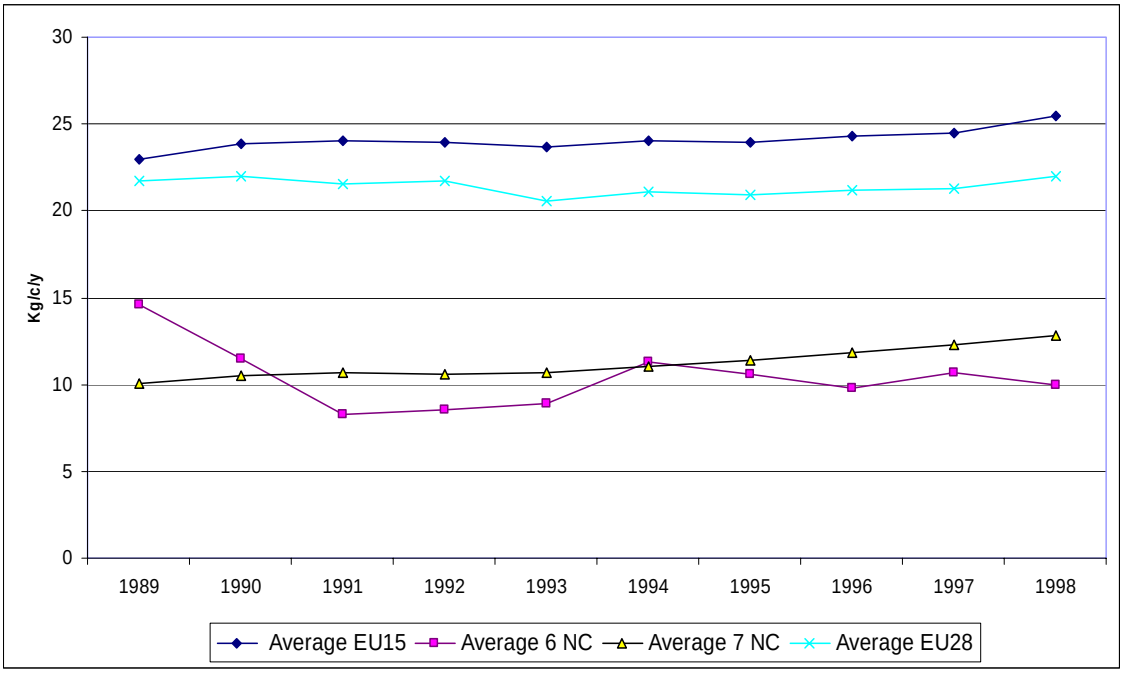


Figure Annex 5-34: Average fish consumption for EU-15, EU 6NC and EU 7NC, from 1989 to 1998

Portugal has the largest per capita consumption in Europe, and experienced a slight increase of some 3 percent between 1989 and 1998. Norway is the second highest consumer per capita, followed by Spain. There are five countries with a per capita consumption higher than 30 kg/c/yr, eight countries with a consumption per capita ranging between 20 and 30 kg/c/yr, six countries between 10 and 20 kg/c/yr and five countries with less than 10 kg/c/yr (see table below).

Overall, EU-15 production has been relatively stable over the last decade. The Portuguese continue to eat salt dried cod as much as they did in the past and maintain their consumption at around 60 kg. Spaniards keep their consumption at 40 kg/c/yr, with a wide range of products and species consumed. Finns and the French are just above 30 k/y/c with different patterns of consumption: Finns concentrate their consumption on fresh and marinated fish (herring, Rainbow trout, salmon) while the French consume the same large variety of species and products (from tuna to mussels) as the Spanish. Swedes are just below the bar of the 30 kg/c/yr, with fish eating oriented to prepared/preserved marine and diadromous fish. Irish and British customers, with respectively 21 and 22 kg/c/yr, present almost the same pattern of fish consumption due to their high consumption of marine fish, like cod and haddock (mainly outside their home). Greek and Italian consumers, with 26 and 23 kg/c/yr respectively in 1998, have a great choice of fish species and products (mainly consumed fresh) due to the high variety of catches in the Mediterranean Sea.

Belgian consumers have a preference for mussels, flat fish, salmon and tuna, which gives a consumption that fluctuates around 22 kg/c/yr. Consumption by the Dutch shares some characteristics with their neighbours' as flat fish and mussels are amongst their most popular choices. The rest of the 15 kg/c/yr in 1998 is mainly composed of shrimp and herring. Danish consumers are more oriented to North Sea species like cod, saithe, halibut and Alaska pollack, with an evident preference for scallops. If their consumption increased at the beginning of the 1990s, it came back to its previous level at the end of the period. Austria and Germany are the EU-15 countries that present the lower consumption level. German consumers have increased their consumption from 11 to 15 kg/c/yr in one decade while Austrians have maintained their

consumption at around 10 kg/y. Both countries rely on imports to supply their market in the marine fish that have increasingly replaced the traditional cured and fresh freshwater fish.

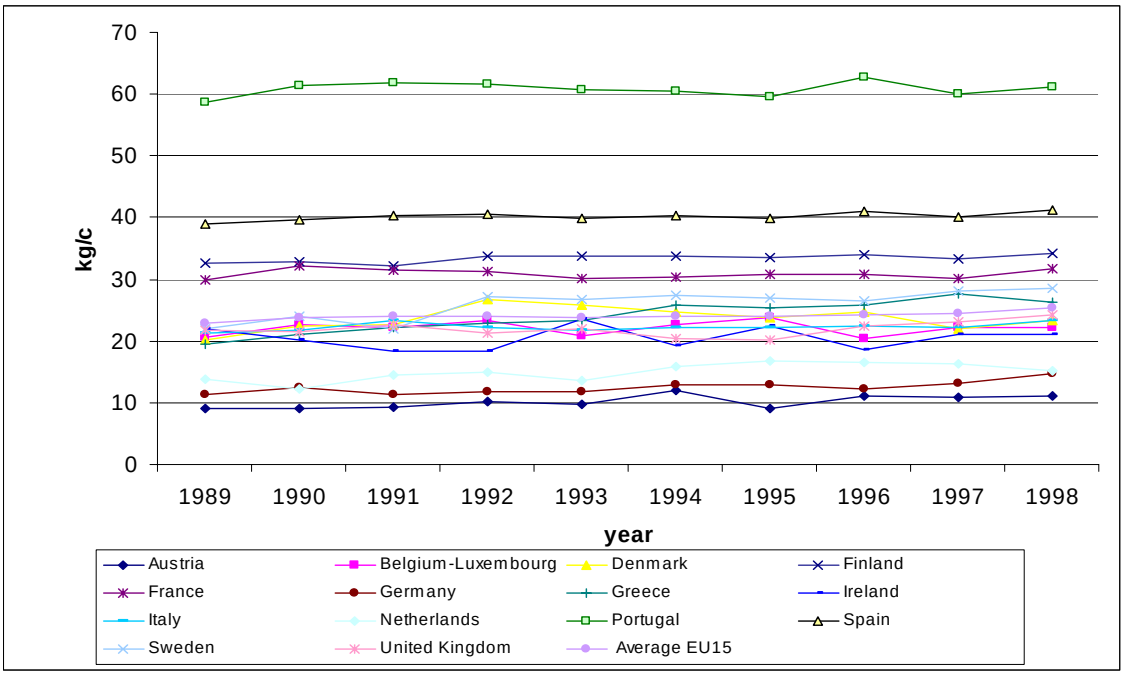


Figure Annex 5-35: Fish consumption EU-15 (from 1989 to 1998)

Consumption in the landlocked countries of the EUR-6 NC that were part of the Soviet system, has not changed[45]. Slovenia, the Czech Republic and Hungary opened their economy to Western European products and consequently altered their consumption habits by eating more prepared/preserved and marine fish to the detriment of the traditionally consumed carp, trout and other freshwater species.

Poland, which experienced the collapse of Russian subsidies (fuel, other inputs) and a consequent decline in its production of cod and small pelagic species for human consumption, has counterbalanced this by elevating its imports. The positive growth of its economy allowed this shift form national production to imports. The result is a stable consumption level over the last decade of around 11 kg/c/yr. By contrast, Estonian consumers have seen their consumption drop dramatically from 45 to 18 kg/c/yr in two years. Estonia, which was highly dependent on foreign fishing grounds and the Soviet negotiation process, lost nearly all of its distant water fleet and consequently its main supply source. Fisheries of the Baltic Sea also suffered from the political separation and contributed to the diminution of the national supply from captures.

Cyprus is a country that presents the same consumption pattern as Greece: a large range of species consumed mainly fresh. Coastal fisheries play an active role in the Cypriot market supply.

[45] The absence of data and information before 1993 limits the presentation of historical trends for these countries.

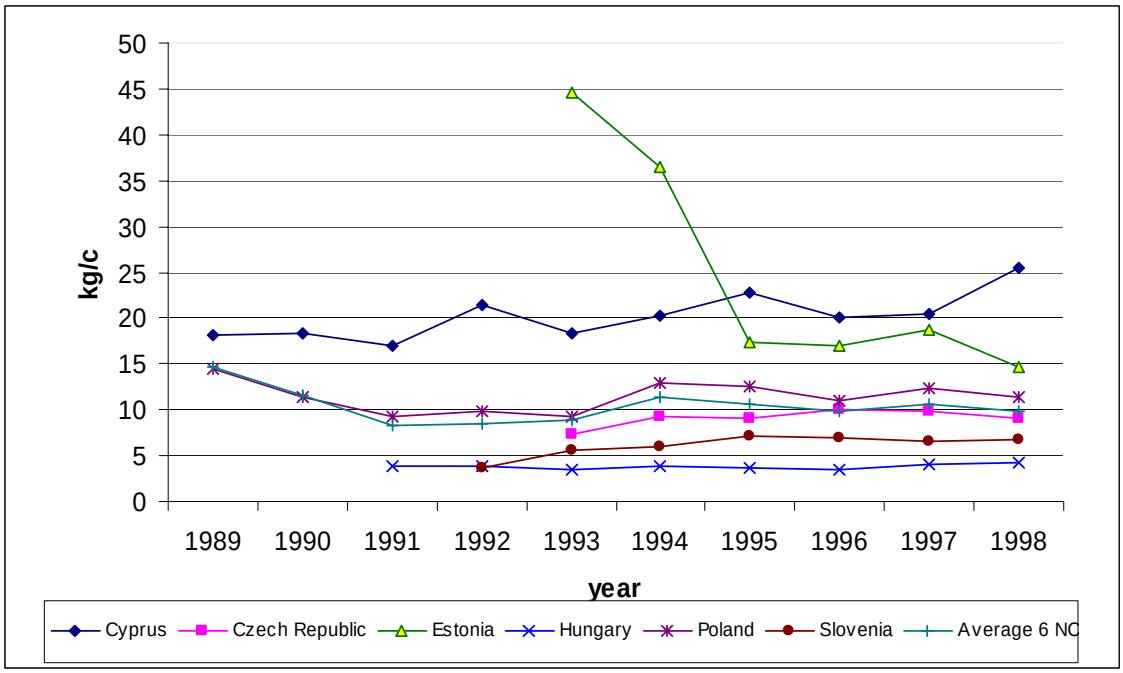


Figure Annex 5-36: Fish consumption EUR-6 NC (from 1989 to 1998)

The EUR-7 NC group present different consumption patterns. Norway and Latvia had the highest consumption levels at around 45 kg/c/yr and 37 kg/c/yr in 1998 respectively. Norwegian consumers have kept their eating habits during the period 1989-1998 by purchasing cod (mainly fresh), herring in various forms, fresh saithe and haddock, and fresh and smoked salmon. Latvia experienced the same collapse of its catches as Estonia and Lithuania due to its orientation on distant water fisheries. Nevertheless, its consumption per capita did not fall as Estonia's did, even if the country exported most of the high commercial value species and covered its domestic demand by low valued Baltic catches like herring, sprat and flounder (GLOBEFISH, 1994) (herring, sprat, flounder).

Lithuania suffered from the same malaise as its Baltic neighbours and its consumption trend followed the Estonian one. From 45 kg/c/yr in 1992, national consumption dropped to only 15 kg/c/yr in 1998. One explanation is the fact that the price of fish and fish products rose twice as fast as other food product between 1992 and 1995 (Jakstiene, 1997).

Historically, Bulgaria, Romania and Slovakia have not been large consumers of fish. Since gaining their independence at the beginning of the 1990s, consumption of fish products went into decline until 1996, and then seemed to recover (although not to their 1989 level). Freshwater fish were the main species consumed in these three countries, with fish commodities imported from the former USSR. In 1998, their consumption was around 5 kg/c/yr.

Malta relies on local landings for its market supply. It presents a situation similar to that of Cyprus or Greece. Fluctuation over the period around an average of 25 kg/c/yr is mainly due to the decline in landings that fell from 6 500 tonnes in 1992 to only 2 500 tonnes in 1993 and subsequent years. After 1994, imports replaced missing landings.

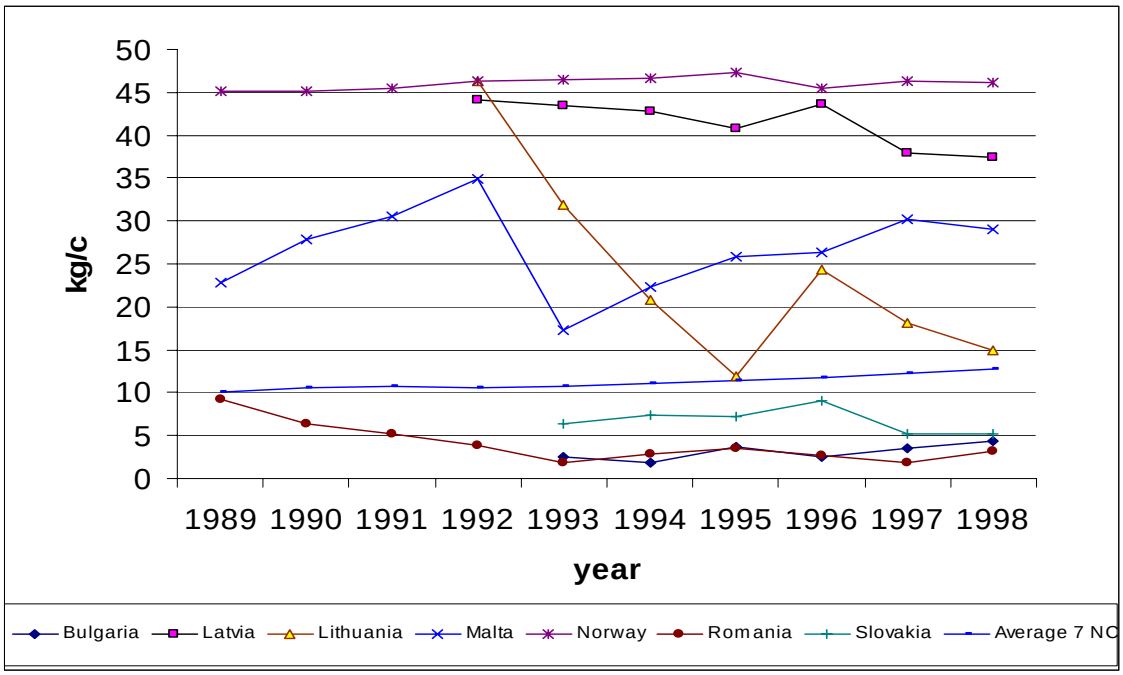


Figure Annex 5-37: Fish consumption EUR-7 NC (from 1989 to 1998)

The table below presents for the 28 countries the evolution of their fish consumption per capita[46].

Table Annex 5-9: Consumption per capita (kg live weight/capita/year), from 1989 to 1998

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	9	9	9	10	10	12	9	11	11	11	10
Belgium-Luxembourg	21	23	22	23	21	23	24	20	22	22	22
Denmark	20	22	23	27	26	25	24	25	22	23	24
Finland	33	33	32	34	34	34	34	34	33	34	33
France	30	32	32	31	30	30	31	31	30	32	31
Germany	11	12	11	12	12	13	13	12	13	15	12
Greece	20	21	22	23	23	26	25	26	28	26	24
Ireland	22	20	18	18	24	19	23	19	21	21	20
Italy	21	22	23	22	22	22	22	23	22	23	22
Netherlands	14	12	14	15	14	16	17	17	16	15	15
Portugal	59	61	62	62	61	60	60	63	60	61	61
Spain	39	40	40	40	40	40	40	41	40	41	40
Sweden	22	24	22	27	27	27	27	26	28	29	26
United Kingdom	22	21	23	21	22	20	20	22	23	24	22
Average EU-15	**23**	**24**	**24**	**24**	**24**	**24**	**24**	**24**	**24**	**25**	**25**
Cyprus	18	18	17	21	18	20	23	20	20	25	20
Czech Republic					7	9	9	10	10	9	9
Estonia					45	37	17	17	19	15	25
Hungary			4	4	4	4	4	3	4	4	4
Poland	15	11	9	10	9	13	13	11	12	11	11
Slovenia				4	6	6	7	7	7	7	6
Average EUR-6 NC	**15**	**11**	**8**	**9**	**9**	**11**	**11**	**10**	**11**	**10**	**10**

[46] The average of the EU-15, EUR-6 NC and EUR-7 NC is the result of the sum of net supply divided by the total inhabitants of the group of countries. It cannot therefore be calculated by adding the average country consumption and divide this number per the number of countries.

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Bulgaria					2	2	4	2	4	4	3
Latvia				44	43	43	41	44	38	37	41
Lithuania				46	32	21	12	24	18	15	24
Malta	23	28	31	35	17	22	26	26	30	29	27
Norway	45	45	45	46	47	47	47	45	46	46	46
Romania	9	6	5	4	2	3	4	3	2	3	4
Slovakia					6	7	7	9	5	5	7
AverageEUR-7 NC	**42**	**39**	**43**	**45**	**32**	**37**	**39**	**42**	**44**	**40**	**40**
Average EUR-28	**22**	**22**	**22**	**22**	**21**	**21**	**21**	**21**	**21**	**22**	**21**

Source: Database

Main species and commodities consumed 1989-1998

More than 100 species are consumed daily (see list in Annex 5). In 1998, the main species consumed in the EU-15 were tuna (3.2 kg/year/capita), followed by cod (2.3 kg/c/yr), salmon (1.6 kg/c/yr), shrimp (1.2 kg/c/yr), herring (1.2 kg/c/yr), hake (1.0 kg/c/yr), Alaska pollack (1.0 kg/c/yr).

In terms of total quantity consumed, small pelagic fish are the main species group (herring, sardine, anchovy, and pilchards) and represent 15 percent of overall consumption. However, the market share of the pelagic species in terms of value is relatively low, due to their low unit price. By contrast, demersal species, and in particular the whitefish species group, are the predominant species group in terms of consumption value and the principal species in this group include cod, hake, haddock and whiting. In 1998, this group accounted for 15 percent of consumption by volume, but a proportion appreciably higher in terms of the share of market value. These species are consumed fresh or used by the primary and secondary processing industries.

However, the significance of the whitefish species group in terms of apparent consumption has decreased with time (Asche *et al.*, 1998b). In 1989, cod, hake, whiting and haddock were included in the ten principal consumed species and represented 2 million tonnes and 23 percent of the market. In 1998, consumption of these species was reduced to 1.2 million tonnes and only 13 percent of share of market. This decline was partially due to the exhaustion of cod and hake stocks and was only partly compensated for by greater availability of alternative species for industrial use such as Alaska pollock (190 000 tonnes in 1998) and Blue whiting (127 000 tonnes in 1998).

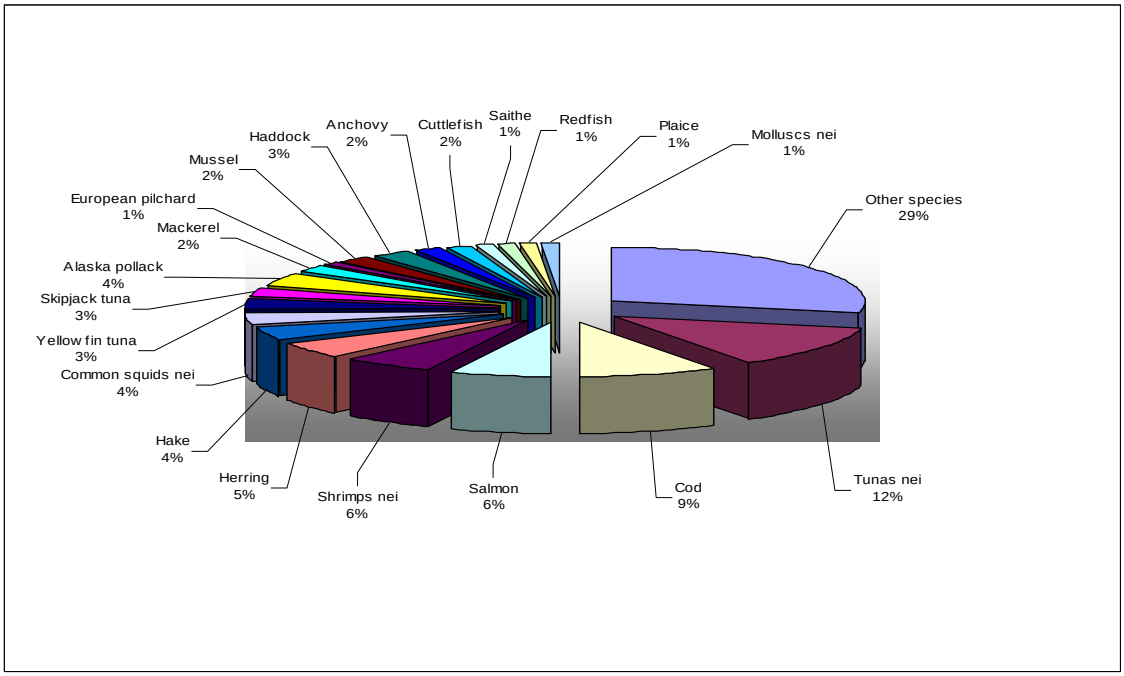


Figure Annex 5-38: Main species consumed in EU-15, 1998 (kg/cap./year)

An important proportion of the ten main species (in terms of quantity consumed) comes from aquaculture. For example, 80 percent of the aggregate output of mussels is produced by aquaculture. Similarly, 57 percent of the aggregate output of salmon and trout comes from aquaculture. With respect to the EU-15, the proportion coming from aquaculture is very high due to the extremely high productivity of Norway (Anon., 2001f). The expansion of market share in volume for farmed species has corresponded to the increased aggregate output of Norway (7 percent in 1970, 11 percent in 1984 and 30 percent in 1998). In France, for example, the market share of farmed products increased noticeably between 1978 and 1995, from 19 percent to 29 percent for quantity, and from 18 percent to 30 percent in value (Grel, Corre and Tuncel, 1998). The higher consumption of farmed salmon is mainly due to increased availability in various product forms and to a falling unit price as large-scale aquaculture operations have led to significant reductions in farmed salmon prices.

EUR-6 NC is largely characterized by the consumption of herring, clupeoids, mackerel and other low commercial value species and commodities. Due to the large population of Poland (38 M) compared to the combined population of the other five countries in this group (23 M), the share of the consumption per species reflects the consumption pattern in Poland more than those of the other countries. The Czech Republic, Hungary and Slovenia are mainly orientated to freshwater fish such as carp (still regarded as a traditional product), and canned small pelagics. Although in recent times consumption of carp has been increasingly restricted to the festive seasons in these countries, attempts are being made to reverse this trend. In contrast, trout has been able to develop a more consumer-friendly image, enabling the trout sector to keep up with developments in other competing food products. However, notwithstanding these developments, effective promotion of salmon from marine aquaculture makes it a serious competitor.

Cyprus can be characterized by its high level of fresh demersal fish consumption coming from surrounding waters, which is not reflected in the figure below due to the low number of Cypriot inhabitants (700 000).

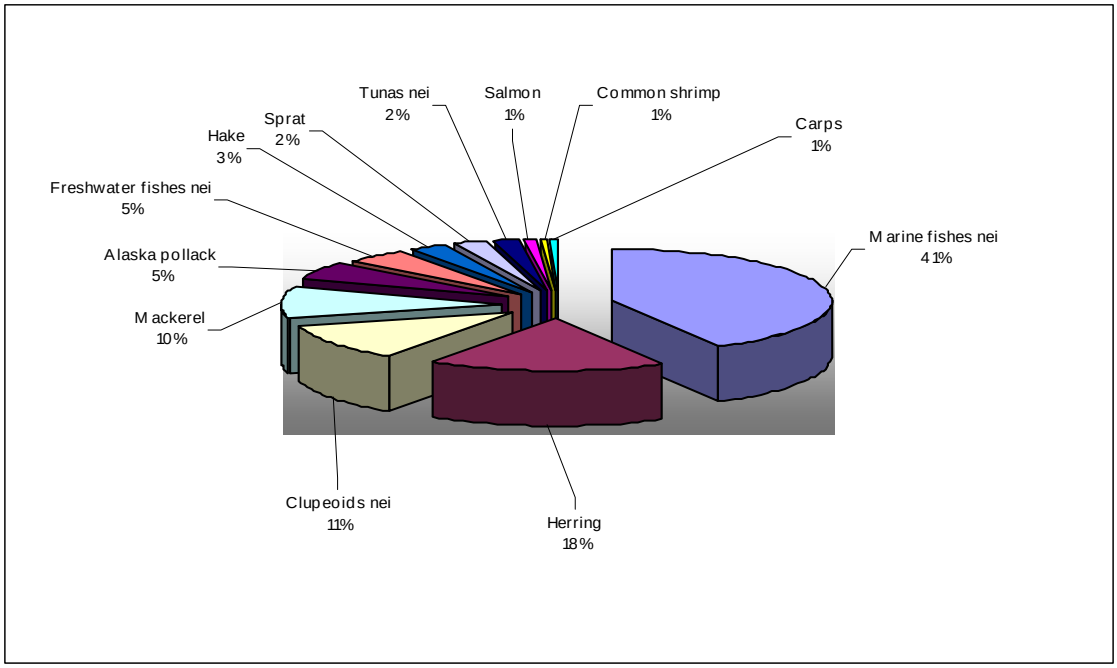


Figure Annex 5-39: Main species consumed in EUR-6 NC, 1998 (kg/caput/year)

For the group of EUR-7 NC, mackerel, cod and clupeoids are the three main species consumed. Romania, with its 22.5 M inhabitants, should impose its consumption pattern on the rest of the group and therefore hide the other countries' consumption. However, because of its low 1998 net supply level compared to Norway (respectively 71 000 tonnes and 203 000 tonnes) and Latvia (90 000 tonnes), there no real overweighing.

The figure below reflects the consumption pattern oriented both toward low commercial valued species with clupeoids and herring and high value species like white fish, molluscs, shrimps and salmon. Norway is the main consumer of high value species while the Baltic states and landlocked countries are the principal consumers of low value species (Anon., 2001d).

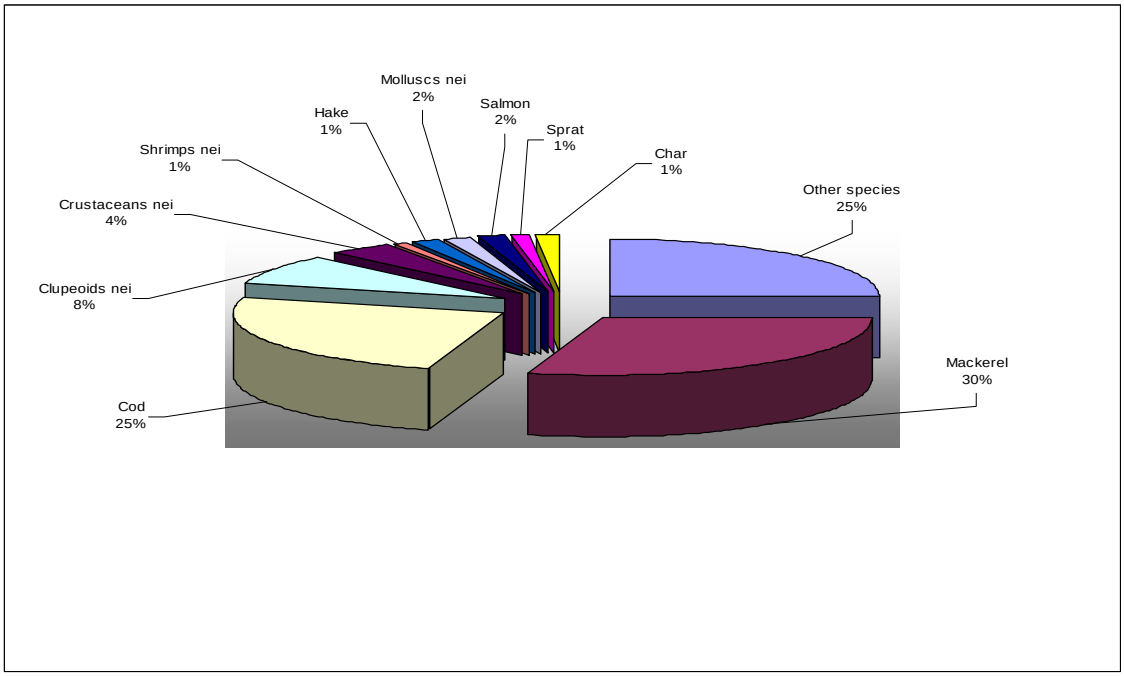


Figure Annex 5-40: Main species consumed in EUR-7 NC, 1998 (kg/caput/year)

Fish consumption and European consumers

The demand structure of processed products mainly reflects social preferences and practices and there have been substantial changes in demand for foodstuffs during the 1990s, including fish products.

There is now an increased awareness of the possible health benefits of eating seafood such as oily fish. This has led to an increased demand for certain products, and a fall in demand for other meat. At the same time, various health scares relating to beef, veal, caprine, chicken and pork (for example BSE in beef, salmonella in poultry, etc.) have had a positive impact on the demand for seafood. The figure below illustrates the share of consumption between meat and fish for some European countries.

Source: Papageorgiou and Girard (2000)

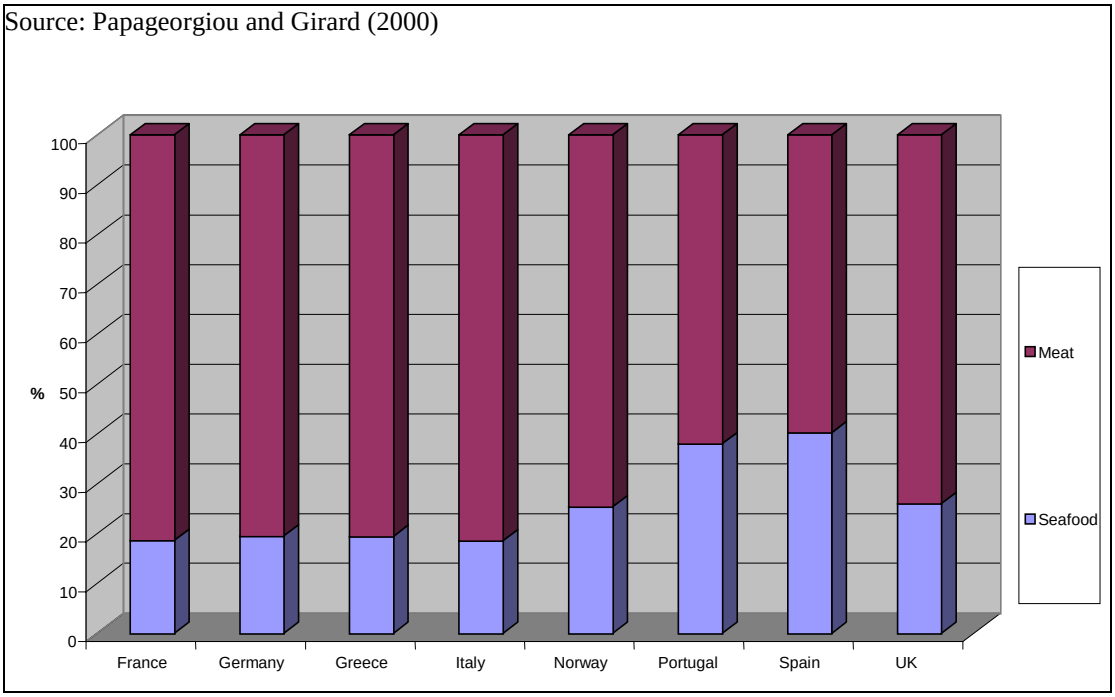


Figure Annex 5-41: Share of meat/fish consumption in some member States

Changes in lifestyle mean that today's consumers are more exacting in what they buy, and there is greater demand for products that are easy to prepare and cook. This is reflected in the rise in demand for ready-to-eat meals (requiring little or no preparation and served in minutes), demonstrating changing fashions and new consumer attitudes to marine products and food in general (Sheal *et al.*, 1998). Following these changes in consumer preference, the European fish processing industry has seen production increase by more than 50 percent since the 1980s.

The increase in demand and supply of processed fish products is obvious in each country. In France, consumption of fresh fish remained relatively stable while the consumption of frozen, prepared and transformed fish increased. In the same way, fresh fish consumption in Spain remained relatively stable from the middle of the 1980s, while consumption of other product types increased noticeably (Jaffry *et al.*, 1997). In the United Kingdom, expenditure on seafood products as a whole increased by 8 percent between 1984 and 1998, although not all individual categories experienced growth. During this period, consumption per head of fresh fish decreased appreciably, but this decrease was more than compensated for by an increase in volume and value of prepared fish (including seafood products with high added value) consumption per head (Sheal et al, 1998).

Social and demographic changes and increased health awareness are not the only factors that explain the increase in seafood consumption. Income growth and globalization of markets have made additional products more freely available and increased the range of choice, all of which affect consumption models.

Distribution chains

The increasing importance of supermarkets in fish distribution had a substantial impact on consumption of fish products, and, in particular, on the consumption of processed products. In Spain, it was estimated that traditional fish markets generated less than 40 percent of the retail sales of the market in 1998, and that they will continue to lose market share in the future

(CFCE, 1999). In the United Kingdom, fishmongers had 51 percent of the market share for fresh fish in 1986, compared with 15 percent of the market share for supermarkets. By 1996, the fishmongers' share had fallen to 30 percent, with supermarkets increasing their share to approximately 50 percent (Sea Fish Authority, 1999a). In the same way, in France, supermarkets are dominating retail fish sales and account for 60 percent of total seafood sales (Le Grel, Corre and Tuncel, 1998).

Supermarkets often support the introduction of new fish species and provide information leaflets on preparation to encourage consumers to try new products and new methods of cooking. Supermarkets have also changed their supply strategies. Supermarkets require regular and substantial supplies of products. In many cases, this has meant an increased need for imported goods. Some supermarkets have created buying associations and put buyers in charge of providing their stores with products in sufficient quantities and utilizing sources such as imports by airfreight, national fish markets and national wholesalers.

Fish consumption has increased in the EU-15 and the pattern of demand has changed substantially. The growth of the aquaculture industry, in parallel with the decline of wild species, is one of the fundamental reasons for changes in demand and fish consumption throughout Europe (Anon., 2001h).

Fish for health[47]

Heart disease and strokes are the primary causes of death and serious illness among European man and women, with poor diet recognized as one of the established contributory factors. In Ireland, the Food Advisory Committee of the Department of Health recommends reducing the amount of fat consumed, avoiding excess salt and sugar, and increasing the amount of fibre rich food in the diet.

In recent years, following extensive research into its role in preventing heart disease and other illnesses, the main reason for extolling the benefits of increased fish consumption has been its importance as a source of the long chain n-3 polyunsaturated fatty acids (known as PUFAs), eicosapentaenoic acid (EPA) and docasaheaxaenoic acid (DHA).

There is only one form of living organism that can readily make long chain n-3 PUFAs - marine algae. As fish feed on algae, they become rich sources of such fatty acids. This is particularly true of the flesh of oil-rich fish such as mackerel, salmon and herring, as well as the livers of any white fish (e.g. cod).

Fish is also a reliable source of protein, iron, selenium and iodine. The flesh of oil-rich fish and particularly the livers of lean white fish are good sources of vitamins A and D. When the bones are small and soft and can be eaten (e.g. in sardines, pilchards, tinned salmon) fish is also a useful dietary source of calcium.

[47] This section on Nutrition is based on the documentation on "Nutritional Aspects of Fish" prepared by the Irish Sea Fisheries Board. See http://www.feap.info/consumer/nutrition/fishindiet_en.asp

Heath and safety considerations[48]

In 2001, based on a report by the European Parliament's Directorate General for Research - STOA (Scientific and Technological Assessment), the European Commission and Council have ruled that fish caught by Finland and Sweden in the Baltic Sea can only be sold for consumption in those countries and cannot be exported to other EU Member States. British fishermen had feared a similar blow. The Directorate General for Research Working Paper (STOA 101 EN) examines the effects on the fisheries industry of the Commission's proposals (SANCO) on Dioxin content of fish, fish oil and fishmeal as part of animal feed regulations. The report notes that among the 15 EU Member States, Germany will have a problem with dioxins in 20 percent of its herring catch; Denmark, with the biggest industrial fishery in the EU, has a significant problem with more than 200 000 tonnes of fish classed as 'high conflict potential', mainly involving sandeel, sprat, herring and Blue whiting; Finland has a major problem with 100 000 tonnes of its catch classed as 'high conflict potential' involving sprat and herring; Sweden has a massive 270 000 tonnes of catch classed as 'high conflict potential' mainly involving sprat, herring, mackerel, sandeel and Blue whiting; Spain, Italy and Greece each have fairly significant quantities of catch classed as 'medium conflict potential' involving sardines; The UK is classed as having "no significant conflict potential for the British industrial fisheries industry." The report has been circulated to a Project Steering Group for comments prior to full publication later this year.

The problem that emerged after the dioxin scandal in 1999 has left European consumers perplexed regarding seafood products that have been deemed healthy and safe. In other words, the fishing industry is as vulnerable to the problems associated with food scares as the poultry and livestock industries are.

[48] Based on Stevenson, text available on:
http://www.scottishtorymeps.org.uk/stevenson/issues/briefings/archive_2001/briefing28.htm
1. Limits on dioxin content in food and feed came into force on 1 July 2002. These apply to in human food (Commission Regulation (EC/466/2001 on maximum levels for certain contaminants in foodstuffs). Animal feeds (under Council Directive 1999/29/EC) will be subject to dioxin limits from 1 July 2003. Finland and Sweden have derogation on dioxin levels in fishery products for human consumption until 2006.

ANNEX 6: EUROPEAN MARKET

The Common organisation of the market[49]

In 1999, the European Council of Ministers for Fisheries adopted a new basic Regulation for the Common Organisation of the Market (OCM) in fishery and aquaculture products (Gariazzo, 2000). The new Regulation was in response to the extensive changes that these markets had undergone in recent years. These changes included depleted fish stocks, changes in consumer habits, globalization of the markets and the growing dependency of the EU on imports of both fresh products and raw materials for the processing industry. By 1999, a reform of the existing Regulation had become essential if the sector were to adapt to the current market.

Essentially, the purpose of the new Regulation was to achieve a better match between supply and demand, to strengthen the competitiveness of the processing industry, and to improve the information available to consumers regarding fish products available on the market (GIRA/SIFA/Roche, 2000). Expenditure on the COM increased slightly from 20 million € in 1999, to 22 million € in 2001. However, by 2006, the budget is expected to fall to 16 million €.

The COM in fishery and aquaculture products has been an integral part of the Common Fisheries Policy since 1970. The COM's objectives include:

- Applying common marketing standards;
- Establishing producers' organizations (POs);
- Instituting a price support system based on intervention mechanisms (withdrawal prices, carry-over aid and private storage aid) or compensation mechanisms (tuna for canning); and
- Establishing a system for trade with non-member countries.

Given the nature of fishing and the unpredictable and fluctuating character of production, some disparity between supply and demand is inevitable, especially with respect to seasonal species. The Community recognizes these constraints and has attempted to create mechanisms to correct the most damaging effects of these fluctuations. These intervention mechanisms include Community support for removing unsold products from markets (withdrawal) and for carry-over measures (storing or processing fish products with a view to putting them back on the market when demand increases). These mechanisms apply to products seen as representative of Community production.

Market intervention mechanisms are activated when the prices of products placed on the market fall below withdrawal prices. These prices are based on guides according to average prices registered over the preceding three years in representative ports and are declared annually.

[49] From the DG-Fish Website:
http://europa.eu.int/comm/fisheries/news_corner/doss_inf/info76_en.htm

These market mechanisms are implemented by recognized producers' organizations, which receive funding to support the mechanisms' administration. These organizations also qualify for financial support for the introduction of plans to improve the quality of their products.

Trade with non-member countries

The objective of the COM is to promote competitiveness within the fishing industry. Products originating from within the Community are given priority on the market and the common customs tariff is the basic tool for the application of the principle of Community preference. However, Community demand for fisheries products exceeds Community supply and to meet demand, the EU market must import almost 60 percent of its fisheries and aquaculture products. This deficit is largely related to the demand for raw material by the processing industry and this industry may need to import fish at reduced duty rates if it is to remain competitive.

The common customs tariff contains many exceptions that mean that almost two thirds of Community imports are covered by special rules. These are the results of bilateral agreements or provisions under the Lomé IV Convention 3 and the European Economic Area (EEA). There are also unilateral reductions such as the generalized system of preferences (GSP).

In addition to these exceptions, there is also a system of autonomous tariff quotas and suspensions of customs duties. With these tariff quotas, limited quantities of a product may be imported into the Community at a reduced rate of duty. The full customs duty is reinstated when the quota is exhausted. Suspension of customs duties allows import into the Community of unlimited quantities of a product at a reduced duty rate.

Although various strategies are applied to protect the EU seafood market, and despite the fact that the exact form of tariffs and duties will form a central part of discussions for future policy on trade (see below), it is unclear to what extent current policy actually affects prices, supply and competitiveness for EU producers and processors. Several recent studies, for instance, suggest that protection measures have greater impact on imports of processed products and shellfish than they do on primary products (see for instance, Guillotreau and Péridy, 2000). In addition, it seems likely that other factors dictate levels of trade between EU and non-EU countries, particularly the costs of transport (distance between countries) and international exchange rates.

The objectives of the new Regulation

The new Regulation reinforces other parts of the Common Fisheries Policy (CFP) seeking to establish a lasting balance between fishing capacity and available resources. It is hoped that the market will now increasingly contribute to the responsible management of resources. The new market regulation aims to:

- Encourage the fishing industry to fish only what can be sold, in order to avoid waste;
- Strengthen industry organizations, particularly Producers' Organizations, and make them more competitive;
- Provide information on products to consumers;
- Ensure a better match between supply and demand; and

- Protect employment in the catching and processing industries.

To achieve these aims, a number of changes needed to be made. The main innovations include:

- The obligation for Producers' Organizations to set up fishing programmes to adapt supply to demand;
- Support for the development of inter-professional organizations;
- Updating the intervention mechanisms;
- The obligation for retailers to provide better information to consumers; and
- Improving supply conditions for the processing industry.

A new role for Producers' Organizations (POs)

Producers' Organizations are set up by fishermen or fish-farmer associations to ensure the optimal marketing conditions for their products and they are strategically placed between primary production and the market. Because of this key position, they can implement measures relating to rational resource management, add value to fisheries products and contribute to the stabilisation of the market. Allowing POs to take greater responsibility for self-regulation in the management of available resources will help ensure that market requirements are better met and that stocks are under less pressure.

One of the objectives of the PO system is to avoid catching fish for which there is little or no demand by encouraging the planning of fishing activities. In order to conserve fish stocks and remain competitive, producers must anticipate market needs in terms of quantity but also of quality and regularity of supply. Under the new Regulation, POs will have to annually draft and implement operational fishing programmes indicating the measures taken to adapt catches to market demand. This will apply not only to fish caught at sea but also to aquaculture products.

POs can, in agreement with their members, spread their vessels' fishing activities over time. This avoids the race for quotas and allows producers to spread landings over the year, avoiding drastic drops in prices and ensuring a more steady supply to the market. More regular and better quality landings will benefit producers in terms of prices, merchants in terms of supply and consumers in terms of value for money.

Each Member State must ensure that POs operating in their country are managed according to the guidelines and POs that fail to fulfill their duties could lose access to financial support. Problems are not expected, however, since these measures aim to strengthen the role of POs and the means at their disposal. Moreover, the consultation process has shown that some of the measures in the reform have already been undertaken by a number of Community POs.

Development of inter-professional organizations

Divisions between the various branches of the fishing sector have traditionally weakened the industry, but attitudes have begun to change. The Community believes that fisheries, like other sectors, should establish recognised inter-professional organizations. The objective is to promote the development of partnerships in projects of common interest. In this respect, the

new Regulation provides an exception to the competition rules in the EC Treaty 5, so that agreements, decisions and concerted practices will be allowed by recognised inter-branch organizations in the fisheries sector (within certain limits and provided that they have been checked in advance by the Commission).

Representatives of the catching, retailing and processing industries from different regions could collaborate to carry out measures to benefit the entire industry. These measures could be aimed at:

- Improving awareness and transparency of production and the market;
- Helping to co-ordinate the marketing of fishery products, principally through market surveys and research;
- Preparing standard contracts compatible with Community rules;
- Assisting the development of fishery products;
- Providing information and research needed to adapt production more closely to market requirements and consumer tastes and aspirations, mainly with regards to product quality and protection of the environment;
- Developing processes and instruments for enhancing product quality;
- Developing and protecting quality labels and geographical information to the consumer;
- Promoting environmentally-sensitive production methods; and
- Drawing up more stringent production and marketing rules than those currently applicable under Community and national arrangements.

Changes in the intervention mechanisms

To ensure a set revenue for fishermen, POs may take fish and shellfish products off the market when prices fall below withdrawal prices and depending on the products concerned, members receive compensation from their POs which, in turn, apply for Community aid.

To qualify for financial compensation, withdrawn products must conform to official quality criteria and withdrawals must be limited to occasional excess production. The level of compensation is directly linked to the quantities of fish withdrawn; the higher the volume taken off the market, the lower the compensation paid. Products taken off the market are usually, but not automatically, destroyed. POs can take other steps to ensure that fish are not wasted and may sell them for production of animal feed, for instance.

Less aid for final withdrawal

As stated above, the objective of the reform is to decrease the quantities of fish products taken off the market and thus avoids waste of resources. Final withdrawal, which involves taking fish products off the market for human consumption, must only be seen as an occasional safety net. The volumes eligible for financial compensation have therefore been reduced, from 14 percent to 8 percent of the POs' production or landings.

Special conditions will apply to pelagic species. Pelagic landings generally represent high volumes but relatively low value which often result in fluctuating markets and so a higher potential for the need of intervention. Eligible quantities for pelagic species have also been reduced but to a lesser extent than for other species, and will be 10 percent of the quantities put up for sale annually by the PO (cf. Annex 4).

The rate of financial compensation from the Community to POs will also be reduced for all species. Until now, financial compensation for quantities withdrawn has been 87.5 percent of

the withdrawal price for up to 7 percent of the quantities put up for sale each year. As shown in the table in Annex II, the rate is now reduced to 85 percent for up to 4 percent of the quantities put up for sale.

For quantities exceeding 4 percent, aid will decrease gradually: For the 2001 fishing year, financial compensation will be equal to 75 percent of the withdrawal price for quantities between 4 percent and 10 percent for pelagic species and between 4 percent and 8 percent for other species. For the 2002 and 2003 fishing years the compensation will diminish to 65 percent and 55 percent respectively (cf. Annex 4).

More aid for carry-over operations

At the same time as changes to withdrawal arrangements, measures that add value to products for later sales, are to be encouraged. One such measure is the "carry-over" mechanism - the storing and processing of fish before placing it on the market when there is more demand. The quantities eligible for community financial support in the event of carry-over have been substantially increased from 6 percent to up to 18 percent (in the case of POs that do not practice permanent withdrawal). In addition, marinating has been added to the list of permitted processing methods and other new measures will also be applied to facilitate the use of the carry-over mechanism[50], such as increasing the supply financial support for storage, for instance.

Table Annex 6-1: Financial compensation for withdrawals

Quantities withdrawn (1)	Financial compensation (2) received by the PO			PO Co-responsibility (2)	Compensation received by the PO member (2)		
	2001	2002	2003		2001	2002	2003
0 to 4 %	85	85	85	10	95	95	95
4 to 8 % *	75	65	55	10	85	75	65
4 to 10 % **							
> 8 % *	0	0	0	10	10	10	10
> 10 % **							

Source: DG-Fish

(1) As a % of marketed quantities.
(2) As a % of withdrawal prices applied by the PO, that is the EC price ± 10 %.
* For species other than pelagic.
** For pelagic species.

Emergency mechanism

There are times, however, when exceptional circumstances result in serious disturbances in the market and a collapse in prices. An emergency provision for intervention has been introduced into the new Regulation to deal with such events which would allow for an increase in the quantities eligible for final withdrawal for up to six months.

[50] Available up to a rate of 18% of the quantities put on the market (if 0% of withdrawal).

Compensatory allowance for tuna

The compensation allowance for tuna, a mechanism that was originally introduced to compensate tuna producers for the reduction in tuna tariffs, has been reduced and the level at which the mechanism is activated has been lowered from 91 percent to 87 percent of the Community producer price. The purpose of this change is to prevent the mechanism from being triggered as soon as prices start to fall.

Better information to consumers

The new Regulation introduces rules for better labelling and information for consumers on live, fresh and chilled fishery products. The name of the species, the method of production (inland, sea fishing or aquaculture) and the area where the fish was produced will have to be provided.

This might stimulate demand, as consumers are encouraged to purchase products they have information of, and consumers are less likely to be misled on the origin and the value of fisheries products which can be the case with non-packaged fish products. This measure will also enable consumers to avoid buying fish which may have been produced or marketed in a non-sustainable way (fish under the minimum landing sizes, for example). In addition, the details about the origins of the fish will enable inspectors in charge of monitoring to cross-check the data with those collected on board vessels or during landing.

Improvement of supply conditions for the processing industry

The EU processing industry depends on stable and reliable landings to remain competitive and secure employment. However, Community landings cannot supply enough fish products to satisfy demand and the processing industry must therefore import supplies from third countries at competitive prices (Kindermann, 1996).

Tariff suspensions

The new Regulation provides for a tariff regime that is more in line with the needs of the market without penalizing Community fish producers (Hatcher, 1997; Buisman and Smit, 1997; Anon., 1998a). For instance, common customs tariffs and duties can be suspended for certain products intended for the processing industry. Suspension may be partial (a cut in customs duty) or total (duty reduced to 0 percent) (European Commission, 1998b).

Until the introduction of the new Regulation, the system only allowed import at reduced rates for limited quantities but these quantities may be insufficient to supply processors (Hough, 1996). This is the case, for example, with cod.

Through the reform, an unlimited amount of these products may be imported at a reduced or 0 percent duty rate, for an indefinite period of time (Filhol, 2000). In 1999, for example, the Community was allowed to import 75 000 tonnes of fresh, chilled or frozen cod at a reduced rate of 3 percent. From 2001, an unlimited amount of cod may be imported at the reduced rate of 3 percent, indefinitely.

For deepwater prawn (*Pandalus borealis*), the quota in 1999 was 12 000 tonnes for duty free import but in future there will be an unlimited amount of imports allowed free of duty.

The duty for Alaska Pollock was reduced from 4 percent in 1999 to 0 percent (for an indefinite period of time).

Tariff quotas

However, to ensure that duty free imports do not threaten jobs in the catching sector, some products such as tuna loins and herring, have been excluded from the new tariff suspensions. Instead, a multi-annual autonomous tariff quota has been agreed for these species for three years. This means that the duty reduction will only apply to a certain amount of imports.

In 1999, 1 200 tonnes of tuna loins could be imported at a reduced duty rate of 6 percent. Under the new agreement, for the period 2001-2003, 4 000 tonnes per year may be imported at that reduced rate.

Large herring is not always available in Community waters. In 1999, 20 000 tonnes of fresh, chilled and frozen herring for processing was imported at 0 percent duty. Now, 20 000 tonnes may be imported at a rate of 0 percent each year during 2001-2003, between 1 November and 31 December. At this time of the year, there is a risk that Community fishermen will have exhausted their quotas and that the need for imported fish is greater than at other periods.

The multi-annual quota for cod (salted or in brine, but not dried or smoked) has been set at 0 percent for a yearly quantity of 10 000 tonnes; in 1999, the duty rate was 2.5 percent for a maximum of 8 000 tonnes.

Prices

Guide prices

The European Commission has adopted its annual proposal to set Community guide prices for fresh and frozen fisheries products and tuna for processing in 2002, and the relevant Council Regulation was adopted before the end of this year.

The price trend continued to be positive for white fish because of a supply deficit from the Community fleet and increasing consumer demand. In fact, average prices rose steadily over the period 1999-2001 in contrast to the previous three-year period during which prices fell. The market situation improved considerably for pelagic species with marked price increases as overall demand increased.

The Commission therefore proposes: an increase in the guide prices of between 1 percent and 2.5 percent for most white fish species (except spotted dogfish), an increase for pelagic species of between 1 percent (for anchovy) and 3 percent (for mackerel), and no change in current prices for hake, megrim and flounder.

The aim of the guide prices system is to help secure producers' income by contributing to the stabilisation of prices while enhancing the competitiveness of Community fisheries businesses in world markets. The Commission's proposals are based on Member States' average market prices over the previous three years but other important factors are also taken into account when proposing new guide prices such as changes in production levels (quotas) and market demand, consumer interests, and the need to avoid withdrawals. Proposals for 2002 guide prices can be summarized as follows:

- White fish – As a result of a general supply deficit and high consumer demand, prices of white fish have continued to be pushed upwards with average increases of between 1% and 26% for the period 1999-2001 (with the exception of prices for hake, saithe, plaice and spotted dogfish). In the light of this favourable market, the Commission is proposing a moderate increase in guide prices for most white fish.

- Pelagics – A modest increase has been proposed for pelagic species, which have shown a marked improvement on previous years. Prices for the period 1999-2001 have improved on prices for the period 1998-2000 by between 4% and 64%.

- Crustaceans – A less favourable market situation due to buoyant supply and limited demand has led the Commission to propose maintaining current guide prices for crustaceans.

- Frozen products – Prices for frozen products have tended to go up on the international markets, with the exception of hake, cuttlefish and octopus for which the Commission is proposing either to maintain the current price (hake) or to reduce the guide price (cuttlefish and octopus).

- Tuna for processing – The average Community price for tuna intended for the canning industry continued to fall over the period 1999-2001, although there was a slight improvement in the situation in the first six months of 2001. The Commission is therefore proposing a 1% reduction in the Community producer price for the 2002 fishing year.

Table Annex 6-2: Guide price proposal for fishery products in 2002

Fresh products		**Price 2001 €/t**	**Price 2002 % change**	**€/t**
Herring	*Clupea harengus*	252	3	260
Sardines	*Sardina pilchardus*	550	1.5	558
Dogfish	*Squalus acanthias*	1079	2	1101
Spotted dogfish	*Scyliorhinus* spp.	814	-3	790
Redfish	*Sebastes* spp.	1154	1.5	1171
Cod	*Gadus morhua*	1560	2	1591
Coalfish	*Pollachius virens*	782	1	790
Haddock	*Melanogrannus aeglefinus*	1052	2.5	1078
Whiting	*Merlangius merlangus*	911	1.5	925
Ling	*Molva* spp.	1196	1.5	1214
Mackerel	*Scomber scombrus*	287	3	296
Spanish Mackerel	*Scomber japonicus*	306	3	315
Anchovy	*Engraulis* spp.	1197	1	1209
Plaice (Jan-Apr)	*Pleuronectes platessa*	1052	1	1063
Plaice (May-Dec)	*Pleuronectes platessa*	1448	1	1462
Hake	*Merluccius merluccius*	3695	0	3695
Megrim	*Lepidorhombus* spp.	2382	0	2382
Dab	*Limanda limanda*	923	1.5	937
Common flounder	*Platichthys flesus*	552	0	552
Albacore (whole)	*Thunnus alalunga*	2145	1.5	2177
Albacore (gutted with head)	*Thunnus alalunga*	2452	1	2477
Cuttlefish	*Sepia officinalis/Rossia macrossoma*	1589	1.5	1613
Monkfish (whole)	*Lophius* spp.	2826	1	2854
Monkfish (without head)	*Lophius* spp.	5840	1.5	5928
Shrimps	*Crangon crangon*	2429	2	2478

Fresh products		Price 2001 €/t	Price 2002 % change	Price 2002 €/t
Norway prawns (cooked)	*Pandalus borealis*	6547	0	6547
Norway prawns (fresh)	*Pandalus borealis*	1707	0	1707
Edible crab	*Cancer pagurus*	1784	0	1784
Lobster (whole)	*Nephrops norvegicus*	5337	0	5337
Lobster (tails)	*Nephrops norvegicus*	4280	1	4323
Sole	*Solea* spp.	6518	2	6648
Frozen products				
Greenland halibut	*Reinhardtius hippoglossoides*	1937	2	1976
Hake (whole)	*Merluccius* spp.	1277	0	1277
Hake (filets)	*Merluccius* spp.	1530	0	1530
Sea bream	*Dentex dentex et Pagellus* spp.	1556	2	1587
Sword fish	*Xipkias gladius*	4000	2	4080
Cuttlefish	*Sepia officinalis,Rossia macrosoma,Sepiola rondeleti*	1928	-1	1909
Octopus	*Octopus* spp.	1987	-1	1967
Squid (loligo)	*Loligo patagonica*	1133	2	1156
Squid	*Ommastrephes sagittatus*	961	0	961
Illex	*Illex argentinus*	839	-1	831
Prawns (*Parapenaeus*)	*Parapenaeus longirostris*	4078	1	4119
Prawns (other *Penaeidae*)	Other *Penaeidae*	7903	2	8061
Tuna destined for the processing industry				
Yellowfin tuna	*Thunnus albacares*	1172	-1	1160

Source: DG-Fish

Price trends 1989-1998[51]

The most valuable species were Dover sole at approximately US$9 000 per tonne, Swordfish at nearly US$8 000 per tonne, and Norway lobsters and the common shrimp both at around

US$ 5 000 per tonne. The least expensive species were sand eels and the Norway pout, at less than 100 US$ per tonne.

Overall, prices have been relatively stable over the last decade. The increasingly significant recourse to exports and aquaculture to meet the needs for the European market mean that altogether the prices remain stable.

Cephalopods price trends 1989-1998

Cephalopod prices are defined internationally. They reflect firstly the matching between world supply and demand and secondly the level of the Japanese demand, taking into account current inventories, since Japan is the major importer of cephalopods. European cephalopods imports from outside of Europe (1995-1997) are from Morocco, India, Thailand and USA.

[51] Price index figures are based on F. Asche and F. Stenn (1998).

Squid is by far the main cephalopod species produced, with a 71 percent share of the total cephalopod production (1.7 million Mt in 1998), followed by cuttlefish (14 percent) and octopus (10 percent). Squid production was 2.5 Mt on average for the period 1989-1998 with the only important fluctuation in landings occurring in 1998. The market result is a stable evolution of price over the period 1989-1996. Some seasonality can be observed as the price drops down every second quarter due to a significant increase of imports at this time of the year (Asche and Stenn, 1998).

Octopuses depend strongly on the natural variability of the environment, especially the upwelling quality (Caverivière *et al.*, 2002). For that reason, prices can fluctuate from one year to another. In the 80s price and quantity indexes were following the same positive trend due to a continuous augmentation of the Japanese and European demand (Doglia, 2000). But in 1991-1993, the quantity caught in the North-West African waters (70 percent of the world octopus production) first declined and then remained stable for two years. The decline of the Moroccan and Spanish production after 1994 resulted in a continuing augmentation of the price over the same period (Failler, 2002); mainly due to the concurrence between the Japanese and European market (Italy, Spain, France).

Cuttlefish import prices have been stable during the last decade between 2 and 2.5 € per kilo (Globefish, 2001a). The decrease of the European production (Spain, Portugal and Italy) from 30 000 tonnes in 1989 to only 10 000 tonnes in 1998 has been partially compensated for by a slight increase in imports. The drop of the cuttlefish price index after 1994 is mainly attributable to the huge European inventories from 1992 catches.

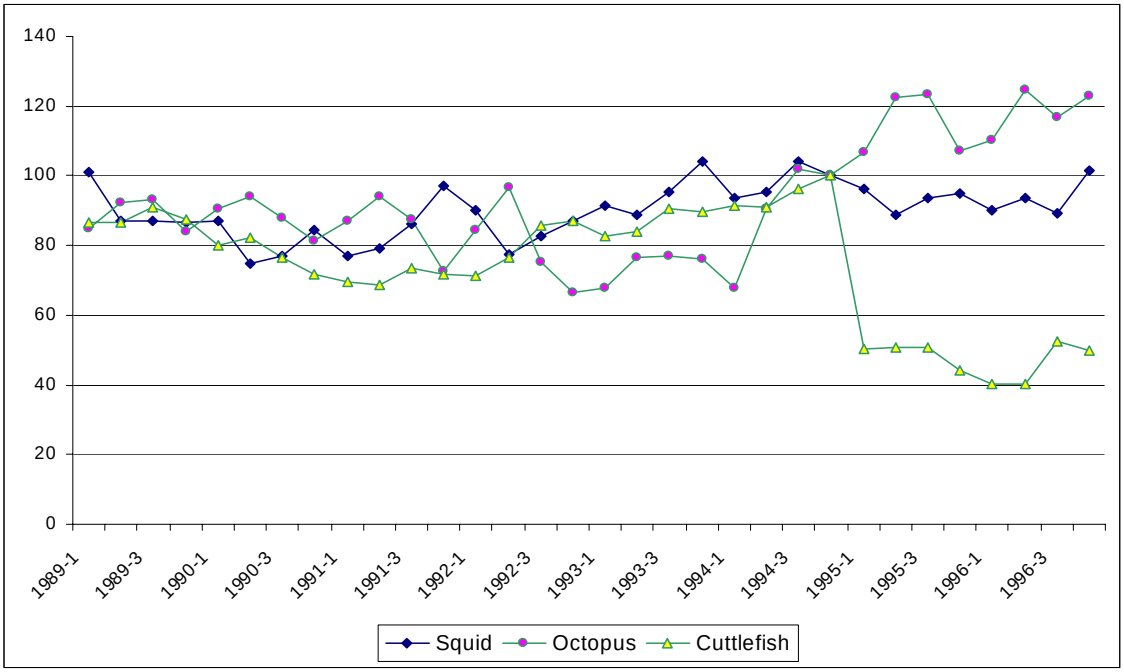


Figure Annex 6-1: Index price for cephalopods (index 100 in 1994-1)

Demersal fishes price trends 1989-1998

Groundfish prices have increased and this growth is especially strong from August 1997. The groundfish price level in December 1998 was about 25 percent higher than the average level in 1993. This is much higher than the increase in the wholesale price level in the countries most involved in groundfish import in that period. Imported quantities, except for some seasonal movements, are always higher than 1993 average.

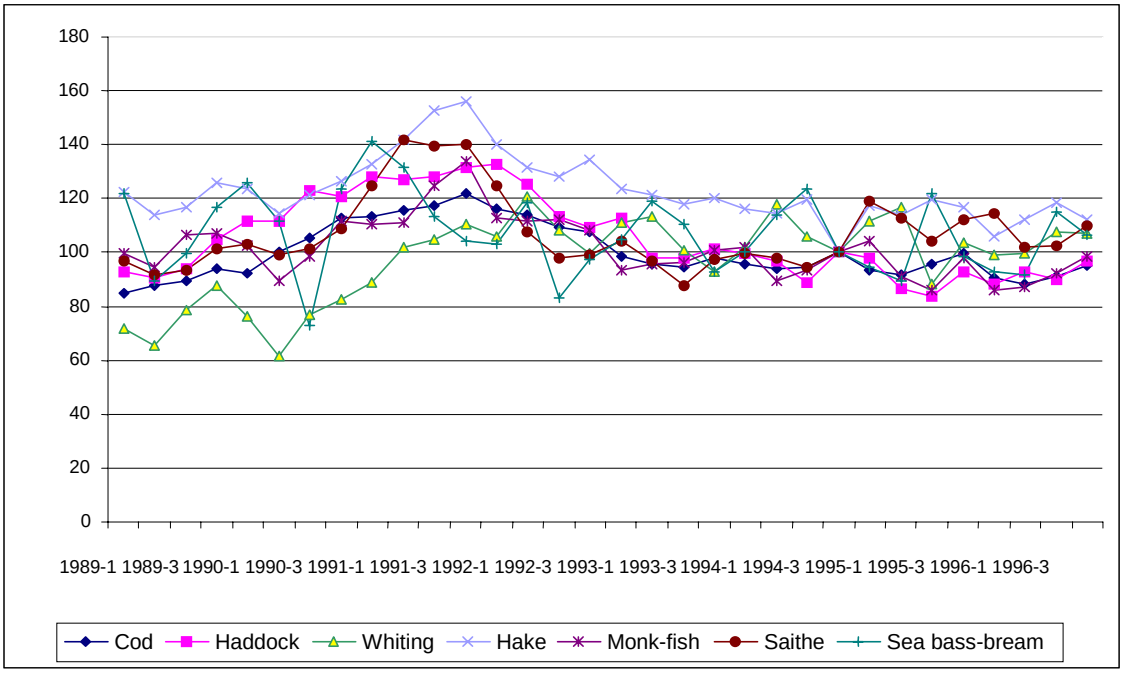


Figure Annex 6-2: Index price for whitefish (index 100 in 1994-1)

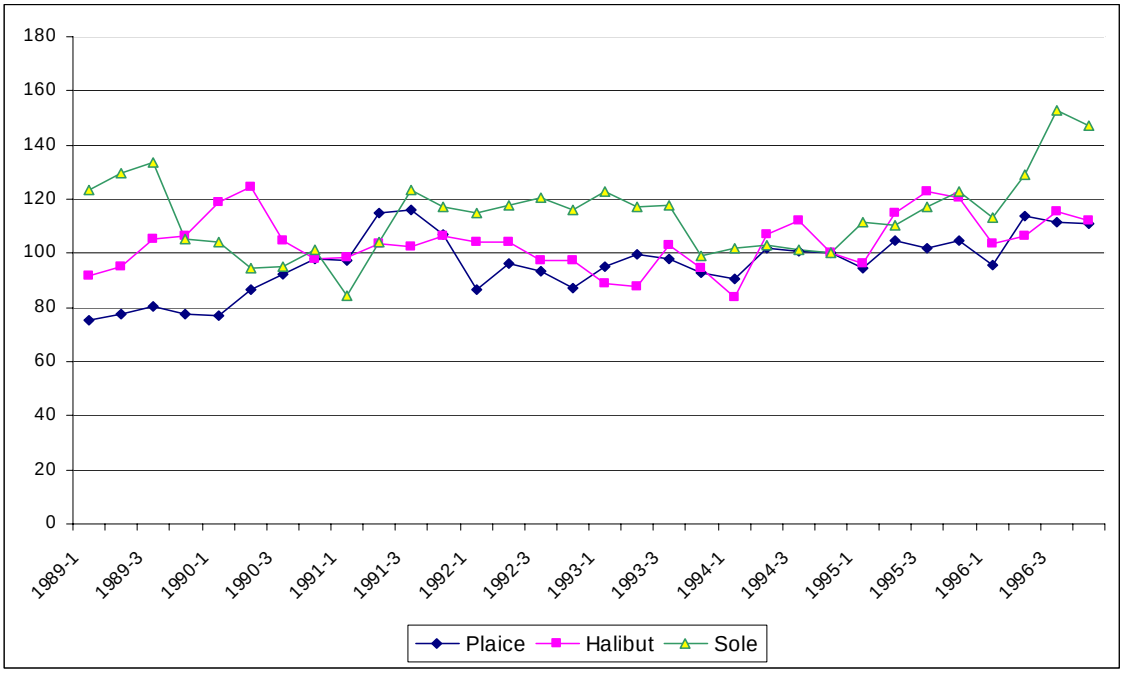


Figure Annex 6-3: Index price for flatfish (index 100 in 1994-1)

Price trends for the most recent period are presented in the table below. If some species have benefited from an increase in their price, like the common sole due to a rarefaction of good fishing grounds in the English Channel, most of the demersal species have seen their price stay relatively stable from 1994 to 1998.

Table Annex 6-3: Price trend for marine demersal fishes

(€)

Species	1994	1995	1996	1997	1998	Average €	Average US$
American Plaice	1491	1593	1511			1113	1263
Angler (Monk)	2849	2708	2928	3199		2912	3305
Atlantic cod	1404	1260	1228	1343		1387	1574
Atlantic redfish's	1387	1417	1336	1884	1659	1459	1656
Bogue	312	345				325	369
Common sole	6203	6666	7943	10120	10270	7986	9065
European hake	3316	3074	3693	4581	4749	3859	4380
European plaice	1526	1484	1748	1805	1453	1610	1828
Grey gurnard	1138	1220	1204	1167		979	1111
Haddock	961	887	851	895	1123	1071	1216
Whiting	556	677	720	813	975	770	874
Ling	924	939	897	1039		945	1072
Megrim	2473	2110	2255	2746	3091	2541	2884
Picked (Spiny) dogfish	672	697	748	1261		809	919
Saithe (Pollock)	728	726	673	749	1111	822	933

Source: MARSOURCE, Market price

Tuna and sardine price trends 1989-1998

Tuna, like cephalopods, are part of a world market where the main producers are Japan, Taiwan Province of China, Spain, Indonesia, Philippines and France (Douglas, 1999). Tuna catches grew from 2.5 Mt in 1989 to reach almost 4 Mt in 1998. In EU-15, Spain and France have a long history of tuna fishery along the West African coasts since the middle of the 20th century and in the Indian Ocean since 1984 (Failler, 2003b).

Tuna prices have moved alternately up and down, generally following a slightly decreasing path, while tuna quantities have gradually increased and the price of canned tuna shows a gently growing trend (GLOBEFISH, 2001b).

Table Annex 6-4: Price trend for large pelagic species

Species	1994	1995	1996	1997	1998	Average €	Average US$
Albacore	978	572	731	3579		1602	1819
Skipjack tuna	994	1477	1098	960	3778	1489	1690
Swordfish	6210	5366	6851	8715	9521	7025	7974
Yellowfin tuna	1584	1682	1401	2120		1543	1752

Source: MARSOURCE, Market price

Sardine, which like tuna is a species that is sold fresh, frozen and canned, had the specificity o have a price index that followed the quantity index over the period 1989-1996 (Asche and Stenn, 1998). An important augmentation of catches by Spanish vessels in the beginning of the 1990s was accompanied by a price increase partially resulting from a drop in imports form Morocco. The latest period 1993-1996 shows a stabilization of the price at the same level as the 1990 one.

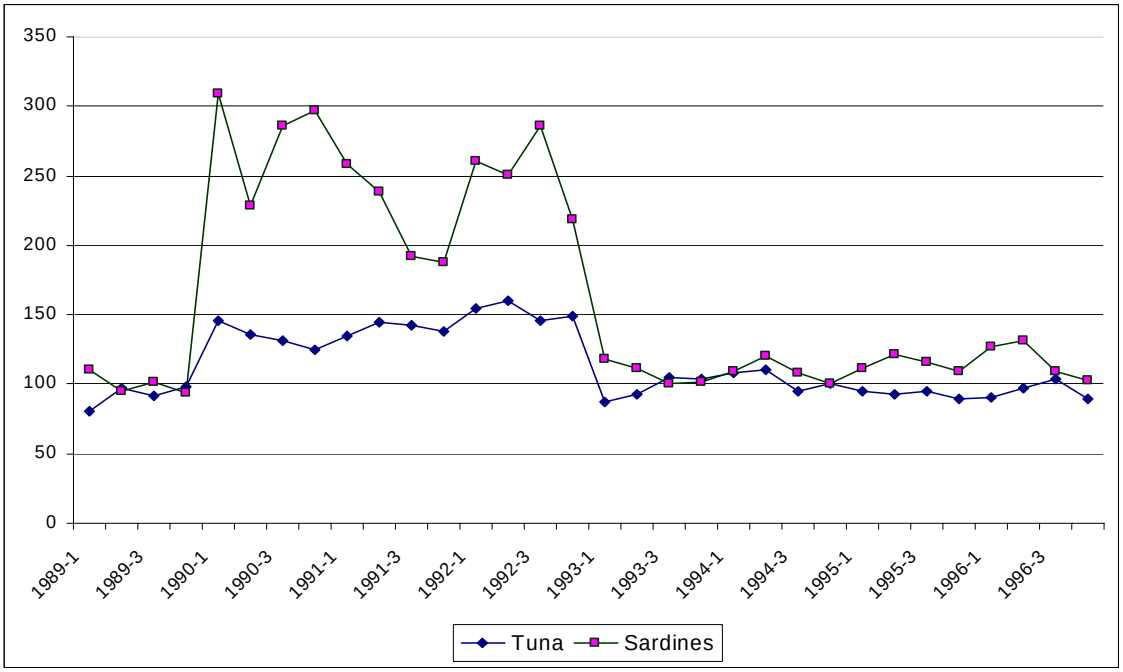


Figure Annex 6-4: Index price for pelagic fish (index 100 in 1994-1)

Small pelagics and industrial species price trends 1989-1998

The canned small pelagic index shows moderate variations in the price level that has changed less than the average increase in wholesale prices in the main countries involved in their import. European fresh and frozen small pelagic prices grew until November 1996 and then declined, falling to below the 1993 level in the first months of 1999.

Table Annex 6-5: Price trend for small pelagic fishes and industrial species

Species	1994	1995	1996	1997	1998	Average €	Average US$
Atlantic herring	157	139	166	170	140	155	176
Atlantic horse mackerel	202	165	123	111		167	189
Atlantic mackerel	149	187	323	428	326	262	298
Chub mackerel	331	278				302	342
European anchovy	1362	1232	1575	1740	1323	1510	1714
European pilchard	319	383	522	542	479	416	472
European sprat	80	79	86	105	119	92	105
Norway pout	67	74	80	98		78	88
Blue whiting	120	103	109	81	74	129	146
Sand eels	70	72	84	96		78	88

Source: MARSOURCE, Market price

Crustaceans and molluscs price trends 1989-1998

Crustacean and molluscs index prices are seasonally fluctuated but stable over the period 1989-1996 even if the EU-15 net supply was considerably increased. On the most recent period (see table below), prices seem to follow a more erratic tendency.

Mussels show the biggest inter-annual seasonality with a peak every fourth quarter and some price volatility over the period since there is no direct relationship between price and quantity (Monford, 1998d). Crustacean quantities increased considerably over the period whereas the price remained stable (Asche and Stenn, 1998). Prawns have a rather stable price over the period 1989-1996 even if the quantities supplied to national markets significantly increased (more than doubled). Lobster does not present any clear trend over the period 1989-1996, nor for the most recent one 1994-1998 (see table below).

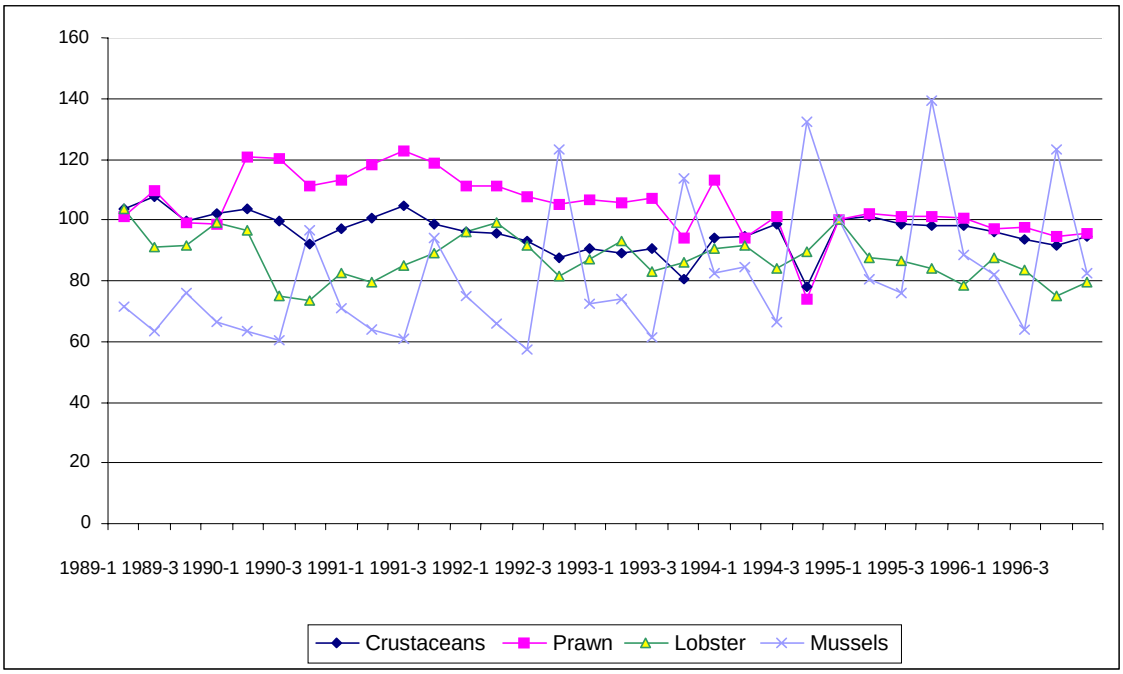


Figure Annex 6-5: Index price for crustaceans and molluscs (index 100 in 1994-1)

European prices also alternate between periods of increase and decrease and the price level has always remained higher than the average for 1993. The quantity of shrimp imported to

Europe seems to be rising due to an improvement of imports' heath and safety standards (San Clazada, 1999; Schouten, 1996).

Table Annex 6-6: Price trend for molluscs

Species	1994	1995	1996	1997	1998	Average €	Average US$
Blue mussel	99	240	197	197		173	197
Common cockle	271	318	817	201		368	418
Striped venus	224	1464	1911			963	1093
Common shrimp	3066	3027	2674	1695		2546	2890
Edible crab	1200	1135	1258	2040	1884	1443	1638
Norway lobster	4699	4429	4782	5342	4987	5073	5758

Source: MARSOURCE, Market price

Diadromous fishes price trends 1989-1998

Salmon is the only commodity that shows a strong continuously decreasing trend in prices, which fell by 25 percent during the period studied. Alongside this reduction in prices there have been large increases in the quantities imported with peaks rising to more than three times 1993 average imports.

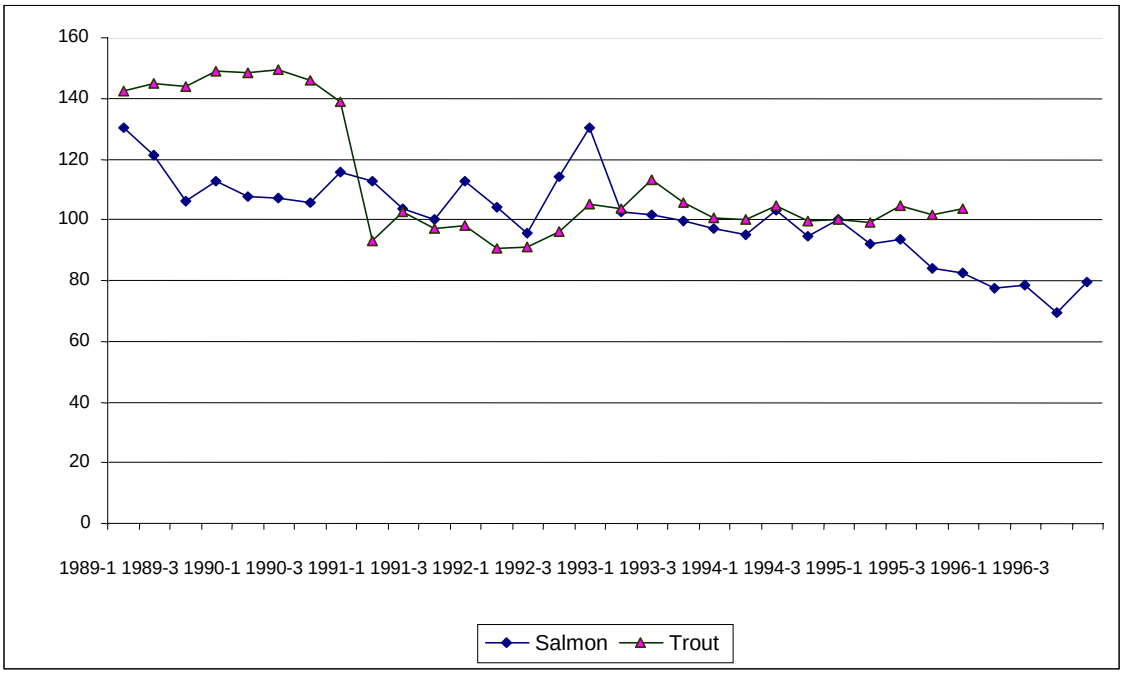


Figure Annex 6-6: Index price for diadromous fish (index 100 in 1994-1)

Price, revenues and demand elasticity

The "law of demand," namely that the higher the price of a good, the less consumers will purchase, has been termed the "most famous law in economics, and the one that economists are most sure of." To predict consumer behaviour, economists use well-defined techniques evaluating the sensitivity of consumers to changes in price. Such techniques, pioneered by the great British economist Alfred Marshall (1842-1924) in the early part of the last century, are the foundations of microeconomics.

The most commonly used measure of consumers' sensitivity to price is known as "price elasticity of demand." It is simply the proportionate change in demand given a change in price. Where a one-percent drop in the price of a product produces a one-percent increase in demand for the product, the price elasticity of demand is said to be one. Hundreds of studies have been done over the years calculating long-run and short-run price elasticity of demand[52]. For most consumer goods and services, price elasticity tends to be between .5 and 1.5. As the price elasticity for most products clusters around 1.0, it is a commonly used rule of thumb. A good with a price elasticity stronger than negative one is said to be "elastic;" goods with price elasticities smaller (closer to zero) than negative one are said to be "inelastic." Goods that are more essential to everyday living, and that have fewer substitutes, typically have lower elasticities; staple foods are a good example. Goods with many substitutes, or that are not essential, have higher elasticities. Goods that are considered luxuries, or whose purchase can be easily postponed, often have elastic demand.

For the fishery market, consumption variations can be explained by variation in prices, incomes and other consumer characteristics:

- For the demand for farmed salmon and, to a lesser extent the demand for other fish, provide estimates of demand price elasticity. Certain values, gathering a broad consensus, must be taken into account. An assumption of –1.0, for the demand price elasticity for all the species except for trout, carp, eel and mussels is plausible and not far removed from available empirical estimations. For trout, carp, eel and mussels a value of –0.5 is likely. Under these conditions the demand for aquatic products does not appear to be elastic relative to price.
- Income elasticity compared to demand can be established at a value of 1.0. This assumption, supposing that the rise of the salmon consumption corresponds to an increase in incomes, is probably realistic since there are signs indicating that farmed salmon could lose its image as a luxury good and be perceived as an "oven-ready chicken fish". Thus, income elasticity demonstrates the rise in demand when incomes increase.
- In general, one expects the total demand for a food product to develop proportionally with population growth. However, large total shifts in total population can hide major changes within its structure and these demographic characters may have significant implications for patterns of food demand.

Therefore, the majority of changes regarding the structure of fish consumption translate from behavioural and demographic variables that are more subtle and complex than a simple analysis of income and population.

Labelling and traceability[53]

Since 1 January 2002, fish retailers have been obliged to give additional product information on certain fish and seafood products when offering them for sale to the final consumer. The idea behind this is to provide the consumer with more detailed knowledge on the type of fish he is buying, where it comes from, or how it was produced. However, this EU directive is

[52] For a review of elasticity analysis in fishery, see Ashe and Bjorndal (2002).

[53] See also proceedings of the FAO Committee on Fisheries; Sub-Committee on Fish Trade, eighth session, Bremen, Germany, 12-16 February 2002, Traceability of products from fisheries and aquaculture at http://www.fao.org/docrep/meeting/004/y3015E.htm.

being viewed rather controversially since it only affects the retail sector. For hotels, restaurants and the processing industry it's "business as usual".

The range of fish, shellfish and crustaceans on offer today is huge – and this can be very confusing (Fjord *et al.*, 2001). There are already a good 200 species that are regularly caught or produced in Europe, and to these have to be added hundreds of others that come from all over the world. Perhaps it was this confusion that the Council of the European Union wanted to clear up when it designed Directive 104/2000 in December 1999. The directive requires that certain fish and seafood products, when offered for retail sale, have to be marked with the correct species' name (including the scientific name), the production method (whether caught at sea, in inland waters, or farmed), and the catch area. The new regulations also include traceability provisions requiring that the labelling information, from the scientific name to the catch area, is available at all stages of the marketing chain. Directive 2065/2001 provided for the establishment of these requirements in European law.

The directive's aim was to achieve greater clarity and transparency on the fish market but, due to its striking lack of consistency, it was initially met with amazement. Within the retail sector it is only the fishmonger who is obliged to label his products according to the new regulations. Restaurant owners can continue to think up sales-effective, imaginary names for their menus. What was it that made the Brussels politicians limit the new labelling requirements to primary processed products from whole fish to fillets, whilst processed products such as sardines or delicatessen salads are not affected? In fact, in individual cases, this can lead to some very curious situations. In Germany, for example, giant prawns often used to be sold as scampi. According to the new directive, however, scampi can only be used for Nephrops norvegicus and species of the order Metanephrops. So at a fishmonger's which also runs a snack-bar, tiger prawns now have to be offered for sale under the name shrimp or prawn whereas the same product can continue to be called scampi once it has been grilled and is served in the snack-bar just a few feet away.

Even prior to the new directive there was no lack of rules and regulations governing the labelling of foods in the EU. Directive 79/112/EEC of 18 December 1978 and the subsequent amendments regulate more or less everything that has anything to do with the correct labelling, presentation and advertising of foods. It includes, for example, the requirement that product labelling has to use simple wording that is understandable to the consumer. It should prevent deception in trade, and protect the consumer against faked products. The objective of all these directives is to avert health risks for the consumer and ensure the rights of industry and trade.

- The following information had to be given on food labels even before the new labelling directive:

- The name under which the product is sold.

- The list of ingredients including all the ingredients in descending order of weight as recorded at the time of their use in the manufacture of the foodstuff, preceded by a suitable heading which includes the word ingredients.

- The net quantity of prepackaged foodstuffs in metric units (litre, centilitre, millilitre) for liquids and (kilogram, gram) for non-liquids.

- The date of minimum durability consisting of day, month and year in that order and preceded by the words ‘best before’ or ‘best before end’ or the ‘use by’ date for highly perishable goods.

- Any special storage conditions or conditions of use.

- The name or business name and address of the manufacturer, packer or EU seller.

- Particulars of the place of origin or provenance in the cases where failure to give such particulars might mislead the consumer as to the true origin or provenance of the foodstuff.

- Instructions of use when it would be impossible to make appropriate use of the foodstuff in the absence of such instructions.

Whilst the above requirements apply to almost all foods, the new directive by no means applies to all fish products but mainly to products in which the fish is more or less left in its natural state, and enters trade without additional processing. These products include smoked products, fresh fish, primary processed frozen products (e.g. fillets) as well as raw and primary processed, fresh and frozen shellfish and crustaceans.

- Fish, fresh or chilled

- Fish, frozen

- Fish fillet and other processing forms of fish meat (including minced), fresh, chilled or frozen

- Fish products, dried, salted or in brine

- Fish, smoked, also cooked prior to or during smoking

- Crustaceans, including crustaceans without shell, live, fresh, chilled, frozen, dried, salted or in brine

- Crustaceans in their shells cooked by boiling in water or steaming, also chilled, frozen, dried, salted or in brine

- Molluscs and other invertebrate aquatic organisms, also without shell, live, fresh, chilled, frozen, dried, salted or in brine

The labelling directive does not apply, on the other hand, to processed and prepared seafood products whose value has been further enhanced by means of crumbs, marinades, sauces, toppings or other recipe components. For example, the new labelling directive does not apply to the following products:

- Breaded fish products

- Fish-in-sauce products
- Fish marinades

- Canned fish products
- Fish fillets with toppings
- Breaded crustacean and mollusc products
- Caviar and caviar substitute

Before this directive can finally take effect throughout Europe it has to be translated into the national law of the individual member states. However, the prerequisite for this are lists of the binding commercial or common names under which individual fish and seafood species are permitted to enter trade. This task is rather difficult and time-consuming, for some species are known by more than one name. Sea bass or sea bream, for example, can refer to at least two dozen different fish species across Europe. It was consequently not easy for national committees to choose the common species for the lists and find binding, generally recognized names for them. And they didn't always make the most fortunate choice, as the German commercial name list shows. With just a few exceptions all warm water prawn species were grouped together as prawns or shrimps. The grounds for this very strong simplification were presumably that the consumer cannot differentiate between the individual Penaeus-, Meta-, Para-, and Plesiopenaeus species anyway. On the other hand, this naturally has a blurring effect on differences in quality and price. And whereas, in the case of prawns, the path of simplification was chosen, fine distinctions were made for shellfish. It can probably be justifiably doubted whether the German consumer is in a position to distinguish between the ten abalone species listed, particularly since this product group is without significance in the German market anyway. The number of amendments and subsequent improvements that are already breaking in on traders every month proves just how imperfect and impractical the lists still are.

The preparation of the lists of commercial names probably caused similar problems in other European countries, too. Information on production methods is a slightly more simple and understandable area. In the case of sea fish it is quite enough if the label contains the information "caught in…". In the case of fish from freshwater lakes and rivers the term is "from inland fisheries", and fish from aquaculture have to be marked "farmed in…" or "from aquaculture". With regard to aquaculture products it is decisive in which country the product underwent final development (COPA/COGECA, 1996). If the seed for French bouchot mussels, for example, came from Holland or the UK this does not necessarily have to be stated. But here, too, the authorities have a rather strict view of things, at least in Germany, where the formulation "Norwegian farmed salmon", for example, is not permitted as a means of naming production method and place of origin. The correct label would be: "Salmon, farmed in Norway". This kind of hair-splitting hardly serves to increase the acceptance of the new labelling directive.

In contrast, information on catch area is considerably more liberal. For catches from the Atlantic and its bordering waters it is sufficient to name one of the following FAO fishing regions (decisive here are the regions named in EC directive No. 2065/2001):

- North-West Atlantic
- North-East Atlantic
- Central-Western Atlantic
- Central-Eastern Atlantic

- South-West Atlantic
- South-East Atlantic
- Baltic Sea
- Mediterranean Sea
- The Indian Ocean, the Antarctic and even the huge Pacific Ocean are each seen in whole as one fishing region.

EU and WTO

It is more and more clear that fish will be regarded as an industrial product in the forthcoming rounds of negotiations at the WTO (Scott, 1998). However, even if fish retains its status as an industrial product, there is widespread uncertainty around the outcome of the next WTO negotiations where fish is concerned, and the relationship between the WTO and the increasing numbers of regional trade blocks that are emerging across the globe. Fish export volume is increasing at a solid rate on a world basis, and now has a value of 50 billion €. The fisheries nations are looking for a change in the anti-dumping regulations for fish, but are cautious in their approach.

The Norwegian fisheries industry will take on a leading role in order to secure market access with respect with WTO rules. The WTO is very concerns with the solid development of regional trade agreements and European fishing agreements with 27 different countries. So, the WTO is at a standstill while the various regional arrangements are in constant development. In a new round of WTO negotiations, fish could come into conflict with agricultural interests in several countries (Olsen, 2001).

ANNEX 7: CONSOLIDATED RESULTS UP TO 2030

Note: FU = Food use
NFU = Non food use

Table Annex 7-1: Consolidated results from 2005 to 2030

(tonnes live weight)

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Austria	Exports FU	4502	3837	3837	3837	3837	3837	3837
Belgium-Luxembourg	Exports FU	128644	159867	159867	159867	159867	159867	159867
Denmark	Exports FU	857085	915058	915058	915058	915058	915058	915058
Finland	Exports FU	13837	17243	17243	17243	17243	17243	17243
France	Exports FU	468279	454438	454943	455459	455984	456521	457068
Germany	Exports FU	469709	508974	508974	508974	508974	508974	508974
Greece	Exports FU	64643	87218	87218	87218	87218	87218	87218
Ireland	Exports FU	372874	384160	387991	391984	396150	400499	405043
Italy	Exports FU	163517	166321	166399	166483	166575	166674	166782
Netherlands	Exports FU	858345	933808	934406	935013	935628	936251	936882
Portugal	Exports FU	119560	123076	123076	123076	123076	123076	123076
Spain	Exports FU	678659	823799	823799	823799	823799	823799	823799
Sweden	Exports FU	280488	325676	325676	325676	325676	325676	325676
United Kingdom	Exports FU	594978	673975	678532	683177	687912	692739	697661
Cyprus	Exports FU	404	473	473	473	473	473	473
Czech Republic	Exports FU	13478	12144	12144	12144	12144	12144	12144
Estonia	Exports FU	149832	188781	188781	188781	188781	188781	188781
Hungary	Exports FU	3388	4501	4501	4501	4501	4501	4501
Poland	Exports FU	232238	187655	187922	188205	188502	188815	189145
Slovenia	Exports FU	3281	3010	3010	3010	3010	3010	3010
Bulgaria	Exports FU	8094	4332	4332	4332	4332	4332	4332
Latvia	Exports FU	103743	97368	97368	97368	97368	97368	97368
Lithuania	Exports FU	65836	87451	87451	87451	87451	87451	87451
Malta	Exports FU	1249	1599	1599	1599	1599	1599	1599
Norway	Exports FU	1744360	1841286	1855374	1869703	1884278	1899102	1914180
Romania	Exports FU	493	1359	1359	1359	1359	1359	1359
Slovakia	Exports FU	704	1047	1047	1047	1047	1047	1047
Total EUR-28		**7402219**	**8008455**	**8032381**	**8056836**	**8081841**	**8107413**	**8133575**
Austria	Imports FU	88250	93846	96872	100201	103865	107905	112362
Belgium-Luxembourg	Imports FU	327049	366120	370663	375952	382032	388953	396769
Denmark	Imports FU	564041	610941	614054	617348	620836	624532	628450
Finland	Imports FU	67561	71622	74650	78110	82062	86576	91731
France	Imports FU	1382082	1545030	1582132	1620991	1661715	1704417	1749224
Germany	Imports FU	1222634	1382762	1422901	1465856	1511762	1560766	1613020
Greece	Imports FU	118116	157688	161706	165993	170569	175457	180682
Ireland	Imports FU	35377	44525	44771	45025	45290	45565	45853
Italy	Imports FU	877741	995492	1027111	1061091	1097642	1136991	1179390
Netherlands	Imports FU	572331	592280	596981	601888	607009	612352	617927
Portugal	Imports FU	486304	514084	514861	515864	517113	518629	520437
Spain	Imports FU	1041343	1150508	1135216	1122518	1112234	1104200	1098268
Sweden	Imports FU	185820	216458	217351	219104	221727	225248	229715
United Kingdom	Imports FU	742943	808445	826942	846328	866657	887985	910371
Cyprus	Imports FU	13162	15616	16401	17274	18244	19322	20521
Czech Republic	Imports FU	78179	81166	86404	92389	99210	106966	115774
Estonia	Imports FU	48532	78919	78846	78870	78999	79239	79600
Hungary	Imports FU	22654	29374	31909	34837	38221	42136	46667

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Poland	Imports FU	319405	388487	414312	443123	475293	511242	551452
Slovenia	Imports FU	13470	14053	14615	15234	15917	16669	17501
Bulgaria	Imports FU	11741	25269	28437	32030	36109	40741	46007
Latvia	Imports FU	47917	45685	46730	47991	49516	51364	53610
Lithuania	Imports FU	82809	116224	123641	131684	140414	149901	160218
Malta	Imports FU	9168	11141	11773	12449	13175	13951	14784
Norway	Imports FU	303377	369583	371454	373478	375671	378051	380636
Romania	Imports FU	28075	62892	70090	78290	87656	98384	110707
Slovakia	Imports FU	34179	29741	32086	34693	37589	40809	44387
Total EUR-28		**8724262**	**9817953**	**10012909**	**10228612**	**10466526**	**10728352**	**11016063**
Austria	Production FU	3386	2624	2222	1882	1594	1350	1143
Belgium-Luxembourg	Production FU	35413	33632	33632	33632	33632	33632	33632
Denmark	Production FU	417241	435656	438628	441685	444831	448068	451398
Finland	Production FU	119320	125530	125637	125746	125856	125969	126082
France	Production FU	879250	823438	823480	823522	823567	823612	823659
Germany	Production FU	324543	380772	381661	382557	383460	384370	385287
Greece	Production FU	221634	213001	214444	215909	217394	218900	220428
Ireland	Production FU	412100	418663	423024	427563	432289	437210	442338
Italy	Production FU	578547	564930	571979	579138	586408	593790	601287
Netherlands	Production FU	536994	587275	589724	592230	594792	597413	600095
Portugal	Production FU	233554	218783	218783	218783	218783	218783	218783
Spain	Production FU	1238827	1273644	1278736	1283901	1289141	1294457	1299851
Sweden	Production FU	337006	361288	361288	361288	361288	361288	361288
United Kingdom	Production FU	1143541	1316200	1320897	1325636	1330417	1335239	1340105
Cyprus	Production FU	3310	3668	3668	3668	3668	3668	3668
Czech Republic	Production FU	33275	31500	31500	31500	31500	31500	31500
Estonia	Production FU	131982	130269	130269	130269	130269	130269	130269
Hungary	Production FU	19760	20844	20844	20844	20844	20844	20844
Poland	Production FU	378462	269883	270370	270861	271356	271854	272356
Slovenia	Production FU	3069	3061	3061	3061	3061	3061	3061
Bulgaria	Production FU	23063	18815	18815	18815	18815	18815	18815
Latvia	Production FU	156966	142795	142795	142795	142795	142795	142795
Lithuania	Production FU	49956	35991	35991	35991	35991	35991	35991
Malta	Production FU	2290	2907	2907	2907	2907	2907	2907
Norway	Production FU	1643608	1678962	1694462	1710345	1726621	1743301	1760395
Romania	Production FU	36221	18385	18385	18385	18385	18385	18385
Slovakia	Production FU	2796	1984	1984	1984	1984	1984	1984
Total EUR-28		**8966115**	**9114498**	**9159187**	**9204897**	**9251646**	**9299454**	**9348344**
Austria	Fish supply FU	87134	92634	95258	98246	101622	105417	109669
Belgium-Luxembourg	Fish supply FU	233818	239885	244427	249717	255797	262717	270533
Denmark	Fish supply FU	124197	131540	137624	143976	150610	157542	164790
Finland	Fish supply FU	173045	179909	183044	186612	190675	195302	200570
France	Fish supply FU	1793053	1914031	1950669	1989055	2029297	2071509	2115815
Germany	Fish supply FU	1077468	1254561	1295588	1339439	1386249	1436162	1489333
Greece	Fish supply FU	275107	283470	288932	294683	300744	307139	313891
Ireland	Fish supply FU	74604	79028	79804	80604	81428	82276	83148
Italy	Fish supply FU	1292772	1394100	1432691	1473746	1517475	1564107	1613894
Netherlands	Fish supply FU	250981	245747	252299	259105	266173	273515	281140
Portugal	Fish supply FU	600298	609791	610568	611572	612820	614336	616144
Spain	Fish supply FU	1601512	1600354	1590153	1582621	1577577	1574859	1574320
Sweden	Fish supply FU	242337	252070	252963	254716	257338	260859	265327
United Kingdom	Fish supply FU	1291507	1450670	1469306	1488787	1509162	1530485	1552815
Cyprus	Fish supply FU	16069	18811	19596	20469	21439	22517	23716
Czech Republic	Fish supply FU	97977	100521	105760	111745	118565	126322	135130
Estonia	Fish supply FU	30682	20407	20334	20358	20487	20727	21088
Hungary	Fish supply FU	39026	45717	48251	51179	54564	58478	63009

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Poland	Fish supply FU	465628	470716	496759	525780	558147	594281	634663
Slovenia	Fish supply FU	13258	14104	14666	15285	15967	16720	17552
Bulgaria	Fish supply FU	26710	39752	42920	46514	50592	55225	60490
Latvia	Fish supply FU	101140	91112	92158	93419	94943	96791	99037
Lithuania	Fish supply FU	66929	64764	72181	80224	88954	98441	108758
Malta	Fish supply FU	10208	12449	13081	13758	14483	15260	16092
Norway	Fish supply FU	202625	207259	210542	214120	218015	222250	226851
Romania	Fish supply FU	63803	79918	87115	95315	104681	115410	127732
Slovakia	Fish supply FU	36271	30678	33023	35630	38526	41746	45324
Total EUR-28		**10288158**	**10923996**	**11139715**	**11376673**	**11636331**	**11920393**	**12230831**
Austria	Population	8034	8220	8326	8384	8443	8502	8562
Belgium-Luxembourg	Population	10528	10812	10955	11056	11159	11263	11368
Denmark	Population	5245	5386	5452	5489	5526	5563	5601
Finland	Population	5122	5230	5290	5320	5350	5380	5411
France	Population	58250	60261	61387	62104	62831	63565	64307
Germany	Population	81798	83675	84854	84762	84670	84578	84486
Greece	Population	10509	10838	11079	11174	11269	11365	11462
Ireland	Population	3636	3732	3760	3834	3909	3986	4064
Italy	Population	57387	57604	57633	57085	56543	56005	55473
Netherlands	Population	15527	16231	16659	16929	17204	17483	17766
Portugal	Population	9878	10151	10293	10402	10513	10625	10737
Spain	Population	39533	39941	40372	40339	40307	40275	40242
Sweden	Population	8819	9038	9176	9322	9470	9620	9773
United Kingdom	Population	58689	59703	60146	60590	61038	61489	61943
Cyprus	Population	739	761	808	858	913	969	1029
Czech Republic	Population	10314	10335	10361	10386	10412	10438	10463
Estonia	Population	1461	1428	1448	1468	1489	1510	1531
Hungary	Population	10186	10149	10184	10219	10254	10289	10325
Poland	Population	38641	39500	39521	39606	39069	39153	39238
Slovenia	Population	1992	2011	2018	2026	2034	2042	2050
Bulgaria	Population	8417	8205	8208	8212	8215	8218	8222
Latvia	Population	2494	2435	2460	2486	2512	2538	2565
Lithuania	Population	3716	3760	3803	3847	3892	3937	3982
Malta	Population	381	411	419	427	436	445	453
Norway	Population	4369	4551	4663	4756	4851	4948	5046
Romania	Population	22652	23063	23473	23891	24320	24753	25194
Slovakia	Population	5366	5408	5414	5419	5425	5431	5436
Total EUR-28		**483683**	**492840**	**498164**	**500393**	**502054**	**504369**	**506728**
Austria	Per caput supply	11	11	11	12	12	12	13
Belgium-Luxembourg	Per caput supply	22	22	22	23	23	23	24
Denmark	Per caput supply	24	24	25	26	27	28	29
Finland	Per caput supply	34	34	35	35	36	36	37
France	Per caput supply	31	32	32	32	32	33	33
Germany	Per caput supply	13	15	15	16	16	17	18
Greece	Per caput supply	26	26	26	26	27	27	27
Ireland	Per caput supply	21	21	21	21	21	21	20
Italy	Per caput supply	23	24	25	26	27	28	29
Netherlands	Per caput supply	16	15	15	15	15	16	16
Portugal	Per caput supply	61	60	59	59	58	58	57
Spain	Per caput supply	41	40	39	39	39	39	39
Sweden	Per caput supply	27	28	28	27	27	27	27
United Kingdom	Per caput supply	22	24	24	25	25	25	25
Cyprus	Per caput supply	22	25	24	24	23	23	23
Czech Republic	Per caput supply	9	10	10	11	11	12	13
Estonia	Per caput supply	21	14	14	14	14	14	14
Hungary	Per caput supply	4	5	5	5	5	6	6

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Poland	Per caput supply	12	12	13	13	14	15	16
Slovenia	Per caput supply	7	7	7	8	8	8	9
Bulgaria	Per caput supply	3	5	5	6	6	7	7
Latvia	Per caput supply	41	37	37	38	38	38	39
Lithuania	Per caput supply	18	17	19	21	23	25	27
Malta	Per caput supply	27	30	31	32	33	34	36
Norway	Per caput supply	46	46	45	45	45	45	45
Romania	Per caput supply	3	3	4	4	4	5	5
Slovakia	Per caput supply	7	6	6	7	7	8	8
Total EUR-28		**590**	**595**	**600**	**608**	**618**	**630**	**643**
EU-15 Average		**24.4**	**25.5**	**25.6**	**26.0**	**26.4**	**26.8**	**27.2**
EUR-6 NC Average		**10.5**	**10.4**	**11.0**	**11.5**	**12.3**	**13.0**	**13.8**
EUR-7 NC Average		**10.7**	**11.0**	**11.4**	**11.8**	**12.3**	**12.8**	**13.4**
EUR-28 Average		**21.3**	**22.2**	**22.4**	**22.7**	**23.2**	**23.6**	**24.1**
Austria	Production NFU							
Belgium-Luxembourg	Production NFU	553	422	422	422	422	422	422
Denmark	Production NFU	1393022	1257998	1257998	1257998	1257998	1257998	1257998
Finland	Production NFU	32963	10190	10190	10190	10190	10190	10190
France	Production NFU	83249	82521	82521	82521	82521	82521	82521
Germany	Production NFU	14704	16805	16805	16805	16805	16805	16805
Greece	Production NFU	5012	2083	2083	2083	2083	2083	2083
Ireland	Production NFU	59932	67243	67243	67243	67243	67243	67243
Italy	Production NFU	10576	11984	11984	11984	11984	11984	11984
Netherlands	Production NFU							
Portugal	Production NFU	23958	13990	13990	13990	13990	13990	13990
Spain	Production NFU	123360	155892	155892	155892	155892	155892	155892
Sweden	Production NFU	116900	123117	123117	123117	123117	123117	123117
United Kingdom	Production NFU	210145	159657	159657	159657	159657	159657	159657
Cyprus	Production NFU							
Czech Republic	Production NFU							
Estonia	Production NFU	3667	3454	3454	3454	3454	3454	3454
Hungary	Production NFU							
Poland	Production NFU	59531	52005	52005	52005	52005	52005	52005
Slovenia	Production NFU	15	0	0	0	0	0	0
Bulgaria	Production NFU	0	0	0	0	0	0	0
Latvia	Production NFU	16177	12528	12528	12528	12528	12528	12528
Lithuania	Production NFU	3880	3699	3699	3699	3699	3699	3699
Malta	Production NFU							
Norway	Production NFU	1049002	1312539	1312539	1312539	1312539	1312539	1312539
Romania	Production NFU	101	43	43	43	43	43	43
Slovakia	Production NFU							
Total EUR-28		**3206746**	**3286169**	**3286169**	**3286169**	**3286169**	**3286169**	**3286169**
Austria	Imports NFU	25488	23363	23363	23363	23363	23363	23363
Belgium-Luxembourg	Imports NFU	82991	63963	63963	63963	63963	63963	63963
Denmark	Imports NFU	100018	100002	100002	100002	100002	100002	100002
Finland	Imports NFU	110098	98725	98725	98725	98725	98725	98725
France	Imports NFU	234361	203447	203447	203447	203447	203447	203447
Germany	Imports NFU	589282	568789	568789	568789	568789	568789	568789
Greece	Imports NFU	46844	55161	55161	55161	55161	55161	55161
Ireland	Imports NFU	35259	22167	22167	22167	22167	22167	22167
Italy	Imports NFU	187006	149642	149642	149642	149642	149642	149642
Netherlands	Imports NFU	587277	183316	183316	183316	183316	183316	183316
Portugal	Imports NFU	20023	20347	20347	20347	20347	20347	20347
Spain	Imports NFU	137000	129909	129909	129909	129909	129909	129909
Sweden	Imports NFU	36575	24647	24647	24647	24647	24647	24647
United Kingdom	Imports NFU	595119	455631	455631	455631	455631	455631	455631
Cyprus	Imports NFU	8966	8768	8768	8768	8768	8768	8768

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Czech Republic	Imports NFU	22205	15613	15613	15613	15613	15613	15613
Estonia	Imports NFU	3741	1469	1469	1469	1469	1469	1469
Hungary	Imports NFU	49112	45506	45506	45506	45506	45506	45506
Poland	Imports NFU	4520	2776	2776	2776	2776	2776	2776
Slovenia	Imports NFU	5198	3414	3414	3414	3414	3414	3414
Bulgaria	Imports NFU	9392	6004	6004	6004	6004	6004	6004
Latvia	Imports NFU	3045	1272	1272	1272	1272	1272	1272
Lithuania	Imports NFU	12597	15266	15266	15266	15266	15266	15266
Malta	Imports NFU	3817	2740	2740	2740	2740	2740	2740
Norway	Imports NFU	760005	772943	805224	839534	876077	915088	956828
Romania	Imports NFU	19564	21813	21813	21813	21813	21813	21813
Slovakia	Imports NFU	12848	11482	11482	11482	11482	11482	11482
Total EUR-28		**3702353**	**3008173**	**3040455**	**3074765**	**3111308**	**3150319**	**3192059**
Austria	Exports NFU	1023	539	539	539	539	539	539
Belgium-Luxembourg	Exports NFU	16815	11154	11154	11154	11154	11154	11154
Denmark	Exports NFU	1221464	1040366	1040366	1040366	1040366	1040366	1040366
Finland	Exports NFU	2467	1329	1329	1329	1329	1329	1329
France	Exports NFU	73880	55931	55931	55931	55931	55931	55931
Germany	Exports NFU	301513	263811	263811	263811	263811	263811	263811
Greece	Exports NFU	1473	838	838	838	838	838	838
Ireland	Exports NFU	22285	18290	18290	18290	18290	18290	18290
Italy	Exports NFU	20213	16214	16214	16214	16214	16214	16214
Netherlands	Exports NFU	221196	88547	88547	88547	88547	88547	88547
Portugal	Exports NFU	6365	5580	5580	5580	5580	5580	5580
Spain	Exports NFU	44248	44395	44395	44395	44395	44395	44395
Sweden	Exports NFU	60261	64118	64118	64118	64118	64118	64118
United Kingdom	Exports NFU	73169	57010	57010	57010	57010	57010	57010
Cyprus	Exports NFU	15	0	0	0	0	0	0
Czech Republic	Exports NFU	196	296	296	296	296	296	296
Estonia	Exports NFU	4403	2206	2206	2206	2206	2206	2206
Hungary	Exports NFU	1363	3204	3204	3204	3204	3204	3204
Poland	Exports NFU	8393	2056	2056	2056	2056	2056	2056
Slovenia	Exports NFU	1	0	0	0	0	0	0
Bulgaria	Exports NFU	3418	137	137	137	137	137	137
Latvia	Exports NFU	3772	1089	1089	1089	1089	1089	1089
Lithuania	Exports NFU	5326	9190	9190	9190	9190	9190	9190
Malta	Exports NFU	!						
Norway	Exports NFU	470706	630195	630195	630195	630195	630195	630195
Romania	Exports NFU	24	109	109	109	109	109	109
Slovakia	Exports NFU	43	51	51	51	51	51	51
Total EUR-28		**2564033**	**2316654**	**2316654**	**2316654**	**2316654**	**2316654**	**2316654**
Austria	Net supply NFU	24464	22824	22824	22824	22824	22824	22824
Belgium-Luxembourg	Net supply NFU	66729	53232	53232	53232	53232	53232	53232
Denmark	Net supply NFU	271576	317634	317634	317634	317634	317634	317634
Finland	Net supply NFU	140595	107587	107587	107587	107587	107587	107587
France	Net supply NFU	243730	230037	230037	230037	230037	230037	230037
Germany	Net supply NFU	302473	321783	321783	321783	321783	321783	321783
Greece	Net supply NFU	50384	56406	56406	56406	56406	56406	56406
Ireland	Net supply NFU	72906	71119	71119	71119	71119	71119	71119
Italy	Net supply NFU	177369	145412	145412	145412	145412	145412	145412
Netherlands	Net supply NFU	366081	94769	94769	94769	94769	94769	94769
Portugal	Net supply NFU	37615	28756	28756	28756	28756	28756	28756
Spain	Net supply NFU	216112	241407	241407	241407	241407	241407	241407
Sweden	Net supply NFU	93214	83645	83645	83645	83645	83645	83645
United Kingdom	Net supply NFU	732094	558278	558278	558278	558278	558278	558278
Cyprus	Net supply NFU	8951	8768	8768	8768	8768	8768	8768

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Czech Republic	Net supply NFU	22009	15317	15317	15317	15317	15317	15317
Estonia	Net supply NFU	3005	2716	2716	2716	2716	2716	2716
Hungary	Net supply NFU	47749	42302	42302	42302	42302	42302	42302
Poland	Net supply NFU	55658	52725	52725	52725	52725	52725	52725
Slovenia	Net supply NFU	5213	3414	3414	3414	3414	3414	3414
Bulgaria	Net supply NFU	5974	5867	5867	5867	5867	5867	5867
Latvia	Net supply NFU	15450	12711	12711	12711	12711	12711	12711
Lithuania	Net supply NFU	11150	9775	9775	9775	9775	9775	9775
Malta	Net supply NFU	3817	2740	2740	2740	2740	2740	2740
Norway	Net supply NFU	1338302	1455286	1487568	1521877	1558421	1597432	1639172
Romania	Net supply NFU	19641	21747	21747	21747	21747	21747	21747
Slovakia	Net supply NFU	12805	11431	11431	11431	11431	11431	11431
Total EUR-28		**4345067**	**3977689**	**4009971**	**4044280**	**4080824**	**4119834**	**4161574**
Austria	Aquaculture	2954	2084	1707	1436	1244	1113	1029
Belgium-Luxembourg	Aquaculture	865	802	789	789	801	824	857
Denmark	Aquaculture	42064	45565	48013	50604	53347	56252	59328
Finland	Aquaculture	16827	14431	13397	12443	11563	10752	10005
France	Aquaculture	281739	282963	290429	298621	307497	317031	327211
Germany	Aquaculture	60427	66507	67352	68915	71026	73570	76466
Greece	Aquaculture	42886	65452	69782	74452	79486	84912	90764
Ireland	Aquaculture	33619	44673	48098	51825	55881	60298	65108
Italy	Aquaculture	224572	257964	264564	271694	279363	287593	296414
Netherlands	Aquaculture	102284	125535	129681	134011	138534	143263	148209
Portugal	Aquaculture	6307	6727	6627	6800	7188	7757	8488
Spain	Aquaculture	237200	327221	337830	349086	361017	373693	387222
Sweden	Aquaculture	7093	5068	4822	4624	4473	4368	4306
United Kingdom	Aquaculture	111302	146301	153155	160459	168241	176535	185373
Cyprus	Aquaculture	731	1387	1564	1770	2012	2298	2639
Czech Republic	Aquaculture	18061	19792	21852	24126	26637	29410	32471
Estonia	Aquaculture	298	260	260	260	260	260	260
Hungary	Aquaculture	9376	7300	6049	5245	4750	4470	4341
Poland	Aquaculture	27156	29118	28756	28493	28328	28263	28296
Slovenia	Aquaculture	831	1015	1121	1238	1367	1509	1666
Bulgaria	Aquaculture	5024	4841	5377	6027	6816	7774	8940
Latvia	Aquaculture	444	412	412	412	412	412	412
Lithuania	Aquaculture	1631	1516	1516	1516	1516	1516	1516
Malta	Aquaculture	1420	2240	2473	2730	3015	3328	3675
Norway	Aquaculture	318762	466065	511905	562381	617967	679189	746624
Romania	Aquaculture	14948	9547	9615	9693	9779	9875	9982
Slovakia	Aquaculture	1258	731	807	891	983	1086	1199
Total EUR-28		**1570082**	**1935515**	**2027954**	**2130541**	**2243506**	**2367349**	**2502799**
Austria	Capture	432	432	432	432	432	432	432
Belgium-Luxembourg	Capture	32401	32401	32401	32401	32401	32401	32401
Denmark	Capture	1789849	1789849	1789849	1789849	1789849	1789849	1789849
Finland	Capture	174446	174446	174446	174446	174446	174446	174446
France	Capture	656280	656280	656280	656280	656280	656280	656280
Germany	Capture	246458	246458	246458	246458	246458	246458	246458
Greece	Capture	163489	163489	163489	163489	163489	163489	163489
Ireland	Capture	360804	360804	360804	360804	360804	360804	360804
Italy	Capture	364551	364551	364551	364551	364551	364551	364551
Netherlands	Capture	451518	451518	451518	451518	451518	451518	451518
Portugal	Capture	249962	249962	249962	249962	249962	249962	249962
Spain	Capture	1124993	1124993	1124993	1124993	1124993	1124993	1124993
Sweden	Capture	386150	386150	386150	386150	386150	386150	386150
United Kingdom	Capture	900046	900046	900046	900046	900046	900046	900046
Cyprus	Capture	2580	2580	2580	2580	2580	2580	2580

Country	Nature	Average 94-98	2005	2010	2015	2020	2025	2030
Czech Republic	Capture	3733	3733	3733	3733	3733	3733	3733
Estonia	Capture	122585	122585	122585	122585	122585	122585	122585
Hungary	Capture	7561	7561	7561	7561	7561	7561	7561
Poland	Capture	362391	362391	362391	362391	362391	362391	362391
Slovenia	Capture	2254	2254	2254	2254	2254	2254	2254
Bulgaria	Capture	9074	9074	9074	9074	9074	9074	9074
Latvia	Capture	127602	127602	127602	127602	127602	127602	127602
Lithuania	Capture	38241	38241	38241	38241	38241	38241	38241
Malta	Capture	869	869	869	869	869	869	869
Norway	Capture	2844335	2844335	2844335	2844335	2844335	2844335	2844335
Romania	Capture	21374	21374	21374	21374	21374	21374	21374
Slovakia	Capture	1537	1537	1537	1537	1537	1537	1537
Total EUR-28		**10445515**	**10445515**	**10445515**	**10445515**	**10445515**	**10445515**	**10445515**
Austria	Production total	3386	2516	2139	1867	1675	1545	1461
Belgium-Luxembourg	Production total	33266	33203	33190	33190	33202	33225	33258
Denmark	Production total	1831913	1835414	1837862	1840453	1843197	1846101	1849177
Finland	Production total	191274	188878	187844	186890	186009	185198	184451
France	Production total	938019	939243	946709	954902	963777	973311	983491
Germany	Production total	306885	312964	313809	315372	317484	320027	322923
Greece	Production total	206375	228941	233271	237941	242975	248401	254253
Ireland	Production total	394423	405477	408903	412630	416686	421102	425912
Italy	Production total	589123	622515	629115	636245	643914	652144	660965
Netherlands	Production total	553802	577053	581199	585529	590052	594781	599727
Portugal	Production total	256269	256689	256589	256762	257151	257719	258451
Spain	Production total	1362193	1452214	1462823	1474079	1486011	1498687	1512215
Sweden	Production total	393243	391218	390971	390774	390623	390518	390456
United Kingdom	Production total	1011348	1046347	1053201	1060505	1068287	1076581	1085419
Cyprus	Production total	3310	3966	4143	4350	4592	4878	5218
Czech Republic	Production total	21794	23525	25585	27859	30370	33143	36204
Estonia	Production total	122884	122845	122845	122845	122845	122845	122845
Hungary	Production total	16937	14861	13610	12806	12311	12031	11902
Poland	Production total	389547	391508	391147	390884	390719	390653	390686
Slovenia	Production total	3084	3269	3375	3491	3620	3762	3920
Bulgaria	Production total	14098	13915	14451	15101	15890	16848	18014
Latvia	Production total	128046	128014	128014	128014	128014	128014	128014
Lithuania	Production total	39872	39757	39757	39757	39757	39757	39757
Malta	Production total	2290	3109	3342	3600	3884	4198	4544
Norway	Production total	3163097	3310400	3356241	3406716	3462303	3523524	3590959
Romania	Production total	36322	30920	30989	31066	31152	31249	31356
Slovakia	Production total	2796	2268	2344	2428	2520	2623	2736
Total EUR-28		**12015597**	**12381030**	**12473469**	**12576056**	**12689021**	**12812864**	**12948314**

Source: Database

ANNEX 8: COMMODITIES FLOWS AND PRODUCTION IN NET WEIGHT 1989-1998 AND 2005-2030

Table Annex 8-1: Food use production in net weight by OECD groups of commodities from 1989 to 1998

(tonnes net weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Cephalopods	276755	105477	105767	139988	164536	153077	178056	156372	161193	190539	150556
Crus., mol. & other aquatic inv., prepared	112315	51759	62799	68065	75798	70273	71946	79535	71689	75359	69691
Crustaceans	182286	93069	83691	99806	110419	95437	80618	76678	77698	74619	88004
Fish, cured	462787	216866	228779	209864	184355	185128	188804	201802	202423	203372	202377
Fish, fillets	895539	522316	557789	538325	577270	541796	515403	522599	506746	524711	534106
Fish, fresh/chilled	472872	421372	529084	607166	667836	593258	607956	616614	670480	661215	597220
Fish, frozen	2148095	1030752	1070880	1270442	1350151	1264983	1295557	1209005	1227097	1187530	1211822
Molluscs	193111	129227	139473	184576	137688	123366	121849	144829	164779	147027	143646
Prepared/preserved fish	1340228	718123	740208	754159	772465	855166	845692	884662	874597	920749	818425
Total FU Production EU-15	**6083989**	**3288960**	**3518469**	**3872390**	**4040518**	**3882484**	**3905881**	**3892095**	**3956703**	**3985120**	**3815847**
Cephalopods	61737	22716	22886	22132	9001	3265	647	303	288	390	9070
Crustaceans	4822	1270	4186	9800	2010	4086	6070	9812	14974	18995	7911
Fish, cured	77270	34300	35165	46436	57448	69508	80549	65421	89019	64392	60249
Fish, fillets	105290	77600	75456	81225	80704	101111	92331	81835	74404	62182	80761
Fish, fresh/chilled	4470	3420	6561	20594	48278	54884	40504	51237	63334	36198	36112
Fish, frozen	132716	71500	60000	62400	134233	136598	96067	69916	68176	75638	86059
Molluscs	0	0	0	154	159	453	454	342	234	165	218
Prepared/preserved fish	88756	40900	46758	67639	105942	123343	131895	148762	184190	181145	114508
Total FU Production EUR-6 NC	**475061**	**251706**	**251012**	**310380**	**437775**	**493248**	**448517**	**427628**	**494619**	**439105**	**394888**
Cephalopods	1793	213	0	5876	2931	3634	1279	3320	56	933	2027
Crus., mol. & other aquatic inv., prepared	21903	14356	12990	14787	14553	14796	12134	11551	14428	17012	14067
Crustaceans	22317	21179	18284	16352	20819	22591	14606	17284	14386	13805	17701
Fish, cured	226700	100022	106090	132372	143791	182489	185263	182291	173150	173244	153190
Fish, fillets	128942	49226	46732	70584	113293	161098	168265	184888	181100	218085	132586
Fish, fresh/chilled	275955	211848	191794	176932	200258	209647	223906	201178	252590	274605	215862
Fish, frozen	381483	301411	429000	420704	438570	529592	644690	675177	729566	550251	524329
Molluscs	3546	1633	1345	1056	3200	3389	3424	3431	3538	3336	2706
Prepared/preserved fish	107267	56838	57716	77616	82523	86771	90083	110115	145202	123608	92275
Total FU Production EUR-7 NC	**1169905**	**756725**	**863950**	**916277**	**1019937**	**1214007**	**1343650**	**1389236**	**1514015**	**1374880**	**1154742**
Total FU Production EUR-28	**7728956**	**4297391**	**4633431**	**5099047**	**5498231**	**5589739**	**5698049**	**5708959**	**5965337**	**5799105**	**5365477**

Source: database

Table Annex 8-2: Non-food use production in net weight by OECD groups of commodities from 1989 to 1998

(tonnes net weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Fish/marine mammal, fat, oil	301116	141413	191893	229854	165357	212381	230495	198194	170789	187831	192023
Flour, meal unfit for human consumption	2083021	617946	621475	672304	542434	630635	667585	578101	617991	588740	615245
Total NFU Production EU-15	**2384137**	**759358**	**813367**	**902158**	**707790**	**843016**	**898080**	**776294**	**788780**	**776571**	**807268**
Fish/marine mammal, fat, oil	829	370	386	0	0	0	0	0	6	58	91
Flour, meal unfit for human consumption	91235	51825	50686	58127	54404	59745	49986	39118	56597	52507	52555
Total NFU Production EUR-6 NC	**92064**	**52195**	**51072**	**58127**	**54404**	**59745**	**49986**	**39118**	**56603**	**52565**	**52646**
Fish/marine mammal, fat, oil	54631	51917	90821	119927	131287	118876	87200	93123	93440	94255	97872
Flour, meal unfit for human consumption	778613	171418	213909	286197	315837	213862	250436	258021	265558	325169	255601

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Total NFU Production EUR-7 NC	**833244**	**223335**	**304730**	**406124**	**447124**	**332738**	**337636**	**351144**	**358998**	**419424**	**353473**
Total NFU Production EUR-28	**3309445**	**1034888**	**1169169**	**1366409**	**1209318**	**1235499**	**1285702**	**1166556**	**1204381**	**1248560**	**1213387**

Source: database

Table Annex 8-3: Food use imports in net weight by OECD groups of commodities from 1989 to 1998

(tonnes net weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Cephalopods	432575	280906	321328	282485	309859	320092	346726	362641	416139	428187	340929
Crus., mol. & other aquatic inv., prepared	95092	72195	70921	73193	65381	76435	74697	80836	86415	74748	74980
Crustaceans	513159	408961	444167	456973	447278	522309	479986	526452	528337	582595	488562
Fish, cured	399687	261910	264132	247738	243682	273715	276590	315990	323347	302759	278874
Fish, fillets	781668	630683	635481	675123	671816	748385	770595	794944	804565	903320	737212
Fish, fresh/chilled	1308328	959309	921271	975203	928659	1068968	1014893	1106034	1137118	1161525	1030331
Fish, frozen	1200882	969981	1027828	944459	860240	896589	848985	863399	871020	901766	909363
Molluscs	263825	175253	209588	237504	234697	169192	174743	213342	207972	230938	205914
Prepared/preserved fish	714882	547100	609458	639390	669618	752729	727109	844711	890143	961455	737968
Total FU Imports EU-15	**5710096**	**4306297**	**4504173**	**4532066**	**4431230**	**4828412**	**4714324**	**5108350**	**5265057**	**5547294**	**4804134**
Cephalopods	2395	1558	1451	3118	2742	3332	3521	4139	3760	4122	3083
Crus., mol. & other aquatic inv., prepared	62	20	35	418	348	432	598	721	531	832	437
Crustaceans	411	258	428	837	8034	7929	9041	7141	6142	5960	5086
Fish, cured	13688	8167	7902	6399	4574	5898	5574	5890	4821	3223	5828
Fish, fillets	1137	574	2010	12678	27392	118364	108155	55096	50040	89100	51490
Fish, fresh/chilled	336	296	635	6682	10406	9560	11855	25911	28103	17471	12324
Fish, frozen	172473	120501	84307	79128	77102	112614	109142	126787	183556	191728	120541
Molluscs	15	8	29	328	301	540	436	319	577	534	341
Prepared/preserved fish	33180	24674	10631	13047	24807	43754	40871	103210	113138	108668	53644
Total FU Imports EUR-6 NC	**223697**	**156056**	**107428**	**122635**	**155706**	**302423**	**289193**	**329214**	**390668**	**421638**	**252773**
Cephalopods	6628	3080	5284	5146	4015	1669	995	905	1113	7507	3302
Crus., mol. & other aquatic inv., prepared	1008	1002	1081	1630	1468	1898	1629	2043	2238	2499	1721
Crustaceans	13738	10191	13419	20149	28966	14847	20888	22705	17989	18093	18583
Fish, cured	5680	6052	4620	1944	3859	6185	4909	7157	7312	9184	5691
Fish, fillets	2172	3253	4234	3052	9228	11221	18458	23269	25976	21674	13374
Fish, fresh/chilled	27603	33831	96226	107726	129553	142505	168754	213897	233218	238784	151610
Fish, frozen	32538	43542	27220	32247	48452	99005	85466	145885	175193	190879	94210
Molluscs	455	422	113	172	167	2348	5924	6399	4573	3546	2629
Prepared/preserved fish	17481	12440	9402	11796	17009	23374	19847	27588	32870	38492	21424
Total FU Imports EUR-7 NC	**107303**	**113813**	**161599**	**183862**	**242717**	**303052**	**326870**	**449848**	**500482**	**530658**	**312545**
Total FU Imports EUR-28	**6041095**	**4576166**	**4773201**	**4838563**	**4829653**	**5433887**	**5330386**	**5887412**	**6156207**	**6499590**	**5369452**

Source: database

Table Annex 8-4: Non-food use imports in net weight by OECD groups of commodities from 1989 to 1998

(tonnes net weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Fish/marine mammal, fat, oil	1876436	527227	458376	376389	391305	490738	546311	334543	315222	180254	402263
Flour, meal unfit for human consumption	1808136	1365809	1130390	1176740	1240009	1643597	1296983	1182985	1390048	1210624	1293021
Total NFU Imports EU-15	**3684571**	**1893036**	**1588766**	**1553129**	**1631314**	**2134336**	**1843294**	**1517528**	**1705270**	**1390878**	**1695283**
Fish/marine mammal, fat, oil	24291	2539	4723	1544	1779	1763	1841	1496	867	457	1890
Flour, meal unfit for human consumption	84455	12597	37669	48360	68319	78878	93073	68653	68363	63244	59906
Total NFU Imports EUR-6 NC	**108746**	**15136**	**42392**	**49904**	**70098**	**80641**	**94914**	**70149**	**69230**	**63701**	**61796**
Fish/marine mammal, fat, oil	328265	75773	75341	72568	113586	139501	175501	176764	202537	158754	132258
Flour, meal unfit for human consumption	57338	81602	53622	59617	64282	110758	174400	157197	169618	146254	113039
Total NFU Imports EUR-7 NC	**385603**	**157375**	**128963**	**132185**	**177868**	**250259**	**349901**	**333961**	**372155**	**305008**	**245297**

Total NFU Imports EUR-28	**4178920**	**2065547**	**1760121**	**1735218**	**1879280**	**2465236**	**2288109**	**1921638**	**2146655**	**1759587**	**2002377**

Source: database

Table Annex 8-5: Food use exports in net weight by OECD groups of commodities from 1989 to 1998

(tonnes net weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Cephalopods	111931	90892	105605	101769	123176	133454	131715	161803	152634	155431	128498
Crus., mol. & other aquatic inv., prepared	60414	45016	41818	54551	56173	61094	61051	60322	59536	60690	55583
Crustaceans	222197	159907	167896	171912	174143	218124	203682	248366	262987	281285	209811
Fish, cured	146073	117294	120304	103686	101488	123981	121274	143848	151686	151533	126121
Fish, fillets	404840	264866	268919	267325	300970	312187	294161	289503	291054	298293	287475
Fish, fresh/chilled	853921	687256	851275	908943	956120	990527	947735	1090718	1180611	1214271	980828
Fish, frozen	1115459	910310	894400	1012770	1124456	1111049	1208587	1168344	1330632	1354468	1123891
Molluscs	197251	153380	184356	201083	175355	143802	149406	202310	214973	209545	181579
Prepared/preserved fish	317106	238417	263023	263440	316697	345419	392819	465431	473166	507576	362887
Total FU Exports EU-15	**3429192**	**2667338**	**2897595**	**3085477**	**3328577**	**3439636**	**3510430**	**3830645**	**4117280**	**4233092**	**3456674**
Cephalopods	18912	16859	14920	21225	7908	2419	124	165	126	177	7103
Crus., mol. & other aquatic inv., prepared	0	0	0	321	143	150	78	467	224	75	162
Crustaceans	0	0	65	9723	6343	5380	10753	13546	10160	13964	7770
Fish, cured	193	243	1109	802	2703	11177	14675	12904	20121	17957	9077
Fish, fillets	0	0	38	84059	57219	64293	47963	41526	30510	35704	40146
Fish, fresh/chilled	11	10	2988	6769	21378	51040	42229	53636	82115	40824	33443
Fish, frozen	113451	105783	104510	8999	30848	63993	65872	60176	72094	84643	66324
Molluscs	0	0	2	157	147	511	477	241	335	135	223
Prepared/preserved fish	1185	489	411	7099	39044	73186	77006	89693	114962	106144	56448
Total FU Exports EUR-6 NC	**133752**	**123384**	**124043**	**139154**	**165733**	**272149**	**259177**	**272354**	**330647**	**299623**	**220696**
Cephalopods	1431	292	1840	578	830	227	316	817	88	1338	703
Crus., mol. & other aquatic inv., prepared	21042	14293	12942	15230	15161	15495	10482	12390	15200	18154	14372
Crustaceans	11311	10343	9412	7275	8946	10428	7113	9948	10835	12085	9598
Fish, cured	125262	85780	99356	106183	132140	173516	174545	179192	168280	169009	143111
Fish, fillets	123639	49256	46312	71182	99229	152767	167646	179785	175954	201976	127123
Fish, fresh/chilled	268731	225609	237411	252475	278273	285918	317521	342624	403816	410736	306043
Fish, frozen	269273	203536	301405	291702	295049	392363	475371	570416	659424	569775	417671
Molluscs	2286	1957	1328	1100	3051	3736	3755	2819	3888	1103	2526
Prepared/preserved fish	42455	29867	33148	33698	55527	68171	73398	94864	133772	120237	71409
Total FU Exports EUR-7 NC	**865430**	**620933**	**743154**	**779424**	**888206**	**1102622**	**1230147**	**1392854**	**1571257**	**1504412**	**1092557**
Total FU Exports EUR-28	**4428373**	**3411654**	**3764792**	**4004055**	**4382516**	**4814407**	**4999754**	**5495853**	**6019183**	**6037127**	**4769927**

Source: database

Table Annex 8-6: Non-food use exports in net weight by OECD groups of commodities from 1989 to 1998

(tonnes net weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Fish/marine mammal, fat, oil	384004	166429	199028	233480	202976	241336	276111	195320	188860	180680	209358
Flour, meal unfit for human consumption	1882824	580369	520209	604330	654723	969174	834552	676858	639913	593823	674883
Total NFU Exports EU-15	**2266828**	**746798**	**719238**	**837809**	**857699**	**1210509**	**1110663**	**872178**	**828774**	**774503**	**884241**
Fish/marine mammal, fat, oil	0	0	0	0	43	22	32	24	8	7	15
Flour, meal unfit for human consumption	6793	4898	2444	3976	8567	6696	11704	4735	18725	13547	8366
Total NFU Exports EUR-6 NC	**6793**	**4898**	**2444**	**3976**	**8610**	**6718**	**11736**	**4759**	**18733**	**13554**	**8381**
Fish/marine mammal, fat, oil	127714	45817	62696	57261	65742	68736	90553	73571	58581	44821	63086
Flour, meal unfit for human consumption	54144	45345	110520	143680	142410	138008	163260	215317	208542	277112	160466
Total NFU Exports EUR-7 NC	**181858**	**91162**	**173216**	**200941**	**208152**	**206744**	**253813**	**288888**	**267123**	**321933**	**223552**
Total NFU Exports EUR-28	2455480	842858	894898	1042726	1074461	1423971	1376212	1165826	1114630	1109990	1116175

Source: database

Table Annex 8-7: Food use net supply in net weight by OECD groups of commodities from 1989 to 1998

(X 1000 tonnes)

OECD group of commodities	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Cephalopods	342	295	321	321	351	340	393	357	425	463	361
Crus., mol. & other aquatic inv., prepared	69	79	92	87	85	86	86	100	99	89	87
Crustaceans	277	342	360	385	384	400	357	355	343	376	358
Fish, cured	362	361	373	354	327	335	344	374	374	355	356
Fish, fillets	745	888	924	946	948	978	992	1028	1020	1130	960
Fish, fresh/chilled	665	693	599	673	640	672	675	632	627	608	649
Fish, frozen	972	1090	1204	1202	1086	1051	936	904	767	735	995
Molluscs	139	151	165	221	197	149	147	156	158	168	165
Prepared/preserved fish	965	1027	1087	1130	1125	1262	1180	1264	1292	1375	1171
Total EU-15	**4536**	**4928**	**5125**	**5319**	**5143**	**5271**	**5110**	**5170**	**5104**	**5299**	**5101**
Cephalopods	25	7	9	4	4	4	4	4	4	4	7
Crus., mol. & other aquatic inv., prepared	0	0	0	0	0	0	1	0	0	1	0
Crustaceans	3	2	5	1	4	7	4	3	11	11	5
Fish, cured	65	42	42	52	59	64	71	58	74	50	58
Fish, fillets	72	78	77	10	51	155	153	95	94	116	90
Fish, fresh/chilled	3	4	4	21	37	13	10	24	9	13	14
Fish, frozen	134	86	40	133	180	185	139	137	180	183	140
Molluscs	0	0	0	0	0	0	0	0	0	1	0
Prepared/preserved fish	88	65	57	74	92	94	96	162	182	184	109
Total EUR-6 NC	**390**	**284**	**234**	**294**	**428**	**524**	**479**	**484**	**555**	**561**	**423**
Cephalopods	5	3	3	10	6	5	2	3	1	7	5
Crus., mol. & other aquatic inv., prepared	2	1	1	1	1	1	3	1	1	1	1
Crustaceans	15	21	22	29	41	27	28	30	22	20	26
Fish, cured	40	20	11	28	16	15	16	10	12	13	18
Fish, fillets	15	3	5	2	23	20	19	28	31	38	18
Fish, fresh/chilled	55	20	51	32	52	66	75	72	82	103	61
Fish, frozen	164	141	155	161	192	236	255	251	245	171	197
Molluscs	0	0	0	0	0	2	6	7	4	6	3
Prepared/preserved fish	32	39	34	56	44	42	37	43	44	42	41
Total EUR-7 NC	**327**	**250**	**282**	**321**	**374**	**414**	**440**	**446**	**443**	**401**	**370**
Total EUR-28	**5252**	**5462**	**5642**	**5934**	**5945**	**6209**	**6029**	**6101**	**6102**	**6262**	**5894**

Source: database

Table Annex 8-8: Non-food use net supply by OECD groups of commodities from 1989 to 1998

(X 1000 tonnes net weight)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
EU-15 Fish/marine mammal, fat, oil	606	502	451	373	354	462	501	337	297	187	407
EU-15 Flour, meal unfit for human consumption	1288	1403	1232	1245	1128	1305	1130	1084	1368	1206	1239
Total EU-15	**1894**	**1906**	**1683**	**1617**	**1481**	**1767**	**1631**	**1422**	**1665**	**1393**	**1646**
EUR-6 NC Fish/marine mammal, fat, oil	9	3	5	2	2	2	2	1	1	1	3
EUR-6 NC Flour, meal unfit for human consumption	79	60	86	103	114	132	131	103	106	102	102
Total EUR-6 NC	**88**	**62**	**91**	**104**	**116**	**134**	**133**	**105**	**107**	**103**	**104**
EUR-7 NC Fish/marine mammal, fat, oil	144	82	103	135	179	190	172	196	237	208	165
EUR-7 NC Flour, meal unfit for human consumption	212	208	157	202	238	187	262	200	227	194	209
Total EUR-7 NC	**356**	**290**	**260**	**337**	**417**	**376**	**434**	**396**	**464**	**402**	**373**
Total EUR-28	**2329**	**2255**	**2029**	**2057**	**2012**	**2275**	**2196**	**1921**	**2236**	**1898**	**2121**

Source: database

Table Annex 8-9: Food use production in net weight by OECD groups of commodities from 2005 to 2030

(tonnes net weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	167847	190539	190539	190539	190539	190539	190539
Crus., mol. & other aquatic inv., prepared	73760	75450	75516	75583	75651	75720	75791
Crustaceans	81010	74620	74620	74620	74621	74621	74621
Fish, cured	196306	204215	204881	205604	206384	207223	208125
Fish, fillets	522251	529269	532597	535988	539442	542962	546548
Fish, fresh/chilled	629905	668328	673527	678826	684229	689739	695357
Fish, frozen	1236834	1188187	1188660	1189137	1189618	1190103	1190591
Molluscs	140370	150532	153116	155767	158488	161280	164147
Prepared/preserved fish	876173	927010	931541	936122	940753	945435	950169
Total FU Production EU-15	**3924457**	**4008149**	**4024997**	**4042186**	**4059725**	**4077622**	**4095888**
Cephalopods	979	390	390	390	390	390	390
Crustaceans	10787	18995	18995	18995	18995	18995	18995
Fish, cured	73778	64854	65187	65522	65860	66201	66544
Fish, fillets	82373	62182	62182	62182	62182	62182	62182
Fish, fresh/chilled	49231	36377	36507	36637	36768	36900	37034
Fish, frozen	89279	75638	75638	75638	75638	75638	75638
Molluscs	330	165	165	165	165	165	165
Prepared/preserved fish	153867	181145	181145	181145	181145	181145	181145
Total FU Production EUR-6 NC	**460623**	**439746**	**440208**	**440674**	**441143**	**441616**	**442093**
Cephalopods	1844	933	933	933	933	933	933
Crus., mol. & other aquatic inv., prepared	13984	17012	17012	17012	17012	17012	17012
Crustaceans	16534	13805	13805	13805	13805	13805	13805
Fish, cured	179287	176613	179063	181550	184074	186636	189236
Fish, fillets	182687	218085	218085	218085	218085	218085	218085
Fish, fresh/chilled	232385	285474	293506	301771	310275	319024	328026
Fish, frozen	625855	550251	550251	550251	550251	550251	550251
Molluscs	3424	3336	3336	3336	3336	3336	3336
Prepared/preserved fish	111156	124428	125024	125629	126243	126866	127498
Total FU Production EUR-7 NC	**1367158**	**1389936**	**1401015**	**1412371**	**1424013**	**1435947**	**1448182**
Total FU Production EUR-28	**5752238**	**5837831**	**5866220**	**5895231**	**5924881**	**5955185**	**5986163**

Source: database

Table Annex 8-10: Food use imports in net weight by OECD groups of commodities from 2005 to 2030

(tonnes net weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	374757	445178	457850	470989	484613	498743	513398
Crus., mol. & other aquatic inv., prepared	78626	79682	83641	88007	92825	98145	104024
Crustaceans	527936	600420	614725	630481	647827	666913	687909
Fish, cured	298480	308957	314073	319842	326347	333680	341946
Fish, fillets	804362	944389	975218	1007354	1040857	1075786	1112207
Fish, fresh/chilled	1097707	1163213	1165023	1167361	1170250	1173719	1177800
Fish, frozen	876352	871456	852508	835589	820530	807176	795391
Molluscs	199238	232751	234166	235693	237342	239128	241063
Prepared/preserved fish	835229	1005805	1039725	1075626	1113616	1153809	1196327
Total FU Imports EU-15	**5092687**	**5651851**	**5736928**	**5830942**	**5934206**	**6047100**	**6170067**
Cephalopods	3775	4134	4143	4154	4166	4179	4194
Crus., mol. & other aquatic inv., prepared	623	947	1041	1147	1266	1400	1551
Crustaceans	7243	6396	6733	7093	7478	7889	8328
Fish, cured	5081	2980	2835	2709	2600	2504	2419
Fish, fillets	84151	88289	87799	87391	87070	86844	86720

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Fish, fresh/chilled	18580	18831	19880	21000	22195	23470	24833
Fish, frozen	144765	200817	207858	215387	223429	232014	241173
Molluscs	481	564	588	614	643	676	711
Prepared/preserved fish	81928	129219	146417	166055	188486	214111	243390
Total FU Imports EUR-6 NC	**346627**	**452176**	**477295**	**505551**	**537333**	**573087**	**613318**
Cephalopods	2438	7554	7591	7632	7677	7727	7781
Crus., mol. & other aquatic inv., prepared	2061	2495	2492	2489	2486	2484	2481
Crustaceans	18904	18610	19036	19516	20057	20670	21363
Fish, cured	6949	9352	9480	9615	9757	9909	10069
Fish, fillets	20120	25179	28050	31271	34890	38957	43534
Fish, fresh/chilled	199432	243765	247838	252405	257536	263309	269819
Fish, frozen	139286	200388	207898	216077	224994	234727	245363
Molluscs	4558	4155	4656	5219	5853	6566	7368
Prepared/preserved fish	28434	43201	47189	51807	57176	63437	70761
Total FU Imports EUR-7 NC	**422182**	**554699**	**574229**	**596032**	**620426**	**647784**	**678539**
Total FU Imports EUR-28	**5861496**	**6658727**	**6788452**	**6932524**	**7091966**	**7267971**	**7461924**

Source: database

Table Annex 8-11: Non-food use imports in net weight by OECD groups of commodities from 2005 to 2030

(tonnes net weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Fish/marine mammal, fat, oil	373414	180362	180362	180362	180362	180362	180362
Flour, meal unfit for human consumption	1344847	1213103	1213103	1213103	1213103	1213103	1213103
Total NFU Imports EU-15	**1718261**	**1393465**	**1393465**	**1393465**	**1393465**	**1393465**	**1393465**
Fish/marine mammal, fat, oil	1285	457	457	457	457	457	457
Flour, meal unfit for human consumption	74442	63244	63244	63244	63244	63244	63244
Total NFU Imports EUR-6 NC	**75727**	**63701**	**63701**	**63701**	**63701**	**63701**	**63701**
Fish/marine mammal, fat, oil	170611	165147	169872	174734	179736	184883	190179
Flour, meal unfit for human consumption	151645	150317	153321	156411	159590	162861	166227
Total NFU Imports EUR-7 NC	**322257**	**315465**	**323193**	**331145**	**339326**	**347744**	**356406**
Total NFU Imports EUR-28	**2116245**	**1772631**	**1780359**	**1788311**	**1796492**	**1804910**	**1813572**

Source: database

Table Annex 8-12: Food use exports in net weight by OECD groups of commodities from 2005 to 2030

(tonnes net weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	147007	155431	155431	155431	155431	155431	155431
Crus., mol. & other aquatic inv., prepared	60539	60947	61141	61343	61555	61776	62008
Crustaceans	242889	281632	281884	282139	282399	282662	282930
Fish, cured	138464	152600	153451	154383	155405	156526	157754
Fish, fillets	297040	298293	298293	298293	298293	298293	298293
Fish, fresh/chilled	1084772	1220519	1225074	1229709	1234425	1239224	1244107
Fish, frozen	1234616	1357034	1358939	1360907	1362939	1365038	1367207
Molluscs	184007	210334	210908	211489	212078	212675	213280
Prepared/preserved fish	436882	507576	507576	507576	507576	507576	507576
Total FU Exports EU-15	**3826216**	**4244366**	**4252696**	**4261270**	**4270101**	**4279202**	**4288586**
Cephalopods	602	177	177	177	177	177	177
Crus., mol. & other aquatic inv., prepared	199	75	75	75	75	75	75
Crustaceans	10761	13964	13964	13964	13964	13964	13964
Fish, cured	15367	18206	18395	18595	18805	19027	19260
Fish, fillets	43999	35704	35704	35704	35704	35704	35704

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Fish, fresh/chilled	53969	40824	40824	40824	40824	40824	40824
Fish, frozen	69356	84643	84643	84643	84643	84643	84643
Molluscs	340	135	135	135	135	135	135
Prepared/preserved fish	92198	106144	106144	106144	106144	106144	106144
Total FU Exports EUR-6 NC	**286790**	**299872**	**300061**	**300261**	**300471**	**300693**	**300926**
Cephalopods	557	1338	1338	1338	1338	1338	1338
Crus., mol. & other aquatic inv., prepared	14344	18154	18154	18154	18154	18154	18154
Crustaceans	10082	12085	12085	12085	12085	12085	12085
Fish, cured	172908	172531	175093	177694	180334	183015	185736
Fish, fillets	175626	201976	201976	201976	201976	201976	201976
Fish, fresh/chilled	352123	420868	428260	435782	443438	451230	459159
Fish, frozen	533470	569775	569775	569775	569775	569775	569775
Molluscs	3060	1103	1103	1103	1103	1103	1103
Prepared/preserved fish	98088	120237	120237	120237	120237	120237	120237
Total FU Exports EUR-7 NC	**1360258**	**1518067**	**1528020**	**1538144**	**1548440**	**1558912**	**1569563**
Total FU Exports EUR-28	**5473265**	**6062305**	**6080778**	**6099675**	**6119012**	**6138806**	**6159076**

Source: database

Table Annex 8-13: Food use net supply by OECD groups of commodities from 2005 to 2030

(X 1000 tonnes net weight)

OECD group of commodities	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	396	480	493	506	520	534	549
Crus., mol. & other aquatic inv., prepared	92	94	98	102	107	112	118
Crustaceans	366	393	407	423	440	459	480
Fish, cured	356	361	366	371	377	384	392
Fish, fillets	1030	1175	1210	1245	1282	1320	1360
Fish, fresh/chilled	643	611	613	616	620	624	629
Fish, frozen	879	703	682	664	647	632	619
Molluscs	156	173	176	180	184	188	192
Prepared/preserved fish	1275	1425	1464	1504	1547	1592	1639
Total EU-15	**5191**	**5416**	**5509**	**5612**	**5724**	**5846**	**5977**
Cephalopods	4	4	4	4	4	4	4
Crus., mol. & other aquatic inv., prepared	0	1	1	1	1	1	1
Crustaceans	7	11	12	12	13	13	13
Fish, cured	63	50	50	50	50	50	50
Fish, fillets	123	115	114	114	114	113	113
Fish, fresh/chilled	14	14	16	17	18	20	21
Fish, frozen	165	192	199	206	214	223	232
Molluscs	0	1	1	1	1	1	1
Prepared/preserved fish	144	204	221	241	263	289	318
Total EUR-6 NC	**520**	**592**	**617**	**646**	**678**	**714**	**754**
Cephalopods	4	7	7	7	7	7	7
Crus., mol. & other aquatic inv., prepared	2	1	1	1	1	1	1
Crustaceans	25	20	21	21	22	22	23
Fish, cured	13	13	13	13	13	14	14
Fish, fillets	27	41	44	47	51	55	60
Fish, fresh/chilled	80	108	113	118	124	131	139
Fish, frozen	232	181	188	197	205	215	226
Molluscs	5	6	7	7	8	9	10
Prepared/preserved fish	42	47	52	57	63	70	78
Total EUR-7 NC	**429**	**427**	**447**	**470**	**496**	**525**	**557**
Total EUR-28	**6140**	**6434**	**6574**	**6728**	**6898**	**7084**	**7289**

Source: database

ANNEX 9: EUROPEAN IMPORTS CONTROLS[54]

Principles for veterinary checks are laid down in Directive 97/78. Inspections of consignments originating from third countries must be carried out on all consignments, at the first point of entry into the EU territory and in approved border inspection posts. Import controls are done in three consecutive steps:

- documentary check: examination of the health certificate;
- identity check: visual inspection to confirm consistency between documents and products, verification for the presence of required sanitary marks (country of origin, approval number);
- physical check: check on the product itself (organoleptic control, packaging, temperature), it may include sampling and laboratory testing. Each shipment must be accompanied by a sanitary certificate following the model drawn up by EU Decision 2001/65/EC for fishery and aquaculture products and 1996/333/Ec for shellfish(see below). A certificate may be issued for goods produced in different establishments, but can only be made to one consignee. A certificate may be issued for several containers of the same product considered to be a single lot.

It must be noted that a certificate defines a lot; therefore a rejection may be decided for all goods covered by the same certificate, even if only a part of it presents a sanitary or documentary problem.

The certificate must be issued in one of the official languages of the country of entry into the EU territory, and if necessary in the language of the country of destination. In practice, the veterinary office of the point of entry into the EU does the documentary check and issues an "Annex B" which as to be in the language of the country of destination.

Each import control (one certificate = one control) is subject to inspection fees. In the case of processed food containing animal products (surimi for example), the European importer must have a "import licence" from the Customs Authorities before the import process occurs.

Products imported from "harmonized" countries are subject to the documentary, identity and physical checks at the approved border inspection post at the first point of entry into the EU territory. When such a consignment satisfies EU requirements, it is then considered as an EU product. That is to say that if a consignment can be marketed in one Member State, it can be marketed in all the others without being subject to non-harmonized rules.

If the documentary and the identity checks must be performed on all consignments, the frequency of physical checks is reduced for products from "harmonized" countries from a theoretical 100 per cent to a theoretical 20 percent for fish products in hermetically sealed containers, for fresh and frozen fish, for dry and/or salted products, to 50 percent for other fishery products and for bivalve mollusks.

[54] From: http://www.nmfs.noaa.gov/trade/EUCONTENTS.htm#_Toc451577954

The "China Case":

The European Union has adopted on January 30, 2002, the Decision 2002/69/EC concerning certain protective measures with regards to the products of animal origin imported from China. This ban is the consequence of an inspection conducted in China that revealed a very poor residue inspection system on the one hand, and of the presence of antibiotic (Chloramphenicol) in shrimps imported from the Chinese territory on the other hand.

As a consequence:

- All seafood products coming from China are concerned by this ban except fish caught, frozen, packed "on board" and landed within the Community territory. This derogation doesn't apply to crustaceans.

- US products exported to China for processing are also concerned by this ban.

- All Aquaculture products coming from China are prohibited within the EU.

The Commission reviewed its ban on July 2002 and authorized certain species to enter the EU Territory under very strict conditions. 20 percent of all shipments coming from China are subject to tests and analysis in order to detect the presence of antibiotics such as Chloramphenicol and Nitrofurans. These tests are to the expenses of the exporter/importer and lead to a 2 to 3 weeks delay. The list[55] of products of animal origin intended for human consumption or animal feed use authorized to be imported into the Community, subject to a chemical test under the conditions of Article 3 of Decision 2002/69/EC (last amended by Decision 2002/573/EC), is as follow:

1. Entire fish, fish de-headed and gutted, and fish fillets from the following species caught at sea:

Alaska Pollack (*Theragra chalcogramma*)
Cod (*Gadus* spp.)
Redfish (*Sebastes* spp.)
Blue Whiting (*Micromesistius poutassou*)
Halibut (*Reinhardtius* spp.)
Haddock (*Melanogrammus aeglefinus*)
Herring (*Clupea* spp.)
Yellowfin sole (*Limanda* spp.)
Cephalopods (*Sepiidae, Sepiolidae, Loliginidae, Ommastrephidae, Octopodidae*)
Plaice (*Pleuronectes platessa*)
Pacific Salmon (*Oncorhynchus keta, O. kisutch, O. nerka, O. gorbuscha*)

2. Fillets of salmon (Salmon salar)

3. Casings.

[55] This list is dated from July 2002 and may be subject to changes in function of the review of the decision.

ANNEX 10: NON-FOOD USE PRODUCTION, EXPORTS, IMPORTS

Table Annex 10-1: Non-food use production by FAO groups of species from 1989 to 1998

(tonnes live weight)

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Marine fish, pelagic, small	1858269	1465111	1549292	1713567	1376956	1602342	1678609	1414547	1529152	1447255	1563510
Marine fish, demersal	177869	161738	138928	122541	135299	139433	129297	75021	71080	51777	120298
Marine fish, others	347999	286732	342471	454445	309851	429847	546605	417495	436539	402869	397485
Total NFU Production EU-15	**2384137**	**1913582**	**2030691**	**2290553**	**1822107**	**2171622**	**2354511**	**1907062**	**2036771**	**1901901**	**2081294**
Marine fish, pelagic, small	0	0	0	834	6970	2958	5296	3832	27003	18324	6522
Marine fish, demersal	71485	63582	62060	69915	56190	61479	49293	33735	33425	32456	53362
Marine fish, others	20578	18247	17733	16371	10094	13741	12708	9820	7318	4679	13129
Total NFU Production EUR-6 NC	**92064**	**81829**	**79793**	**87119**	**73254**	**78177**	**67297**	**47387**	**67746**	**55459**	**73012**
Marine fish, pelagic, small	764096	645773	814101	1031538	1008850	595673	697747	695868	840589	1020641	811488
Marine fish, demersal	21412	13703	23148	17902	12410	10453	18560	14136	12837	12819	15738
Marine fish, others	46338	194807	345890	452269	431134	336762	246302	248565	296267	295349	289368
Aquatic mammals	1398	1378	1179	1129	694	1234	1245	748	0	0	901
Total NFU Production EUR-7 NC	**833244**	**855661**	**1184318**	**1502837**	**1453088**	**944122**	**963855**	**959318**	**1149692**	**1328810**	**1117495**
Total NFU Production EUR-28	**3309445**	**2851072**	**3294802**	**3880509**	**3348449**	**3193921**	**3385664**	**2913768**	**3254210**	**3286169**	**3271801**

Source: Database

Table Annex 10-2: Non-food use production by OECD groups of commodities from 1989 to 1998

(tonnes live weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Fish/marine mammal, fat, oil	301116	255128	315870	433049	296682	382099	450945	334830	330895	329203	342982
Flour, meal unfit for human consumption	2083021	1658454	1714821	1857504	1525425	1789523	1903566	1572233	1705876	1572698	1738312
Total NFU Production EU-15	**2384137**	**1913582**	**2030691**	**2290553**	**1822107**	**2171622**	**2354511**	**1907062**	**2036771**	**1901901**	**2081294**
Fish/marine mammal, fat, oil	829	580	603	0	0	0	0	0	7	50	207
Flour, meal unfit for human consumption	91235	81249	79190	87119	73254	78177	67297	47387	67740	55409	72806
Total NFU Production EUR-6 NC	**92064**	**81829**	**79793**	**87119**	**73254**	**78177**	**67297**	**47387**	**67746**	**55459**	**73012**
Fish/marine mammal, fat, oil	54631	201231	356501	461570	437866	343803	253697	257351	302625	301139	297041
Flour, meal unfit for human consumption	778613	654430	827817	1041268	1015222	600319	710158	701967	847067	1027671	820453
Total NFU Production EUR-7 NC	**833244**	**855661**	**1184318**	**1502837**	**1453088**	**944122**	**963855**	**959318**	**1149692**	**1328810**	**1117495**
Total NFU Production EUR-28	**3309445**	**2851072**	**3294802**	**3880509**	**3348449**	**3193921**	**3385664**	**2913768**	**3254210**	**3286169**	**3271801**

Source: database

Table Annex 10-3: Non-food use exports per country from 1989 to 1998

(tonnes live weight)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	40011	41933	35290	34996	32923	30536	29725	18957	24859	23363	31259
Belgium-Luxembourg	96766	99612	82866	74293	71763	115059	82909	70877	82148	63963	84026
Denmark	133110	82309	46086	91391	90698	95741	97070	104426	102851	100002	94368
Finland	111241	114544	98488	104497	97133	117669	114307	112006	107785	98725	107640
France	151245	180800	164539	197375	231907	258402	262616	207679	239661	203447	209767
Germany	1194512	846231	729142	616830	602101	637481	593022	518980	628136	568789	693523
Greece	28515	28396	28990	29150	34100	44926	40162	44775	49198	55161	38337
Ireland	19138	27825	30891	24349	32344	36299	38840	42903	36087	22167	31084
Italy	160568	189070	177976	182721	176997	206233	206311	183520	189326	149642	182236
Netherlands	689660	721412	568741	490003	534331	1011143	892857	454690	394377	183316	594053
Portugal	4359	4867	4690	6660	7085	13303	12261	24217	29987	20347	12778

Spain	59196	51661	56632	48767	83207	136861	129027	124282	164922	129909	98446
Sweden	148340	150442	111254	92719	46610	44454	45717	32076	35981	24647	73224
United Kingdom	847909	797512	684974	656743	701059	732870	679444	537545	570104	455631	666379
Total EU-15	**3684571**	**3336613**	**2820560**	**2650493**	**2742259**	**3480976**	**3224267**	**2476931**	**2655421**	**2099109**	**2917120**
Cyprus	6575	7920	7785	8881	8408	9064	9503	8777	8721	8768	8440
Czech Republic	0	0	0	0	24324	24325	26850	23077	21161	15613	13535
Estonia	0	0	0	0	1284	1096	10059	2316	3767	1469	1999
Hungary	0	0	34176	38152	39017	52488	59850	45308	42408	45506	35690
Poland	102171	14814	17400	8146	8604	6114	4549	4176	4984	2776	17374
Slovenia	0	0	0	6985	5634	7117	6475	4401	4585	3414	3861
Total EUR-6 NC	**108746**	**22734**	**59360**	**62164**	**87271**	**100204**	**117286**	**88055**	**85625**	**77546**	**80899**
Bulgaria	0	0	0	0	1101	11464	12494	10758	6242	6004	4806
Latvia	0	0	0	0	234	5033	6758	1634	529	1272	1546
Lithuania	0	0	0	0	0	11084	12992	10911	12732	15266	6298
Malta	0	2855	3347	3918	3536	4098	4773	3954	3521	2740	3274
Norway	373879	251437	272995	278480	390784	489155	839400	801747	938915	730808	536760
Romania	11724	70564	13770	6704	21427	15804	16048	28435	15720	21813	22201
Slovakia	0	0	0	0	13310	14641	13020	11957	13142	11482	7755
Total EUR-7 NC	**385603**	**324855**	**290113**	**289103**	**430392**	**551280**	**905484**	**869396**	**990802**	**789384**	**582641**
Total EUR-28	**4178920**	**3684202**	**3170033**	**3001760**	**3259922**	**4132460**	**4247037**	**3434382**	**3731849**	**2966039**	**3580660**

Source: Database

Table Annex 10-4: Non-food use imports by FAO groups of species from 1989 to 1998

(tonnes live weight)

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Marine fish, pelagic, small	1490976	1428440	1134158	1233140	1328327	1703009	1354786	1209358	1433630	1190931	1350676
Marine fish, others	2189415	1853416	1631995	1355600	1379472	1740954	1821647	1210883	1162183	846801	1519237
Crustaceans	147	26	167	97	196	29	0	0	0	0	66
Aquatic animals	459	51664	53000	58348	31626	34836	44308	53632	55186	57991	44105
Aquatic mammals	3574	3067	1240	3308	2637	2148	3527	3058	4422	3387	3037
Total NFU Imports EU-15	**3684571**	**3336613**	**2820560**	**2650493**	**2742259**	**3480976**	**3224267**	**2476931**	**2655421**	**2099109**	**2917120**
Marine fish, pelagic, small	84451	15112	45146	58019	81971	92290	110762	80888	80726	74778	72414
Marine fish, others	24292	7621	14157	4140	5293	6822	5629	6700	4525	2403	8158
Aquatic animals	2	1	57	6	7	867	894	467	374	365	304
Aquatic mammals	0	0	0	0	0	226	0	0	0	0	23
Total NFU Imports EUR-6 NC	**108746**	**22734**	**59360**	**62164**	**87271**	**100204**	**117286**	**88055**	**85625**	**77546**	**80899**
Marine fish, pelagic, small	57338	97922	64346	71540	89601	132738	63197	64377	49254	55534	74585
Marine fish, demersal	1377	1283	1455	639	613	1284	3691	2640	1535	617	1513
Marine fish, others	326888	223533	221531	215410	339071	415551	835841	800358	938972	732568	504972
Aquatic animals	0	0	0	0	0	55	582	651	164	290	174
Aquatic mammals	0	2117	2781	1513	1107	1652	2173	1370	877	375	1397
Total NFU Imports EUR-7 NC	**385603**	**324855**	**290113**	**289103**	**430392**	**551280**	**905484**	**869396**	**990802**	**789384**	**582641**
Total NFU Imports EUR-28	**4178920**	**3684202**	**3170033**	**3001760**	**3259922**	**4132460**	**4247037**	**3434382**	**3731849**	**2966039**	**3580660**

Source: Database

Table Annex 10-5: Non-food use imports by OECD groups of commodities from 1989 to 1998

(tonnes live weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Fish/marine mammal, fat, oil	1876436	1571557	1366304	1118340	1163893	1467155	1633917	997784	939927	535880	1267119
Flour, meal unfit for human consumption	1808136	1765055	1454256	1532154	1578366	2013821	1590350	1479147	1715494	1563229	1650001
Total NFU Imports EU-15	**3684571**	**3336613**	**2820560**	**2650493**	**2742259**	**3480976**	**3224267**	**2476931**	**2655421**	**2099109**	**2917120**
Fish/marine mammal, fat, oil	24291	7617	14153	4131	5288	5224	5496	4483	2573	1336	7459
Flour, meal unfit for human consumption	84455	15117	45207	58033	81984	94980	111789	83572	83053	76210	73440
Total NFU Imports EUR-6 NC	**108746**	**22734**	**59360**	**62164**	**87271**	**100204**	**117286**	**88055**	**85625**	**77546**	**80899**
Fish/marine mammal, fat, oil	328265	226933	225766	217562	340737	418275	526356	530167	607422	474202	389569
Flour, meal unfit for human consumption	57338	97922	64346	71540	89655	133005	379128	339229	383380	315181	193073

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Total NFU Imports EUR-7 NC	**385603**	**324855**	**290113**	**289103**	**430392**	**551280**	**905484**	**869396**	**990802**	**789384**	**582641**
Total NFU Imports EUR-28	**4178920**	**3684202**	**3170033**	**3001760**	**3259922**	**4132460**	**4247037**	**3434382**	**3731849**	**2966039**	**3580660**

Source: database

Table Annex 10-6: Non-food use exports per country from 1989 to 1998

(tonnes)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Austria	21	178	132	231	172	334	874	1665	1705	539	585
Belgium-Luxembourg	9400	12450	7032	5516	8095	17185	20416	16031	19290	11154	12657
Denmark	1482841	1103912	1220605	1576181	1194572	1395443	1512614	1074894	1084003	1040366	1268543
Finland	11	1214	164	116	238	2230	7022	1394	357	1329	1408
France	63928	69770	71322	85019	92328	92205	82029	66210	73024	55931	75177
Germany	362383	253348	164379	175800	228666	353823	306169	266729	317033	263811	269214
Greece	50	493	331	228	7234	764	1251	2541	1970	838	1570
Ireland	20922	17195	25552	30988	22721	20914	27735	26337	18151	18290	22881
Italy	19965	41164	30275	31103	28598	21721	26801	20115	16214	16214	25217
Netherlands	224124	123435	108156	104833	206599	418023	284679	193876	120855	88547	187313
Portugal	4882	3692	9073	8274	6064	4251	7165	6584	8247	5580	6381
Spain	45190	48417	48617	52058	42013	44765	29352	56823	45904	44395	45753
Sweden	13695	22779	21843	20658	27820	56506	74414	56631	49636	64118	40810
United Kingdom	19416	26030	12249	46965	53664	85501	100297	69753	53284	57010	52417
Total EU-15	**2266828**	**1724076**	**1719729**	**2137970**	**1918784**	**2513665**	**2480819**	**1859585**	**1809671**	**1668121**	**2009925**
Cyprus	0	24	0	0	120	0	28	48	0	0	22
Czech Republic					151	19	129	156	382	296	189
Estonia					3375	2230	10592	3744	3242	2206	4232
Hungary			6	56	78	1522	667	16	1404	3204	869
Poland	6793	6000	3000	3977	6535	4416	2940	1845	20345	12421	6827
Slovenia				738	136	0	0	6	0	0	126
Total EUR-6 NC	**6793**	**6024**	**3006**	**4771**	**10394**	**8187**	**14356**	**5815**	**25373**	**18128**	**10285**
Bulgaria						2018	6096	7076	1763	137	3418
Latvia				4792	4637	4147	7375	4738	1512	1089	4041
Lithuania						750	1130	5300	10259	9190	5326
Malta											
Norway	181858	190955	319529	338423	362330	375794	416348	491224	439969	630195	374663
Romania	0	0	0	0	0	0	0	11	0	109	12
Slovakia					24	26	0	0	138	51	40
Total EUR-7 NC	**181858**	**190955**	**319529**	**343214**	**366991**	**382736**	**430950**	**508349**	**453641**	**640771**	**381899**
Total EUR-28	**2455480**	**1921054**	**2042264**	**2485955**	**2296170**	**2904588**	**2926124**	**2373750**	**2288685**	**2327019**	**2402109**

Source: Database

Table Annex 10-7: Non-food use exports by FAO groups of species from 1989 to 1998

(tonnes live weight)

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Marine fish, pelagic, small	1579201	1267582	1244539	1557457	1433910	1696022	1621788	1243959	1259132	1157921	1406151
Marine fish, others	687675	443382	461003	568950	480918	810750	849713	610306	544024	503062	595978
Crustaceans	0	0	1	25	21	24	0	0	0	0	7
Aquatic animals	150	13273	14508	11596	4028	6262	9296	5500	7363	6887	7886
Aquatic mammals	198	161	322	58	93	606	22	180	848	251	98
Total NFU Exports EU-15	**2266828**	**1724076**	**1719729**	**2137970**	**1918784**	**2513665**	**2480819**	**1859585**	**1809671**	**1668121**	**2009925**
Marine fish, pelagic, small	6793	6024	3006	4771	10280	7342	12569	5258	25215	17634	9889
Marine fish, others	0	0	0	0	115	538	1426	412	37	404	293
Aquatic animals	0	0	0	0	0	307	361	145	122	89	102
Total NFU Exports EUR-6 NC	**6793**	**6024**	**3006**	**4771**	**10394**	**8187**	**14356**	**5815**	**25373**	**18128**	**10285**
Marine fish, pelagic, small	54144	54414	132624	172416	170724	91451	123734	103353	80182	57476	104052
Marine fish, demersal	2073	2423	3315	3260	3006	5176	4622	5460	6259	5629	4122
Marine fish, others	125638	134118	183590	167532	193255	286109	301846	399487	367180	577536	273629

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Aquatic animals	0	0	0	0	0	0	0	42	20	130	19
Aquatic mammals	3	0	0	6	6	0	747	6	0	0	77
Total NFU Exports EUR-7 NC	**181858**	**190955**	**319529**	**343214**	**366991**	**382736**	**430950**	**508349**	**453641**	**640771**	**381899**
Total NFU Exports EUR-28	**2455480**	**1921054**	**2042264**	**2485955**	**2296170**	**2904588**	**2926124**	**2373750**	**2288685**	**2327019**	**2402109**

Table Annex 10-8: Non-food use exports by OECD groups of commodities from 1989 to 1998

(tonnes live weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Fish/marine mammal, fat, oil	384004	394316	413781	527530	460681	526956	623503	430299	433656	369551	456428
Flour, meal unfit for human consumption	1882824	1329759	1305948	1610440	1458103	1986709	1857316	1429287	1376015	1298570	1553497
Total NFU Exports EU-15	**2266828**	**1724076**	**1719729**	**2137970**	**1918784**	**2513665**	**2480819**	**1859585**	**1809671**	**1668121**	**2009925**
Fish/marine mammal, fat, oil	0	0	0	0	115	62	89	72	24	21	38
Flour, meal unfit for human consumption	6793	6024	3006	4771	10280	8126	14267	5743	25349	18107	10247
Total NFU Exports EUR-6 NC	**6793**	**6024**	**3006**	**4771**	**10394**	**8187**	**14356**	**5815**	**25373**	**18128**	**10285**
Fish/marine mammal, fat, oil	127714	136541	186905	170798	196267	204775	125116	104722	87535	69443	140982
Flour, meal unfit for human consumption	54144	54414	132624	172416	170724	177961	305834	403627	366106	571328	240918
Total NFU Exports EUR-7 NC	**181858**	**190955**	**319529**	**343214**	**366991**	**382736**	**430950**	**508349**	**453641**	**640771**	**381899**
Total NFU Exports EUR-28	**2455480**	**1921054**	**2042264**	**2485955**	**2296170**	**2904588**	**2926124**	**2373750**	**2288685**	**2327019**	**2402109**

Source: database

Table Annex 10-9: Non-food use net supply by OECD groups of commodities from 1989 to 1998

(X 1000 tonnes live weight)

OECD group of commodities	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Fish/marine mammal, fat, oil	1794	1432	1268	1024	1000	1322	1461	902	837	496	1154
Flour, meal unfit for human consumption	2008	2094	1863	1779	1646	1817	1637	1622	2045	1837	1835
Total EU-15	**3802**	**3526**	**3132**	**2803**	**2646**	**3139**	**3098**	**2524**	**2883**	**2333**	**2988**
Fish/marine mammal, fat, oil	25	8	15	4	5	5	5	4	3	1	8
Flour, meal unfit for human consumption	169	90	121	140	145	165	165	125	125	114	136
Total EUR-6 NC	**194**	**99**	**136**	**145**	**150**	**170**	**170**	**130**	**128**	**115**	**144**
Fish/marine mammal, fat, oil	255	292	395	508	582	557	655	683	823	706	546
Flour, meal unfit for human consumption	782	698	760	940	934	555	783	638	864	772	773
Total EUR-7 NC	**1037**	**990**	**1155**	**1449**	**1516**	**1113**	**1438**	**1320**	**1687**	**1477**	**1318**
Total EUR-28	**5008**	**4606**	**4408**	**4392**	**4307**	**4417**	**4701**	**3970**	**4695**	**3924**	**4443**

Source: database

Table Annex 10-10: Non-food use net supply per country from 1989 to 1998

(X1000 tonnes live weight)

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average 89-98
Austria	40	42	35	35	33	30	29	17	23	23	31
Belgium-Luxembourg	88	88	77	70	65	99	63	55	63	53	72
Denmark	218	111	131	85	73	179	193	270	398	318	198
Finland	139	133	114	122	110	156	150	151	139	108	132
France	189	207	175	204	232	252	266	219	251	230	223
Germany	858	616	585	462	396	301	301	265	324	322	443
Greece	28	31	33	33	32	51	44	47	53	56	41
Ireland	26	51	64	61	72	66	77	81	69	71	64
Italy	152	159	159	156	156	192	190	175	185	145	167
Netherlands	466	598	461	385	328	593	608	261	274	95	407
Portugal	31	29	26	39	37	37	34	44	44	29	35
Spain	265	239	227	164	120	175	199	189	276	241	209
Sweden	190	181	142	151	105	104	122	87	69	84	124

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average 89-98
United Kingdom	1112	1040	903	836	888	904	822	662	714	558	844
Total EU-15	**3802**	**3526**	**3132**	**2803**	**2646**	**3139**	**3098**	**2524**	**2883**	**2333**	**2988**
Cyprus	7	8	8	9	8	9	9	9	9	9	8
Czech Republic	0	0	0	0	24	24	27	23	21	15	22
Estonia	0	0	0	0	5	2	5	2	3	3	3
Hungary	0	0	34	38	39	51	59	45	41	42	44
Poland	187	91	94	90	68	77	64	46	50	42	81
Slovenia	0	0	0	7	6	7	6	4	5	3	6
Total EUR-6 NC	**194**	**99**	**136**	**145**	**150**	**170**	**170**	**130**	**128**	**115**	**144**
Bulgaria	0	0	0	0	1	9	6	4	4	6	5
Latvia	0	0	0	23	22	17	17	18	12	13	17
Lithuania	0	0	0	0	0	10	12	14	10	10	11
Malta	0	3	3	4	4	4	5	4	4	3	3
Norway	1011	910	1133	1408	1455	1041	1369	1240	1628	1413	1261
Romania	26	77	19	13	22	16	16	29	16	22	25
Slovakia	0	0	0	0	13	15	13	12	13	11	13
Total EUR-7 NC	**1037**	**990**	**1155**	**1449**	**1516**	**1113**	**1438**	**1320**	**1687**	**1477**	**1318**
Total EUR-28	**5033**	**4614**	**4423**	**4396**	**4312**	**4422**	**4707**	**3974**	**4697**	**3925**	**4450**

Source: database

Table Annex 10-11: Non-food use net supply by FAO groups of species from 1989 to 1998

(X1000 tonnes live weight)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Marine fish, pelagic, small	1770.0	1626.0	1438.9	1389.3	1271.4	1609.3	1411.6	1379.9	1703.6	1480.3	1508.0
Marine fish, demersal	177.9	161.7	138.9	122.5	135.3	139.4	129.3	75.0	71.1	51.8	120.3
Marine fish, others	1849.7	1696.8	1513.5	1241.1	1208.4	1360.1	1518.5	1018.1	1054.7	746.6	1320.7
Crustaceans	0.1	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Aquatic animals	0.3	38.4	38.5	46.8	27.6	28.6	35.0	48.1	47.8	51.1	36.2
Aquatic mammals	3.8	3.2	1.6	3.4	2.7	1.5	3.5	3.2	5.3	3.1	3.1
EU-15 Total	**3801.9**	**3526.1**	**3131.5**	**2803.1**	**2645.6**	**3138.9**	**3098.0**	**2524.4**	**2882.5**	**2332.9**	**2988.5**
Marine fish, pelagic, small	77.7	9.1	42.1	54.1	78.7	87.9	103.5	79.5	82.5	75.5	69.0
Marine fish, demersal	71.5	63.6	62.1	69.9	56.2	61.5	49.3	33.7	33.4	32.5	53.4
Marine fish, others	44.9	25.9	31.9	20.5	15.3	20.0	16.9	16.1	11.8	6.7	21.0
Aquatic animals	0.0	0.0	0.1	0.0	0.0	0.6	0.5	0.3	0.3	0.3	0.2
Aquatic mammals	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
TotalEUR-6 NC	**194.0**	**98.5**	**136.1**	**144.5**	**150.1**	**170.2**	**170.2**	**129.6**	**128.0**	**114.9**	**143.6**
Marine fish, pelagic, small	767.3	689.3	745.8	930.7	927.7	637.0	637.2	656.9	809.7	1018.7	782.0
Marine fish, demersal	20.7	12.6	21.3	15.3	10.0	6.6	17.6	11.3	8.1	7.8	13.1
Marine fish, others	247.6	284.2	383.8	500.1	577.0	466.2	780.3	649.4	868.1	450.4	520.7
Aquatic animals	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.6	0.1	0.2	0.2
Aquatic mammals	1.4	3.5	4.0	2.6	1.8	2.9	2.7	2.1	0.9	0.4	2.2
TotalEUR-7 NC	**1037.0**	**989.6**	**1154.9**	**1448.7**	**1516.5**	**1112.7**	**1438.4**	**1320.4**	**1686.9**	**1477.4**	**1318.2**
Total EUR-28	**5032.9**	**4614.2**	**4422.6**	**4396.3**	**4312.2**	**4421.8**	**4706.6**	**3974.4**	**4697.4**	**3925.2**	**4450.4**

Source: database

Table Annex 10-12: EU-15 Non-food use net supply of main species from 1989 to 1998

(X1000 tonnes live weight)

Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98	%
Fishes nei	1746	1837	1386	892	1080	1273	1144	870	1110	716	1205	40.3%
Jack mackerel	100	103	87	97	101	99	95	97	114	95	99	3.3%
Blue whiting	173	158	135	114	129	135	126	72	68	46	116	3.9%

Herring	42	38	33	55	62	80	106	82	61	89	65	2.2%
Coral	0	38	38	47	27	29	36	48	48	51	36	1.2%
Sub-total	**2062**	**2174**	**1679**	**1205**	**1398**	**1616**	**1506**	**1169**	**1401**	**997**	**1521**	**50.9%**
Total other species	**1740**	**1352**	**1453**	**1598**	**1247**	**1523**	**1592**	**1356**	**1481**	**1336**	**1468**	**49.1%**
Total EU-15	**3802**	**3526**	**3132**	**2803**	**2646**	**3139**	**3098**	**2524**	**2883**	**2333**	**2988**	**100.0%**

Source: database

Table Annex 10-13: EUR-6 NC Non-food use net supply of main species from 1989 to 1998

(X1000 tonnes live weight)

Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98	%
White fishes nei	71	64	62	70	56	61	49	34	33	32	53	35.5%
Marine fishes nei	20	18	17	17	17	17	18	14	34	23	19	12.9%
Krill	5	2	7	6	-4	-1	8	12	16	16	7	4.5%
Sub-total	**96**	**83**	**86**	**93**	**70**	**77**	**75**	**60**	**84**	**72**	**80**	**52.9%**
Total other species	**103**	**17**	**57**	**57**	**77**	**92**	**103**	**82**	**60**	**59**	**71**	**47.1%**
Total EUR-6 NC	**199**	**101**	**143**	**150**	**147**	**169**	**178**	**142**	**144**	**131**	**150**	**100.0%**

Source: database

Table Annex 10-14: EUR-7 NC Non-food use net supply of main species from 1989 to 1998

(X1000 tonnes live weight)

Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98	%
Fishes nei	250	327	315	398	495	507	830	698	900	491	521	39.5%
White fishes nei	15	9	14	10	6	5	12	6	6	7	9	0.7%
Cod	6	3	7	5	4	1	5	5	2	1	4	0.3%
Sub-total	**271**	**339**	**336**	**413**	**505**	**513**	**847**	**709**	**908**	**499**	**534**	**40.5%**
Total other species	**766**	**650**	**819**	**1035**	**1011**	**600**	**591**	**611**	**779**	**978**	**784**	**59.5%**
Total EUR-7 NC	**1037**	**990**	**1155**	**1449**	**1516**	**1113**	**1438**	**1320**	**1687**	**1477**	**1318**	**100.0%**

Source: database

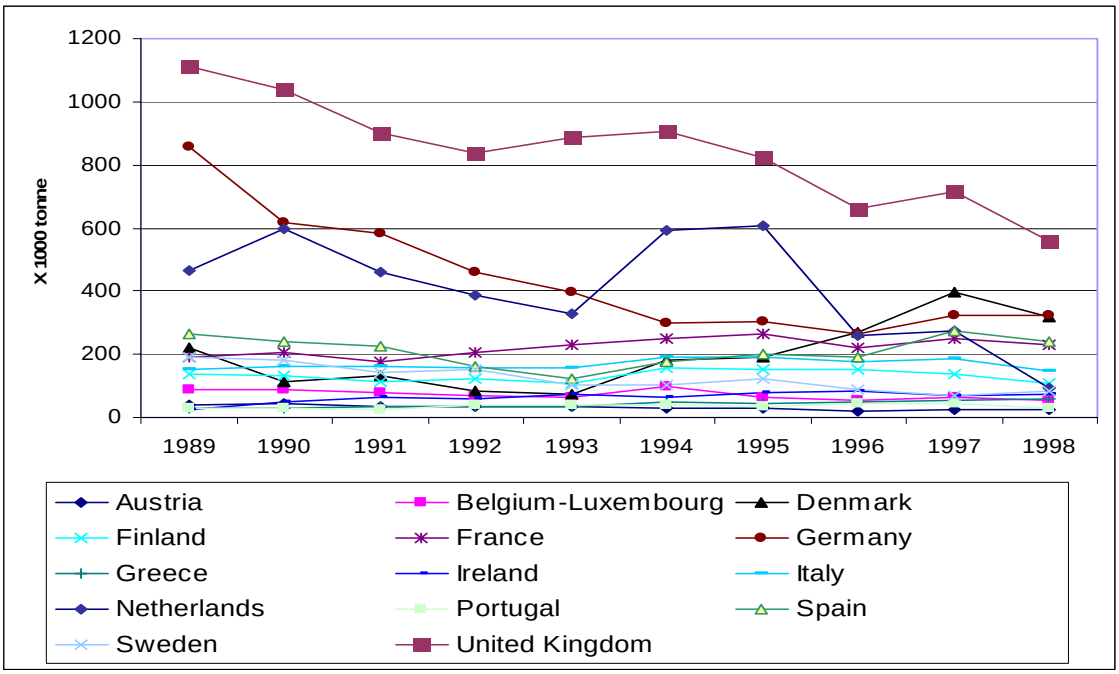


Figure Annex 10-1: Non-food use net supply EU-15, from 1989 to 1998 (live weight)

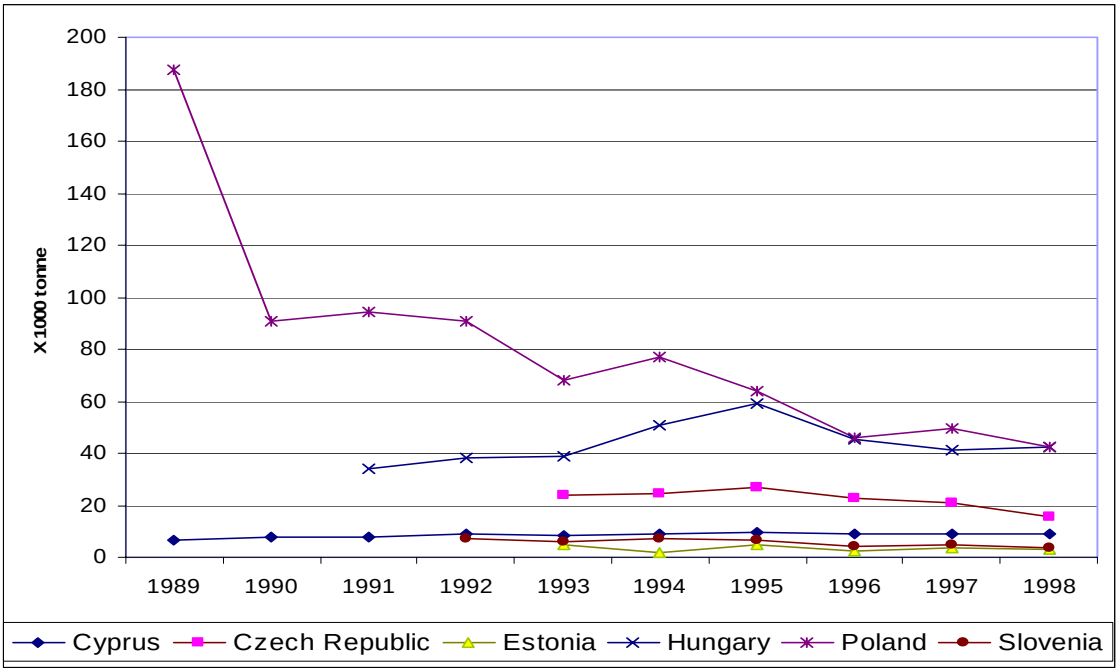


Figure Annex 10-2: Non-food use net supply EUR-6 NC, from 1989 to 1998 (live weight)

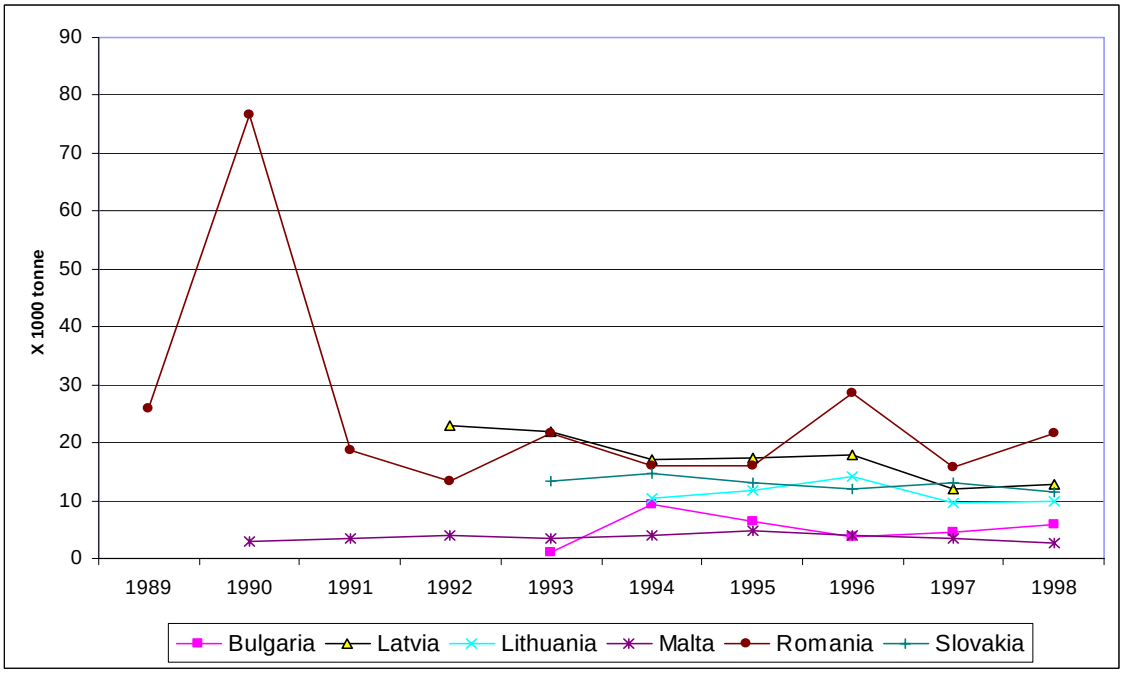


Figure Annex 10-3: Non-food use net supply EUR-7 NC except Norway from 1989 to 1998 (live weight)

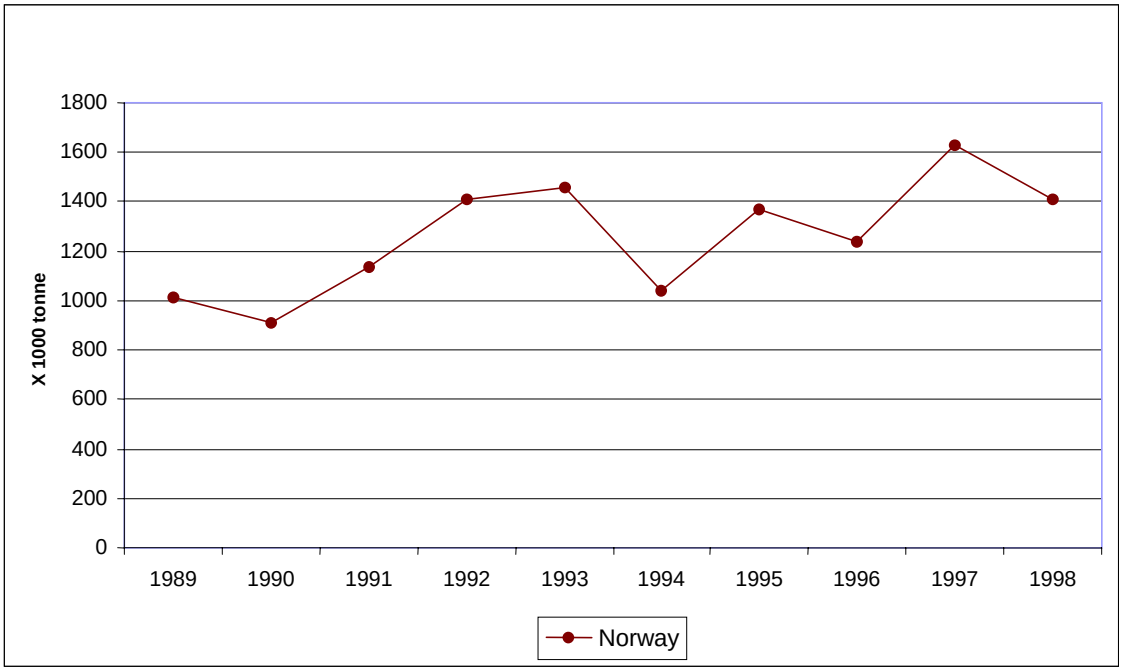


Figure Annex 10-4: Norway non-food use net supply from 1989 to 1998 (live weight)

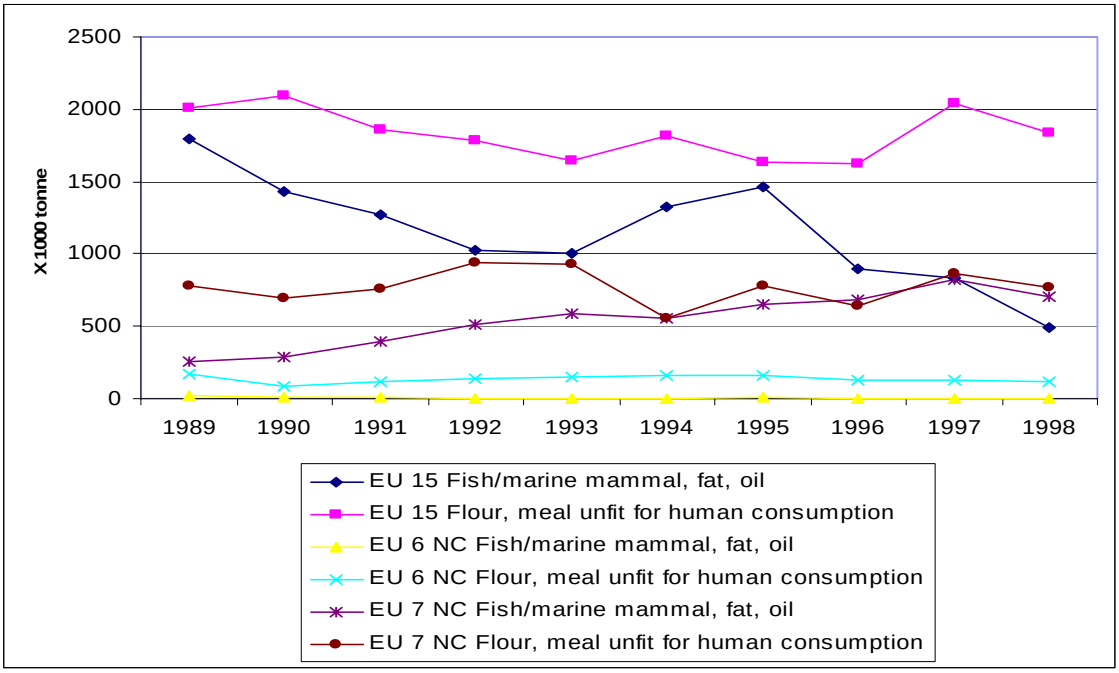


Figure Annex 10-5: Non-food use net supply by OECD groups of commodities from 1989 to 1998 (live weight)

ANNEX 11: NET SUPPLY BY FAO GROUPS OF SPECIES AND SPECIES 1989-1998

Table Annex 11-1: Food use net supply per country from 1989 to 1998

(x 1 000 tonnes live weight)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average 89-98
EU-15 Austria	69	70	71	80	77	95	73	90	88	90	87
EU-15 Belgium-Luxembourg	211	235	229	242	218	236	250	215	233	235	234
EU-15 Denmark	104	115	117	138	133	128	124	129	115	123	124
EU-15 Finland	162	163	161	170	171	172	172	175	171	176	173
EU-15 France	1693	1825	1797	1790	1738	1759	1786	1796	1758	1865	1793
EU-15 Germany	887	982	909	939	960	1053	1051	996	1086	1202	1077
EU-15 Greece	199	214	228	237	242	270	265	271	293	276	275
EU-15 Ireland	77	71	65	65	84	69	81	68	77	78	75
EU-15 Italy	1211	1240	1334	1264	1244	1274	1278	1293	1276	1344	1293
EU-15 Netherlands	206	182	218	227	208	244	260	259	255	237	251
EU-15 Portugal	580	607	609	607	599	595	588	618	591	609	600
EU-15 Spain	1525	1556	1587	1596	1579	1593	1581	1622	1592	1619	1602
EU-15 Sweden	187	205	189	236	233	239	238	234	248	252	242
EU-15 United Kingdom	1254	1239	1306	1233	1280	1195	1175	1309	1353	1426	1292
TOTAL EU-15	**8365**	**8704**	**8822**	**8824**	**8767**	**8923**	**8922**	**9075**	**9137**	**9533**	**9118**
EUR-21 Cyprus	12	12	12	15	13	15	17	15	16	18	16
EUR-21 Czech Republic					76	96	93	104	101	94	98
EUR-21 Estonia					68	55	26	25	27	21	31
EUR-21 Hungary			40	39	36	40	37	35	40	43	39
EUR-21 Poland	553	433	354	379	359	500	485	426	478	439	466
EUR-21 Slovenia				7	11	12	14	14	13	13	13
TOTAL NEW 6	**565**	**446**	**406**	**440**	**564**	**718**	**672**	**619**	**676**	**628**	**663**
EUR-28 Bulgaria					21	15	31	21	30	36	27
EUR-28 Latvia				117	114	110	103	109	93	90	101
EUR-28 Lithuania				174	120	77	44	90	67	55	67
EUR-28 Malta	8	10	11	13	6	8	10	10	11	12	10
EUR-28 Norway	191	191	194	198	200	202	206	199	204	203	203
EUR-28 Romania	213	149	122	90	43	66	80	60	42	71	64
EUR-28 Slovakia					34	39	38	48	28	28	36
TOTAL NEW 7	**412**	**350**	**326**	**592**	**538**	**518**	**513**	**538**	**476**	**495**	**508**
TOTAL EUR-28	**9342**	**9499**	**9554**	**9856**	**9870**	**10158**	**10107**	**10232**	**10288**	**10655**	**9956**

Source: database

Table Annex 11-2: Food use net supply in live weight by OECD groups of commodities from 1989 to 1998

(x 1 000 tonnes)

OECD group of commodities	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Cephalopods	597	503	544	487	538	526	603	554	642	694	569
Crus., mol. & other aquatic inv., prepared	147	153	168	170	171	159	159	187	193	177	168
Crustaceans	473	581	613	642	638	638	585	577	569	646	596
Fish, cured	716	690	714	669	629	641	692	751	782	773	706
Fish, fillets	1272	1464	1496	1470	1508	1518	1606	1697	1732	1949	1571
Fish, fresh/chilled	927	1021	903	972	964	1014	963	965	970	964	966
Fish, frozen	2234	2262	2323	2226	2114	2124	1950	1796	1623	1547	2020
Molluscs	260	271	272	318	295	236	245	256	277	306	274
Prepared/preserved fish	1738	1760	1789	1869	1909	2066	2120	2291	2348	2478	2037

OECD group of commodities	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Total EU-15	**8365**	**8704**	**8822**	**8824**	**8767**	**8923**	**8922**	**9075**	**9137**	**9533**	**8907**
Cephalopods	45	21	23	9	7	7	6	7	6	7	14
Crus., mol. & other aquatic inv., prepared	0	0	0	0	0	0	1	1	0	1	0
Crustaceans	5	2	7	2	3	9	5	2	11	5	5
Fish, cured	91	63	62	77	83	86	98	72	84	50	76
Fish, fillets	106	123	122	10	44	213	215	121	113	128	119
Fish, fresh/chilled	5	5	6	31	42	11	12	26	8	15	16
Fish, frozen	192	140	91	198	250	261	201	180	230	230	197
Molluscs	0	0	0	1	1	1	1	1	1	1	1
Prepared/preserved fish	121	92	94	112	135	131	134	211	223	190	144
Total EUR-6 NC	**565**	**446**	**406**	**440**	**564**	**718**	**672**	**619**	**676**	**628**	**573**
Cephalopods	7	4	4	12	8	6	3	6	2	9	6
Crus., mol. & other aquatic inv., prepared	2	3	3	3	2	2	5	2	3	3	3
Crustaceans	25	40	39	45	61	42	43	44	31	30	40
Fish, cured	107	60	52	46	32	44	40	26	36	19	46
Fish, fillets	7	19	7	8	17	26	29	34	29	88	27
Fish, fresh/chilled	35	10	28	32	33	42	51	47	44	52	37
Fish, frozen	145	119	109	311	243	247	250	279	227	173	210
Molluscs	2	3	1	2	1	3	11	11	9	12	5
Prepared/preserved fish	82	93	83	134	142	104	81	89	94	110	101
Total EUR-7 NC	**412**	**350**	**326**	**592**	**538**	**518**	**513**	**538**	**476**	**495**	**476**
Total EUR-28	**9342**	**9499**	**9554**	**9856**	**9870**	**10158**	**10107**	**10232**	**10288**	**10655**	**9956**

Source: database

Table Annex 11-3: EU-15 Food use net supply of main species from 1989 to 1998

(x 1 000 tonnes live weight)

Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98	%/total
Tunas nei	732	743	784	860	907	963	1042	1103	1097	1189	942	10.58%
Cod	829	786	719	784	791	803	806	890	871	848	813	9.13%
Salmon	323	386	436	446	425	484	529	587	598	615	483	5.42%
Shrimps nei	332	438	469	552	555	524	473	501	483	555	488	5.48%
Herring	324	361	308	320	422	437	404	382	432	462	385	4.33%
Hake	431	410	433	352	360	403	360	387	379	373	389	4.36%
Common squids nei	387	308	322	303	327	295	320	297	332	352	324	3.64%
Yellowfin tuna	510	632	485	457	394	310	309	275	256	290	392	4.40%
Skipjack tuna	209	210	333	300	284	303	297	272	235	279	272	3.06%
Alaska pollack	22	119	111	141	172	191	243	274	301	360	193	2.17%
Mackerel	320	283	326	336	256	243	278	281	246	185	275	3.09%
European pilchard	323	325	299	294	208	263	234	282	207	100	254	2.85%
Mussel	172	174	177	211	185	210	201	220	212	217	198	2.22%
Haddock	161	137	136	132	168	174	185	228	221	243	178	2.00%
Anchovy	125	141	159	166	153	179	185	162	175	147	159	1.79%
Cuttlefish	102	103	113	109	112	124	145	128	160	168	126	1.42%
Saithe	119	157	130	145	155	138	152	121	116	112	134	1.51%
Redfish	115	146	140	130	136	123	113	114	109	110	123	1.39%
Plaice	120	118	128	109	86	105	92	102	91	97	105	1.18%
Molluscs nei	159	169	140	154	159	90	89	90	99	103	125	1.40%
Sub total	**5814**	**6146**	**6151**	**6300**	**6254**	**6362**	**6457**	**6695**	**6620**	**6805**	**6360**	**71.41%**
Total other species	**2551**	**2557**	**2671**	**2524**	**2513**	**2560**	**2466**	**2379**	**2516**	**2728**	**2547**	**28.59%**
Toal EU-15	**8365**	**8704**	**8822**	**8824**	**8767**	**8923**	**8922**	**9075**	**9137**	**9533**	**8907**	**100.00%**

Source: database

Table Annex 11-4: EUR-6 NC Food use net supply of main species from 1989 to 1998

(x 1 000 tonnes live weight)

Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98	%/total
Herring	82	58	48	68	64	166	208	119	130	121	82	18.8%
Mackerel	0	1	1	79	69	79	109	69	92	69	57	10.0%
Clupeoids nei	0	0	3	4	26	29	10	5	0	79	16	2.8%
Hake	0	0	0	4	4	26	15	24	14	21	11	1.9%
Alaska pollack	0	0	0	0	0	30	25	9	11	36	11	1.9%
Common squids nei	63	36	37	42	18	6	2	2	2	3	21	3.7%
Freshwater fishes nei	0	0	16	17	23	14	29	26	33	32	19	3.3%
Tunas nei	1	1	1	3	5	5	8	9	10	14	6	1.0%
Sub-total	**146**	**96**	**105**	**216**	**210**	**356**	**406**	**261**	**291**	**374**	**246**	**43.4%**
Total other species	**414**	**348**	**295**	**218**	**358**	**364**	**259**	**346**	**368**	**237**	**321**	**56.6%**
Total EUR-6 NC	**560**	**444**	**399**	**434**	**568**	**719**	**664**	**607**	**659**	**611**	**567**	**100.0%**

Source: database

Table Annex 11-5: EUR-7 NC Food use net supply of main species from 1989 to 1998

(x 1 000 tonnes live weight)

Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98	%
Mackerel	61	53	99	70	98	117	124	159	116	196	109	23.8%
Cod	95	79	85	65	18	104	108	129	118	165	97	21.1%
Clupeoids nei	-7	0	2	36	18	27	18	33	30	56	21	4.6%
Crustaceans nei	22	20	18	20	21	21	19	18	20	25	20	4.4%
Shrimps nei	4	23	23	27	41	23	27	26	14	7	21	4.7%
Sprat	11	10	10	7	8	8	7	9	6	7	8	1.8%
Halibut	2	6	12	7	7	4	2	3	1	3	5	1.0%
Molluscs nei	4	5	2	3	3	3	6	6	10	12	5	1.2%
Hake	0	0	0	0	0	2	1	10	4	10	3	0.6%
Tunas nei	0	2	4	5	3	4	6	6	5	7	4	0.9%
Char	1	1	2	3	3	3	3	8	6	9	4	0.9%
Cephalopods nei	7	4	4	5	3	1	0	1	1	8	3	0.8%
European pilchard	0	0	0	0	3	4	2	3	0	1	1	0.3%
Common squids nei	0	0	0	7	4	4	1	5	0	0	2	0.4%
Capelin	1	2	2	3	5	5	0	1	2	8	3	0.6%
Freshwater fishes nei	0	0	0	0	3	4	4	3	3	3	2	0.4%
Sub-total	**201**	**203**	**263**	**256**	**237**	**335**	**331**	**418**	**336**	**517**	**310**	**67.5%**
Total other species	**172**	**104**	**37**	**324**	**286**	**175**	**180**	**123**	**122**	**-33**	**`149**	**32.5%**
Total EUR-7 NC	**372**	**308**	**300**	**581**	**523**	**511**	**510**	**541**	**457**	**484**	**459**	**100.0%**

Source: database

ANNEX 12: ACP COUNTRIES

Table Annex 12-1: **LAC and non-LAC within ACP group**

ACP (77)						
LAC's				Non-LAC's		
Africa (34)		Caribbean (1)	Pacific (5)	Africa (14)	Caribbean (15)	Pacific (9)
Angola	Madagascar	Haiti	Kiribati	Botswana	Antigua et Bar.	Fiji
Benin	Malawi		Salomon Isl.	Cameroon	Bahamas	Papua NG
Burkina Faso	Mali		Tuvalu	Congo	Barbuda	Tonga
Burundi	Mauritania		Vanuatu	Ivory-Coast	Belize	Marshall Isl.
Cap Verde	Mozambique		Samoa	Gabon	Dominica	Cook isls
CAR	Niger			Ghana	Dominican Rep	Micronesia
Comoros	Uganda			Kenya	Grenada	Nauru
Rep. Congo	Rwanda			Mauritius	Guyana	Niue
Djibouti	Sao Tome			Namibia	Jamaica	Palau
Eritrea	Senegal			Nigeria	St kits and Nevis	
Ethiopia	Sierra Leone			Seychelles	St Lucia	
Gambia	Somalia			Sth Africa	St. Vincent & Gr	
Guinea	Sudan			Swaziland	Surinam	
Guinea Bis.	Tanzania			Zimbabwe	Trinidad et To.	
Eq. Guinea	Chad					
Lesotho	Togo					
Liberia	Zambia					

Note: LAC: Least Developed Countries and ACP: Africa-Caribbean-Pacific.

ANNEX 13: PRODUCTION TABLES

Table Annex 13-1: Captures by FAO groups of species from 1989 to 1998

(tonnes)

FAO Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Ave 89-98
Freshwater fish	102161	101794	94348	99936	102978	97283	114256	113159	114032	117146	105709
Diadromous fish	39426	37392	40207	37288	35062	34504	34613	30210	30508	28486	34770
Marine fish, pelagic, tunas	462274	456584	486793	462935	495772	502143	525883	483556	439493	379978	469541
Marine fish, pelagic, small	2286048	2165182	2122177	2307323	2535148	2664489	2802572	2652538	2631509	2726863	2489385
Marine fish, demersal	3169683	2544942	2688838	2781594	2443900	2626173	2701807	2417490	2647230	2397146	2641880
Marine fish, others	135442	154678	143331	177352	185225	167478	192223	166473	137206	146700	160611
Crustaceans	179211	178215	191525	182534	179686	196054	203672	200649	227048	211250	194984
Molluscs	322751	311767	346446	396406	370201	344837	359892	308372	340120	381039	348183
Cephalopods	254973	217551	209041	217827	192235	206912	219977	210598	161255	149637	204001
Others	145701	142028	132353	131537	116959	137942	139639	135804	127745	121310	133102
Total EU-15	**7097670**	**6310133**	**6455059**	**6794732**	**6657166**	**6977815**	**7294534**	**6718849**	**6856146**	**6659555**	**6782166**
Freshwater fish	29352	39606	30742	36022	47934	44163	41010	38192	39665	39667	38635
Diadromous fish	3656	3803	1969	2252	2706	2504	2396	2422	1897	3116	2672
Marine fish, pelagic, tunas	1028	495	732	74	138	200	122	300	110	95	329
Marine fish, pelagic, small	401365	369740	355821	174921	199422	189479	189910	208723	244934	177259	251157
Marine fish, demersal	416764	355382	324417	344571	273651	324962	327102	186584	187840	136413	287769
Marine fish, others	1699	2048	2745	20141	15784	2808	1121	2910	1174	986	5142
Crustaceans	33491	17152	33173	10961	15913	8969	11765	23835	24973	23506	20374
Molluscs	0	0	0	1	0	1	6	5	10	12	4
Cephalopods	72244	43616	46892	33188	12058	3689	781	2737	304	414	21592
Others	1392	1216	908	0	0	411	548	163	2444	2880	996
Total EUR-6 NC	**960991**	**833058**	**797399**	**622131**	**567606**	**577186**	**574761**	**465871**	**503351**	**384348**	**628670**
Freshwater fish	24085	19528	15009	12412	12491	13952	12955	9818	8916	9582	13875
Diadromous fish	8991	3149	3864	3776	3013	3027	2962	2961	2967	3030	3774
Marine fish, pelagic, tunas	4407	8737	6724	4952	516	1526	786	1096	1762	1195	3170
Marine fish, pelagic, small	1569472	1313580	1880800	1680829	1458271	1199545	1224134	1332461	1380477	1230006	1426958
Marine fish, demersal	1273770	1070762	1002594	1054219	1126878	1283788	1461105	1442713	1551480	1675415	1294272
Marine fish, others	17727	14381	15795	24816	20189	20501	23618	19616	3645	7469	16776
Crustaceans	70436	77395	56876	50749	50844	41518	42953	46325	47105	64193	54839
Molluscs	6132	13744	10656	6915	10323	11076	10725	3343	4999	4550	8246
Cephalopods	51093	40078	53578	36808	20845	9547	2075	7372	204	14	22161
Others	196929	212585	205354	203475	182495	203448	201232	190285	202281	189408	198749
Total EUR-7 NC	3223042	2773939	3251250	3078951	2885865	2787928	2982545	3055990	3203836	3184862	3042821
Total EUR-28	11281703	9917130	10503708	10495814	10110637	10342929	10851840	10240710	10563333	10228765	10453657

Source: database

Table Annex 13-2: Aquaculture production by FAO groups of species from 1989 to 1998

(tonnes)

FAO Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Freshwater fish	35107	32652	31467	29150	29245	29125	27884	27499	28903	26936	29797
Diadromous fish	230234	249684	264920	270541	291245	313118	329349	347947	366644	373837	303752
Marine fish, pelagic, small	3509	3368	3186	3300	3252	3342	3619	3727	3550	3666	3452
Marine fish, demersal	3700	7145	9953	16648	23507	26890	36218	43509	54162	67440	28917
Marine fish, others	0	0	0	0	0	0	68	325	595	1286	227
Crustaceans	140	252	137	204	235	242	237	389	577	320	273
Molluscs	623250	639430	628620	591352	569433	664211	712223	739432	729841	860237	675803

FAO Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av 89-98
Others	43	5006	5053	5052	5070	5087	5100	5054	5054	3054	4357
Total EU-15	**895983**	**937537**	**943336**	**916247**	**921987**	**1042015**	**1114698**	**1167882**	**1189326**	**1336776**	**1046579**
Freshwater fish	42946	40125	40268	40574	43499	48233	47640	47618	47638	47510	44605
Diadromous fish	4795	4783	4993	5299	5889	5978	6601	7435	9060	10820	6565
Marine fish, demersal	26	52	60	71	186	282	386	733	931	1163	389
Crustaceans	0	0	0	0	0	2	6	12	22	25	7
Molluscs	0	0	0	146	46	28	13	50	37	44	36
Total EU 6NC	**47767**	**44960**	**45321**	**46090**	**49620**	**54523**	**54646**	**55848**	**57688**	**59562**	**51603**
Freshwater fish	67584	48395	43332	36275	31966	28746	26175	19861	17711	14524	33457
Diadromous fish	115824	151197	162136	138404	174993	219118	278373	322314	368122	409265	233975
Marine fish, demersal	0	0	200	732	1017	1469	1189	1750	2107	2098	1056
Marine fish, others	0	0	0	0	0	287	444	437	270	835	227
Molluscs	43	77	0	0	0	542	653	226	569	359	247
Total EUR-7 NC	**183451**	**199669**	**205668**	**175411**	**207976**	**250162**	**306834**	**344588**	**388779**	**427081**	**268962**
Total EUR-28	**1127201**	**1182166**	**1194325**	**1137748**	**1179583**	**1346700**	**1476178**	**1568318**	**1635793**	**1823419**	**1367143**

Source: Database

Table Annex 13-3: Total production by FAO groups of species from 1989 to 1998

(tonnes)

FAO Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Freshwater fish	137268	134446	125815	129086	132223	126408	142140	140658	142935	144082	135506
Diadromous fish	269660	287076	305127	307829	326307	347622	363962	378157	397152	402323	338522
Marine fish, pelagic, tunas	462274	456584	486793	462935	495772	502143	525883	483556	439493	379978	469541
Marine fish, pelagic, small	2289557	2168550	2125363	2310623	2538400	2667831	2806191	2656265	2635059	2730529	2492837
Marine fish, demersal	3173383	2552087	2698791	2798242	2467407	2653063	2738025	2460999	2701392	2464586	2670798
Marine fish, others	135442	154678	143331	177352	185225	167478	192291	166798	137801	147986	160838
Crustaceans	179351	178467	191662	182738	179921	196296	203909	201038	227625	211570	195258
Molluscs	946001	951197	975066	987758	939634	1009048	1072115	1047804	1069961	1241276	1023986
Cephalopods	254973	217551	209041	217827	192235	206912	219977	210598	161255	149637	204001
Others	145744	147034	137406	136589	122029	143029	144739	140858	132799	124364	137459
Total EU-15	**7993653**	**7247670**	**7398395**	**7710979**	**7579153**	**8019830**	**8409232**	**7886731**	**8045472**	**7996331**	**7828744**
Freshwater fish	72298	79731	71010	76596	91433	92396	88650	85810	87303	87177	83240
Diadromous fish	8451	8586	6962	7551	8595	8482	8997	9857	10957	13936	9237
Marine fish, pelagic, tunas	1028	495	732	74	138	200	122	300	110	95	329
Marine fish, pelagic, small	401365	369740	355821	174921	199422	189479	189910	208723	244934	177259	251157
Marine fish, demersal	416790	355434	324477	344642	273837	325244	327488	187317	188771	137576	288158
Marine fish, others	1699	2048	2745	20141	15784	2808	1121	2910	1174	986	5142
Crustaceans	33491	17152	33173	10961	15913	8971	11771	23847	24995	23531	20381
Molluscs	0	0	0	147	46	29	19	55	47	56	40
Cephalopods	72244	43616	46892	33188	12058	3689	781	2737	304	414	21592
Others	1392	1216	908	0	0	411	548	163	2444	2880	996
Total EUR-6 NC	**1008758**	**878018**	**842720**	**668221**	**617226**	**631709**	**629407**	**521719**	**561039**	**443910**	**680273**
Freshwater fish	91669	67923	58341	48687	44457	42698	39130	29679	26627	24106	47332
Diadromous fish	124815	154346	166000	142180	178006	222145	281335	325275	371089	412295	237749
Marine fish, pelagic, tunas	4407	8737	6724	4952	516	1526	786	1096	1762	1195	3170
Marine fish, pelagic, small	1569472	1313580	1880800	1680829	1458271	1199545	1224134	1332461	1380477	1230006	1426958
Marine fish, demersal	1273770	1070762	1002794	1054951	1127895	1285257	1462294	1444463	1553587	1677513	1295329
Marine fish, others	17727	14381	15795	24816	20189	20788	24062	20053	3915	8304	17003
Crustaceans	70436	77395	56876	50749	50844	41518	42953	46325	47105	64193	54839
Molluscs	6175	13821	10656	6915	10323	11618	11378	3569	5568	4909	8493
Cephalopods	51093	40078	53578	36808	20845	9547	2075	7372	204	14	22161
Others	196929	212585	205354	203475	182495	203448	201232	190285	202281	189408	198749
Total EUR-7 NC	**3406493**	**2973608**	**3456918**	**3254362**	**3093841**	**3038090**	**3289379**	**3400578**	**3592615**	**3611943**	**3311783**
Total EUR-28	**12408904**	**11099296**	**11698033**	**11633562**	**11290220**	**11689629**	**12328018**	**11809028**	**12199126**	**12052184**	**11820800**

Source: Database

Table Annex 13-4: Food use production by FAO groups of species from 1989 to 1998

(tonnes live weight)

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Freshwater fish	11349	10011	10135	9657	10635	9197	8524	13148	15619	13373	11165
Diadromous fish	187773	183564	186004	180927	192599	188942	199931	207582	233748	256298	201737
Marine fish, pelagic, tunas	1032004	1059863	986622	985358	1025118	987829	1102720	1050693	1086683	1086381	1040327
Marine fish, pelagic, small	1717748	1636934	1804304	2033834	2099380	2021591	2134883	2095508	2146772	2092192	1978315
Marine fish, demersal	1111947	963121	981342	823781	872057	922284	749624	779822	766008	827784	879777
Marine fish, others	1258702	1198235	1291576	1391525	1474078	1451429	1547430	1528602	1595975	1658455	1439601
Crustaceans	194612	187418	190942	219735	236724	182290	152520	134240	147587	157889	180396
Molluscs	289564	286398	295423	326702	277109	274785	273360	327539	355252	339379	304551
Cephalopods	276755	209087	209501	205788	252668	234032	269979	240633	245006	281845	242529
Aquatic animals	3537	3786	3617	1714	2793	2331	1778	2086	2517	2713	2687
Total FU Production EU-15	**6083989**	**5738415**	**5959468**	**6179020**	**6443161**	**6274710**	**6440747**	**6379853**	**6595167**	**6716309**	**6281084**
Freshwater fish	0	0	20522	19489	45781	43540	41327	41559	46870	44189	30328
Diadromous fish	77	90	83	111	1659	1897	517	476	428	1008	635
Marine fish, pelagic, small	91407	65218	55875	81102	113793	139157	200790	138457	201314	173601	126071
Marine fish, demersal	2500	2160	2281	1969	3610	3339	5785	3513	2617	2996	3077
Marine fish, others	314518	288886	285583	345442	410145	448731	348544	352827	316920	219160	333075
Crustaceans	4822	1991	6540	12010	2690	5356	8173	12448	16648	16485	8716
Molluscs	0	0	0	456	453	654	765	654	456	654	409
Cephalopods	61737	35505	35667	40303	17109	5463	810	362	344	457	19776
Total FU Production EUR-6 NC	**475061**	**393850**	**406550**	**500882**	**595240**	**648137**	**606711**	**550296**	**585597**	**458549**	**522087**
Freshwater fish	0	0	0	0	3418	4242	4003	3014	3154	2416	2025
Diadromous fish	166931	196499	195792	189824	197985	225868	266117	322713	382163	414662	255855
Marine fish, pelagic, tunas	916	6357	3650	2178	503	797	752	664	687	789	1729
Marine fish, pelagic, small	243676	254425	350930	407179	465773	659447	724083	883990	926811	697461	561378
Marine fish, demersal	261674	209073	261718	279655	326929	380301	376744	424275	419439	402568	334238
Marine fish, others	447150	360035	323402	584037	490505	401714	449663	293518	307099	301663	395879
Crustaceans	44220	59630	53397	51061	57917	60211	42590	45352	44949	48543	50787
Molluscs	3546	4528	2392	2935	4897	6329	8020	6080	8453	8533	5571
Cephalopods	1793	591	0	6501	3544	4475	1774	6126	122	2128	2705
Total FU Production EUR-7 NC	**1169905**	**1091138**	**1191281**	**1523370**	**1551472**	**1743384**	**1873747**	**1985730**	**2092877**	**1878762**	**1610167**
Total FU Production EUR-28	**7728956**	**7223404**	**7557299**	**8203271**	**8589873**	**8666231**	**8921205**	**8915879**	**9273641**	**9053621**	**8413338**

Source: database

Table Annex 13-5: Food use production by OECD groups of commodities from 1989 to 1998

(tonnes live weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Cephalopods	276755	209087	209501	205788	252668	234032	269979	240633	245006	281845	242529
Crus., mol. & other aquatic inv., prepared	112315	101365	113799	130435	143097	122478	122651	140119	136588	137468	126031
Crustaceans	182286	172207	173025	175004	185408	168553	136652	122476	135651	142501	159376
Fish, cured	462787	427525	464391	420736	382294	391331	430763	454388	481860	503330	441940
Fish, fillets	895539	882428	929720	809730	880110	801466	808116	863122	878739	951172	870014
Fish, fresh/chilled	472872	451681	550435	628558	681500	600180	612975	621998	686628	694216	600104
Fish, frozen	2148095	1998843	2049244	2260889	2372359	2342069	2308527	2077158	2138062	2052214	2174746
Molluscs	193111	204029	203158	242711	188122	168374	168354	201269	233117	220013	202226
Prepared/preserved fish	1340228	1291250	1266195	1305169	1357602	1446227	1582731	1658690	1659516	1733552	1464116
Total FU Production EU-15	**6083989**	**5738415**	**5959468**	**6179020**	**6443161**	**6274710**	**6440747**	**6379853**	**6595167**	**6716309**	**6281084**
Cephalopods	61737	35505	35667	40303	17109	5463	810	362	344	457	19776
Crustaceans	4822	1991	6540	12010	2690	5356	8173	12448	16648	16485	8716
Fish, cured	77270	53774	54940	69710	80671	93821	111247	82359	103272	68283	79535
Fish, fillets	105290	121657	117889	134588	108001	132703	124425	99070	83041	55610	108227
Fish, fresh/chilled	4470	4708	8171	33380	55658	71315	55870	67055	83869	46090	43059
Fish, frozen	132716	112094	106152	106230	176405	168793	124362	94183	82309	91259	119450

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Molluscs	0	0	0	456	453	654	765	654	456	654	409
Prepared/preserved fish	88756	64121	77190	104205	154252	170032	181060	194165	215659	179711	142915
Total FU Production EU 6NC	**475061**	**393850**	**406550**	**500882**	**595240**	**648137**	**606711**	**550296**	**585597**	**458549**	**522087**
Cephalopods	1793	591	0	6501	3544	4475	1774	6126	122	2128	2705
Crus., mol. & other aquatic inv., prepared	21903	20098	18186	20573	20371	20713	16988	16173	20173	23806	19898
Crustaceans	22317	39531	35211	30488	37545	39498	25602	29179	24775	24737	30888
Fish, cured	226700	160454	176066	184115	201807	268545	268146	258388	250534	231389	222614
Fish, fillets	128942	96470	88317	137183	185004	267351	278804	303456	311224	359580	215633
Fish, fresh/chilled	275955	272770	239021	247633	252886	275285	297791	296236	355566	369914	288306
Fish, frozen	381483	383176	518783	731785	655318	698389	825565	869265	884823	651292	659988
Molluscs	3546	4528	2392	2935	4897	6329	8020	6080	8453	8533	5571
Prepared/preserved fish	107267	113518	113304	162158	190099	162799	151057	200829	237206	207383	164562
Total FU Production EUR-7 NC	**1169905**	**1091138**	**1191281**	**1523370**	**1551472**	**1743384**	**1873747**	**1985730**	**2092877**	**1878762**	**1610167**
Total FU Production EUR-28	**7728956**	**7223404**	**7557299**	**8203271**	**8589873**	**8666231**	**8921205**	**8915879**	**9273641**	**9053621**	**8413338**

Source: database

Table Annex 13-6: Aquaculture production by FAO groups of species from 2005 to 2030

(tonnes)

FAO Gp Species	Av 94-98	2005	2010	2015	2020	2025	2030	% 98-30
Freshwater fish	28069	22567	20788	19760	19275	19189	19408	-28%
Diadromous fish	346179	395525	412630	431118	451039	472454	495436	33%
Marine fish, pelagic, small	3581	3725	3830	4015	4317	4792	5526	51%
Marine fish, demersal	45644	74375	79818	85711	92094	99012	106516	58%
Marine fish, others	455	1477	1631	1801	1988	2195	2424	88%
Crustaceans	353	347	375	408	446	489	537	68%
Molluscs	741189	889766	913300	938666	965779	994609	1025169	19%
Others	4670	3509	3875	4280	4727	5220	5765	89%
Total EU-15	**1170139**	**1391292**	**1436247**	**1485759**	**1539664**	**1597960**	**1660780**	24%
Freshwater fish	47728	45723	45592	46187	47390	49130	51367	8%
Diadromous fish	7979	11733	12447	13220	14060	14976	15983	48%
Marine fish, demersal	699	1336	1475	1628	1798	1985	2192	88%
Crustaceans	13	29	32	35	39	43	47	88%
Molluscs	34	51	56	62	68	75	83	89%
Total EU 6NC	**56453**	**58872**	**59601**	**61132**	**63355**	**66209**	**69672**	17%
Freshwater fish	21403	15123	15662	16315	17108	18073	19246	33%
Diadromous fish	319438	466446	512269	562725	618290	679488	746897	82%
Marine fish, demersal	1723	2410	2661	2938	3243	3581	3954	88%
Marine fish, others	455	959	1059	1169	1291	1425	1574	89%
Molluscs	470	412	455	503	555	613	677	89%
Total EUR-7 NC	**343489**	**485351**	**532106**	**583650**	**640488**	**703180**	**772347**	81%
Total EUR-28	**1570082**	**1935515**	**2027954**	**2130541**	**2243506**	**2367349**	**2502799**	37%

Source: database

Table Annex 13-7: Total production (capture and aquaculture) by country from 2005 to 2030

(tonnes)

Country	Av. 94-98	2005	2010	2015	2020	2025	2030
Austria	3386	2516	2139	1867	1675	1545	1461
Belgium	33266	33203	33190	33190	33202	33225	33258
Denmark	1831913	1835414	1837862	1840453	1843197	1846101	1849177
Finland	191274	188878	187844	186890	186009	185198	184451
France	938019	939243	946709	954902	963777	973311	983491
Germany	306885	312964	313809	315372	317484	320027	322923
Greece	206375	228941	233271	237941	242975	248401	254253
Ireland	394423	405477	408903	412630	416686	421102	425912
Italy	589123	622515	629115	636245	643914	652144	660965

Country	Av. 94-98	2005	2010	2015	2020	2025	2030
Netherlands	553802	577053	581199	585529	590052	594781	599727
Portugal	256269	256689	256589	256762	257151	257719	258451
Spain	1362193	1452214	1462823	1474079	1486011	1498687	1512215
Sweden	393243	391218	390971	390774	390623	390518	390456
United Kingdom	1011348	1046347	1053201	1060505	1068287	1076581	1085419
Total EU-15	**8071519**	**8292672**	**8337626**	**8387138**	**8441043**	**8499339**	**8562159**
Cyprus	3310	3966	4143	4350	4592	4878	5218
Czech Republic	21794	23525	25585	27859	30370	33143	36204
Estonia	122884	122845	122845	122845	122845	122845	122845
Hungary	16937	14861	13610	12806	12311	12031	11902
Poland	389547	391508	391147	390884	390719	390653	390686
Slovenia	3084	3269	3375	3491	3620	3762	3920
Total EUR-6 NC	**557557**	**559975**	**560705**	**562236**	**564458**	**567312**	**570775**
Bulgaria	14098	13915	14451	15101	15890	16848	18014
Latvia	128046	128014	128014	128014	128014	128014	128014
Lithuania	39872	39757	39757	39757	39757	39757	39757
Malta	2290	3109	3342	3600	3884	4198	4544
Norway	3163097	3310400	3356241	3406716	3462303	3523524	3590959
Romania	36322	30920	30989	31066	31152	31249	31356
Slovakia	2796	2268	2344	2428	2520	2623	2736
Total EUR-7 NC	**3386521**	**3528383**	**3575138**	**3626682**	**3683520**	**3746212**	**3815379**
Total EUR-28	**12015597**	**12381030**	**12473469**	**12576056**	**12689021**	**12812864**	**12948314**

Source: database

Table Annex 13-8: Total production (capture and aquaculture) by FAO groups of species from 2005 to 2030

(tonnes)

FAO Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Freshwater fish	139245	133742	131963	130935	130450	130364	130583
Diadromous fish	377843	427189	444294	462782	482703	504118	527100
Marine fish, pelagic, tunas	466211	466211	466211	466211	466211	466211	466211
Marine fish, pelagic, small	2699175	2699319	2699424	2699609	2699911	2700386	2701120
Marine fish, demersal	2603613	2632344	2637787	2643680	2650063	2656982	2664485
Marine fish, others	162471	163493	163647	163817	164004	164211	164440
Crustaceans	208088	208082	208109	208142	208180	208223	208272
Molluscs	1088041	1236618	1260152	1285518	1312631	1341461	1372021
Cephalopods	189676	189676	189676	189676	189676	189676	189676
Others	137157	135997	136363	136768	137214	137708	138252
Total EU-15	**8071519**	**8292672**	**8337626**	**8387138**	**8441043**	**8499339**	**8562159**
Freshwater fish	88267	86263	86131	86727	87930	89669	91907
Diadromous fish	10446	14200	14914	15687	16527	17443	18450
Marine fish, pelagic, tunas	165	165	165	165	165	165	165
Marine fish, pelagic, small	202061	202061	202061	202061	202061	202061	202061
Marine fish, demersal	233279	233916	234055	234209	234378	234565	234772
Marine fish, others	1800	1800	1800	1800	1800	1800	1800
Crustaceans	18623	18638	18641	18645	18648	18652	18657
Molluscs	41	57	63	68	75	82	90
Cephalopods	1585	1585	1585	1585	1585	1585	1585
Others	1289	1289	1289	1289	1289	1289	1289
Total EUR-6 NC	**557557**	**559975**	**560705**	**562236**	**564458**	**567312**	**570775**
Freshwater fish	32448	26168	26706	27359	28153	29117	30291
Diadromous fish	322428	469435	515258	565715	621279	682477	749886
Marine fish, pelagic, tunas	1273	1273	1273	1273	1273	1273	1273
Marine fish, pelagic, small	1273325	1273325	1273325	1273325	1273325	1273325	1273325
Marine fish, demersal	1484623	1485310	1485561	1485838	1486144	1486481	1486854
Marine fish, others	15424	15929	16029	16139	16261	16395	16543
Crustaceans	48419	48419	48419	48419	48419	48419	48419
Molluscs	7408	7351	7394	7441	7494	7551	7615
Cephalopods	3842	3842	3842	3842	3842	3842	3842
Others	197331	197331	197331	197331	197331	197331	197331

FAO Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Total EUR-7 NC	**3386521**	**3528383**	**3575138**	**3626682**	**3683520**	**3746212**	**3815379**
Total EUR-28	**12015597**	**12381030**	**12473469**	**12576056**	**12689021**	**12812864**	**12948314**

Source: database

Table Annex 13-9: Food use commodity production by FAO groups of species from 2005 to 2030

(tonnes live weight)

Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Freshwater fish	11972	12765	12420	12139	11911	11729	11585
Diadromous fish	217300	257063	257628	258209	258806	259419	260050
Marine fish, pelagic, tunas	1062861	1096630	1104064	1111594	1119220	1126945	1134769
Marine fish, pelagic, small	2098189	2100069	2105881	2111858	2118006	2124335	2130854
Marine fish, demersal	809104	830035	831689	833382	835115	836889	838706
Marine fish, others	1556378	1671266	1680596	1690078	1699717	1709516	1719478
Crustaceans	154905	157891	157892	157892	157893	157894	157895
Molluscs	314063	345101	349309	353619	358036	362562	367199
Cephalopods	254299	281845	281845	281845	281845	281845	281845
Aquatic animals	2285	2770	2812	2856	2900	2946	2993
Total FU Production EU-15	**6481357**	**6755435**	**6784137**	**6813473**	**6843451**	**6874081**	**6905374**
Freshwater fish	43497	44232	44264	44296	44328	44360	44393
Diadromous fish	865	1008	1008	1008	1008	1008	1008
Marine fish, pelagic, small	170664	173785	173918	174053	174188	174324	174461
Marine fish, demersal	3650	2996	2996	2996	2996	2996	2996
Marine fish, others	337236	219607	219930	220255	220582	220912	221245
Crustaceans	11822	16485	16485	16485	16485	16485	16485
Molluscs	637	654	654	654	654	654	654
Cephalopods	1487	457	457	457	457	457	457
Total FU Production EUR-6 NC	**569858**	**459225**	**459712**	**460203**	**460697**	**461196**	**461698**
Freshwater fish	3366	2416	2416	2416	2416	2416	2416
Diadromous fish	322304	426757	435695	444890	454350	464082	474094
Marine fish, pelagic, tunas	738	789	789	789	789	789	789
Marine fish, pelagic, small	778359	698538	699321	700115	700922	701741	702572
Marine fish, demersal	400665	406119	408701	411322	413982	416682	419423
Marine fish, others	350731	306016	309213	312485	315835	319264	322774
Crustaceans	48329	48543	48543	48543	48543	48543	48543
Molluscs	7483	8533	8533	8533	8533	8533	8533
Cephalopods	2925	2128	2128	2128	2128	2128	2128
Total FU Production EUR-7 NC	**1914900**	**1899838**	**1915338**	**1931222**	**1947498**	**1964178**	**1981271**
Total FU Production EUR-28	**8966115**	**9114498**	**9159187**	**9204897**	**9251646**	**9299454**	**9348344**

Source: database

Table Annex 13-10: Food use commodity production by OECD groups of commodities from 2005 to 2030

(tonnes live weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	254299	281845	281845	281845	281845	281845	281845
Crus., mol. & other aquatic inv., prepared	131861	137954	138306	138663	139025	139391	139763
Crustaceans	141167	142502	142503	142504	142505	142506	142507
Fish, cured	452334	505966	508060	510323	512754	515352	518117
Fish, fillets	860523	957389	961953	966624	971404	976296	981304
Fish, fresh/chilled	643199	701716	707198	712785	718482	724289	730211
Fish, frozen	2183606	2054460	2056079	2057711	2059355	2061012	2062681
Molluscs	198225	225306	229203	233201	237300	241505	245818
Prepared/preserved fish	1616143	1748297	1758989	1769817	1780781	1791885	1803129
Total FU Production EU-15	**6481357**	**6755435**	**6784137**	**6813473**	**6843451**	**6874081**	**6905374**
Cephalopods	1487	457	457	457	457	457	457
Crustaceans	11822	16485	16485	16485	16485	16485	16485
Fish, cured	91796	68683	68972	69263	69556	69851	70149

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Fish, fillets	98970	55610	55610	55610	55610	55610	55610
Fish, fresh/chilled	64840	46366	46564	46764	46966	47169	47374
Fish, frozen	112181	91259	91259	91259	91259	91259	91259
Molluscs	637	654	654	654	654	654	654
Prepared/preserved fish	188125	179711	179711	179711	179711	179711	179711
Total FU Production EUR-6 NC	**569858**	**459225**	**459712**	**460203**	**460697**	**461196**	**461698**
Cephalopods	2925	2128	2128	2128	2128	2128	2128
Crus., mol. & other aquatic inv., prepared	19571	23806	23806	23806	23806	23806	23806
Crustaceans	28758	24737	24737	24737	24737	24737	24737
Fish, cured	255400	235943	239255	242616	246028	249490	253005
Fish, fillets	304083	359580	359580	359580	359580	359580	359580
Fish, fresh/chilled	318959	384561	395387	406525	417985	429776	441908
Fish, frozen	785867	651292	651292	651292	651292	651292	651292
Molluscs	7483	8533	8533	8533	8533	8533	8533
Prepared/preserved fish	191855	209258	210621	212005	213409	214835	216282
Total FU Production EUR-7 NC	**1914900**	**1899838**	**1915338**	**1931222**	**1947498**	**1964178**	**1981271**
Total FU Production EUR-28	**8966115**	**9114498**	**9159187**	**9204897**	**9251646**	**9299454**	**9348344**

Source: database

ANNEX 14: TRADE TABLES

Table Annex 14-1: Food use imports by FAO groups of species from 1989 to 1998

(tonnes live weight)

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Freshwater fish	38813	44429	49620	58940	60841	86860	90960	113483	130234	152297	82648
Diadromous fish	366740	443466	496602	526112	525743	622884	667996	750535	777522	806465	598407
Marine fish, pelagic, tunas	569818	698287	703636	656169	658165	698830	709192	770751	757274	883474	710560
Marine fish, pelagic, small	980425	1143812	1151610	1088167	1038935	1161782	1083594	959826	1055503	1140192	1080385
Marine fish, demersal	1875140	2174964	2156222	2191956	2247839	2417545	2420579	2631146	2627296	2622925	2336561
Marine fish, others	574510	661142	703698	741215	606756	645045	588398	744404	758039	795912	681912
Crustaceans	521161	639631	683206	710452	698716	790544	745638	808459	811955	900786	731055
Molluscs	333288	361730	401108	433759	411575	352071	356771	403052	400077	425967	387940
Cephalopods	432575	413538	471276	414995	446318	468602	507572	529900	598521	618968	490227
Aquatic animals	17626	20995	24593	22925	24831	24495	28682	36996	44004	33963	27911
Total FU Imports EU-15	**5710096**	**6601994**	**6841571**	**6844691**	**6719717**	**7268658**	**7199382**	**7748552**	**7960426**	**8380949**	**7127604**
Freshwater fish	21	46	530	4633	6605	4476	4690	3553	2898	9094	3655
Diadromous fish	716	650	638	3312	2841	4808	6693	5630	8025	12674	4599
Marine fish, pelagic, tunas	1176	1000	1296	3347	5316	5795	8166	9924	10246	14713	6098
Marine fish, pelagic, small	1172	1207	4415	85806	98921	281082	281161	187043	221475	245556	140784
Marine fish, demersal	2461	2125	2418	10785	11335	73627	49787	45708	47902	117904	36405
Marine fish, others	215268	168555	113207	52738	92634	85679	79392	190872	218518	148479	136534
Crustaceans	411	440	746	1297	11777	12568	14170	9715	8319	8517	6796
Molluscs	77	48	107	1240	899	1176	1259	1683	1590	1531	961
Cephalopods	2395	2660	2428	4921	4330	5296	5798	6559	6086	6632	4710
Aquatic animals	0	0	4	22	111	139	107	54	112	136	69
Total FU Imports EUR-6 NC	**223697**	**176731**	**125789**	**168102**	**234769**	**474645**	**451223**	**460741**	**525172**	**565235**	**340610**
Freshwater fish	1	4	62	50	2345	2895	2658	3819	1657	2030	1552
Diadromous fish	12469	9085	4010	2368	12107	4398	3441	2718	3424	4826	5885
Marine fish, pelagic, tunas	929	2680	3795	4647	3858	5597	6061	6398	5597	8088	4765
Marine fish, pelagic, small	10534	27276	93739	73590	101548	166623	163108	287208	323539	356492	160366
Marine fish, demersal	37086	53714	62686	89977	107490	112402	132322	156606	144923	130094	102730
Marine fish, others	24455	34012	9956	21355	45859	56065	70565	75507	84397	92647	51482
Crustaceans	14174	14349	17550	26236	37123	19082	28853	30010	22943	23620	23394
Molluscs	1027	643	349	707	560	3081	7677	8223	5997	4638	3290
Cephalopods	6628	4022	6561	6304	5104	2169	1879	1411	1716	8919	4471
Total FU Imports EUR-7 NC	**107303**	**145784**	**198707**	**225234**	**315994**	**372312**	**416565**	**571901**	**594193**	**631355**	**357935**
Total FU Imports EUR-28	**6041095**	**6924509**	**7166067**	**7238027**	**7270479**	**8115616**	**8067170**	**8781195**	**9079791**	**9577539**	**7826149**

Source: database

Table Annex 14-2: Food use imports by OECD groups of commodities from 1989 to 1998

(tonnes live weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Cephalopods	432575	413538	471276	414995	446318	468602	507572	529900	598521	618968	490227
Crus., mol. & other aquatic inv., prepared	95092	114677	112229	114577	102657	121736	119032	128595	135004	118282	116188
Crustaceans	513159	630473	673803	699956	688980	777831	731001	791691	792452	882192	718154
Fish, cured	399687	429381	420402	392099	384650	425472	430328	488584	499855	470916	434137
Fish, fillets	781668	1004508	1001242	1062514	1057235	1160979	1210795	1226730	1243742	1397682	1114709
Fish, fresh/chilled	1308328	1433282	1399290	1458747	1421379	1617577	1560223	1695064	1748409	1768622	1541092
Fish, frozen	1200882	1482241	1542038	1412152	1281551	1326742	1285306	1315019	1310270	1363464	1351967
Molluscs	263825	277206	322875	352604	343485	267543	281058	328221	328581	360242	312564
Prepared/preserved fish	714882	816687	898416	937046	993463	1102176	1074068	1244747	1303593	1400582	1048566
Total FU Imports EU-15	**5710096**	**6601994**	**6841571**	**6844691**	**6719717**	**7268658**	**7199382**	**7748552**	**7960426**	**8380949**	**7127604**
Cephalopods	2395	2660	2428	4921	4330	5296	5798	6559	6086	6632	4710

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Crus., mol. & other aquatic inv., prepared	62	34	59	793	560	698	941	1246	769	1179	634
Crustaceans	411	440	746	1297	11777	12356	13889	9715	8319	8203	6715
Fish, cured	13688	9196	8519	8475	6766	8844	9043	7831	6278	4185	8283
Fish, fillets	1137	980	3772	17881	41609	189029	168246	82382	72503	122693	70023
Fish, fresh/chilled	336	505	1133	9585	15722	14850	18236	34304	36555	22530	15375
Fish, frozen	172473	134599	91323	105247	114480	174712	168412	172260	236549	246836	161689
Molluscs	15	14	52	470	450	828	706	491	933	802	476
Prepared/preserved fish	33180	28304	17757	19433	39074	68031	65953	145952	157180	152176	72704
Total FU Imports EUR-6 NC	**223697**	**176731**	**125789**	**168102**	**234769**	**474645**	**451223**	**460741**	**525172**	**565235**	**340610**
Cephalopods	6628	4022	6561	6304	5104	2169	1879	1411	1716	8919	4471
Crus., mol. & other aquatic inv., prepared	1008	1314	1373	2166	1924	2326	2123	2559	2796	3015	2060
Crustaceans	13738	13119	16352	24530	35556	17189	27223	27861	20827	21032	21743
Fish, cured	5680	7780	5649	2377	4805	8293	6379	9235	8638	10929	6976
Fish, fillets	2172	4233	5190	3854	13968	16842	29607	37065	30057	24515	16750
Fish, fresh/chilled	27603	43359	116234	129249	157751	162879	201122	257764	269575	276733	164227
Fish, frozen	32538	54544	34256	39953	68205	125935	112287	188028	214939	234732	110542
Molluscs	455	559	174	248	204	2648	7183	7814	5317	4211	2881
Prepared/preserved fish	17481	16855	12917	16554	28478	34032	28762	40165	40329	47268	28284
Total FU Imports EUR-7 NC	**107303**	**145784**	**198707**	**225234**	**315994**	**372312**	**416565**	**571901**	**594193**	**631355**	**357935**
Total FU Imports EUR-28	**6041095**	**6924509**	**7166067**	**7238027**	**7270479**	**8115616**	**8067170**	**8781195**	**9079791**	**9577539**	**7826149**

Source: database

Table Annex 14-3: Food use exports by FAO groups of species from 1989 to 1998

(tonnes live weight)

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Freshwater fish	11461	11780	25653	33150	22139	33340	27796	31817	50524	54400	30206
Diadromous fish	122876	132115	142645	147126	201568	230329	245022	287868	323242	362463	219525
Marine fish, pelagic, tunas	185704	195764	255545	190823	266612	293260	348544	360839	400129	375286	287250
Marine fish, pelagic, small	1268264	1386130	1543485	1717168	1778118	1701277	1798365	1767855	1955524	2083824	1700001
Marine fish, demersal	854411	897241	884550	811953	854668	1019075	988698	1089990	1110889	1093772	960525
Marine fish, others	394682	398395	444628	580668	564434	574302	564795	606864	654306	655660	543873
Crustaceans	222498	222221	233766	233119	236330	308102	282754	337248	361176	380285	281750
Molluscs	251255	265484	301454	338053	298755	272553	274840	339675	346690	336268	302503
Cephalopods	111931	119970	136852	133608	160507	176177	174995	216668	201761	206397	163887
Aquatic animals	6110	7633	10354	13949	12621	12429	11835	14955	14604	16134	12062
Total FU Exports EU-15	**3429192**	**3636732**	**3978933**	**4199617**	**4395751**	**4620843**	**4717644**	**5053778**	**5418844**	**5564487**	**4501582**
Freshwater fish	11	12	3472	3907	13869	18592	13931	14251	12503	18406	9895
Diadromous fish	0	0	38	1256	2389	4967	3829	3317	1910	5513	2322
Marine fish, pelagic, tunas	0	0	773	27	80	315	385	893	509	561	354
Marine fish, pelagic, small	3	0	12	4838	41523	137919	147754	185473	265881	214417	99782
Marine fish, demersal	0	0	94	5462	5033	56747	41808	16695	11081	59858	19678
Marine fish, others	114826	107811	106754	164619	176076	171753	159233	149856	127883	77231	135604
Crustaceans	0	0	95	11781	11774	9061	17558	19866	14356	19738	10423
Molluscs	0	0	2	801	503	1056	933	1020	773	297	539
Cephalopods	18912	17064	15153	35952	14676	4096	226	256	206	192	10673
Aquatic animals	0	0	0	20	1	1	2	0	0	0	2
Total FU Exports EUR-6 NC	**133752**	**124887**	**126394**	**228662**	**265925**	**404508**	**385660**	**391626**	**435102**	**396213**	**289273**
Freshwater fish	1	1	12	1	516	774	451	371	362	348	284
Diadromous fish	138860	161818	171736	179376	192769	221733	265062	322447	362763	404042	242061
Marine fish, pelagic, tunas	679	599	310	74	577	976	198	767	315	1222	572
Marine fish, pelagic, small	250324	279670	435858	433490	530799	702882	802385	978058	1119284	896414	642916
Marine fish, demersal	295524	253577	283470	348623	431056	481982	499243	527668	544670	422132	408795
Marine fish, others	143973	157305	138953	163331	136073	148702	181600	156681	145168	248251	162004
Crustaceans	32353	31208	29131	29871	31947	34992	23619	29740	34164	39903	31693
Molluscs	2286	2479	1731	1455	4246	5755	4708	3101	4713	1001	3147
Cephalopods	1431	370	2398	767	1095	305	424	1098	116	1803	981

Gp Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Total FU Exports EUR-7 NC	**865430**	**887028**	**1063598**	**1156987**	**1329078**	**1598100**	**1777690**	**2019932**	**2211554**	**2015116**	**1492451**
Total FU Exports EUR-28	**4428373**	**4648647**	**5168925**	**5585266**	**5990754**	**6623451**	**6880994**	**7465336**	**8065500**	**7975816**	**6283306**

Source: database

Table Annex 14-4: Food use exports by OECD groups of commodities from 1989 to 1998

(tonnes live weight)

OECD gp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Av. 89-98
Cephalopods	111931	119970	136852	133608	160507	176177	174995	216668	201761	206397	163887
Crus., mol. & other aquatic inv., prepared	60414	62933	58106	75150	74925	85634	82932	81261	78434	79222	73901
Crustaceans	222197	221992	233588	232938	236202	307967	282191	336786	359395	378836	281209
Fish, cured	146073	167208	170907	143504	138191	175573	169257	192020	199800	200877	170341
Fish, fillets	404840	422591	435362	402438	429290	444932	413247	392802	390112	399966	413558
Fish, fresh/chilled	853921	864316	1046252	1114844	1138517	1203838	1210436	1351907	1465063	1499175	1174827
Fish, frozen	1115459	1219277	1268551	1447023	1539673	1544380	1643421	1596403	1824835	1868996	1506802
Molluscs	197251	210412	253880	277033	236579	199483	204306	273830	284640	274629	241204
Prepared/preserved fish	317106	348032	375435	373079	441867	482859	536859	612101	614804	656391	475853
Total FU Exports EU-15	**3429192**	**3636732**	**3978933**	**4199617**	**4395751**	**4620843**	**4717644**	**5053778**	**5418844**	**5564487**	**4501582**
Cephalopods	18912	17064	15153	35952	14676	4096	226	256	206	192	10673
Crus., mol. & other aquatic inv., prepared	0	0	0	543	266	255	126	685	317	106	230
Crustaceans	0	0	95	11781	11774	9061	17558	19866	14356	19738	10423
Fish, cured	193	246	1126	1356	4695	17018	22520	18549	25535	22816	11405
Fish, fillets	0	0	112	142215	106070	108598	77854	60540	42859	50016	58826
Fish, fresh/chilled	11	12	2818	11785	29459	75526	62466	75599	112483	53191	42335
Fish, frozen	113451	107070	106151	13038	40829	82542	91294	86812	88959	108270	83841
Molluscs	0	0	2	278	239	802	809	336	456	191	311
Prepared/preserved fish	1185	495	936	11716	57917	106610	112808	128984	149933	141695	71228
Total FU Exports EUR-6 NC	**133752**	**124887**	**126394**	**228662**	**265925**	**404508**	**385660**	**391626**	**435102**	**396213**	**289273**
Cephalopods	1431	370	2398	767	1095	305	424	1098	116	1803	981
Crus., mol. & other aquatic inv., prepared	21042	18106	16866	20215	19996	20745	14052	16659	20113	23995	19179
Crustaceans	11311	13102	12265	9656	11951	14248	9587	13114	14227	15928	12539
Fish, cured	125262	108663	129477	140935	174827	232885	234405	241319	222907	223651	183433
Fish, fillets	123639	81397	86415	132970	182372	258134	279157	306199	311911	296542	205874
Fish, fresh/chilled	268731	305950	326848	345010	377718	396297	448190	507376	581224	594363	415171
Fish, frozen	269273	319125	444388	460934	480108	577013	688125	778772	872797	713410	560395
Molluscs	2286	2479	1731	1455	4246	5753	4688	3068	4537	981	3122
Prepared/preserved fish	42455	37835	43211	45044	76766	92720	99063	152326	183722	144443	91759
Total FU Exports EUR-7 NC	**865430**	**887028**	**1063598**	**1156987**	**1329078**	**1598100**	**1777690**	**2019932**	**2211554**	**2015116**	**1492451**
Total FU Exports EUR-28	**4428373**	**4648647**	**5168925**	**5585266**	**5990754**	**6623451**	**6880994**	**7465336**	**8065500**	**7975816**	**6283306**

Source: database

Table Annex 14-5: Food use imports by OECD groups of commodities from 2005 to 2030

(tonnes live weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	544713	643121	661144	679838	699231	719351	740228
Crus., mol. & other aquatic inv., prepared	124530	126469	133051	140320	148350	157228	167046
Crustaceans	795034	910457	933050	957858	985084	1014955	1047720
Fish, cured	463031	481257	489815	499487	510417	522763	536707
Fish, fillets	1247985	1463699	1513266	1564944	1618830	1675022	1733625
Fish, fresh/chilled	1677979	1772125	1775674	1780140	1785567	1792007	1799519
Fish, frozen	1320160	1321621	1295469	1272113	1251313	1232852	1216538
Molluscs	313129	363349	365779	368404	371244	374324	377667
Prepared/preserved fish	1225033	1467703	1518963	1573165	1630477	1691075	1755150

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Total FU Imports EU-15	**7711594**	**8549802**	**8686210**	**8836269**	**9000513**	**9179576**	**9374200**
Cephalopods	6074	6651	6667	6685	6705	6727	6751
Crus., mol. & other aquatic inv., prepared	967	1340	1472	1620	1787	1976	2189
Crustaceans	10496	8792	9247	9734	10254	10810	11404
Fish, cured	7236	3846	3648	3479	3334	3209	3100
Fish, fillets	126971	121512	120774	120131	119590	119159	118846
Fish, fresh/chilled	25295	24305	25676	27140	28704	30375	32161
Fish, frozen	199754	258991	268393	278433	289145	300568	312742
Molluscs	752	846	881	920	963	1010	1062
Prepared/preserved fish	117858	181333	205729	233586	265401	301742	343259
Total FU Imports EUR-6 NC	**495403**	**607616**	**642487**	**681728**	**725882**	**775575**	**831515**
Cephalopods	3219	8984	9036	9093	9155	9223	9298
Crus., mol. & other aquatic inv., prepared	2564	3007	3002	2996	2991	2985	2980
Crustaceans	22826	21640	22144	22714	23359	24092	24925
Fish, cured	8695	11134	11290	11455	11629	11815	12013
Fish, fillets	27617	28482	31733	35384	39487	44102	49298
Fish, fresh/chilled	233614	283161	288412	294296	300899	308321	316680
Fish, frozen	175184	246114	255072	264796	275366	286867	299395
Molluscs	5435	4921	5503	6158	6893	7720	8649
Prepared/preserved fish	38111	53091	58019	63724	70351	78075	87108
Total FU Imports EUR-7 NC	**517265**	**660536**	**684211**	**710615**	**740131**	**773201**	**810347**
Total FU Imports EUR-28	**8724262**	**9817953**	**10012909**	**10228612**	**10466526**	**10728352**	**11016063**

Source: database

Table Annex 14-6: Food use imports by FAO groups of species from 2005 to 2030

(tonnes live weight)

Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Freshwater fish	114767	153215	154000	154895	155900	157017	158251
Diadromous fish	725081	813754	820294	827963	836795	846841	858168
Marine fish, pelagic, tunas	763904	894525	904631	916560	930303	945861	963241
Marine fish, pelagic, small	1080179	1155100	1168126	1183165	1200256	1219453	1240822
Marine fish, demersal	2543898	2676910	2719595	2765773	2815516	2868913	2926074
Marine fish, others	706360	812901	826539	841494	857833	875634	894983
Crustaceans	811476	929842	953101	978671	1006772	1037648	1071566
Molluscs	387588	434627	441533	449110	457427	466564	476609
Cephalopods	544713	643121	661144	679838	699231	719351	740228
Aquatic animals	33628	35806	37246	38800	40479	42294	44258
Total FU Imports EU-15	**7711594**	**8549802**	**8686210**	**8836269**	**9000513**	**9179576**	**9374200**
Freshwater fish	4942	9837	10410	11021	11673	12369	13111
Diadromous fish	7566	13351	13890	14479	15123	15824	16589
Marine fish, pelagic, tunas	9769	16432	17864	19492	21343	23444	25829
Marine fish, pelagic, small	243263	260472	272537	285924	300778	317268	335584
Marine fish, demersal	66985	121160	123798	126721	129952	133519	137449
Marine fish, others	144588	168736	185722	205132	227306	252629	281546
Crustaceans	10658	9151	9642	10169	10733	11337	11984
Molluscs	1448	1661	1766	1884	2017	2165	2331
Cephalopods	6074	6651	6667	6685	6705	6727	6751
Aquatic animals	110	166	191	220	254	294	341
Total FU Imports EUR-6 NC	**495403**	**607616**	**642487**	**681728**	**725882**	**775575**	**831515**
Freshwater fish	2612	2136	2231	2347	2489	2665	2883
Diadromous fish	3762	5089	5298	5527	5778	6054	6359
Marine fish, pelagic, tunas	6348	9053	9856	10772	11820	13024	14413
Marine fish, pelagic, small	259394	372706	385894	400632	417140	435674	456534
Marine fish, demersal	135269	131537	132655	133856	135149	136544	138054
Marine fish, others	75836	101461	108592	116522	125357	135220	146252
Crustaceans	24902	24229	24732	25302	25948	26681	27513

Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Molluscs	5923	5340	5917	6566	7296	8117	9041
Cephalopods	3219	8984	9036	9093	9155	9223	9298
Total FU Imports EUR-7 NC	**517265**	**660536**	**684211**	**710615**	**740131**	**773201**	**810347**
Total FU Imports EUR-28	**8724262**	**9817953**	**10012909**	**10228612**	**10466526**	**10728352**	**11016063**

Source: database

Table Annex 14-7: Non-food use imports by FAO groups of species from 2005 to 2030

(tonnes live weight)

Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Marine fish, pelagic, small	1378343	1190370	1190370	1190370	1190370	1190370	1190370
Marine fish, others	1356494	847149	847149	847149	847149	847149	847149
Crustaceans	6	0	0	0	0	0	0
Aquatic animals	49190	58180	58180	58180	58180	58180	58180
Aquatic mammals	3308	3410	3410	3410	3410	3410	3410
Total NFU Imports EU-15	**2787341**	**2099109**	**2099109**	**2099109**	**2099109**	**2099109**	**2099109**
Marine fish, pelagic, small	87889	74778	74778	74778	74778	74778	74778
Marine fish, others	5216	2403	2403	2403	2403	2403	2403
Aquatic animals	593	365	365	365	365	365	365
Aquatic mammals	45	0	0	0	0	0	0
Total NFU Imports EUR-6 NC	**93743**	**77546**	**77546**	**77546**	**77546**	**77546**	**77546**
Marine fish, pelagic, small	73020	55534	55534	55534	55534	55534	55534
Marine fish, demersal	1953	642	660	679	699	719	740
Marine fish, others	744658	774672	806931	841217	877736	916722	958436
Aquatic animals	348	296	300	305	309	314	319
Aquatic mammals	1290	375	375	375	375	375	375
Total NFU Imports EUR-7 NC	**821269**	**831518**	**863800**	**898109**	**934653**	**973664**	**1015403**
Total NFU Imports EUR-28	**3702353**	**3008173**	**3040455**	**3074765**	**3111308**	**3150319**	**3192059**

Source: database

Table Annex 14-8: Non-food use imports by OECD groups of commodities from 2005 to 2030

(tonnes live weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Fish/marine mammal, fat, oil	1114933	536191	536191	536191	536191	536191	536191
Flour, meal unfit for human consumption	1672408	1562918	1562918	1562918	1562918	1562918	1562918
Total NFU Imports EU-15	**2787341**	**2099109**	**2099109**	**2099109**	**2099109**	**2099109**	**2099109**
Fish/marine mammal, fat, oil	3822	1336	1336	1336	1336	1336	1336
Flour, meal unfit for human consumption	89921	76210	76210	76210	76210	76210	76210
Total NFU Imports EUR-6 NC	**93743**	**77546**	**77546**	**77546**	**77546**	**77546**	**77546**
Fish/marine mammal, fat, oil	511284	505778	530256	556536	584818	615328	648322
Flour, meal unfit for human consumption	309985	325740	333544	341574	349835	358336	367082
Total NFU Imports EUR-7 NC	**821269**	**831518**	**863800**	**898109**	**934653**	**973664**	**1015403**
Total NFU Imports EUR-28	**3702353**	**3008173**	**3040455**	**3074765**	**3111308**	**3150319**	**3192059**

Source: database

Table Annex 14-9: Food use exports by FAO groups of species from 2005 to 2030

(tonnes live weight)

Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Freshwater fish	39576	54426	54444	54463	54483	54503	54523
Diadromous fish	289785	362996	363387	363786	364193	364610	365037
Marine fish, pelagic, tunas	355611	375324	375351	375380	375409	375439	375470
Marine fish, pelagic, small	1861369	2091900	2097905	2104119	2110555	2117224	2124141
Marine fish, demersal	1060485	1095873	1097402	1098956	1100534	1102137	1103766
Marine fish, others	611185	656032	656303	656578	656857	657140	657428
Crustaceans	333913	380732	381057	381388	381723	382063	382408
Molluscs	314005	337525	338445	339384	340342	341320	342319
Cephalopods	195199	206397	206397	206397	206397	206397	206397

Gp Species	Av. 94-98	2005	2010	2015	2020	2025	2030
Aquatic animals	13991	16244	16327	16413	16503	16597	16695
Total FU Exports EU-15	**5075119**	**5577449**	**5587019**	**5596863**	**5606996**	**5617431**	**5628185**
Freshwater fish	15537	18406	18406	18406	18406	18406	18406
Diadromous fish	3907	5660	5772	5890	6015	6146	6284
Marine fish, pelagic, tunas	533	561	561	561	561	561	561
Marine fish, pelagic, small	190289	214468	214508	214549	214593	214639	214687
Marine fish, demersal	37238	59858	59858	59858	59858	59858	59858
Marine fish, others	137191	77384	77501	77624	77753	77889	78033
Crustaceans	16116	19738	19738	19738	19738	19738	19738
Molluscs	816	297	297	297	297	297	297
Cephalopods	995	192	192	192	192	192	192
Aquatic animals	1	0	0	0	0	0	0
Total FU Exports EUR-6 NC	**402622**	**396565**	**396832**	**397115**	**397412**	**397725**	**398055**
Freshwater fish	461	349	351	352	353	354	355
Diadromous fish	315210	411656	417210	422862	428614	434468	440426
Marine fish, pelagic, tunas	696	1235	1245	1255	1265	1276	1286
Marine fish, pelagic, small	899805	900965	904284	907662	911099	914596	918155
Marine fish, demersal	495139	429057	434100	439224	444432	449723	455101
Marine fish, others	176080	248472	248634	248797	248964	249133	249305
Crustaceans	32484	39903	39903	39903	39903	39903	39903
Molluscs	3856	1001	1001	1001	1001	1001	1001
Cephalopods	749	1803	1803	1803	1803	1803	1803
Total FU Exports EUR-7 NC	**1924478**	**2034441**	**2048529**	**2062859**	**2077433**	**2092257**	**2107335**
Total FU Exports EUR-28	**7402219**	**8008455**	**8032381**	**8056836**	**8081841**	**8107413**	**8133575**

Source: database

Table Annex 14-10: Food use exports by OECD groups of commodities from 2005 to 2030

(tonnes live weight)

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Cephalopods	195199	206397	206397	206397	206397	206397	206397
Crus., mol. & other aquatic inv., prepared	81497	79564	79822	80091	80374	80670	80980
Crustaceans	333035	379283	379608	379938	380273	380613	380959
Fish, cured	187506	202012	202917	203909	204997	206189	207496
Fish, fillets	408212	399966	399966	399966	399966	399966	399966
Fish, fresh/chilled	1346084	1506191	1511305	1516506	1521797	1527178	1532653
Fish, frozen	1695607	1871989	1874212	1876508	1878880	1881329	1883859
Molluscs	247378	275655	276400	277155	277921	278697	279484
Prepared/preserved fish	580603	656391	656391	656391	656391	656391	656391
Total FU Exports EU-15	**5075119**	**5577449**	**5587019**	**5596863**	**5606996**	**5617431**	**5628185**
Cephalopods	995	192	192	192	192	192	192
Crus., mol. & other aquatic inv., prepared	298	106	106	106	106	106	106
Crustaceans	16116	19738	19738	19738	19738	19738	19738
Fish, cured	21287	23168	23435	23717	24015	24328	24658
Fish, fillets	67973	50016	50016	50016	50016	50016	50016
Fish, fresh/chilled	75853	53191	53191	53191	53191	53191	53191
Fish, frozen	91575	108270	108270	108270	108270	108270	108270
Molluscs	519	191	191	191	191	191	191
Prepared/preserved fish	128006	141695	141695	141695	141695	141695	141695
Total FU Exports EUR-6 NC	**402622**	**396565**	**396832**	**397115**	**397412**	**397725**	**398055**
Cephalopods	749	1803	1803	1803	1803	1803	1803
Crus., mol. & other aquatic inv., prepared	19113	23995	23995	23995	23995	23995	23995
Crustaceans	13421	15928	15928	15928	15928	15928	15928
Fish, cured	231033	228307	231693	235131	238621	242164	245761
Fish, fillets	290388	296542	296542	296542	296542	296542	296542
Fish, fresh/chilled	505490	609034	619736	630627	641712	652993	664474

OECD gp	Av. 94-98	2005	2010	2015	2020	2025	2030
Fish, frozen	726023	713410	713410	713410	713410	713410	713410
Molluscs	3805	981	981	981	981	981	981
Prepared/preserved fish	134455	144443	144443	144443	144443	144443	144443
Total FU Exports EUR-7 NC	**1924478**	**2034441**	**2048529**	**2062859**	**2077433**	**2092257**	**2107335**
Total FU Exports EUR-28	**7402219**	**8008455**	**8032381**	**8056836**	**8081841**	**8107413**	**8133575**

Source: database

ANNEX 15: NET SUPPLY 2005-2030

Table Annex 15-1: Comparative figures and growth rates of the population and the net supply from 1998 to 2030

(million inhabitants for the population and tonnes live weight for the net supply)

Country	Population 1998	Population 2030	% total	FU net supply 1998	FU net supply 2030	% total
Austria	8075	8562	6%	89535	109669	22%
Belgium-Luxembourg	10616	11368	7%	234703	270533	15%
Denmark	5295	5601	6%	123444	164790	33%
Finland	5147	5411	5%	176148	200570	14%
France	58727	64307	10%	1865484	2115815	13%
Germany	82057	84486	3%	1201620	1489333	24%
Greece	10511	11462	9%	276272	313891	14%
Ireland	3694	4064	10%	77983	83148	7%
Italy	57563	55473	-4%	1343852	1613894	20%
Netherlands	15654	17766	13%	236982	281140	19%
Portugal	9957	10737	8%	609050	616144	1%
Spain	39348	40242	2%	1619497	1574320	-3%
Sweden	8848	9773	10%	252292	265327	5%
United Kingdom	59090	61943	5%	1425908	1552815	9%
Cyprus	700	1029	47%	17842	23716	33%
Czech Republic	10300	10463	2%	94300	135130	43%
Estonia	1400	1531	9%	20660	21088	2%
Hungary	10100	10325	2%	42727	63009	47%
Poland	38700	39238	1%	438640	634663	45%
Slovenia	2000	2050	3%	13402	17552	31%
Bulgaria	8200	8222	0%	35933	60490	68%
Latvia	2400	2565	7%	89939	99037	10%
Lithuania	3700	3982	8%	55327	108758	97%
Malta	400	453	13%	11634	16092	38%
Norway	4400	5046	15%	203121	226851	12%
Romania	22500	25194	12%	71262	127732	79%
Slovakia	5400	5436	1%	27785	45324	63%

Source: database

Table Annex 15-2: Food use net supply by country from 2005 to 2030

(tonnes live weight)

	Average 94-98	2005	2010	2015	2020	2025	2030
Austria	87134	92634	95258	98246	101622	105417	109669
Belgium-Luxembourg	233818	239885	244427	249717	255797	262717	270533
Denmark	124197	131540	137624	143976	150610	157542	164790
Finland	173045	179909	183044	186612	190675	195302	200570
France	1793053	1914031	1950669	1989055	2029297	2071509	2115815
Germany	1077468	1254561	1295588	1339439	1386249	1436162	1489333
Greece	275107	283470	288932	294683	300744	307139	313891
Ireland	74604	79028	79804	80604	81428	82276	83148
Italy	1292772	1394100	1432691	1473746	1517475	1564107	1613894
Netherlands	250981	245747	252299	259105	266173	273515	281140
Portugal	600298	609791	610568	611572	612820	614336	616144
Spain	1601512	1600354	1590153	1582621	1577577	1574859	1574320
Sweden	242337	252070	252963	254716	257338	260859	265327

	Average 94-98	2005	2010	2015	2020	2025	2030
United Kingdom	1291507	1450670	1469306	1488787	1509162	1530485	1552815
Total EU-15	**9117832**	**9727788**	**9883328**	**10052879**	**10236968**	**10436226**	**10651389**
Cyprus	16069	18811	19596	20469	21439	22517	23716
Czech Republic	97977	100521	105760	111745	118565	126322	135130
Estonia	30682	20407	20334	20358	20487	20727	21088
Hungary	39026	45717	48251	51179	54564	58478	63009
Poland	465628	470716	496759	525780	558147	594281	634663
Slovenia	13258	14104	14666	15285	15967	16720	17552
Total EUR-6 NC	**662639**	**670276**	**705367**	**744816**	**789168**	**839046**	**895158**
Bulgaria	26710	39752	42920	46514	50592	55225	60490
Latvia	101140	91112	92158	93419	94943	96791	99037
Lithuania	66929	64764	72181	80224	88954	98441	108758
Malta	10208	12449	13081	13758	14483	15260	16092
Norway	202625	207259	210542	214120	218015	222250	226851
Romania	63803	79918	87115	95315	104681	115410	127732
Slovakia	36271	30678	33023	35630	38526	41746	45324
Total EUR-7 NC	**507687**	**525932**	**551020**	**578978**	**610195**	**645122**	**684283**
Total EUR-28	**10288158**	**10923996**	**11139715**	**11376673**	**11636331**	**11920393**	**12230831**

Source: database

Table Annex 15-3: Food use net supply by OECD groups of commodities from 2005 to 2030

(X 1000 tonnes live weight)

OECD group of commodities	Av. 94-98	2005	2010	2015	2020	2025	2030	% 98-30
Cephalopods	604	719	737	755	775	795	816	17%
Crus., mol. & other aquatic inv., prepared	175	185	192	199	207	216	226	28%
Crustaceans	603	674	696	720	747	777	809	25%
Fish, cured	728	785	794	805	818	831	847	10%
Fish, fillets	1700	2021	2075	2132	2190	2251	2315	19%
Fish, fresh/chilled	975	968	972	976	982	989	997	3%
Fish, frozen	1808	1504	1477	1453	1432	1413	1395	-10%
Molluscs	264	313	319	324	331	337	344	13%
Prepared/preserved fish	2261	2560	2622	2687	2755	2827	2902	17%
Total EU-15	**9118**	**9727**	**9883**	**10052**	**10236**	**10436**	**10651**	12%
Cephalopods	7	7	7	7	7	7	7	2%
Crus., mol. & other aquatic inv., prepared	1	1	1	2	2	2	2	94%
Crustaceans	6	6	6	6	7	8	8	65%
Fish, cured	78	49	49	49	49	49	49	-2%
Fish, fillets	158	127	126	126	125	125	124	-3%
Fish, fresh/chilled	14	17	19	21	22	24	26	71%
Fish, frozen	220	242	251	261	272	284	296	29%
Molluscs	1	1	1	1	1	1	2	21%
Prepared/preserved fish	178	219	244	272	303	340	381	100%
Total EUR-6 NC	**663**	**670**	**705**	**745**	**789**	**839**	**895**	43%
Cephalopods	5	9	9	9	9	10	10	4%
Crus., mol. & other aquatic inv., prepared	3	3	3	3	3	3	3	-1%
Crustaceans	38	30	31	32	32	33	34	13%
Fish, cured	33	19	19	19	19	19	19	3%
Fish, fillets	41	92	95	98	103	107	112	28%
Fish, fresh/chilled	47	59	64	70	77	85	94	80%
Fish, frozen	235	184	193	203	213	225	237	37%
Molluscs	9	12	13	14	14	15	16	38%
Prepared/preserved fish	96	118	124	131	139	148	159	44%
Total EUR-7 NC	**508**	**526**	**551**	**579**	**610**	**645**	**684**	38%

OECD group of commodities	Av. 94-98	2005	2010	2015	2020	2025	2030	% 98-30
Total EUR-28	**10288**	**10923**	**11139**	**11376**	**11636**	**11920**	**12230**	15%

Source: database

Table Annex 15-4: food use net supply by FAO groups of species from 2005 to 2030

(X 1000 tonnes live weight)

FAO Group of species	Av 94-98	2005	2010	2015	2020	2025	2030
Freshwater fish	87	112	112	113	113	114	115
Diadromous fish	653	707	714	722	731	741	753
Marine fish, pelagic, tunas	1471	1616	1633	1653	1674	1697	1723
Marine fish, pelagic, small	1317	1163	1176	1191	1208	1227	1248
Marine fish, demersal	2293	2411	2454	2500	2550	2604	2661
Marine fish, others	1652	1828	1851	1875	1901	1928	1957
Crustaceans	632	707	730	755	783	813	847
Molluscs	388	442	452	463	475	488	501
Cephalopods	604	719	737	755	775	795	816
Aquatic animals	22	22	24	25	27	29	31
Total EU-15	**9118**	**9727**	**9883**	**10052**	**10236**	**10436**	**10651**
Freshwater fish	33	36	36	37	38	38	39
Diadromous fish	5	9	9	10	10	11	11
Marine fish, pelagic, tunas	9	16	17	19	21	23	25
Marine fish, pelagic, small	224	220	232	245	260	277	295
Marine fish, demersal	33	64	67	70	73	77	81
Marine fish, others	345	311	328	348	370	396	425
Crustaceans	6	6	6	7	7	8	9
Molluscs	1	2	2	2	2	3	3
Cephalopods	7	7	7	7	7	7	7
Aquatic animals	0	0	0	0	0	0	0
TotalEUR-6 NC	**663**	**670**	**705**	**745**	**789**	**839**	**895**
Freshwater fish	6	4	4	4	5	5	5
Diadromous fish	11	20	24	28	32	36	40
Marine fish, pelagic, tunas	6	9	9	10	11	13	14
Marine fish, pelagic, small	138	170	181	193	207	223	241
Marine fish, demersal	41	109	107	106	105	104	102
Marine fish, others	250	159	169	180	192	205	220
Crustaceans	41	33	33	34	35	35	36
Molluscs	10	13	13	14	15	16	17
Cephalopods	5	9	9	9	9	10	10
TotalEUR-7 NC	**508**	**526**	**551**	**579**	**610**	**645**	**684**
Total EUR-28	**10288**	**10923**	**11139**	**11376**	**11636**	**11920**	**12230**

Source: database

Table Annex 15-5: Non-food use net supply by country from 2005 to 2030

(tonnes live weight)

Country	Average 94-98	2005	2030
Austria	24464	22824	22824
Belgium-Luxembourg	66729	53232	53232
Denmark	271576	317634	317634
Finland	140595	107587	107587
France	243730	230037	230037
Germany	302473	321783	321783
Greece	50384	56406	56406
Ireland	72906	71119	71119
Italy	177369	145412	145412

Country	Average 94-98	2005	2030
Netherlands	366081	94769	94769
Portugal	37615	28756	28756
Spain	216112	241407	241407
Sweden	93214	83645	83645
United Kingdom	732094	558278	558278
Total EU-15	**2795343**	**2332890**	**2332890**
Cyprus	8951	8768	8768
Czech Republic	22009	15317	15317
Estonia	3005	2716	2716
Hungary	47749	42302	42302
Poland	55658	52725	52725
Slovenia	5213	3414	3414
Total EUR-6 NC	**142585**	**125242**	**125242**
Bulgaria	5974	5867	5867
Latvia	15450	12711	12711
Lithuania	11150	9775	9775
Malta	3817	2740	2740
Norway	1338302	1455286	1639172
Romania	19641	21747	21747
Slovakia	12805	11431	11431
Total EUR-7 NC	**1407139**	**1519557**	**1703442**
Total EUR-28	**4345067**	**3977689**	**4161574**

Source: database

Table Annex 15-6: Non-food use net supply by OECD groups of commodities

(tonnes live weight)

OECD group of commodities	Av 94-98	2005	2030
EU-15 Fish/marine mammal, fat, oil	1004	496	496
EU-15 Flour, meal unfit for human consumption	1792	1837	1837
Total EU-15	**2795**	**2333**	**2333**
EUR-6 NC Fish/marine mammal, fat, oil	4	1	1
EUR-6 NC Flour, meal unfit for human consumption	139	124	124
Total EUR-6 NC	**143**	125	125
EUR-7 NC Fish/marine mammal, fat, oil	685	737	880
EUR-7 NC Flour, meal unfit for human consumption	722	782	823
Total EUR-7 NC	**1407**	**1520**	**1703**
Total EUR-28	**4341**	**3976**	**4160**

Source: database