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Seafood Choices Alliance

The European Marketplace for Sustainable Seafood

APRIL 2007

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1 Introduction

Europeans enjoy seafood. One only has to look at France's love of mussels and oysters, the popularity of cod in the UK and the Spanish obsession with hake to realise that seafood is a large part of the European lifestyle. For Europeans, like many around the world, the strongest connection they have with the ocean is through the seafood on their plate. Seafood consumption in Europe has increased continuously over the past two decades. This increase is due largely to the positive image seafood receives in the media and among health care professionals because of the supposed beneficial powers of omega-3 fatty acids and it being a low-fat and traditionally affordable source of protein.

Unfortunately, this favoured part of the European diet is threatened by overfishing and ineffective management regimes. Mediterranean bluefin tuna are in danger of disappearing forever; scientists have recommended a total ban on North Sea cod for the past three years and other favourites such as hake and sole are classed by the International Council for the Exploration of the Sea (ICES) as 'threatened.' A recent report[1] in the journal Science indicated that if we continue with 'business as usual', all fish species currently served up by restaurants and available from retailers could be 'commercially extinct'[2] as soon as 2048. To make up for the decreasing resources of Europe's wild fisheries, aquaculture is often cited as part of the solution. While farmed fish do have an important role in the seafood market portfolio, now and in the future, it is an industry that has its own environmental and sustainability concerns to address.

The good news is that many in the seafood industry are not continuing with 'business as usual.' Unilever, as one of the early leaders in the sustainable seafood movement, and the environmental organisation WWF, formed the Marine Stewardship Council (MSC), an independent certification and labelling scheme for sustainably caught wild seafood. Currently five to six percent of the world's seafood supply is MSC-certified and that figure is growing. In 2006 alone, Metro, Migros, Coop, Carrefour, Auchan, Sainsbury's, Wal-Mart and ASDA all made commitments to overhaul or improve their seafood sourcing practices. These actions by the industry represent the first step towards a future of sustainable seafood. Research by the Seafood Choices Alliance shows that in order to continue forward on the sustainability path, European seafood professionals say they need more information to improve their ability to sell ocean friendly seafood produced in an environmentally responsible manner (see page 27).

These positive actions by retailers are helping to ensure the future of the seafood marketplace, and reflect changing demands of consumers. As the Alliance's public opinion research in Europe demonstrates (see page 23), over 40% of consumers would pay more for seafood that is labelled as environmentally responsible. Now, more than ever, people want to know where their food comes from, how it was harvested, and the impact of the harvest method on the surrounding environment. Yet despite a seafood labelling law[3] implemented in January 2002 by the European Commission stating that consumers must be informed how and where the fish was caught, a lack of information still hinders consumers from making smart seafood choices. Research also shows that, far from expecting seafood buyers to blindly meet demand, consumers want retailers and fishmongers to both source sustainably and to help inform them about better seafood choices.

1 Impacts of Biodiversity Loss on Ocean Ecosystem Services, Worm, B. et al, Science, November 2006.
2 When it is no longer profitable to fish for the species, as the costs incurred harvesting the fish outweighs the profit. The Marine Life Information Network.
3 EU Directive 2065/2001, January 2002.

The bounty of our ocean is in jeopardy. But a fish-less world in 2048 is not inevitable. By applying practical and market-based solutions to the challenge, answering consumer demand for eco-friendly seafood, and working with stakeholders across the seafood industry, we can achieve a sustainable future – providing sustainable markets, fish and healthy oceans for generations to come.

This report is designed for all stakeholders in the European seafood marketplace. In particular, it is written for those that have requested more information on the current state of the seafood marketplace. It is the Seafood Choices Alliance's intent that this report will create increased awareness about the opportunities and challenges that we all face while working together to build the market for sustainable seafood.

This report contains:

- Information on wild-caught landings for Europe, import/export trends, aquaculture trends and figures and consumption patterns within European countries;
- Public opinion polling of German, UK and Spanish seafood professionals and consumers, showing that there is a desire for clear, reliable information in order to make sustainable seafood choices.

Some of the information contained in this report will be familiar to those who are already working within the European seafood industry. What is new and different is the information presented alongside and in conjunction with the industry data. For the first time European seafood industry information, and consumer and professional opinions on sustainable seafood and the state of the ocean are brought together in this report – demonstrating the potential market for sustainable seafood.

Founded in 2001, the Seafood Choices Alliance represents those who care about making the seafood marketplace more sustainable – seafood professionals, chefs, restauranteurs, consumers, retailers, processors and environmental organisations. The Alliance, as the global trade association for sustainable seafood, provides the tools and resources that those in this sector need to make smart, conscientious choices.

It is the Alliance's goal that with a broader understanding of what is happening in the European seafood marketplace, 'business as usual' will no longer be an option.

Notes on This Report

This report focuses on the Europe 15 (EU15) – Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and UK. Norway and Iceland – two non-European Union (EU) countries, yet important European seafood producers – are included when appropriate as their contribution to Europe's production is evident. These 17 countries were selected because of their large contributions (including landings, aquaculture production and consumption) to the seafood industry.

When discussing geographical Europe, we refer to 'Europe.' The EU, EU15 and EU25 (the EU15 plus the 10 countries added to the EU since May 2004) are always specified.

Unless otherwise stated, this report references Fishstat statistics, compiled by the United Nations Food and Agricultural Organisation (FAO) to describe fisheries and aquaculture production, and FAO food balance sheets to depict consumption. All external trade data originates in Eurostat Comext basis compiled by the European Commission.

The trade between EU members is complex, due to Europe's free market system (worth €14 billion in 2005). In order to avoid counting products that have moved from one country to another multiple times, trade is only counted with the rest of the world when considering the entire zone (EU15 or EU25). Yet when analysing individual countries, we present their trade with the rest of the world (EU and non-EU countries included). The data covers all aquatic products excluding live fish and algae.

Monetary amounts are given in Euro (€) currency. All FAO source data given in $US has been converted into Euros using a 1.25 rate (Eur1= US$1.25).

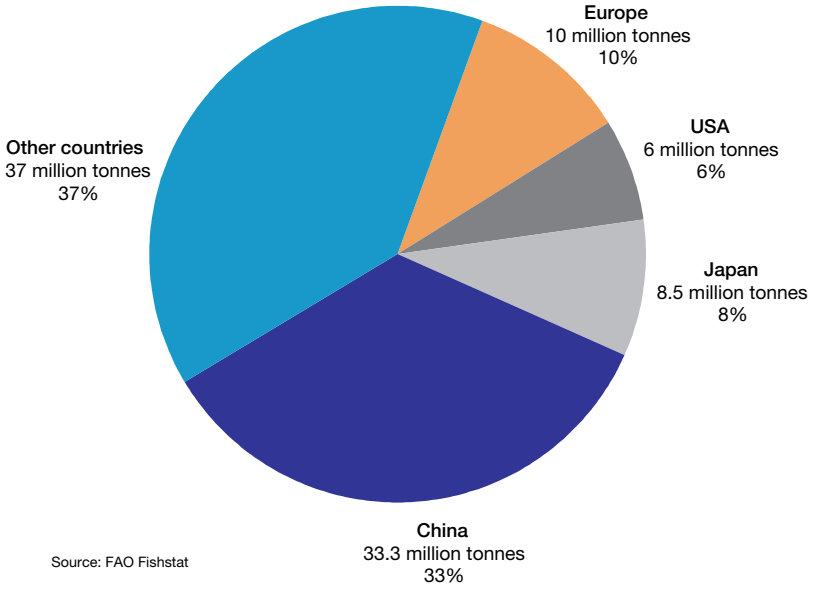
The public opinion research was conducted on behalf of the Seafood Choices Alliance and carried out by RSM, a market research firm in London with affiliates in Spain and Germany.

2 European Seafood Consumption

Before examining wild fisheries landings and aquaculture production, it is necessary to take a closer look at seafood consumption in Europe, its steady growth in recent years, and how it compares to global consumption figures. Two points are worth noting: (1) the European consumer market for seafood is second only to China and Japan and (2) consumption continues to rise.

Out of 100 million tonnes of seafood consumed globally in 2003 *(see Fig. 1)*, Europeans consumed 10 million tonnes. Seafood consumption per capita is approximately 26kg across Europe. This is well above the global average of 16kg per capita. Americans consume 21.3kg per capita, and the Japanese, with a diet that includes fish for breakfast, lunch and dinner, consume 65.6kg[4] per capita per year.

Figure 1: Global Seafood Consumption in 2003

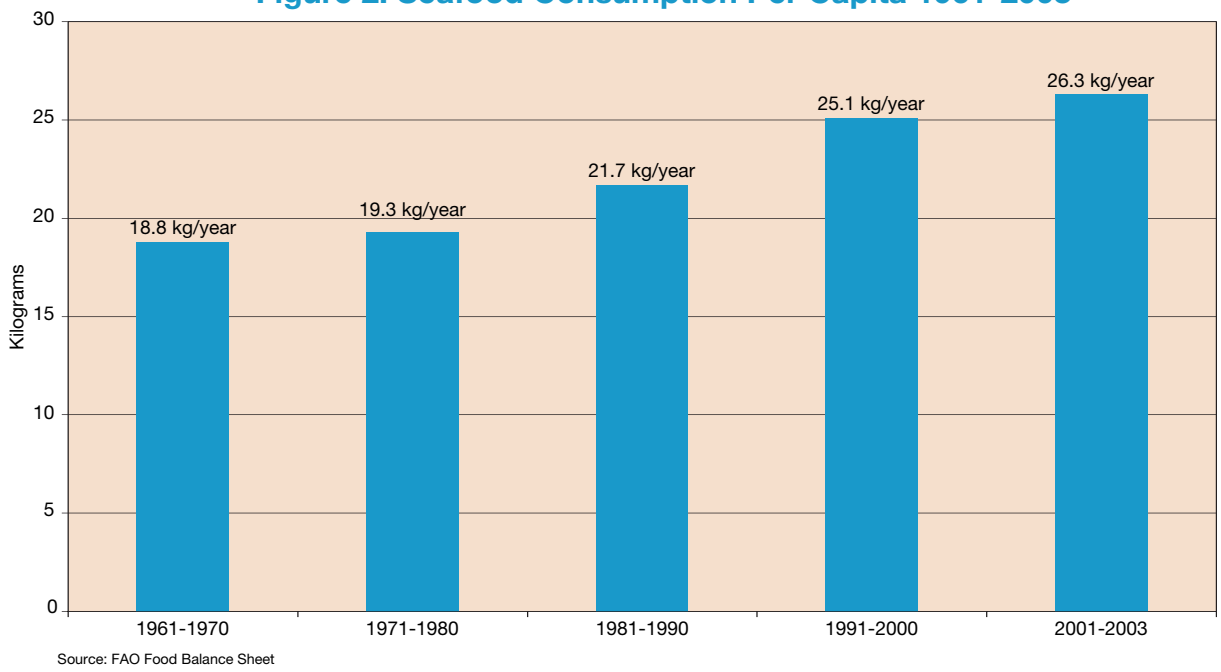


Source: FAO Fishstat

European seafood consumption has increased consistently over the past two decades, from 18.8kg per capita in the 1960's to over 26kg in 2003 *(see Fig. 2)*.

4 FAO Food Balance Sheet

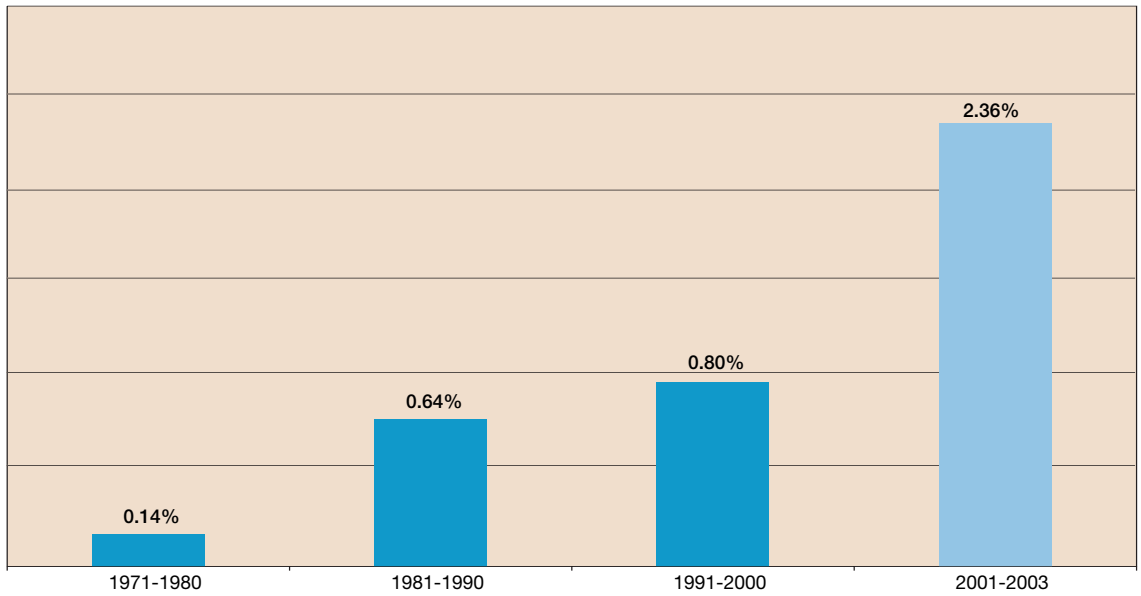
Figure 2: Seafood Consumption Per Capita 1961-2003



Source: FAO Food Balance Sheet

Since 2000, per capita consumption has increased on average 2.3% annually *(see Fig. 3)*. National data in key seafood markets, such as the UK and France, shows that in 2004 and 2005, seafood consumption also continued to rise. The positive image seafood receives in the media and from health officials buoys the strong demand.

Figure 3: EU15 Seafood Consumption Per Capita Yearly Growth 1971-2003



Source: FAO Food Balance Sheet

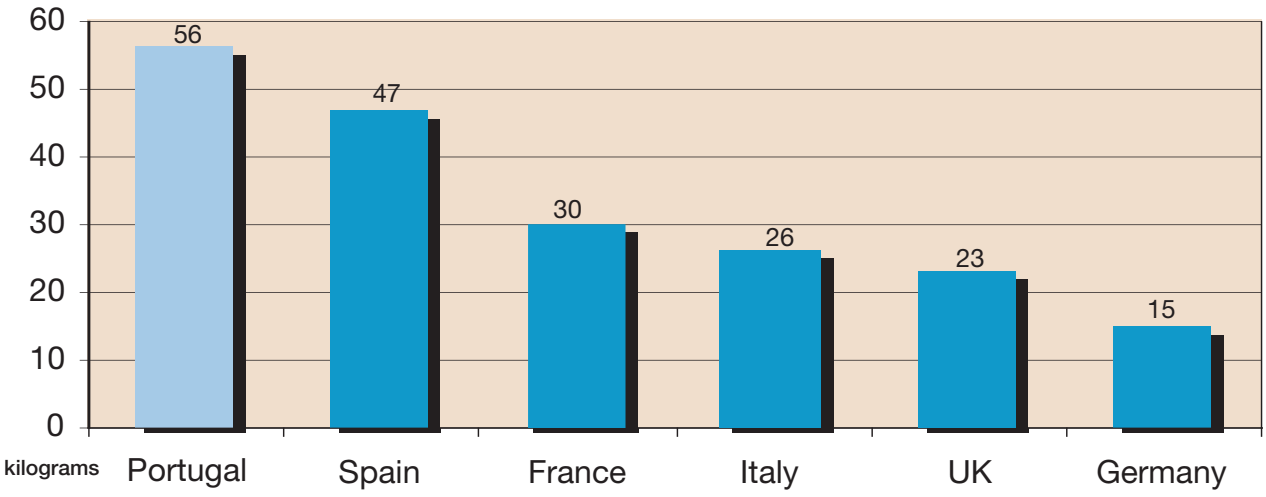
Now, more than ever, seafood from all corners of the world is widely and readily available. Because of this increased availability, the species Europeans consume today are quite different from what they ate some 40 years ago. Consumption of demersal fish (bottom dwellers such as cod and haddock) has declined by 4%, while pelagic (mobile, migratory species such as tuna, mackerel and anchovies) consumption has remained stable with some 5kg consumed per year per capita[5].

The leaders of this increased consumption are aquaculture products, such as shrimps and farmed salmon. Consumption of farmed salmon jumped by 285% since 1971; farmed crustacean (including shrimps) consumption has increased by 367%.

2.1 Regional Traits

Seafood consumption in Europe is very diverse – from country to country and from region to region. Regionally, consumption is somewhat higher in southern Europe compared to northern Europe. In 2005 Portugal was the largest seafood-consuming nation in Europe at 56kg per capita, followed by Spain 47kg, Italy 26kg, France 30kg, UK 23kg and Germany 15kg[6] *(see Fig. 4)*. In Germany, for example, four species represents over 60% of seafood sales[7], whilst southern countries tend to vary the species on offer, according to industry observations.

Figure 4. European Seafood Consumption Per Capita in 2005



Northern European consumers tend to prefer frozen seafood whilst southern European consumers purchase considerably more fresh fish and seafood, based on Alliance research and industry observations. For example, less than 10% of the seafood market in Germany is fresh fish, whilst frozen seafood accounts for over 40% of the market. This is especially apparent when one considers the types of seafood purchased in the different regions. A whole fish, complete with head and scales, tends to be standard fare for a southern European consumer, whilst householders in the northern countries favour frozen and breaded fillets and portion-sized items. Germany and the UK are the largest markets for breaded and battered seafood products.[8] For more information on consumer preferences, see page 21 for the Alliance's findings.

5 & 6 FAO Food Balance Sheet.
7 & 8 Marketing Seafood, www.marketing-seafood.com

3 Wild Fisheries Landings

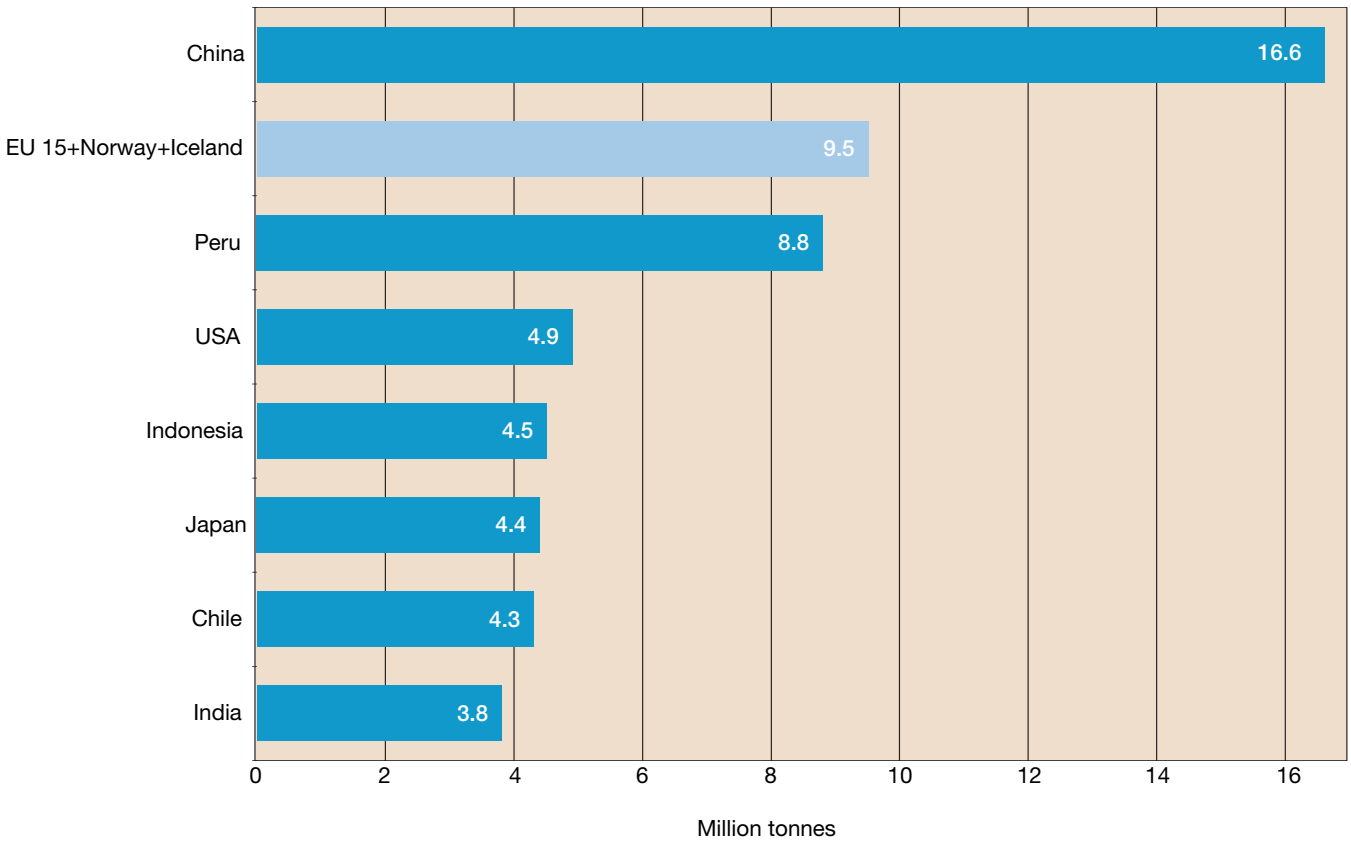
So where does Europe's seafood originate? It is certainly not all local, and that becomes apparent when European import/export trends are examined on page 18. But first, the trends in Europe's wild fisheries' landings are explored in this section.

According to an article[9] in the May 2003 issue of Nature, scientists Ransom Myers and Boris Worm found that 90% of large fish previously found in oceans the world over – the animals at the top of the food chain such as cod, shark, swordfish and tuna – had disappeared within 10-15 years of coming into contact with industrial fishing fleets. This depletion of marine resources is explained by looking at the increase in the capture of wild fish for human consumption – from 20 million tons in 1960 to 90 millions tons in 2004. Put simply, humans have rapidly improved their ability to fish, too quickly for the fish to reproduce and/or evolve to evade capture. The industry is seeing the effects of this depletion now, based on the declining landing figures in this section. Market-based solutions and conservation efforts are widely considered to be key factors in tackling this problem.

3.1 From Ship to Shore

The EU15, plus Norway and Iceland, are large contributors to the global fishing industry, with some 10 million tonnes landed yearly in 2002, out of 90 million worldwide.[10] These countries combined are the second largest contributor to global landings after China *(see Fig. 5)*.

Figure 5: Global Wild Fishery Landings 2002

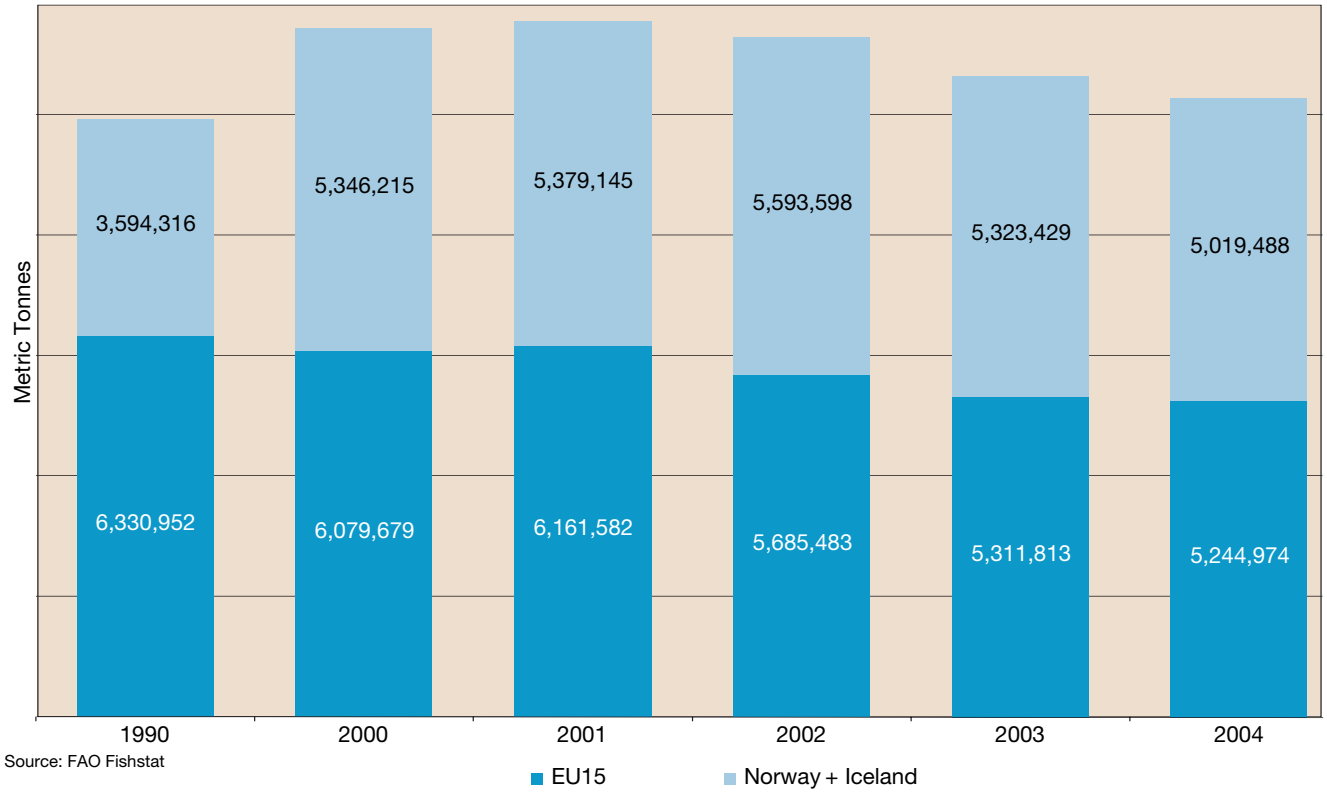


Source: FAO Fishstat, Sofia (2004)

9 "Rapid Worldwide Depletion of Predatory Fish Communities", Ransom A. Myers and Boris Worm, Nature, vol. 423, 15 May 2003, pp. 280-83.
10 SOFIA, 2004.

However, over the past two decades production has declined, as mentioned in the introduction to this section. From 1990-2004, domestic seafood supplies dropped by 730,000 tonnes, or by 10% *(see Fig. 5a)*. The decline is even more dramatic in recent years, with a decline of 800,000 tonnes in 2004 compared to 2000 (by 4.3% annually during 2000-2004).

Figure 5a. Europe's Wild Fisheries Landings 1990-2004



Source: FAO Fishstat

During the same period, landings in Iceland and Norway decreased by 1.5% *(see Table 5)*.

Table 5: Europe's Wild Fisheries Landings 1990-2004 (Yearly Growth)[11]		
	1990-2004	2000-2004
EU15	-1.1%	- 4.3%
Norway + Iceland	+3.5%	-1.5%

11 FAO Fishstat.

3.2 The Common Fisheries Policy

In the opinion of many stakeholders across Europe, the decline of Europe's wild landings is largely due to the Common Fisheries Policy (CFP), or the failure thereof. The CFP was established in 1983 and there is general consensus that it has not properly addressed the conservation and management of fish populations while overseeing the collapse of a number of important commercial species.

According to an EU green paper on the reform of the CFP: *"the sustainability of a high number of stocks is threatened if the current levels of exploitation are maintained…since these issues were not properly addressed they are so acute now such as stocks are outside safe biological limits… The CFP should do much more to integrate the environmental dimension into policy-making in a pro-active manner.*[12]*"*

The CFP is criticised by scientists and fishermen alike, respectively claiming that the policy is damaging to fish populations and livelihoods. In December 2002, the European Council of Fisheries adopted a comprehensive reform of the CFP, which has been in place since January 2003. The main changes, according to the European Commission, are as follows:

- A long-term approach, in order to avoid fluctuating (and ineffective) fishing quotas;
- A new fleet policy, which includes phasing out subsidies for fishermen;
- Better application of the rules, including effective punishment for offenders;
- Stakeholder involvement, including the creation of Regional Advisory Councils (RAC) that bring together fishermen, scientists, environmental groups and others affected by the CFP.

It is too soon to determine how effective the reformed CFP has been in reversing the decline of Europe's wild fisheries, but there is no mistaking the importance of radical improvement – livelihoods and ecosystems across Europe are at stake.

A Note on Evolutionary Europe:

Starting with the six founding countries (Belgium, France, Germany Italy, Luxembourg and The Netherlands), the European Union is now comprised of 27 countries through successive enlargements:

1973 – Denmark, Ireland and the UK

1981 – Greece

1986 – Portugal and Spain

1995 – Austria, Finland and Sweden

2004 – Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia, plus Malta and Cyprus

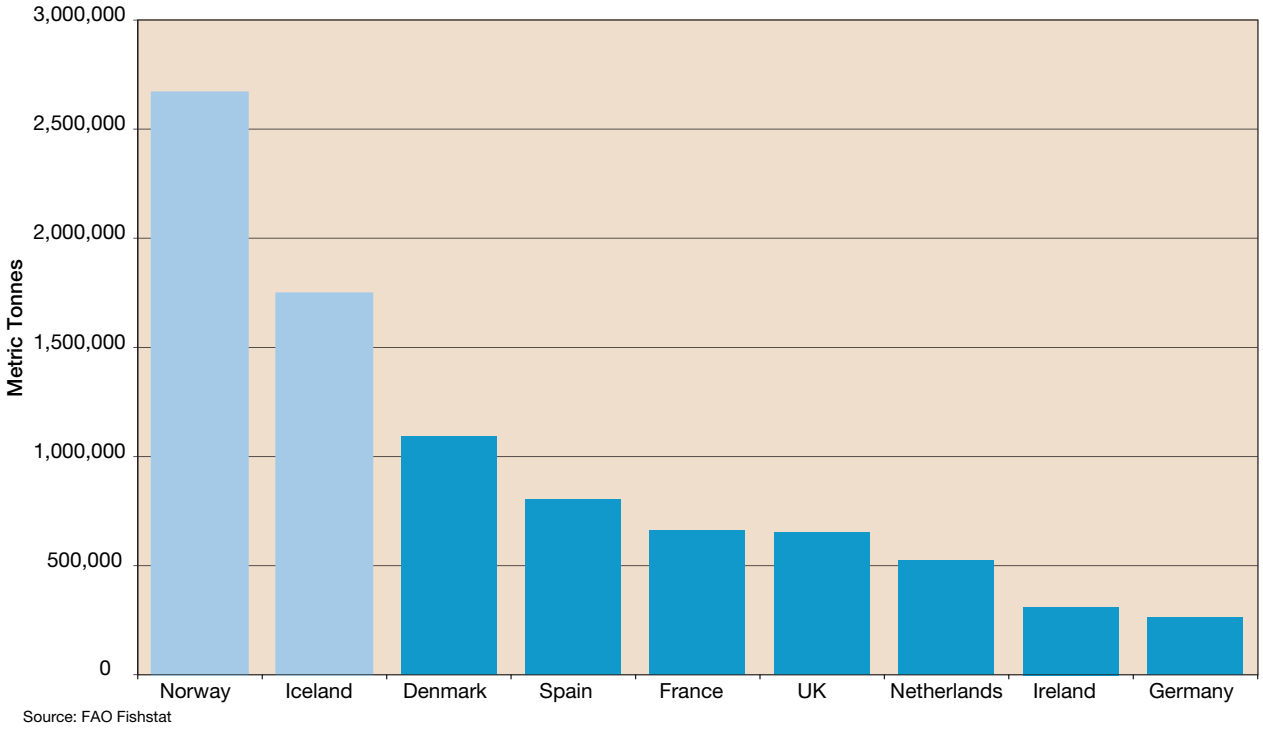
2007 – Bulgaria and Romania

12 EU Green Paper on the Reform of the Common Fisheries Policy, March 2001, http://ec.europa.eu/fisheries/publications/reform/green_paper_en.

3.3 Landings by Country

Norway is by far the largest contributor to European landings, with over 2.5 million tonnes of fisheries products landed in 2004 *(see Fig. 6)*. The main species from Norway are blue whiting, capelin and sandeels, which are used primarily for fish oil and fishmeal.

Figure 6: European Wild Fishery Landings by Country, 2004



Source: FAO Fishstat

Iceland, as the second largest European producer, landed 1.7 million tonnes in 2004. Cod is the most prevalent species, with some 200,000 tonnes landed annually, most of which is exported to the UK. Capelin, herring and blue whiting are used for fishmeal and oil processing. In 2005, Iceland produced 3% of the world's fishmeal and 6% of the world's fish oil.[13]

The Marine Stewardship Council (MSC)

Founded in 1997 by Unilever and WWF to create a market-based solution to the problem of overfishing, the Marine Stewardship Council has been functioning independently since 1999. The MSC operates a labelling scheme for seafood from fisheries certified as sustainable by an independent certification body. Over 22 fisheries around the world (or five to six percent of the global catch, nearly four percent of which is the Alaska pollock fishery with 1.5 million tonnes landed yearly) have been certified to the MSC standard. This represents 42% of the global salmon catch, 32% of the global whitefish catch (cod, haddock, pollock, saithe and ling) and 18% of the global spiny lobster catch. At the time of writing, 30-40 fisheries are undergoing assessment.

Products are identifiable by the MSC logo and to date there are roughly 500 MSC-labelled items available in 26 countries. (As of April 2007, the US is the leader with 93 products available; Switzerland is second with 75 and Germany stocks over 48 seafood items with the MSC logo[14].) As the MSC's annual report from 2004 says, "the MSC eco-label…has the potential to become an established brand…easily recognisable and widely available to an increasingly environmentally aware world."

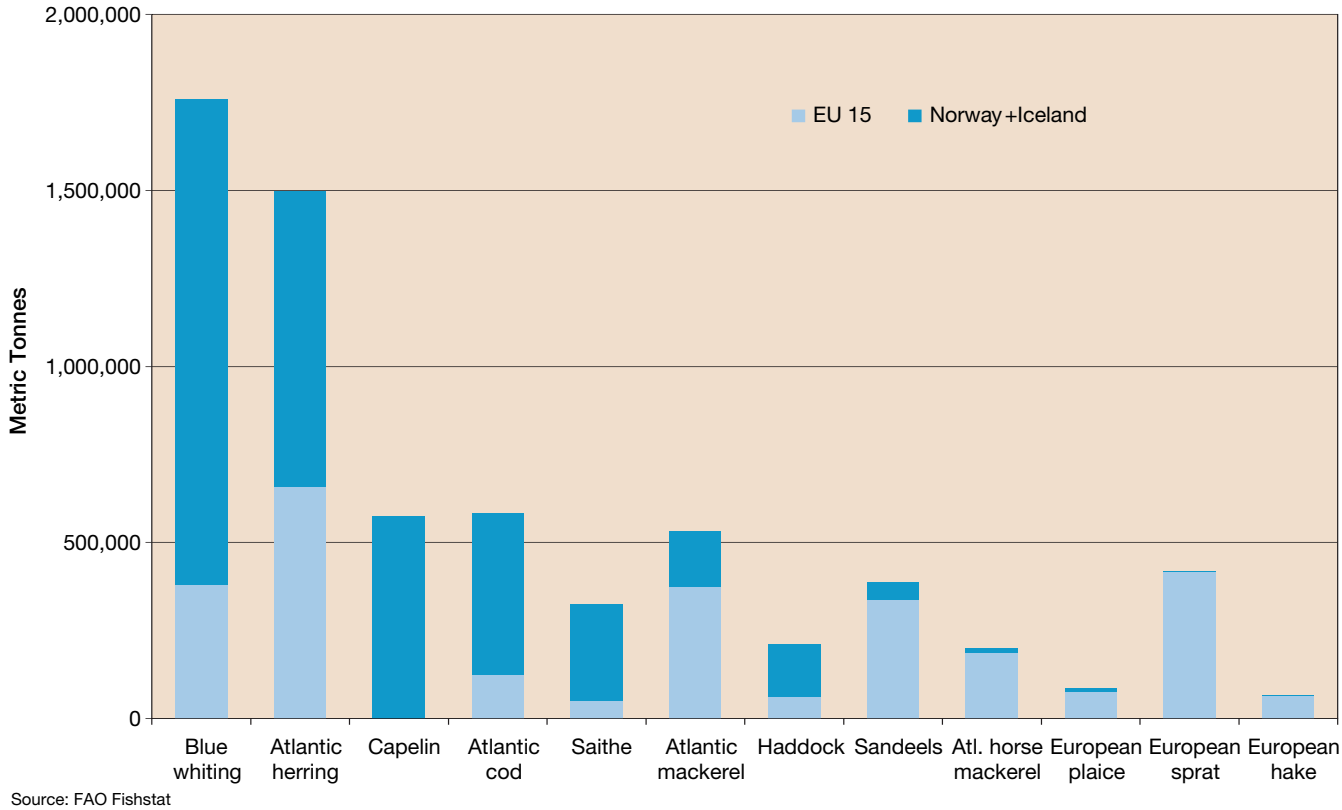
13 Icelandic Ministry of Responsible Fisheries www.fisheries.is.
14 'US tops Switzerland for widest MSC selection,' Intrafish, December 2006.

But as with any organisation that works with such a diverse group of stakeholders (in this case that includes retailers, the fishing industry and environmental organisations), the MSC has had its fair share of hurdles. According to one report in the UK that examined the success of the organisation, "not enough species have been certified, and the brand has yet to make the necessary impact with the consumer."[15] There are also concerns that the MSC scheme is not applicable or accessible to small-scale fisheries outside of Europe or fisheries in developing nations. Others feel the MSC should develop a similar scheme to address the growing aquaculture industry.[16] Yet most agree that the MSC is the only credible seafood eco-labelling scheme with momentum, support and recognition from most industry groups and conservation organisations. It is up to these stakeholders to engage the "middle" and smaller fisheries in the certification process and ensure the cost of the MSC program does not outweigh the profit and marketing benefits.

Denmark is the third largest European producer, with landings over one million tonnes. Primary species include sandeels, sprat and herring. In 2003, 65% of all Danish landings were destined for the fishmeal and fish oil industry. Spain, France and the UK each produced over 700,000 tonnes of seafood for human consumption in 2004.

Landings from the EU15 are dominated by small pelagic fish like herring and mackerel, and fish from the Gadoid family (cod and haddock). Capelins and sandeels are landed in large quantities in the Nordic countries, destined for fishmeal and oil. Blue whiting (used for fishmeal or surimi), cod, haddock, saithe, and hake are species of commercial importance *(see Fig. 7)*, though the status of some North Atlantic stocks is of concern to scientists because of overfishing.[17] Cod and hake in particular are two highly symbolic – and commercially important – species whose stocks have collapsed in recent years.

Figure 7: Europe's Wild Fishery Landings (main species), 2004



Source: FAO Fishstat

15 Fishing For Good, October 2005, by Jonathan Porritt and James Goodman, Forum for the Future.

16 At the MSC's annual board meeting in November 2006, the board decided not to enter the realm of aquaculture certification and to remain focused on wild-capture fisheries. "Did wild-fish clients convince the MSC to pass on farmed seafood eco-label?" Intrafish, November 11, 2006. www.intrafish.com

17 International Council for the Exploration of the Seas (ICES)www.Ices.org.

Cod and Hake Recovery Plans:

In 2004, the European Commission adopted recovery plans for cod and hake (EC N°432/2004 and EC N°811/2004, respectively) in the Kattegat, North Sea, Skagerak, Eastern Channel, West of Scotland and the Irish Sea.

These plans include reduced total allowable catches (TAC), reduced number of days at sea for fleets, and further efforts such as the use of special gear to reduce bycatch. Yet two years after the introduction of the plan, reviews looking at the initial impact these measures have had on cod and hake populations have not been as good as expected. A document presented in September 2006 by the EU Commission said: "The Commission look at the cod stock subject to a recovery plan indicates that the existing measures need to be strengthened as hitherto there has been no significant reduction in fishing mortality."[18]

Iceland and Norway catches come predominately from the North Atlantic. Most EU catches are taken in waters bordering the EU, with catches from the North East Atlantic, the Mediterranean and the Black Sea accounting for over 80%. Other fishing grounds utilised by European fishermen include waters off the western coast of Africa (Morocco, Mauritania, Senegal, Angola) and the Indian Ocean.

3.4 Fish for Fish for Fish

Six main species are used to produce fishmeal and fish oil in Europe: capelin, sandeel, Norway pout, blue whiting, sprat and herring. The first three are not suited for human consumption, in accordance with today's processing knowledge and consumer preference. The combined production of fishmeal from the EU15, Norway and Iceland ranges from 900,000 to 1,000,000 tonnes per year. In order to produce that much fishmeal, the industry absorbs roughly 3.5 to 4.0 million tonnes of fish per year, excluding trimmings.[19]

In 2002, 34% of fishmeal and 56% of fish oil produced globally was used by aquaculture operations. In 2010, it is expected that 48% of the global fishmeal production and 79% of fish oil[20] will be needed by the aquaculture industry. No feed fishery is certified by the MSC, although the sardine fishery in the Gulf of California recently applied for assessment. In European waters, blue whiting in the Northeast Atlantic is caught unsustainably and ICES recommends a substantial decrease in fishing quotas. The North Sea sandeel fishery was closed for 2006 and ICES recommends it stay closed for 2007. So if aquaculture is on the increase (the FAO calculates that 43% of all fish is now farmed and the industry is expected to grow 12% by 2015) what feed options will keep this industry going?

Systems using a mix of fish, algae and filter feeders can maintain a healthier aquatic environment. Some farmers are also considering how they might grow smaller fish to feed larger, carnivorous species. Trials have been somewhat successful, but the systems are not yet applicable on a global scale. There is also movement by the industry to certify feed fisheries as sustainable. In March 2006, the MSC, Aquascot (a processor) and Waitrose (a UK retailer) teamed up to start engaging the world's feed fisheries in the MSC certification process.

18 European Commission, www.ec.europa.eu/fisheries.
19 Fishmeal Information Network, www.fin.org.uk.
20 The Royal Society for the Protection of Birds, www.rspb.org.uk.

4 Aquaculture

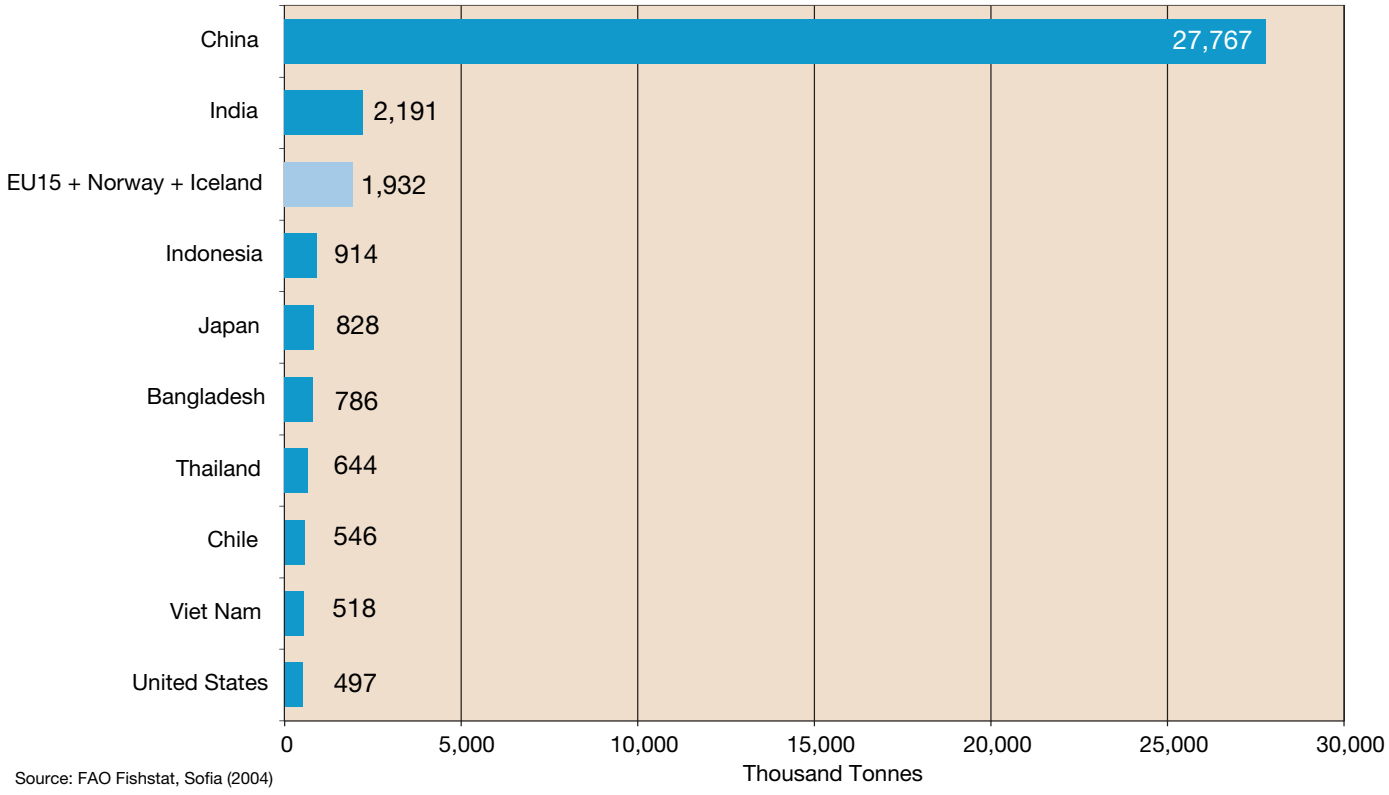
Aquaculture is defined by the FAO as 'the farming of aquatic organisms in inland, offshore or coastal areas' but the term is loosely used to describe all types of fish farming. In this section the report examines European aquaculture production, beginning with a look at how European production fits into the global picture.

With 75% of all wild fisheries classed as fully or over-exploited by the FAO, the challenge will fall to aquaculture to help meet the global demand for fish protein, and Europe, as one of the largest producers of aquacultured products, will help meet that demand. Growth of the aquaculture industry, like what has been seen in China and other developing countries, will also contribute. Nevertheless, there are clear concerns surrounding the cost of such growth to the environment and therefore, concerns over the long-term sustainability of the industry.

4.1 European Aquaculture Production

The EU15, Norway and Iceland are the third largest aquaculture producers, after China and India *(see Fig. 8)*. In 2003, world aquaculture production was estimated at 40 million tonnes. Of that, European production reached nearly 1.9 million tonnes, and Norway alone produced 640,000 tonnes (mainly salmon and rainbow trout).

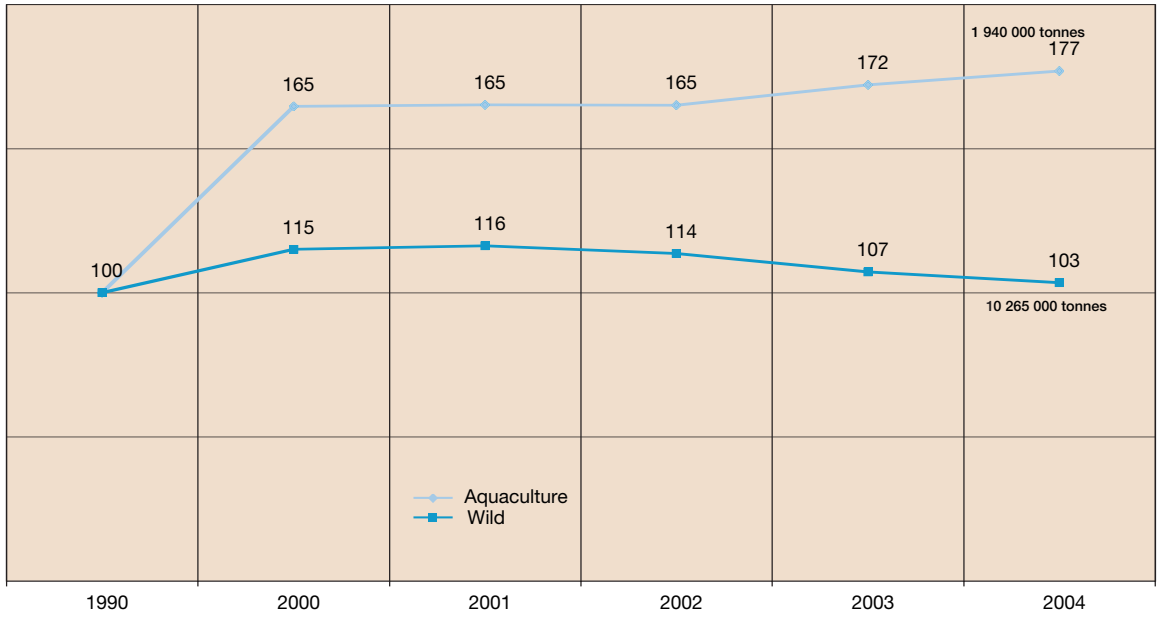
Figure 8. Global Aquaculture Production (2002)



Source: FAO Fishstat, Sofia (2004)

Since 1990, aquaculture production has increased by 77%, whilst wild fishery landings in Europe continued to decrease *(see Fig. 9)*.

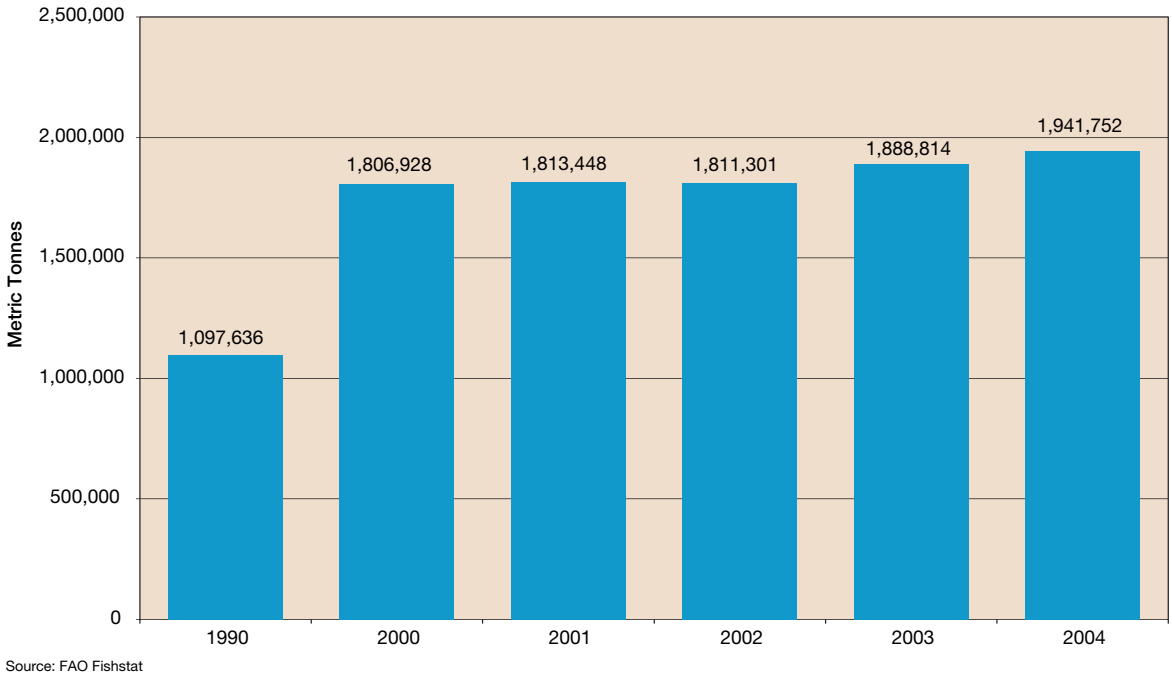
Figure 9: European Seafood Production 1990-2004. Year 1990 = Index 100



Source: FAO Fishstat

European aquaculture production boomed between 1980-2004 *(see in Fig. 10)*, and most recently, in the period from 1990-2004, it has seen substantial growth. Norwegian production of farmed salmon grew from 150,000 tonnes in 1990, to over 560,000 tonnes in 2004 *(see Table 10)*. Production of farmed seabass in Greece jumped from 1,000 tonnes to over 26,000 tonnes during the same period.[21]

Figure 10: European Aquaculture Production, 1980-2004



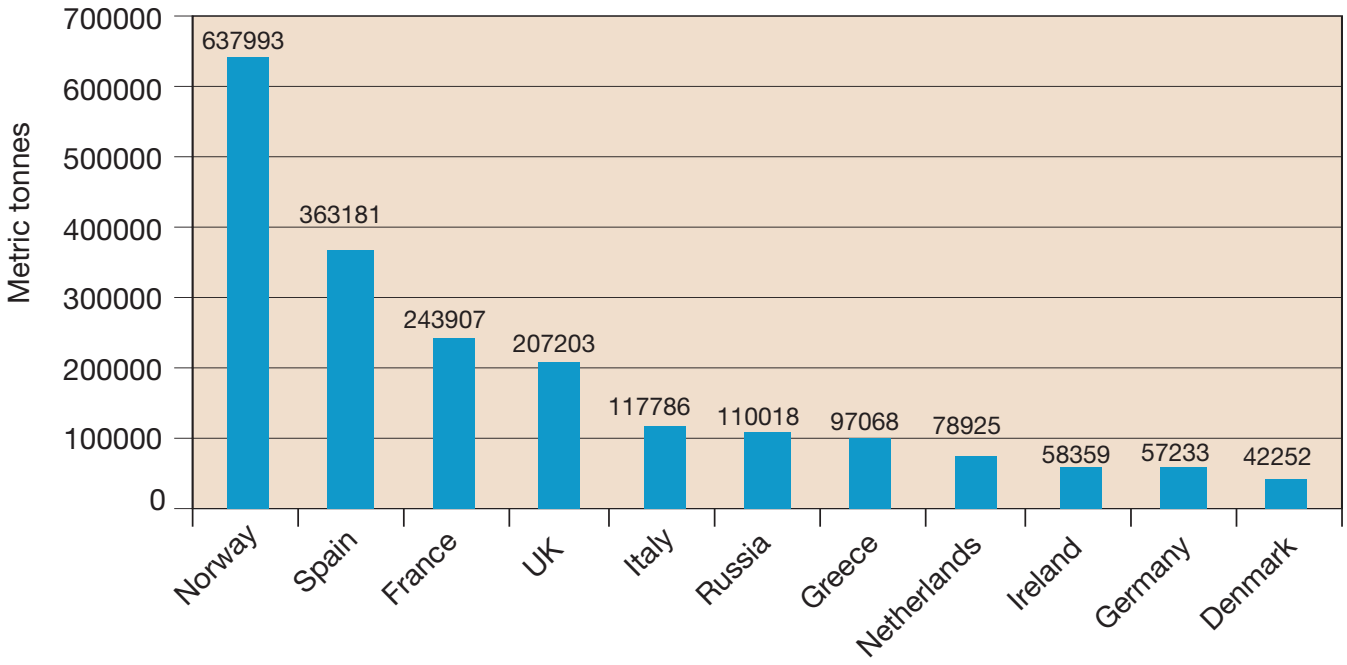
Source: FAO Fishstat

21 Fishstat.

Table 10: Aquaculture Production Growth by Volume, 1990-2004		
	Norway	EU15
1980-1990	+ 14.3%	+ 1.8%
1990-2000	+ 5.5%	+ 1.5%
2000-2004	+ 6.8%	- 0.3%

Europe leads the way in the farmed production of salmon, trout, seabass, seabream, turbot and mussels. Spain, as the largest producer after Norway *(see Fig. 11)*, is the world's leading mussels producer, and is also increasing its seabass, seabream and turbot operations.

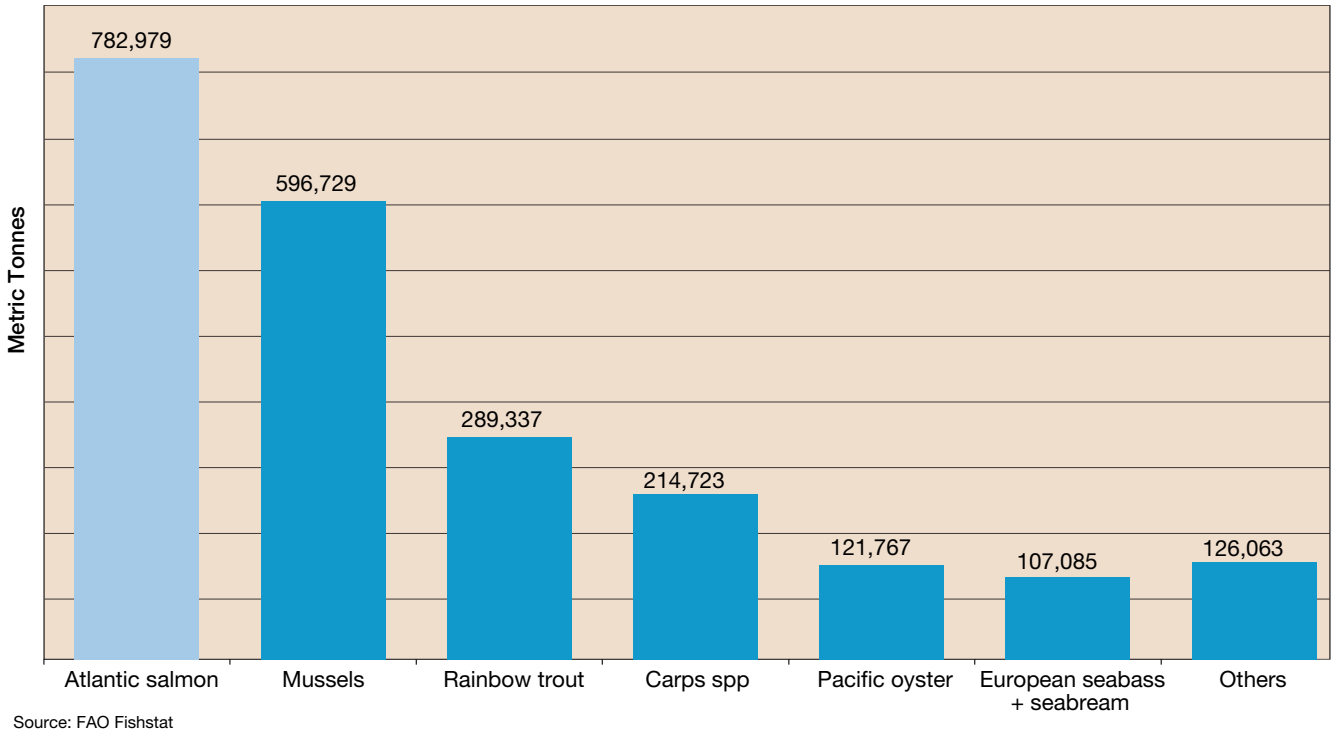
Figure 11: Aquaculture Production by Country



France is also a large producer of oysters and mussels. Over the last decade, Greek aquaculture development has been noticeably high, with the country becoming the largest producer of high value seabass and seabream.

Not surprisingly, farmed salmon makes up the bulk of Europe's aquaculture production *(see Fig.12)*.

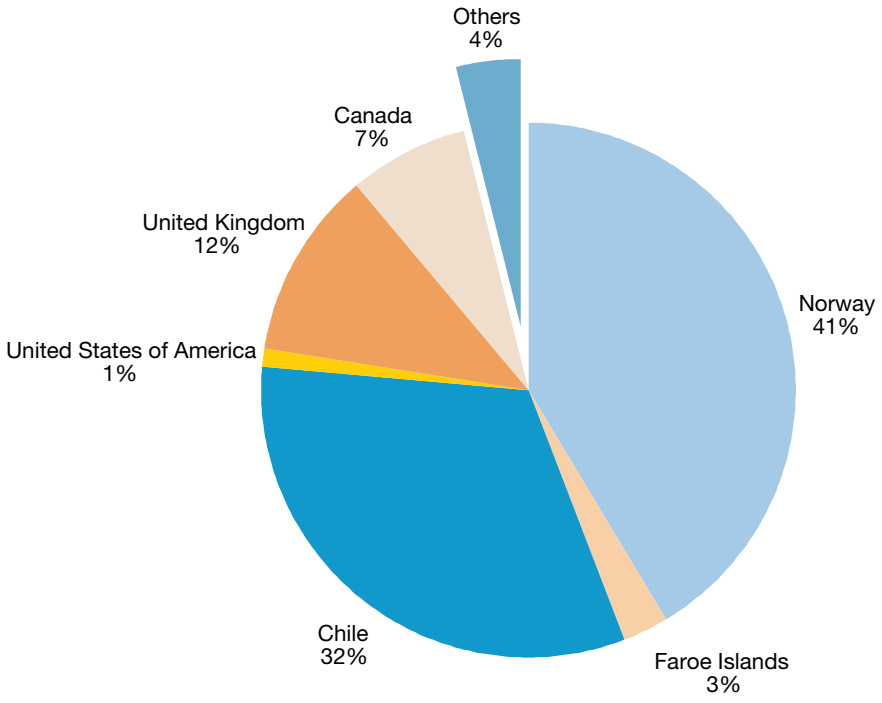
Figure 12: Europe Aquaculture Production by Species/Volume, 2004



Source: FAO Fishstat

Norway is the largest producer of farmed salmon in the world with some 560,000 tonnes out of a total 1.4 million tonnes *(see Fig.13).* The UK at 158,000 tonnes is the third largest producer after Norway and Chile and accounts for 12% of global supply.

Figure 13: Global Farmed Salmon Production in 2004



Source: FAO Fishstat

4.2 Organic Seafood – Gimmick or Good Choice?[22]

Organic conjures up images of produce untainted by chemicals or pesticides and “free range” animals eating food without antibiotics and hormones. Now with increasing frequency, organic is also being applied to farmed fish, such as salmon, seabass, seabream, trout and most recently, cod. Organic aquaculture production is estimated at 50,000 tonnes, approximately one percent of world production.[23] Scotland and Ireland rank as major suppliers with 5,000 tonnes yearly production each. Several standards have been developed in Europe, some by public authorities (such as France's Ministry of Agriculture) and others by private organisations (such as Naturland in Germany and the Soil Association in the UK). Seafood products meeting these standards carry an organic label.

Most organic salmon farming occurs in ocean pens, similar to conventional salmon production; therefore many issues that concern environmentalists about salmon farming also apply to the organic product. Environmental organisations point to the risk of farmed salmon escaping and out-competing wild populations, and the spread of sea lice and other natural parasites to wild fish. Excess feed and excrement from salmon pens acts as an unnatural fertilizer and depletes the area of oxygen, resulting in a “dead zone.” In general, organic salmon on the market today represents an improvement over conventionally farmed salmon due to lower stock density, resulting in less waste and better animal welfare. But the jury is still out as to how much better a product organic salmon is, for the environment and for the consumer’s health and wallet.

4.3 Do You Want a Label With That?

From January 1 2002, the EU has required retailers to inform consumers about how and where their seafood was caught. At the time of printing, restaurants, hotels and other important sectors are under no obligation to follow this EU directive. The aim was originally to provide consumers with more information when they are purchasing fish, but a lack of consistency and challenges implementing the law at a national level has made this very difficult. Ultimately, it is up to the retailers and restaurateurs to have more information available their customers so they can choose responsibly when shopping or dining out.

In 2005, the FAO adopted a set of voluntary guidelines for the eco-labelling of fish products. The guidelines outlined general principles, including the need for independent auditing, transparency of standard-setting, accountability, and the need for standards to be based on good science.

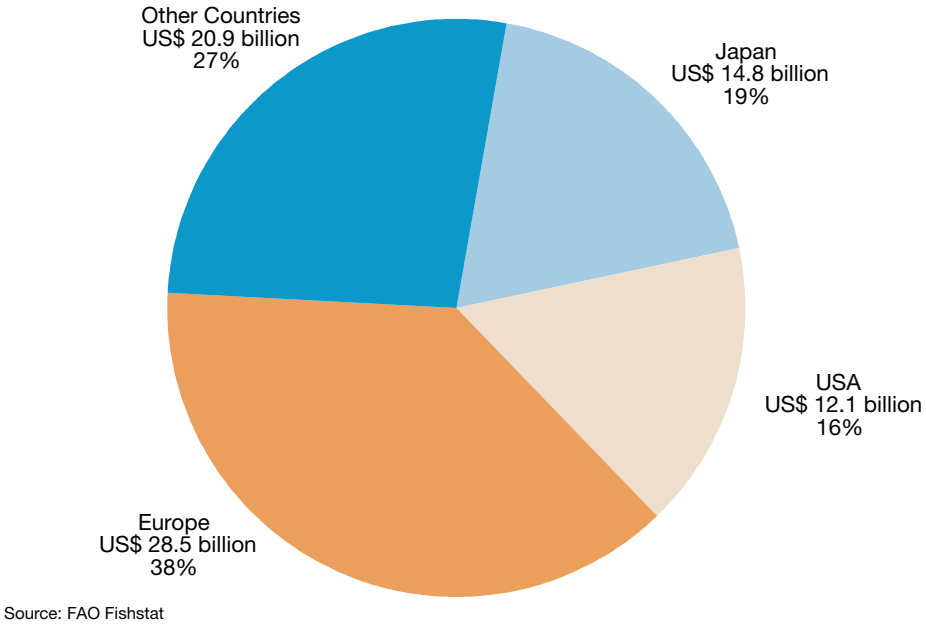
22 Afishianado, Seafood Choices Alliance, 2006.
23 Seafood International, September 2006.

5 European Trade in Seafood

5.1 Imports

Global seafood imports in 2004 were estimated at €61 billion (US$76 billion). Europe is the largest importer of seafood in the world, responsible for 38% of all trade *(See Fig. 14)*, valued at €21 billion (US$28.5 billion). Japan is the second largest importer of seafood, with purchases worth €12 million (US$15 billion).

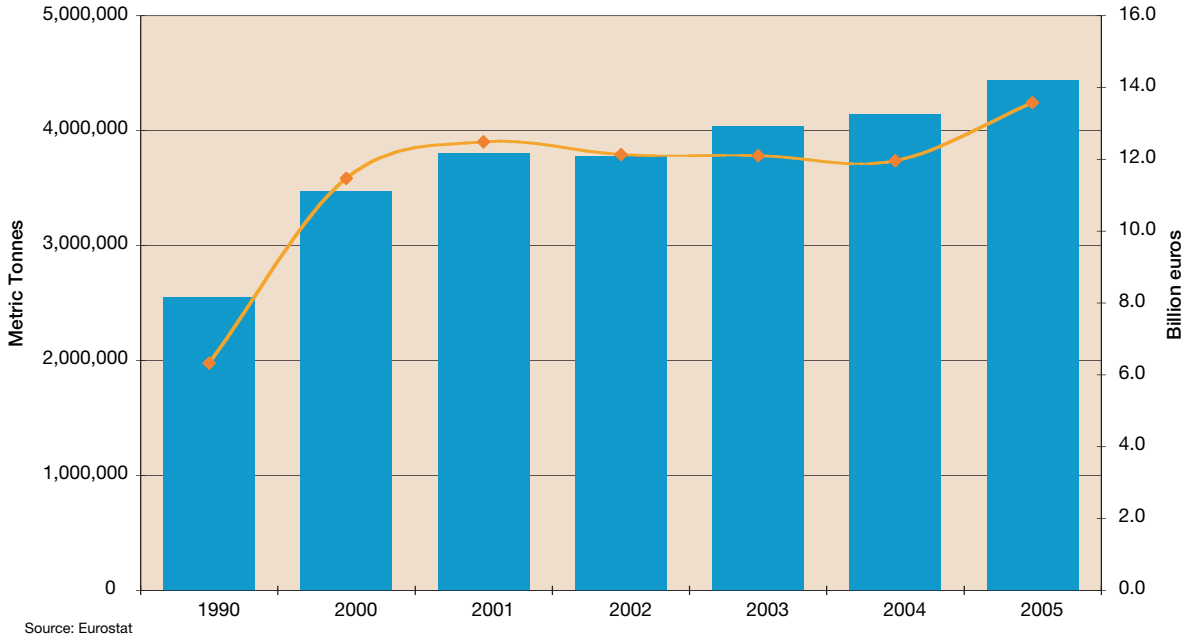
Figure 14: Seafood Imports by Major Zones in 2004



Source: FAO Fishstat

EU imports have nearly doubled in terms of volume since the early eighties *(see Fig.15)*. Part of the growth is due to the successive enlargement of the EU. In addition, the growth is also credited to the per capita rise of seafood consumption across Europe and the shortage in domestic products, requiring Europeans to import more seafood than ever before. From 1995 to 2004, EU15 seafood imports (from non-EU countries) grew from 2.8 million tonnes to 4.1 million worth €7.6 billion and €12 billion, respectively. In 2005 EU imports were worth €14 million.

Figure 15: EU Imports of Seafood, 1990-2005

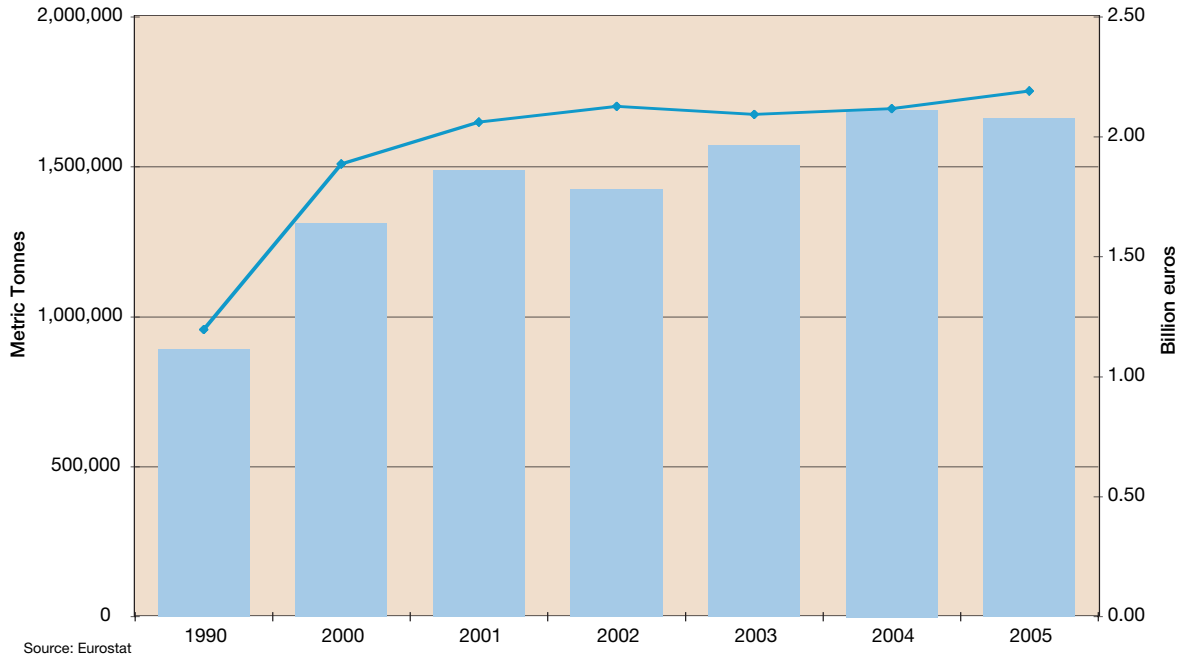


Source: Eurostat

5.2 Exports

The EU was the destination for 59% of all seafood exports in 2005.[24] In 2005, the EU15 imported 4.2 million tonnes worth €13.15 billion from the rest of the world and exported 1.4 million tonnes worth €2.0 billion *(see Fig. 16*). The trade is rather concentrated; five countries (Spain, UK, France, Italy, Denmark) generate 68% of all imports in terms of volume.

Figure 16: EU Exports of Seafood 1990-2005



Source: Eurostat

24 Export Utvalget for Fisk.

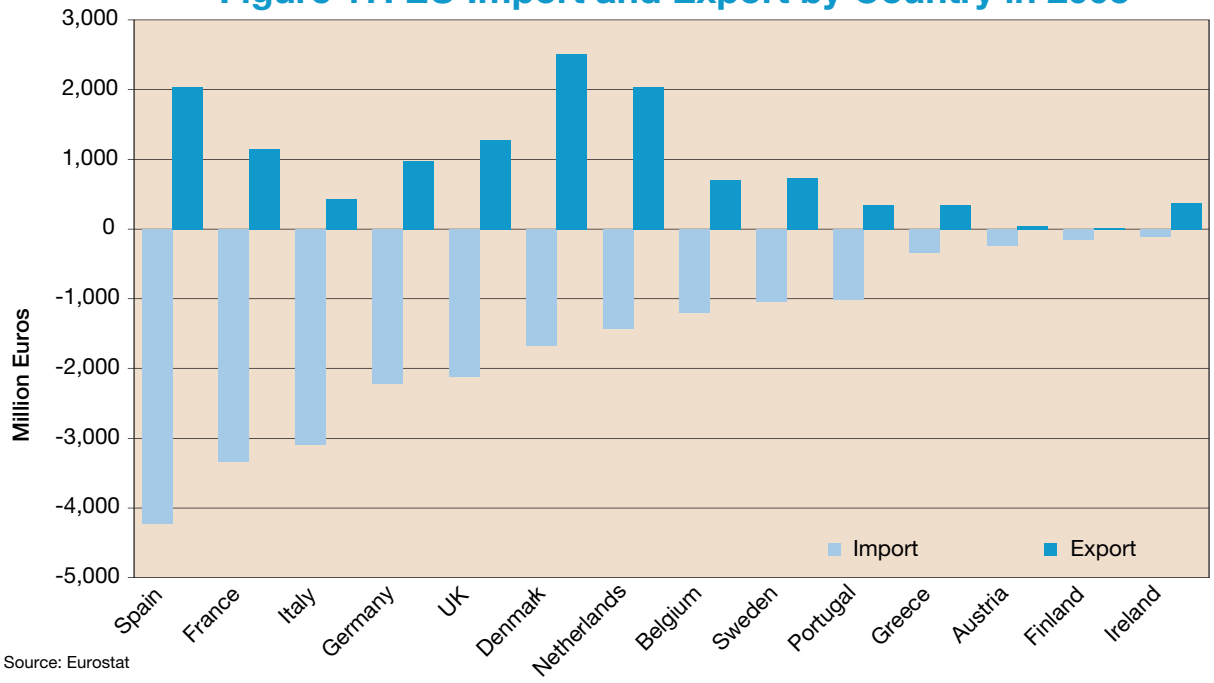
5.3 By Country

Spain is the largest importer of seafood, bringing in over €400 million worth of seafood annually. Norway ranks as the second largest exporter of seafood with €3.4 billion sold abroad, behind China at €5.44 billion. Norway exports farmed and wild fish to over 145 countries. In 2005, salmon and trout represented 47% of Norway's total exports; next is white fish (cod, haddock, saithe) at 27% of total exports.

While Denmark is a significant importer, it is also the largest net exporter (valued at over €840 million). *See Fig. 17*. At the other end of the spectrum, Italy is the country that records the highest seafood trade deficit (negative €2.7 billion in 2005). Iceland ranks as the 13th largest seafood exporter with trade estimated at €1.44 billion in 2004. The bulk consists of frozen fillets of white fish and flatfish.

In general, EU domestic production (pre-2004) covered 60% of the total consumption. For example, national rates are very different by country. In Germany, the domestic production represents about 20% of total consumption; in Portugal 35%, and in the UK, 67%.

Figure 17: EU Import and Export by Country in 2005



Source: Eurostat

From 2003 to 2005, China became a major EU seafood supplier, moving from sixth to the third largest supplier of seafood to Europe *(see Table 17)*. Whilst EU imports from non-EU countries other than China climbed by 9% in the past two years (in terms of value), imports from China to the EU increased by 60%. Chile (supplying salmon and mussels) and Ecuador (shrimp) increased by 49% and 47%, respectively.

Table 17: Top Five Non-EU Suppliers of Seafood to Europe, 2005[25]

	Million tonnes	Billion Euros	Products
Total	4.2	13.15	
1. Norway	0.7	2 203	Salmon, Fresh and frozen whitefish
2. Iceland	0.2	962	Fresh and frozen whitefish
3. China	0.3	801	Frozen fillets
4. Morocco	0.2	650	Canned sardines
5. USA	0.2	645	Fresh fish, lobster

25 EUROSTAT.

6 Constant Cravings and Sustainable Tables

The industry research presented in the previous section shows that seafood consumption in France, the UK and other key markets is increasing. Wild-caught landings are decreasing, while aquaculture production is on the rise. The '2048' report shows that 'business as usual' cannot continue, unless we are prepared to accept a future without commercially available fish. Consumers and seafood professionals have an increasing role to play in the sustainability of the oceans. Sustainability is not just one option; it is the only option. This section seeks to answer the following questions:

- What do consumers and seafood professionals think regarding the current state of the ocean and European fisheries?
- Is there a market for sustainable seafood in Europe?
- Will consumers pay more for sustainable seafood?
- What do seafood professionals need in order to make sustainable choices?

Key findings from the Seafood Choices Alliance's first marketing research effort in Europe are presented here. The UK, Germany and Spain were chosen as the first countries for this research project because of their population sizes and their seafood markets. Polling in France, Belgium and Switzerland is expected to follow.

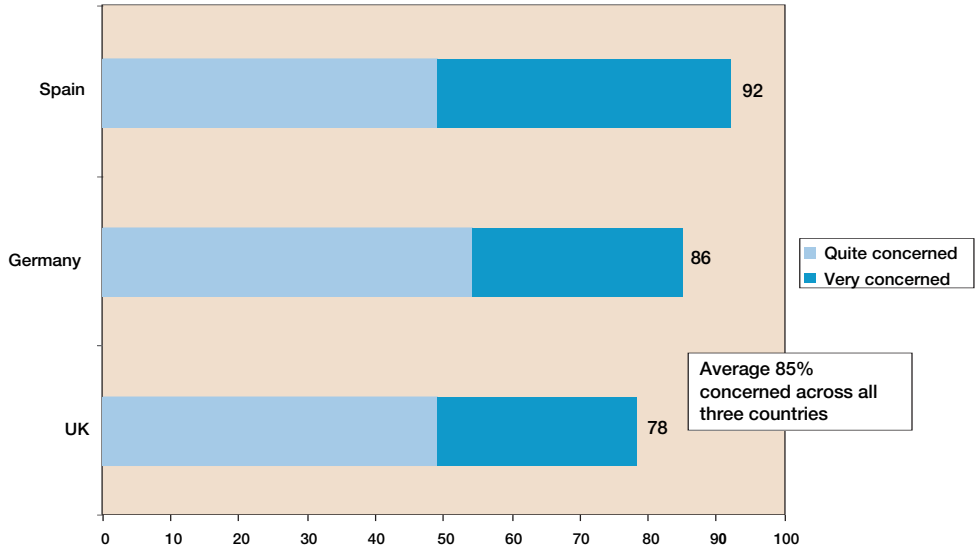
The results are telling, especially after having examined the broader European seafood marketplace. There is a clear mandate from consumers to retailers and others that stock seafood to take responsibility for the sustainability of their products. Yet the industry cannot do it alone and needs more information to make changes to their businesses and supply chains.

6.1 Constant Cravings – The European Consumer and Sustainable Seafood Choices

Consumers (85% on average) in the UK, Germany and Spain express a great deal of concern about the current state of the oceans *(see Fig. A)*, showing that the issues highlighted in the previous section have not gone unnoticed.

Figure A.

Consumers' Level of Concern about Environmental Condition of the Ocean

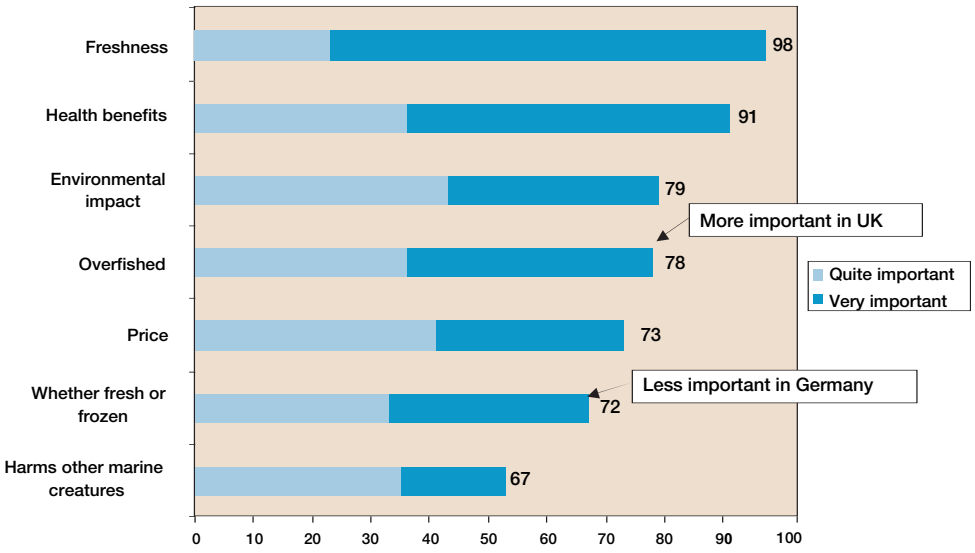


Base: 751 (Germany 251, Spain 250, UK 250) - weighted data

Consumers also say that environmental considerations are more important (79% on average) than price or convenience when purchasing seafood *(See Fig. B)*. Also noteworthy is despite the dramatic growth in the organic food sector (as seen on page 17 of this report, organic aquaculture now accounts for one percent of all farmed fish production), environmental considerations rank far above the organic designation when it comes to fish.

Figure B.

Importance of Specific Seafood Attributes to Consumers

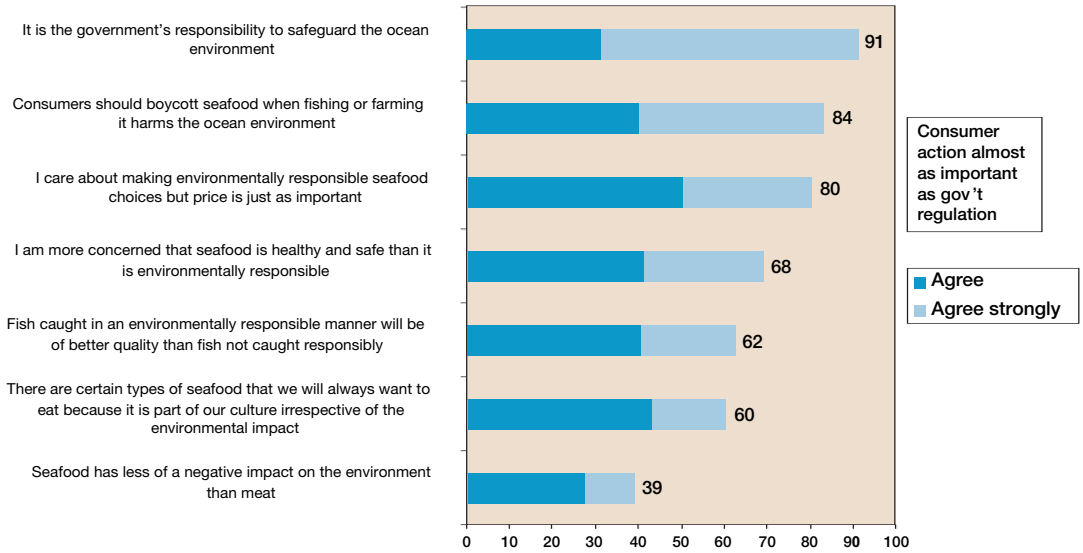


Nearly one third of consumers (30% on average) have acted on these concerns by not purchasing seafood that harms the ocean. Among the more affluent segment, up to 50% of consumers have avoided buying seafood that they know is not sustainable.

Most consumers (91%) also agree that government must play a primary role in managing seafood resources responsibly *(See Fig. C)*. The reform of the Common Fisheries Policy as discussed on page 9 is the first step in meeting the desires of the consumer. That said, focus groups found that consumers recognize the difficulty of managing an international resource and assume that some countries will be 'bad actors.' So, despite wanting more from government, 84% agree that consumers must take action by refusing to purchase those types of seafood that are overfished or caught in a way that causes harm to the ocean environment.

Figure C.

Consumer Attitudes Towards Sustainable Seafood



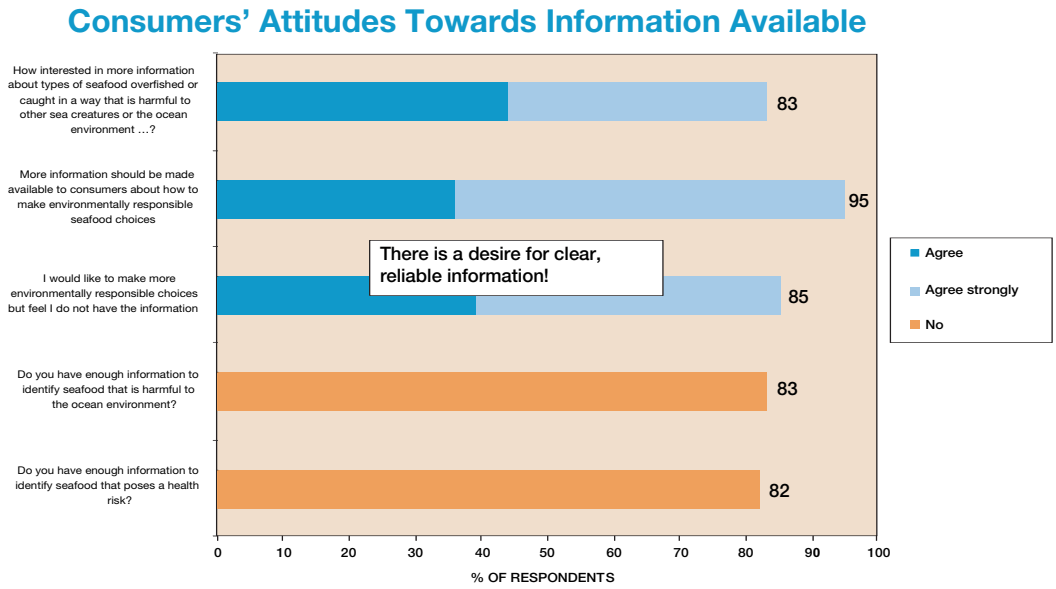
As more and more seafood purveyors expand their responsible offerings, many are seeking to leverage their investments to gain added value in the marketplace. Significantly, this research reveals a meaningful segment of consumers who say they will support increased prices when purchasing sustainable seafood.

How much is sustainable seafood worth?

- The average price premium supported is 10%
- 40% of consumers are willing to pay 5% to 10% more
- 25% of consumers are willing to pay 10% more
- A quarter of the most affluent consumers are willing to pay 20% more

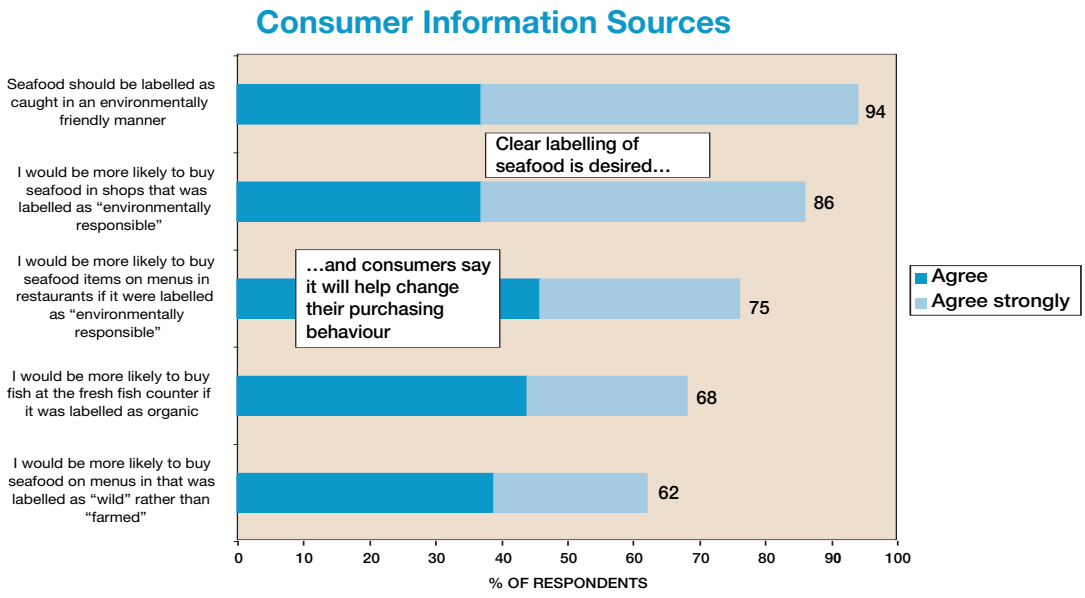
Almost all consumers (95%) want more information about how to make sustainable seafood choices and how to avoid seafood that is harmful to the environment *(See Fig. D)*.

Figure D.



In addition, consumers say that having such information will have an impact on the choices they make, with 86% saying they would be more likely to buy seafood labelled as environmentally responsible *(See Fig. E)*.

Figure E.



6.2 Summary of Consumer Research

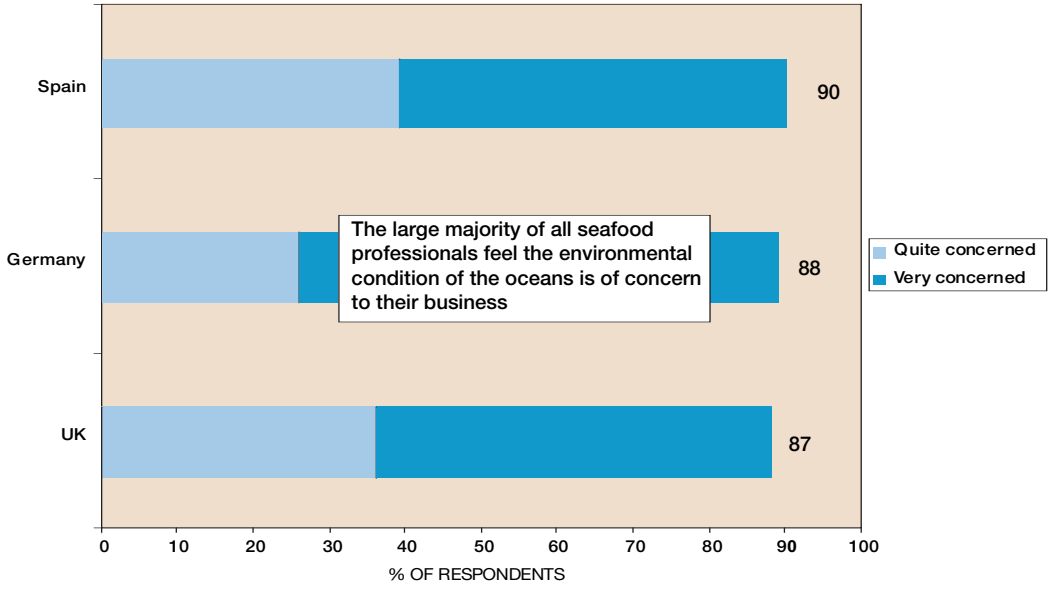
As catches decline and aquaculture increases, the issue of seafood sustainability is growing in importance for the consumer. They are aware of overfishing, by-catch and some threats associated with fish farming. They want a higher degree of responsibility taken on by retailers to assist them in making environmentally responsible choices. And when given information, consumers are quite willing to alter their consumption in favour of more sustainable choices. They will look to the guidance of environmental groups to give them information they can act on at the supermarket and would like retailers to supply such information in their stores.

6.3 Sustainable Tables – European Seafood Professionals and Environmentally Friendly Seafood

In line with the industry data in the first section showing a decline in European wild fisheries landings, seafood professionals report that the environmental condition of the ocean is of concern to their businesses, with an average of 88% of those polled saying they were quite or very concerned *(See Fig. F)*.

Figure F.

Level of Concern about the Condition of the Ocean



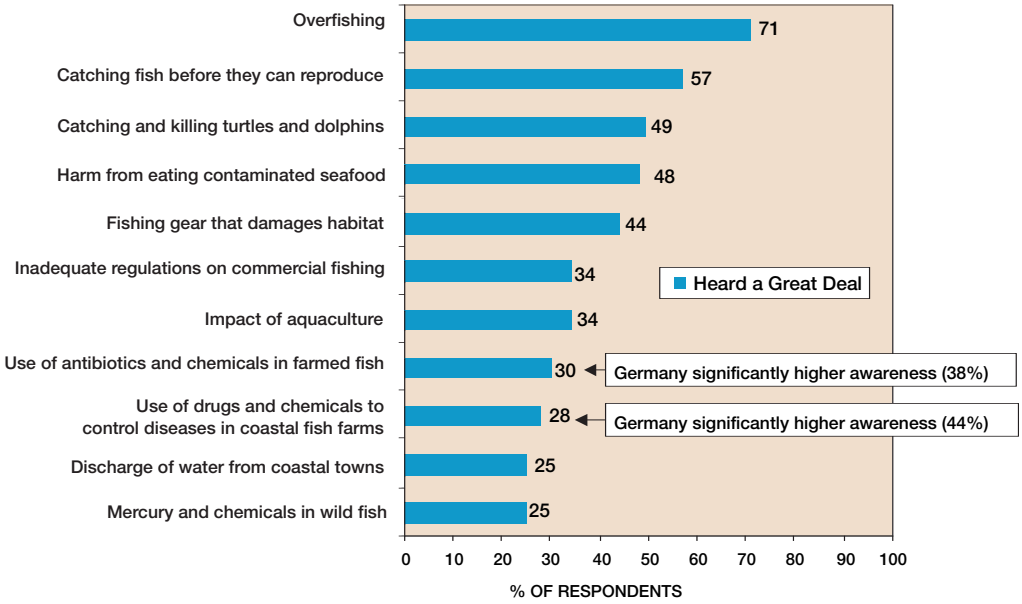
The key drivers of concern about the environmental condition of the oceans are business related. When professionals are asked why they are concerned, the top reasons given are:

- Seafood/sea produce is my business (56%)
- Environmental issues will affect my business (41%)
- We need to maintain fish stocks for the future (24%)

When asked about the top sustainability issues associated with fish and fishing, professionals are most aware of the problem of overfishing, followed by certain by-catch and fishing gear-impact issues *(See Fig. G)*. In general, purveyors are more aware of these problems than consumers, with just over seven in 10 saying they have heard a great deal about overfishing.

Figure G.

Awareness of Environmental Issues Affecting the Ocean

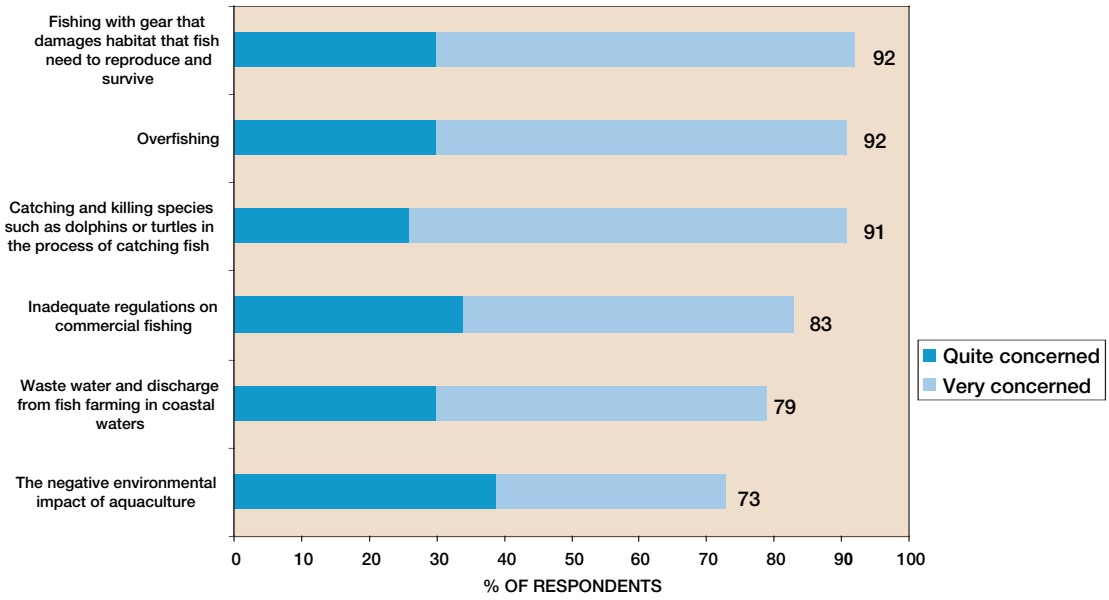


Three issues are of great concern to nearly all the professionals interviewed: damaging ocean habitat with fishing gear, overfishing and by-catch. All of these issues generate concern among upwards of 90% of respondents *(see Fig. H)*.

Figure H.

Level of Concern about Environmental Condition of the Ocean

Can you tell me how concerned you are personally about some of these issues we have mentioned?

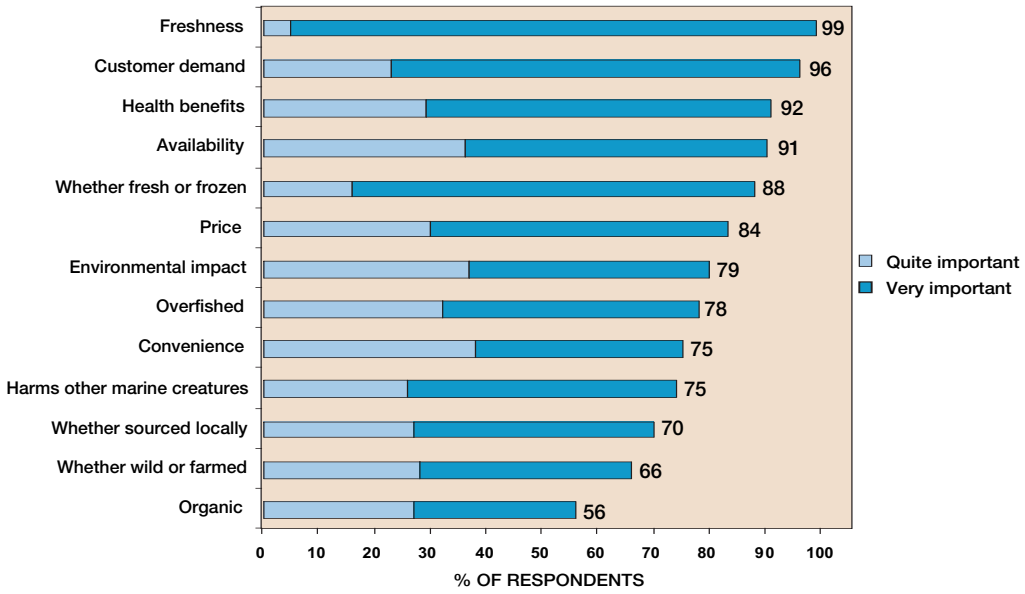


Concern about damaging aquaculture practices is present, but not as intense as concern about wild fisheries, most likely because awareness of environmental impacts of aquaculture is much lower. In Spain, for example, there is less concern about the environmental aspects of aquaculture, perhaps because the country is the largest EU producer of farmed fish and has seen its wild-caught landings drop by 300,000 tonnes over the past 15 years.

While it is not surprising that issues surrounding seafood quality are the top factors in purchasing decisions, the environmental impact of sourcing particular seafood is also a priority consideration, with 79% of retailers and chefs/restaurateurs saying it is quite or very important *(see Fig. I)*. Quality issues, demand, availability and price are the dominant factors influencing retail and restaurant decisions regarding what seafood to sell. However, environmental considerations rank just slightly behind price and are far ahead of local sourcing and organic designations. This may indicate that the dramatic growth in organics and concern for local farm economies is in part driven by concerns about sustainability of the food supply.

Figure I.

Stocking and Serving Seafood: Important Attributes

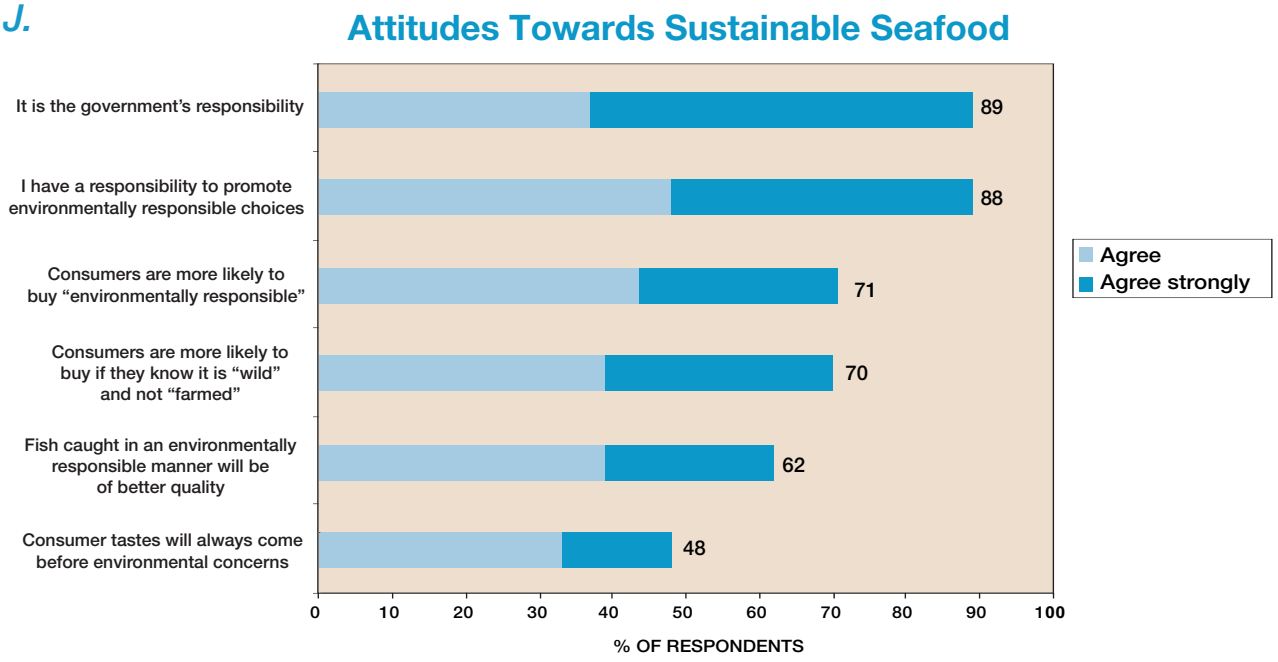


While they feel strongly that the government must bear responsibility for ensuring sustainable fisheries and aquaculture, retailers and chefs/restaurateurs also believe they have an important role to play in encouraging consumers to make environmentally responsible seafood purchases. It can be inferred that the failure of the Common Fisheries Policy as discussed on page 9 may have contributed to this heightened sense of responsibility.

A majority (71%) of professionals believe that consumers are more likely to buy “environmentally responsible” seafood, showing the power that consumer demand for sustainable products could yield and the opportunity that professionals have to promote seafood that is good for business and good for the ocean.

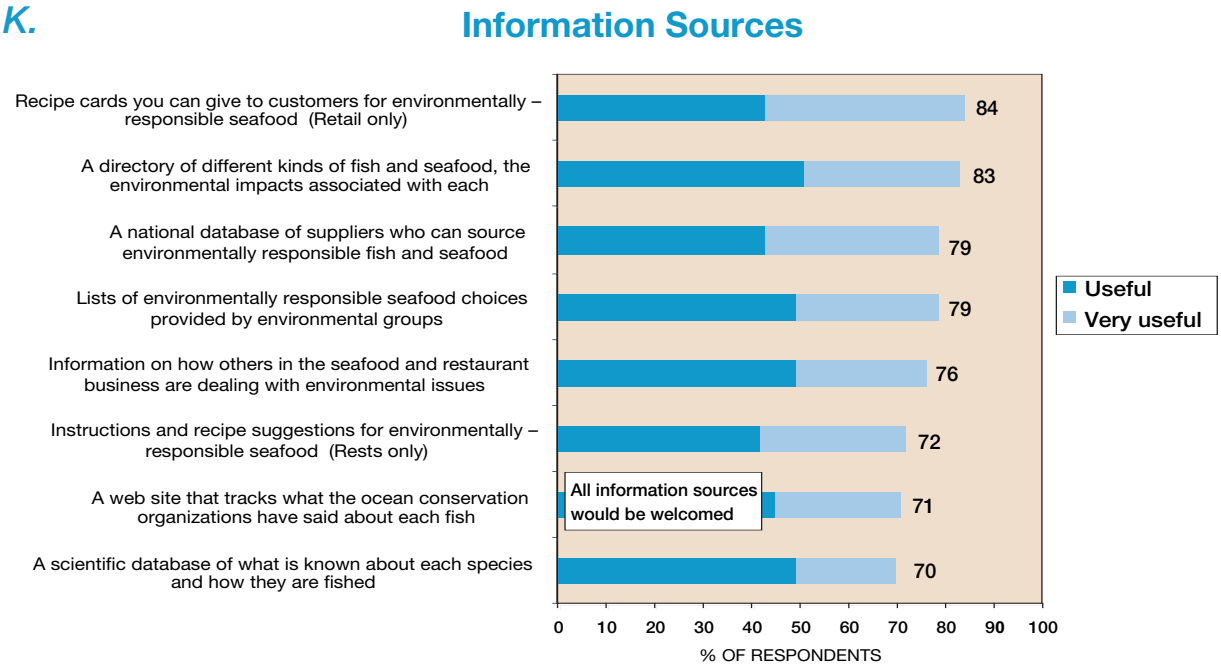
This research also shows that professionals do not universally place the demands of customers before sustainability. Less than half agree that consumer tastes will always come before environmental considerations *(see Fig. J)*, indicating that seafood professionals are willing to take the initiative to affect serious change in the marketplace.

Figure J.



When asked what would improve their ability to sell seafood that was produced in an environmentally responsible manner, the large majority of professionals said "more information." Half say they are very interested, and 85% express some interest in getting more information on this subject, allowing them to access unbiased scientific data to refine their procurement decisions *(see Fig. K)*.

Figure K.



6.4 Summary of Professionals' Research

There is a great deal of awareness and concern about unsustainable practices associated with fish and seafood among professionals in the retail and restaurant sectors. Many have already made decisions against certain seafood products because of environmental concerns, showing that the 'business as usual' mentality of years past is becoming obsolete. While all retailers and chefs/restaurateurs care about meeting their customers' demands, they believe it is important for them to play a role in promoting sustainable seafood and recognize that it can be good for business too. They feel strongly that at the present there is a lack of credible information on environmentally responsible seafood, and look to associations, environmental organisations and the government to provide them with the tools and knowledge to make smart decisions.

7 Conclusion

Seafood consumption around the world is increasing, and nowhere is this reflected more clearly than in Europe. Forty years ago per capita seafood consumption in Europe was 18kg, and now it is well over 26kg. Nearly half of the world's population depends on fish as an essential source of protein. There is a heavy reliance on imports, with Europe importing 38% of all seafood traded globally. While landings decrease and aquaculture production increases, there is movement by some in the industry to engage in eco-labelling schemes like the MSC, and public-private partnerships among fishermen, environmental groups, retailers and scientists to address the global fisheries problem. Seafood conferences, industry meetings, and media coverage focus increasingly on one topic: sustainability in the seafood marketplace.

The Seafood Choices Alliance is encouraged by this progressive awareness in the marketplace. Overfishing is widely acknowledged to be one of the biggest threats facing the ocean today. Livelihoods, businesses, and marine eco-systems[26] all depend on a sustainable, healthy ocean. The last year has seen impressive action by the industry to act responsibly. Just five years ago, there was general reluctance to engage in such initiatives,[27] but with the tide turning towards sustainability, there is indication on multiple fronts that 'business as usual' is not the path that forward-thinking businesses take. Increasingly, environmental organisations and industry – once foes with views that fell at opposite ends of the spectrum – are working together towards a common goal: a sustainable and healthy ocean for the future.

These changes have not occurred overnight. Many could argue that it took frightening parallels to be drawn, for example, between the collapse of the Grand Banks cod off Newfoundland (where after 15 years of closure, the fishery still shows no signs of recovery) and the North Sea cod crisis to realise the extent of the damage to the ocean and the fragility of most commercial fish stocks. The Myers and Worm papers[28] have only heightened awareness, especially among consumers. Increasingly, consumers want more information on where their food comes from and how it was harvested. Over 40% of consumers polled in the Alliance's research say they will pay more for sustainable seafood. An opportunity is being presented to the seafood industry to increase their profits due to consumers' growing interest in sustainable seafood while ensuring the future of their business.

As shown by our data, the European seafood industry needs more information to reach their sustainability goals. The Alliance, as the global trade association for sustainable seafood, works with stakeholders across the spectrum to meet these needs. By mobilising and connecting leading voices in the seafood industry with other stakeholders in the conservation community, we envision a future that reflects the shared concern for a sustainable supply of seafood and the long-term health of the ocean environment.

26 "Impacts of Biodiversity Loss on Ocean Ecosystem Services," Worm, B. et. al, Science, November 2006
27 Seafood Intelligence, May 2003
28 "Rapid Worldwide Depletion of Predatory Fish Communities," Ransom A. Myers and Boris Worm, Nautre, May 2003

Appendices

Appendix 1. Population of EU states (millions)

Germany	82.4
France	61.0
UK	59.9
Italy	58.1
Spain	43.2
Poland	38.5
Romania	22.3
The Netherlands	16.3
Greece	11.0
Portugal	10.6
Belgium	10.5
Czech Republic	10.2
Hungary	10.0
Sweden	9.0
Austria	8.2
Bulgaria	7.4
Denmark	5.4
Slovakia	5.4
Finland	5.2
Ireland	4.0
Lithuania	3.6
Latvia	2.3
Slovenia	2.0
Estonia	1.3
Cyprus	0.8
Luxembourg	0.5
Malta	0.4
European Union Total	460 million

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