FISHERIES IN AZORES

STUDY

EN  DE  PT  2015
FISHERIES IN AZORES

STUDY
This document was requested by the European Parliament’s Committee on Fisheries

AUTHORS

Priit Ojamaa
Policy Department on Structural and Cohesion Policies
European Parliament
E-mail: poldep-cohesion@europarl.europa.eu

EDITORIAL ASSISTANT

Virginija Kelmelytė

LANGUAGE VERSIONS

Original: EN.
Translations: DE, PT.

ABOUT THE EDITOR

To contact the Policy Department or to subscribe to its monthly newsletter, please write to: poldep-cohesion@europarl.europa.eu

Manuscript completed in February 2015.
© European Parliament, 2015

This document is available on the Internet at:
http://www.europarl.europa.eu/studies

DISCLAIMER

The opinions expressed in this document are the sole responsibility of the author and do not necessarily represent the official position of the European Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the publisher is given prior notice and sent a copy.
FISHERIES IN AZORES

STUDY

Content:

Information note on the fisheries sector in Portugal for the Delegation of the European Parliament Committee on Fisheries from 7 to 10 April 2015. The note describes fisheries in Azores and related activities.
## CONTENTS

List of Tables  
List of Figures  

1. Introduction  
2. Geographical framework  
   2.1. Environment, sea depths and hydrography  
   2.2. Administrative structure  
3. Employment  
4. Production  
   4.1. Catches  
5. Fishing fleet  
   5.1. Structure of the Portuguese fleet  
   5.2. Structural adjustment of the Portuguese fishing fleet  
   5.3. Regional distribution of the fishing fleet  
6. Fishing industry  
   6.1. Fishing gear  
   6.2. Types of fishing  
7. Fisheries management  
   7.1. Legal and institutional framework  
   7.2. Management measures  
      7.2.1. System of licences  
      7.2.2. Spatial and temporal restrictions  
      7.2.3. Selective fishing gear and minimum sizes  
      7.2.4. Individual quotas  
      7.2.5. Recreational fishing  
      7.2.6. Other measures  
8. Ports  
9. Utilisation of production  
   9.1. Consumption  
   9.2. Processing  
   9.3. Sales  
10. External trade  
11. Research  
12. Organisation of the sector
List of Tables

Table 1:
Fish unloaded at fishing ports in the Azores 18

Table 2:
Comparison of the Portuguese and EU-27 fishing fleets 19

Table 3:
Regional distribution of the Portuguese fishing fleet (December 2010) 22

Table 4:
Vessels in Azores, 2011 23

Table 5:
The table below outlines the main fishing gear reported pursuant to Regulation (EC) No 26/2004 on the Community fishing fleet register 25

Table 6:
Regional distribution of fishing ports December 2010 33

List of Figures

Figure 1:
Landings in Portugal 15

Figure 2:
Landings in Portugal: amounts by major groups of species 16

Figure 3:
Principal species landed at ports in Continental Portugal 17

Figure 4:
Change in the Portuguese fishing fleet (1988 = 100) 21

Figure 5:
Catches landed in Continental Portugal by fishing method 26

Figure 6:
Portugal’s external trade in fishery products 39

Figure 7:
Share of intra-Community trade (EU 27) in external trade 40
1. Introduction

The particularities of fishing in Azores are best described by comparison with fishing industry at mainland Portugal. The realities on the continent even though far away project its influence on fishing in the archipelago.

Portugal has an extensive Exclusive Economic Zone, although its small continental shelf restricts access to fisheries resources. Catches are in gradual decline. Catches in continental Portugal focus on three species: the sardine, which comprises the largest proportion, the chub mackerel and the horse mackerel. Catches in Madeira comprise mostly tuna, black scabbardfish and, to a much lesser extent, blue jack mackerel. In the Azores, the large pelagic species (tuna and swordfish), blue jack mackerel and conger prevail.

Although the Azores archipelago accounts for the largest sub-area of Portugal’s Exclusive Economic Zone, encompassing an expanse of almost 1 million Km², it has a relative lack of biomass and is biologically fragile, especially in terms of demersal and deep water species, since it does not have a continental shelf and has high average depths. Only 2.2% of this total area can potentially be used up to a depth of 1 000 metres.

The Portuguese fishing fleet comprises around 8 505 vessels, most of which are small and ageing. More than half the fleet is obsolete in technical terms and has difficulty making a profit against a background of scarce resources and expensive fuel.

Portugal has the highest per capita consumption of fish in the European Union. It has a structural deficit in external trade for fisheries products, as production cannot satisfy domestic demand. This imbalance stems from high demand and a fall in catches.

The fishing industry contributes less than 1% of GDP. The per capita consumption of fish is the highest in the European Union. Fisheries provide around 15 000 jobs and employment has been falling steadily since the beginning of the 1990s. The fisheries sector is currently the source of 0.6% of all employment in Portugal. The fishing industry is concentrated in small coastal communities where it is a very important socio-economic factor. Two of the 30 regions with the highest dependence on fisheries in the European Union are in Portugal (the Algarve region and the Azores). Nonetheless, dependence on fisheries locally is much higher in certain communities.

The largest proportion of the Portuguese fisheries processing industry comprises small and medium-sized undertakings which employ mainly women. The manufacture of canned products occupies 40% of the workforce and accounts for 24% of processed products by volume and 25% by value. Dry cod production accounts for 26% by volume of processed products, with frozen products accounting for 51%.
2. Geographical framework

2.1. Environment, sea depths and hydrography

Portugal is situated in the extreme south-west of Europe and has a border only with Spain. The river Tagus divides the country into two parts. To the north, the landscape is mountainous, whereas the south is dominated by plains, although there are a few mountains. Other rivers apart from the Tagus include the Douro, the Minho, the Guadiana, the Mondego and the Vouga. The Serra da Estrela is the location of Continental Portugal's highest mountain, which stands 1 993 m high and is the second highest in Portugal after the Monte Pico volcano in the Azores at 2 351 m. The highest point [in Madeira], at 1 862 m, is Pico Ruivo.

There is a coastline of 1 793 km in Continental Portugal, 667 km in the Azores and 250 km in Madeira. Territorial waters extend for 12 nautical miles with a contiguous zone of 24 nautical miles and an Exclusive Economic Zone of 200 nautical miles. The depth of the continental shelf is defined as 200 m or the depth of exploitation; it has a surface area of 28 150 km², 22 700 of which are off Continental Portugal.

The Portuguese coast is extensive at 1 230 km. The estuary of the river Vouga is the site of the Ria de Aveiro, a lagoon measuring 45 km in length and 11 km across at its widest point, which is home to a wealth of fish and marine birds. There are four canals, and, between the various islands and islets, four rivers meet the ocean.

In the south, the Gulf of Cadiz marks a boundary between the Atlantic and the Mediterranean, the Iberian peninsula and the African coast. The variety in topography and the extensive range of substrates make for wide diversity in coastal habitats. The continental shelf is very narrow, especially in the Alentejo region, which results in scant fisheries resources and hampers access. The relief of the seabed is rugged, making bottom-trawling difficult and restricting the use of other gear by the small-scale fleet. For the above reasons, the Portuguese fishery has always been dependent on fisheries resources in waters outside its jurisdiction.

Portugal has a good number of seamounts, both in the Azores and Madeira archipelagos and in peninsular waters, some of which rise from a depth of 4 000 m. They are the site of extensive biological diversity.

In Madeira, oceanic circulation is dominated by the Gulf Stream. The Azores, however, is is influenced by the Antarctic Current and the Gulf Stream.

The Azores and Madeira are in the Macaronesia biogeographical zone, an area comprising five archipelagos: the Azores (Portugal), the Canary Islands (Spain), Cape Verde (Cape Verde), the Selvagens Islands (Portugal) and Madeira, including Porto Santo Island and the Desertas Islands (Portugal). For administrative purposes, the archipelago of the Selvagens Islands is part of the Autonomous Region of Madeira.

The Azores are located between 36º and 43º latitude north and between 25º and 31º longitude west. They lie 2 000 km to the west of the Iberian Peninsula, 1 200 km to the north-west of Madeira, 2 300 km to the south-east of Nova Scotia and 3 500 km to the north-east of Bermuda.
The Azores archipelago comprises nine islands in three groups: the Western Group made up of the islands Corvo and Flores, the Central Group with the islands of Faial, Graciosa, Pico, São Jorge and Terceira, and, finally, the Eastern Group with the islands of Santa Maria and São Miguel. The Eastern Group also includes a number of rocks and reefs to the north-east of Santa Maria, known as the Formigas islets. Together with the Dollabarat reef, these islets form the ‘Ilhéu das Formigas’ Nature Reserve.

The archipelago of the Azores is located on the Atlantic Ridge. Its relief is very rugged. The lines of relief run in an east-west direction, matching the fracture lines to which the islands owe their formation. The archipelago is part of the submarine ridge which extends from Iceland towards the south and south-west, parallel to the curvature of the continental coasts.

There is a concentration of seamounts, hydrothermal vents, fracture zones and deep coral reefs in the Azores archipelago. Close to the archipelago are a number of seamounts which are volcanic in origin, such as the Princess Alice Bank, Dom João Castro and Sedlo Seamount

Recent volcanic activity has been observed on some islands (São Miguel in 1563 and Capelinhos in 1957). The Dom João de Castro Bank is a large submarine volcano between Terceira and the San Miguel Islands which extends 14 m below the sea surface. It last erupted in 1720 and formed an island which disappeared some years later.

The climate is mild with average temperatures of 13 °C in winter and 24 °C in summer. There are frequent tropical storms which occasionally reach hurricane force. The Gulf Stream, which passes relatively close by, keeps the waters at an average temperature of between 17 °C and 23 °C. Average relative humidity is close to 75%.
2.2. Administrative structure

The administrative division of Portugal is complex. The Portuguese Constitution of 1976 provides for the division of Portugal into autonomous regions (the Azores and Madeira) and administrative regions in Continental Portugal. The regions are divided into municípios or concelhos, and these, in turn, are divided into freguesias.

The status of autonomous region is conferred upon the Azores and Madeira because of their special geographical and socio-economic features. Regional autonomy has no bearing on the integrity of State sovereignty. The autonomous regions have extensive legislative and executive powers in those areas outside the strict purview of sovereign bodies as set out in their respective Statutes. Those areas include the promotion of economic development, quality of life, protection of the environment and heritage, and the structure of regional government.

The administrative authorities in each region are the Legislative Assembly and the Regional Government. The Legislative Assembly is elected by direct universal suffrage and, in addition to legislative powers, it has the power to scrutinise the acts of the Regional Government. The Regional Government has executive powers. Its President is appointed by the Representative of the Republic in the light of election results and is responsible for organising the Government. The Representative of the Republic is the Head of State’s representative in each autonomous region. He is appointed by the President of the Republic following consultations with the Council of State. He has the power to sign and order the publication of decrees issued by the Assembly and the Regional Government. He consequently has the right of veto, a right which can be annulled by a qualified majority of the Legislative Assembly. The term of office of the Representative of the Republic is the same as that for the President of the Republic.

Both the Azores and Madeira are outermost regions of the European Union pursuant to Articles 349 and 355 of the Treaty on the Functioning of the European Union.

The administrative regions provided for in the Constitution in respect of Continental Portugal have not yet been established. As a result, Continental Portugal retains the old system whereby it was divided into districts, although those districts exist alongside other structures which have come into being to fill certain administrative gaps. These structures include the Regional Coordination Commissions (CCR), the metropolitan areas, the urban communities and the inter-urban communities.
NUTS (Nomenclature of Territorial Units for Statistics) have no administrative value in Portugal, but district boundaries were used to help draw the Units up. There are three level 1 divisions, NUTS 1 (Continental Portugal, the Azores and Madeira). There are seven NUTS II, which are subdivided into 30 NUTS III.

- **Continental Portugal**
  - North (Norte)
    - Alto Trás-os-Montes
    - Ave
    - Cávado
    - Douro
    - Entre Douro e Vouga
    - Grande Porto
    - Minho-Lima
    - Tâmega
  - Centre (Centro)
    - Baixo Mondego
    - Baixo Vouga
    - Beira Interior Norte
    - Beira Interior Sul
    - Cova da Beira
    - Dão-Lafões
    - Médio Tejo
  - Lisbon (Lisboa)
    - Grande Lisboa
    - Península de Setúbal
  - Alentejo
    - Alentejo Central
    - Alentejo Litoral
    - Alto Alentejo
    - Baixo Alentejo
    - Lezíria do Tejo
  - Algarve
    - Algarve
  - Azores (Açores)
  - Madeira
3. Employment

Average incomes in the fisheries sector are much lower than the national average, especially for fishing per se, although incomes in the processing industry or aquaculture are closer to the national figure. There are consequently few incentives for young people to seek employment in fisheries when alternative jobs are available. This therefore raises questions about dependence on fisheries among the regions and local communities.

The areas most dependent on employment in the fisheries sector are the Algarve region and the Azores. In the Algarve region, the processing industry and aquaculture provide a similar number of jobs as fishing per se, whereas, in other regions, fishing itself provides more jobs.

Fishing in the Azores Region, with average values of fish auctions being about 13 000 to 15 000 tonnes/year (a volume which relies heavily on tuna), provides employment for around 500 fishermen, haulers and support staff on land. The remaining chain generates close to 1 000 jobs, mainly in the processing industry, especially preserves, as well as the fish marketing circuit and maritime and air transport.

---

4. Production

Portuguese production is not enough to meet very high demand. Catches are in gradual decline, aquaculture production has still not taken off and a significant number of facilities are inactive. Catches are concentrated on a small number of species of modest commercial value. A significant proportion of catches of the two main species (sardine and chub mackerel) is sent for canning.

4.1. Catches

Catches in Portugal have declined. Some 89% of catches are landed in ports in Continental Portugal, 6% in the Azores and 4% in Madeira.

The species caught vary greatly between Continental Portugal, the Azores and Madeira. In Continental Portugal, most catches are of small pelagic species: sardine, chub mackerel and horse mackerel, although there are also catches of other species. However, in Madeira, catches focus mostly on tuna and black scabbardfish, and, to a much lesser extent, blue jack mackerel. In the Azores, large pelagic species (tuna and swordfish), blue jack mackerel and conger are very important, but crustacean-fishing (spiny lobster and common lobster) and mollusc-fishing (essentially clams) are also very significant.

Figure 1: Landings in Portugal

Some 85% of landings are of fresh or refrigerated fish and the remaining 14% are of frozen fish. While landings of fresh fish have fallen sharply, landings of frozen fish have tended to increase. This is the result of the fact that approximately 15% of landings are caught in third countries’ waters by 50 vessels. The main fishing grounds are in the North-West Atlantic, the North-East Atlantic (Norway, Svalbard, Spain and Greenland since 2003) and the Central Atlantic (Guinea-Bissau, Cape Verde, Senegal and Mauritania). In the North-West Atlantic, the beaked redfish accounts for 50% of catches, whereas sardine and horse mackerel account for 36% of catches in Spanish waters. Cod accounts for 82% of catches.
in the waters of Norway and Svalbard, whereas beaked redfish is the only species caught in Greenlandic waters.

Portugal benefits from the fisheries agreements signed by the European Union and Mauritania, Senegal, Guinea-Bissau, Cape Verde, São Tomé and Príncipe, Angola, Seychelles, Madagascar, Mauritius and Gabon.

Some longliners from Portugal used to fish in the Exclusive Economic Zones of Cape Verde, Angola, Guinea, São Tomé and Príncipe, Comoros, Madagascar and the Seychelles.

Nonetheless, the opportunities for fishing in distant fishing-grounds are hampered by the range of vessels, fish-handling conditions on board and, more generally, the ageing nature of the vessels operating in those grounds.

**Figure 2: Landings in Portugal: amounts by major groups of species**

Since 1992, catches of fish have fallen by 37% and of molluscs by 48%. The drop in fish catches can be attributed mainly to the fall in sardine catches. Although mollusc catches are also on a downward trend, increases in landings were recorded in 1993, 1996, 2002 and 2008. Catches of crustaceans rose gradually until the end of the 1990s with peaks in 1999, 2001 and 2009. In 2005, they had fallen to half the level recorded at the beginning of the 1990s and have recovered subsequently.

Sardine is caught principally by the coastal fleet using surrounding nets, but is also an important species for the multi-purpose fleet from the Alentejo region. Over one third of sardine landings are in the North region, almost all in Matosinhos. Another third is landed in the Centre region, mainly in Figueira da Foz and Peniche in equal measure. It is common knowledge that the number of landings of sardine in the Algarve region, especially by coastal surrounding nets, has fallen, although catches by the multi-purpose coastal fleet are on the increase. In 2000, 28% of sardine landings were in the Algarve region, whereas, in 2009, the figure was only 9%. In the Algarve region, catches of sardine (4 765 t in 2005) had fallen to less than a quarter of the level of the mid-1990s.
Like sardine, chub mackerel is caught using a surrounding net. Some 53% of the landings of chub mackerel are in the Algarve region, principally in Olhão and, to a much lesser extent, in Portimão. Another 21% is landed in the Centre region, fairly evenly across the ports, although a slightly greater proportion is landed at Aveiro. Finally, 15% is landed at Sesimbra (Lisbon region) and 12% in Sines (Alentejo region). The fall in catches observed up to 2001 was followed by a strong and sustained recovery until 2008, although landings fell again in 2009.

The horse mackerel is caught using trawls as well as surrounding nets. Catches are distributed fairly evenly along the coast of Continental Portugal, except for the Alentejo region, where landings are lower. A larger proportion of landings of horse mackerel occur in ports in the Centre Region, with over half of all landings.

The largest proportion of catches of octopus are by the multi-purpose fleet of the Algarve region (45%) from the ports of Olhão and, to a lesser extent, Tavira. Over 20% of landings of octopus are at ports in the Centre region. Although there have been strong variations in landings, catches are on an upward trend and have risen by 50% on average over the past 10 years.

Between 2003 and 2005, there was a continuous rise in landings of blue whiting, to 5 190 t in 2005. They fell sharply in 2006, began to climb again until 2008 and fell once more in 2009. Most catches are by trawls, although some are by multi-purpose vessels and the small remaining percentage are from encircling nets. About half the landings are at Portimão and Matosinhos; less than 20% are at Sines and a similar quantity is landed at Vila Real de Santo António.

Most catches of hake are made between May and October. Over half the catches of hake by trawlers are landed at ports in the Centre region of Portugal: Aveiro, Figueira da Foz,
Nazaré and Peniche. In the North region, with 27%, the most significant ports are Matosinhos and Póvoa do Varzim. Sesimbra stands out in the Lisbon region; landings in the Algarve and Alentejo regions are relatively insignificant.

Angler is caught using bottom trawls or set gill nets. The angler is an important species for gill nets (92% of catches of angler), although it is also an important by-catch for trawls whose target catch is hake or crustaceans (8% of catches). Angler accounts for 1% by weight of trawl landings and 2% of catches by the small-scale fleet.

There are 35 vessels with a licence specifically for trawling crustaceans, although, in recent years, licensed vessels have been undergoing replacement, resulting in an increase in their power and capacity. Crayfish represent a small but valuable by-catch for vessels whose target catch is demersal species.

The black scabbardfish (*Aphanopus carbo*) is the main deep-water species. Catches have been falling gradually, especially in Madeira, the location of almost 60% of all catches in the late 1990s. In 2009, landings rose to 5 911 t, 59% of which were in Continental Portugal by the small-scale fleet from Sesimbra, and 41% in Madeira.

In the Azores, fishing of deep-water species is multispecific and employs a great variety of gear. Most catches are tuna (39%), blackspot seabream (16%) or blue jack mackerel (12%). The Azores fishery is largely dominated by trends in blackspot seabream (*Pagellus bogaraveo*). The largest proportion of catches is by vessels less than 12 m long.

### Table 1: Fish unloaded at fishing ports in the Azores

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volume of fish</strong></td>
<td>9 254</td>
<td>11 860</td>
<td>15 883</td>
<td>11 528</td>
<td>9 441</td>
<td>18 944</td>
<td>16 092</td>
</tr>
<tr>
<td><strong>Tuna</strong></td>
<td>3 113</td>
<td>5 817</td>
<td>9 392</td>
<td>5 109</td>
<td>3 547</td>
<td>13 675</td>
<td>10 224</td>
</tr>
<tr>
<td><strong>Other fish</strong></td>
<td>6 141</td>
<td>6 043</td>
<td>6 491</td>
<td>6 499</td>
<td>5 894</td>
<td>5 269</td>
<td>5 867</td>
</tr>
</tbody>
</table>

*Source: Regional Statistics Service of the Azores*

Owing to their characteristics, the vast majority of fish caught in the Azores Region are sold fresh, hindered by difficulties arising from the geographical distance from markets. Processing of fish products is concentrated in units producing preserved tuna, mainly exclusively aimed at exports. Considering the limited demand for fresh fish this industry is the main purchaser of production of the regional tuna fleet, especially the bonito species, Some private investment projects have recently been proposed to process other kinds of fish of less economic potential.

### Aquaculture

The islands of the Azores encounter difficulties to attract private investors to invest in this area because the commercially successful species consumed on the continent do not exist in the Azores (such as sea bass, sea bream and turbot). This is further hampered by the fact that weather conditions in the Azores hinder the installation of offshore establishments.
5. Fishing fleet

The Portuguese fishing fleet comprises mainly small vessels. In fact, although 10% of vessels in the EU-27 fishing fleet are registered in Portugal, the Portuguese fleet accounts only for 6% of the tonnage in gross tonnes and 6% of total power.

5.1. Structure of the Portuguese fleet

Given the predominance of small vessels in the Portuguese fleet, the table below compares the proportion of vessels less than 12 m in length in the Portuguese fleet with the proportion of such vessels in the EU-27 fleet. The table also presents a comparison of the small fleet active in coastal fishing. ‘Small coastal fishing’ means the fisheries activity by vessels less than 12 m in length using gear not categorised as towed gear (i.e. not trawls, seines or dredges). There are 7,096 Portuguese vessels covered by this definition, accounting for 83% of the Portuguese fishing fleet.

<table>
<thead>
<tr>
<th></th>
<th>Portuguese fleet as a proportion of the EU-27 fleet</th>
<th>Proportion of the total fleet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;12 m</td>
<td>Small coastal fishing</td>
</tr>
<tr>
<td>No vessels</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Tonnage</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Power</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: Own graph based on the Community fishing fleet register.

The proportion of smaller vessels and of the small coastal fleet is greater in the Portuguese fleet than in that of the EU-27. The average power of the Portuguese fleet of smaller vessels is higher than the average for the European Union. It is also clear that the use of towed gear is slightly higher among smaller Portuguese vessels than it is for the European Union.

The Portuguese fleet comprises 9,945 vessels, the fifth largest in numerical terms in the Community fleet and the seventh largest in relation to total tonnage or power. The outermost regions of the Azores and Madeira have 1,302 registered vessels, or 15% of the total fleet. The average power of the Azores fleet is substantially higher than the average for the Portuguese fleet, whereas vessels from Madeira are smaller in size.

It is significant that 1,547 vessels (18% of the Portuguese fishing fleet) are registered as not using an engine. More than half the vessels without engines are in Continental Portugal; 242 vessels without engines fish from ports in Madeira and there are only 6 such vessels in Azores ports. It should be noted that 762 small vessels in the Azores were withdrawn from the register in January 2006.

The Portuguese fishing fleet is very old. The average age is 29 years; in the Azores, it is 26 years and, in Madeira, it is 42 years. Vessels less than 42 m in length are the oldest, and the most modern vessels are between 24 m and 42 m in length.
Some 64% of vessels have a wooden hull. The figure for vessels longer than 12 m is 10%. Only 22% of vessels have fibre-glass hulls and 7% have metal hulls, although metal hulls feature on 42% of vessels over 12 m in length. The wooden-hulled vessels are the oldest, and those with fibre-glass hulls are the newest. The average age of vessels with metal hulls is greater than that of vessels with fibre-glass hulls.

The majority of vessels in the Portuguese fishing fleet use static gear. However, vessels using towed gear are more powerful and have slightly higher tonnage. This is due to the fact that static gear is used more by smaller vessels.

The Portuguese fleet accounts for a high proportion of the smaller vessels category (in terms of length) for the EU-27 fleet. This is particularly the case for vessels less than 4 m long. The Portuguese fleet accounts for 70% of the vessels in numerical terms, 63% of GRT (Gross Registered Tonnage) and 42% of power for this category of the Community fleet. The percentages for the remaining vessels are much lower. Also of note is the proportion of vessels between 80 m and 84 m long; they account for 44% of vessels, 41% of GRT and 34% of power for this length category in the Community fleet. This group of vessels and vessels over 84 m long or between 60 m and 70 m are bottom trawlers registered at the port of Aveiro. Also of note is the low proportion of vessels measuring between 36 m and 60 m in length.

There are significant variations in the Portuguese fishing fleet in relation to its area of activity, whether local, coastal or long-distance. The fleet fishing in local waters comprises small traditional vessels less than 5 GRT and accounts for 85% of all vessels and 80% of overall tonnage. The vessels are multi-purpose and, although they make a relatively low volume of catches, they are for species with a high commercial value: octopus, black scabbardfish, conger, pouting, hake and angler. Surrounding nets are also used by the local fleet which, in Continental Portugal, fishes only for sardine and accounts for over 35% of the total volume of landings.

The fleet fishes further off the coast, to a distance which extends beyond the Exclusive Economic Zone, and comprises multi-purpose vessels, trawlers or vessels using surrounding nets. Trawlers fish only on the continental shelf, catching demersal species such as the horse mackerel, blue whiting, octopus and crustaceans. The targets of crustacean trawling are the crayfish, blue and red shrimp and deep-water rose shrimp.

The Portuguese demersal fleet fishing in waters close to Continental Portugal comprises 77 bottom-trawlers and the small-scale fleet, which uses various types of gear (gill nets and entangling nets, longlines, etc.). Trawlers which catch demersal fish use a 70 mm mesh and fish in waters between 100 m and 200 m deep inclusive. However, trawlers geared to fishing for crustaceans use a 55 mm mesh and fish in waters between 100 m and 750 m deep inclusive.

In 1999, there were 40 Portuguese vessels fishing in Moroccan waters, the main fishing ground of the Portuguese fleet in third-country waters. Since then catches by the Portuguese fleet in third-country waters have fallen considerably.

The new fisheries agreement between the EU and Morocco\(^2\) offers fishing opportunities for 14 vessels. For small-scale fishing, (north) Portugal has been allocated licences for seven bottom longliners of less than 40 t, and three further licences for longliners of between 40 t

and 150 t. Additionally, four bottom longliners have licences for demersal fishing and there are opportunities for industrial fishing for pelagic species for up to 1 333 t.

There are 42 vessels registered in Continental Portugal which fish in international waters. They are active mainly in the North-West Atlantic, the North-East Atlantic (Norway, Svalbard, Spain and, since 2003, Greenland) and in the Central Atlantic (Guinea-Bissau, Cape Verde, Senegal and Mauritania). In 2009, one vessel was fishing in Morocco, three were fishing for crustaceans in Mauritania, four focused on fishing with surface longlines, one fished for shrimps and one for cephalopods in Guinea-Bissau.

5.2. Structural adjustment of the Portuguese fishing fleet

The Portuguese fishing fleet has undergone substantial changes in terms of both size and characteristics, both in order to adjust its capacity to bring it into line with actual resources, and as a result of the crisis in the fisheries sector.

Since 1988, the number of vessels in the Portuguese fishing fleet has fallen by 49%, total tonnage by 50% and total power by 29%. The change in total tonnage and power is evidence that the overall reduction in the fleet was the result of the exit of obsolete vessels and the entry of more modern and powerful ones. The sharpest fall was in the period ended in 1995. Since then, power has stabilised in practical terms. However, there has been no slackening off in the decline in tonnage; the sharp drop in the number of vessels in 2005 continued this trend.

Figure 4: Change in the Portuguese fishing fleet (1988 = 100)

Source: Own graph based on the Community fishing fleet register.
Key: No Buques – No Vessels; TRB - GRT
The only length category where there has been an increase is for vessels between 40 m and 44 m long. The poor development of this category has historically been one of the distinguishing features of Portuguese fishing fleets. The vessels in this category are multi-purpose and are registered in the ports of Viana do Castelo and Portimão. The smallest drops were in the length category of between 36 m and 40 m. These are also multi-purpose vessels.

The greatest drops were in the category for vessels with a length of over 40 m. Of the 98 vessels in 1988, only 27 remain, a drop of 72%. Among them, the fall was less for bottom trawlers of between [sic].

5.3. Regional distribution of the fishing fleet

Generally, the larger vessels fish from the ports in the more northern parts of Continental Portugal. The Centre region has the largest number of vessels and the greatest number of deep-water fishing vessels. In the Algarve and Lisbon regions, the fleets, although substantial, comprise vessels of smaller average size. Some large vessels are registered in the Lisbon region. The vessels in the fishing fleet in the North region are of average size.

Table 3: Regional distribution of the Portuguese fishing fleet (December 2010)

<table>
<thead>
<tr>
<th>Region</th>
<th>No of vessels</th>
<th>% of the total fleet</th>
<th>Average GRT</th>
<th>Average kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZORES</td>
<td>10%</td>
<td>10%</td>
<td>15%</td>
<td>12.4</td>
</tr>
<tr>
<td>ALENTEJO</td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td>10.6</td>
</tr>
<tr>
<td>ALGARVE</td>
<td>22%</td>
<td>13%</td>
<td>19%</td>
<td>7.1</td>
</tr>
<tr>
<td>CENTRE</td>
<td>24%</td>
<td>39%</td>
<td>24%</td>
<td>20.0</td>
</tr>
<tr>
<td>LISBON</td>
<td>20%</td>
<td>10%</td>
<td>13%</td>
<td>6.0</td>
</tr>
<tr>
<td>MADEIRA</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
<td>8.9</td>
</tr>
<tr>
<td>NORTH</td>
<td>17%</td>
<td>21%</td>
<td>22%</td>
<td>14.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>12.0</td>
</tr>
</tbody>
</table>

Source: Own graph based on the Community fishing fleet register.

Half of vessels over 42 m in length are based in the Centre region, a quarter are based in ports in the Alentejo region and 13% in ports in the North region.

In January 2006, the fleet of the Azores was adjusted. As part of the process, 762 vessels, representing 49% of the Azores fleet but only 7% of the tonnage and 9% of the power, were removed from the Community fleet register. They were all less than 12 m in length and had an average tonnage of less than 1 GRT. The reduction partially offset an increase in the registered fleet in Continental Portugal in November 2005.

The regional fleet in Azores operates with different fishing techniques, characterised by their selective nature and, consequently, their contribution towards the sustainability of marine resources and habitats.
The Azores regional fishing fleet consists of:

- The artisanal fleet segment, consisting of small vessels measuring less than 9 metres, which generally operate up to 30 miles; 27
- The small scale coastal fishing segment, or artisanal fishing, which includes vessels measuring between 9 and 12 metres, capable of fishing up to 50 miles;
- The coastal fishing segment, consisting of vessels measuring more than 12 metres which can operate in areas beyond 50 miles.

Table 4: Vessels in Azores³, 2011

<table>
<thead>
<tr>
<th>Classes</th>
<th>Azores</th>
<th>Portugal</th>
<th>Azores/Portugal (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>704</td>
<td>4,866</td>
<td>14.5</td>
</tr>
<tr>
<td>Gross tonnage</td>
<td>7,239</td>
<td>83,233</td>
<td>8.7</td>
</tr>
<tr>
<td>Power (Kw)</td>
<td>45,647</td>
<td>308,928</td>
<td>14.6</td>
</tr>
</tbody>
</table>

³ Source: Regional Statistics Service of the Azores
6. Fishing industry

6.1. Fishing gear

Table 5: The table below outlines the main fishing gear reported pursuant to Regulation (EC) No 26/2004 on the Community fishing fleet register.

<table>
<thead>
<tr>
<th>Main gear</th>
<th>% of Total</th>
<th>Average size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of vessels</td>
<td>GRT</td>
</tr>
<tr>
<td>GNS Set (anchored) gill nets</td>
<td>33%</td>
<td>18%</td>
</tr>
<tr>
<td>GTR Trammel nets</td>
<td>23%</td>
<td>4%</td>
</tr>
<tr>
<td>LLS Set longlines</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>LHP Hand-operated lines</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>FPO Pots (traps)</td>
<td>11%</td>
<td>4%</td>
</tr>
<tr>
<td>OTB Bottom otter trawls</td>
<td>1%</td>
<td>45%</td>
</tr>
<tr>
<td>PS Purse seines</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>LLD Longlines (drifting)</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>SDN Danish seines</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>DRB Boat dredges</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>12.0</td>
<td>43.9</td>
</tr>
</tbody>
</table>

Source: Own graph based on the Community fishing fleet register.

The most used types of main gear are set or anchored gill nets (33% of vessels), trammel nets (23%), set longlines (13%), hand-operated lines (13%) or pots (traps) (11%). Hand-operated lines are the dominant type of subsidiary gear, followed by trammel nets, pots and set longlines. Some 43% of vessels report that they do not use subsidiary gear.

In the first half of the 1990s, the use of set gillnets fell, although it has recovered to some degree over the past 10 years. However, there has been a considerable increase in the number of vessels using trammel nets or hand lines. The adjustment to the Azores fleet in January 2006, with the disappearance of 762 vessels, is reflected in a fall in the number of vessels using pots.

The use of the various types of main and subsidiary gear is partly dependent on vessel size. In vessels less than 12 m long, set gill nets dominate as main gear, followed by trammel nets, pots and set longlines. Hand-operated lines, trammel nets, pots and set longlines are the most used types of subsidiary gear.

For vessels greater than 12 m in length, set gill nets, set longlines, bottom otter trawls and surrounding nets comprise more than half the main gear, and pots, trammel nets, set longlines and set gillnets are the most used types of subsidiary gear.

The most common gear combination is to have pots as the main gear and hand-operated lines as the subsidiary gear. Although this combination is very unusual in Continental Portugal, it is used by almost 60% of vessels in the Azores and Madeira.
6.2. Types of fishing

In terms of the number of vessels, the majority of the fleet (77%) comprises vessels less than 12 m in length fishing in International Council for the Exploration of the Sea (ICES) area IXa from ports in Continental Portugal using static, traditional gear and targeting demersal species. That category, however, accounts for only 10% of tonnage.

Over the past 15 years, these categories have seen rapid expansion. Although the number of vessels has fallen, the power in the categories has increased considerably. As a result, although the fleet has been reduced, the vessels have also been modernised. These three categories of small-scale coastal fishing, the peninsular, Azores and Madeira sectors, account for 90% of the number of vessels in the Portuguese fleet, 12% of its tonnage and 39% of its total power.

Catches by the multi-purpose fleet have also risen. This increase can be explained by the positive rise in catches of sardine, chub mackerel, black scabbardfish, cockles, pouting and horse mackerel. In terms of tonnage, the largest proportion (38%) is accounted for by the 44 vessels in the multi-purpose fleet fishing in international waters using trawls and/or longlines to fish demersal and pelagic species. The average tonnage for this category of the fleet is close to 900 t. Over the past 15 years, this category of the fleet has declined very sharply.

The fleet of vessels greater than 12 m in length from Azores fishing demersal and pelagic species in ICES area X and in international waters using static gear is the only category where numbers of vessels have grown in recent years. It comprises 117 vessels, accounting for 8% of the total tonnage of the Portuguese fleet and 7% of its power.

The category vessels less than 12 m in length fishing fishing from the Azores in ICES area X accounts for 8% of all vessels and 2% of total tonnage of vessels.

Figure 5: Catches landed in Continental Portugal by fishing method

Where trawls are concerned, there have been increases in the Centre, Alentejo and Algarve regions. Half of all landings are made in the Centre region, and horse mackerel is the species most commonly landed.
7. Fisheries management

7.1. Legal and institutional framework

In 2002, the responsibilities of the General Fisheries Inspectorate were transferred to the Directorate-General for Fisheries and Aquaculture (DGPA). The General Fisheries Inspectorate has thus ceased to be an autonomous body.

The body responsible for managing fisheries is, therefore, the Directorate-General for Fisheries and Aquaculture. There are consultation mechanisms with the National Institute of Agronomy and Fisheries Research (INIAP) and with producer organisations and associations of shipowners which have a consultative role in the decision-making process. INIAP assesses fishery resources in the International Council for the Exploration of the Sea (ICES) and in the context of the Northwest Atlantic Fisheries Organisation (NAFO) and proposes technical measures to protect and maintain stocks.

The Directorate-General for Fisheries and Aquaculture is responsible for coordinating inspection and monitoring and it does this through SIFICAP (‘integrated system for the monitoring, taxation and inspection of fishing activities’) which incorporates the DGPA, the navy, the air force and the tax authorities.

The VMS is applied through MONICAP. MONICAP (permanent monitoring of fishery activities) is a system for monitoring and controlling the activities of fishing vessels using satellite communications (Inmarsat-C), GPS and a Geographical Information System (GIS). The system comprises the permanent monitoring equipment (EMC, Caja Azul) which transmits the vessel’s position, via a coastal receiver station, to the Fisheries Control and Monitoring Centre (Centro de Controlo e Vigilância de Pesca, CCVP) at the DGPA-IP.

The MARE programme (for the sustainable development of the fisheries sector) and the MARIS programme (the fisheries component of the continental regional programmes) incorporate into Portuguese legislation the provisions of the third Community Support Framework for the period 2002 to 2006. These actions are managed by IFADAP (Instituto de Financiamento e Apoio ao Desenvolvimento da Agricultura e Pescas).

Up until 2006, structural actions were channelled through the operational fisheries programme (MARE) and its decentralised component (MARIS). The MARE programme has five main axes:

1. Adjustment of fishing effort.
2. Renovation and modernisation of the fishing fleet.
3. Protection and development of aquatic resources, aquaculture, fishing port facilities, processing and sales.
4. Creating the conditions for improving the competitiveness of the sector.
5. Other measures.

During the period 2000 to 2006, investments totalling EUR 430.7 million were made under the aegis of the MARE programme. Execution exceeded the amount initially envisaged by 15%. Private financing contributed 37% of the amount executed, national funds 19% and Community funding 44%.
Around 53% of the financing executed (EUR 228.9 million) corresponded to axis 3 (protection and development of aquatic resources, aquaculture, fishing port facilities, processing and marketing). The level of execution was 150% of forecast levels. The private sector contributed 42% of the total cost of actions under this component. The FIFG contributed 35% of the total cost and national funds 23%.

A further 27% of the MARE programme execution (EUR 115.56 million) related to axis 2: renovation and modernisation of the fishing fleet. The level of execution reached only 89% of predicted levels. The private sector contributed 54% of the total costs of actions under this axis. The FIFG contributed 40% of the total cost and national funds 5%.

Axis 4 (creating the conditions for improving the competitiveness of the sector) accounted for 8% of the total executed, axis 1 (fishing effort adjustment) for 7% and axis 5 (other measures) 3%.

MARIS has been managing two types of measures: those related to fisheries and processing structures, financed by the FIFG and subsequently by the European Fisheries Fund (EFF), and those relating to structures to support competitiveness, financed by the European Regional Development Fund (ERDF).

In terms of fisheries and processing structures, MARIS has progressively been including, on the one hand, actions to create collective infrastructures or facilities and, on the other, quality certification and labelling measures in addition to measures to rationalise names and standardise products. The beneficiaries are associations, cooperatives, producer organisations, public authorities and other private entities recognised by the Management Authority, including local authorities, DOCAPESCA and groups of professionals or enterprises. The North, Centre, Alentejo and Algarve regional programmes are included.

The objective of the MARIS measures that impinge on structures providing support for competitiveness (ERDF) is to improve the infrastructure of the fishing ports which comprise the basic fishing port network and to improve fishing conditions in small communities which are dependent on fishing. The beneficiaries of the measures are the Instituto Marítimo – Portuário, port institutes and authorities, DOCAPESCA, other public authorities and the Instituto da Conservação da Natureza. The North, Centre, Lisbon and Tagus Valley, Alentejo and Algarve programmes are included.

The regulations which governed the SIPESCA system of fisheries support for the period 2002 to 2006 were approved in accordance with Order 42/2002 of 30 July 2002.

The objective of SIPESCA is to support inshore fishing by:

- improving and modernising small vessels, with a view to improving safety and working conditions and the handling and conservation of catches on board;
- increasing competitiveness without increasing the fishing effort; investing in quality and promoting selective and environmentally-friendly fishing gear;
- improving the organisation and capability of small-scale inshore fisheries and solving the specific problems of communities which are dependent on fishing.

A National Strategy for promoting sustainable development (ENDS) has been established for the period 2005 to 2015 in addition to plans for its implementation (PIENDS). The aim of the initiatives under the ENDS is to achieve rapid growth by improving social cohesion and protecting the environment.
For the period 2007 to 2015, structural actions have been channelled via the Fisheries Operational Programme (PROMAR), which has five axes:

1. Adjustment of fishing effort.
2. Investment in aquaculture, processing and marketing of fishery and aquaculture products.
3. Measures of common interest.
4. Sustainable development of fisheries areas.
5. Technical assistance.

According to forecasts, 55% of the budget would be devoted to axis 1, fishing effort adjustment, 30% to measures of common interest and 15% to investment under axis 2. As at 31 October 2010, the level of execution was fairly low and was only reaching 18%. In principle, national funding was forecast to amount to 14%, but its availability might depend on the state of the economic situation.

### 7.2. Management measures

The fishing effort is controlled by a system of licences. Furthermore, four types of technical measures are implemented in Portuguese waters: minimum catch size or weight, minimum mesh sizes, maximum by-catch percentages and minimum percentages of catches of target species, in conjunction with restrictions on fishing in certain areas and seasons and on the use of certain fishing gear.

The pursuit of fishing and aquaculture is regulated by Decree-Law No 278/87, as amended by Decree-Law No 383/98 of 27 November 1998.

National resource conservation measures are contained in Decree No 43/87, as amended by Decree No 7/2000 of 30 May 2000. Those provisions define methods and fishing gear, laying down the maximum dimensions of and conditions for using the different types of gear. Surrounding nets are authorised only at depths in excess of 20 m within 1 mile of the coast, and there are conditions governing the use of light sources to attract fish. The use of gillnets is permitted only further than ¼ mile from the coast and, within 3 miles of the coast, they may be used only by vessels of less than 5 t. Such nets may not be used for periods in excess of 24 hours. Furthermore, the catching of crustaceans with gillnets and the use of drifting trammel nets is prohibited. Dredges may be used only at depths in excess of 4 m at low tide and 8 m at high tide. The rules governing the use of dredges differ to the north and south of the Pedrógão parallel. To the north, the maximum power of vessels is 110 kW and, to the south, 75 kW. The identification criteria for classifying a vessel as local, coastal or seagoing are also laid down. The areas accessible to vessels are defined in the light of that classification.

7.2.1. System of licences

The system of licences provides that the acquisition, construction or refitting of a vessel requires prior authorisation. The use of certain fishing methods is also subject to prior annual authorisation.

7.2.2. Spatial and temporal restrictions

The use of surrounding nets is regulated by Ministerial Order (Portaria) No 1102-G/2000, as amended by Ministerial Order No 346/2002. The use of surrounding nets is authorised for catches of the following small pelagic species: sardine (*Sardina pilchardus*), mackerel (of the species *Scomber japonicus* or *Scomber scombrus*) (bogue (*Boops boops*), anchovy (*Engraulis encrasicholus*) and horse mackerel (*Trachurus spp.*) with a permissible by-catch rate of up to 20%. The use of nets with a mesh size of less than 16 mm is prohibited. Surrounding nets are prohibited in less than ¼ mile from the coast, and less than 1 mile from the coast in depths of less than 20 m, but, in Madeira, purse seining is only permitted at depths in excess of 50 m.

Ministerial Order (Portaria) No 543-B/2001 establishes specific measures concerning the catching, retention on board, landing and marketing of sardines. This Ministerial Order prohibits sardine fishing on Saturdays and Sundays. For 2001, fishing was limited to 180 days, and ceilings on landings were imposed for each vessel or, as appropriate, for producer organisations. Nonetheless, these limits were extended for 2002.

From 15 February to 15 April 2002, Ministerial Order (Portaria) No 123-B/2002 prohibited the use of surrounding nets and the catching of sardines north of parallel 39° 55’ 4”. It also opened up the possibility of granting financial support to vessels affected by these restrictions.

In order to protect the breeding and development areas of demersal species and, in particular, hake, Ministerial Order (Portaria) No 296/94 prohibited the use of towed nets in two areas and gillnets in a further two areas during the months of January, February and December. However, Ministerial Order No 698-A/96 suspended the application of that prohibition in one area for towed nets and in another for gillnets, pending the approval of Community rules making the prohibition applicable to all Community vessels.

In order to protect adult hake and to solve problems of competition between bottom longlines and gillnets, Ministerial Order No 213/2001 prohibited bottom gillnets in the Beirinha area (Algarve).

Ministerial Order (Portaria) No 43/2006 lays down management measures regarding fishing for crustaceans. In the continental Exclusive Economic Zone, fishing is prohibited from 1 to 31 January. Furthermore, vessels which are permitted to use a mesh size of between 55 mm and 59 mm may not be licenced to use other types of fishing gear.


Ministerial Order (Portaria) No 1063/2004 lays down the conditions governing authorisation of deep-sea fishing. For vessels registered on the mainland, licences may be granted for a maximum total tonnage of 20 390 and a total power of 31 250 kW. The maximum number of authorisations for the coastal fishing fleet was set at 50, although that figure could be
7.2.3. Selective fishing gear and minimum sizes

Towed nets are prohibited within 6 miles from the coast, and there are specifications regarding mesh sizes.

As regards trammel nets and gillnets, there is a prohibition on the use of drifting gillnets. In addition, they may be used only at a minimum distance from the coast, there is a maximum size, a minimum distance between nets and a maximum immersion time.

The mesh size of purse seines is restricted. Net size is regulated on the basis of tonnage. The minimum depth at which this type of gear can be used is also regulated.

Fishing with dredges is subject, inter alia, to restrictions on net size, mesh size, fishing areas and the number of dredges per vessel.

The regulation of pots includes restrictions on the number of pots, their size and the mesh size of the material of which they are made. With longlines, there is a limit on their maximum length, the maximum number of hooks and the minimum distance between them.

In the south and south-west of Portugal, vessels whose target species is Norway lobster must use mesh sizes larger than 70 mm, although it appears that the 55 mm mesh size is also used and has been authorised for prawns.

Ministerial Order (Portaria) No 27/2001, as amended by Ministerial Order No 402/2002 and by Ministerial Order No 1266/2004, establishes the minimum sizes for 43 species of fish, 11 species of crustaceans and 22 species of molluscs. The majority of the minimum sizes correspond to those laid down in Regulation (EC) No 850/98. However, that Ministerial Order establishes minimum sizes which differ from or which do not appear in Regulation (EC) No 850/98. For example, minimum sizes are established for 27 species of fish, 8 species of crustaceans and 10 species of molluscs for which there is no size restriction in the Community instrument.

Since the 1990s, catches in waters around the Azores have diminished considerably and, as a result, in 1988, the regional government introduced a series of measures to prevent overfishing. These measures are based on a system of licences with minimum sizes and spatial restrictions on types of vessels and gear.

7.2.4. Individual quotas

Quotas may be allocated to vessels or to groups of vessels. This applies to fishing with surrounding nets, where the limits on catches of sardine are divided between producer organisations. The individual quotas for each vessel are also transferable within the fleet of the same operator in order to facilitate flexible management and maximum use of the quotas.
Portugal has been allocated 2% of the total European Union quota. Portugal’s share of total pelagic fish quotas is gradually being reduced. Quotas for pelagic species (mainly horse mackerel and blue whiting) represent 73% of the quotas allocated to Portugal. Quotas for pelagic species assigned to Portugal account for 2.2% of all pelagic fish quotas in the European Union. However, Portugal’s share is much larger for some species such as anchovy, horse mackerel or swordfish.

Demersal species account for 27% of the quotas allocated to Portugal. Three species, redfish, cod and shrimps (*Penaeus*), account for 74% of Portugal’s demersal fish quotas. Redfish alone accounts for 44%. Currently, the quotas assigned to Portugal for demersal species barely exceed 1% of total quotas for demersal species in the European Union. Nevertheless, for some species, such as redfish, Greenland halibut or rays, Portugal’s share is much greater. Quota take-up is inconsistent. In 2009, it was high for anglerfish, megrim, hake, Greenland halibut, haddock, cod and greater forkbeard but very low for anchovy, pollack, orange roughy and shortfin mako shark.

### 7.2.5. Recreational fishing

Since 1963, recreational fishing has been very sketchily regulated by Decree No 45 116. Later, in 2000, Decree-Law No 246/2000, as amended by Decree-Law No 112/2005, required a licence and restricted fishing for surface species to a maximum of three lines and underwater fishing to fishing without breathing apparatus using a harpoon not powered by chemicals or compressed air. In addition, it lays down the conditions for access to resources, the gear to be used, the restrictions and prohibitions on catches of vulnerable species, protected areas and authorisation procedures.

### 7.2.6. Other measures

Since 1998, management measures have been adopted for areas other than those included in Red Natura 2000. Thus, 61 special protection zones have been identified in Portuguese waters. Of those, 35 are in continental waters, 15 in the Azores and 11 in Madeira.
8. Ports

Given the small size of most fishing vessels in the Portuguese fleet, there are a large number of landing harbours along the coast. From an administrative point of view, the Portuguese fishing fleet is spread over 46 ports, 32 of which are on the mainland, 12 in the Azores and 2 in Madeira.

The ports of the Centre region have the largest number of fishing vessels (24% of the total) and the largest vessels (39% of total tonnage and 24% of total power). Of the five ports in the Centre region (Figueira de Foz, Aveiro, Nazaré, Peniche and São Martín do Porto), the two largest are Aveiro and Peniche which have 83% of the vessels in the region, representing 94% of the tonnage and 83% of the power. The port of Aveiro has the most large vessels and especially bottom trawlers.

<table>
<thead>
<tr>
<th>Region</th>
<th>No of ports</th>
<th>% of ports</th>
<th>Vessels/ports</th>
<th>GT/port</th>
<th>kW/port</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZORES</td>
<td>12</td>
<td>26%</td>
<td>71</td>
<td>880</td>
<td>4 588</td>
</tr>
<tr>
<td>ALENTEJO</td>
<td>1</td>
<td>2%</td>
<td>219</td>
<td>2 332</td>
<td>11 878</td>
</tr>
<tr>
<td>ALGARVE</td>
<td>10</td>
<td>22%</td>
<td>185</td>
<td>1 315</td>
<td>7 125</td>
</tr>
<tr>
<td>CENTRE</td>
<td>5</td>
<td>11%</td>
<td>401</td>
<td>8 036</td>
<td>17 936</td>
</tr>
<tr>
<td>LISBON</td>
<td>8</td>
<td>17%</td>
<td>210</td>
<td>1 249</td>
<td>5 973</td>
</tr>
<tr>
<td>MADEIRA</td>
<td>2</td>
<td>4%</td>
<td>225</td>
<td>1 992</td>
<td>8 168</td>
</tr>
<tr>
<td>NORTH</td>
<td>8</td>
<td>17%</td>
<td>182</td>
<td>2 697</td>
<td>10 122</td>
</tr>
<tr>
<td>TOTAL</td>
<td>46</td>
<td>100%</td>
<td>185</td>
<td>2 212</td>
<td>8 108</td>
</tr>
</tbody>
</table>

Source: Own graph based on the Community fishing fleet register.

A total of 10% of the Portuguese fishing fleet is based in the Azores, accounting for 10% of the tonnage and 15% of the power. Of the 12 ports in the Azores, the three largest (Ponta Delgada, Horta, Angra do Heroísmo) have 54% of the vessels in the region, representing 85% of the tonnage and 71% of the power, but the largest port is Ponta Delgada, followed by Horta.
9. Utilisation of production

9.1. Consumption

Portugal is the largest consumer of fish in the European Union. *Per capita* consumption is in excess of 76 kg. Fishery products represent 14% of consumer spending on food products and they provide 23% of all animal protein consumed.

Virtually all production is destined for human consumption. Less than 1% of production is destined for the manufacture of fish oil and fish meal. Although consumption is gradually diversifying, Portugal continues to be the world’s foremost consumer of dried salted cod, and its consumption represents over one third of the total.

Over half of Portuguese production (60%) is consumed fresh or chilled, and 14% is consumed in the form of frozen products (basically redfish, whiting and squid). Consumption of canned fish (mainly sardine, tuna and horse mackerel) accounts for 26% of catches.

The market in dried salted cod is becoming increasingly orientated towards the supermarkets. It is estimated that the latter can absorb around 80% of the quantities sold, whilst the remaining 20% is sold through traditional outlets.

The recent appearance of new products, such as breadcrumbed salted cod or frozen desalted cod, are now alternative forms to the traditional salted forms of cod.

9.2. Processing

Historically, the two traditional sectors of the Portuguese processing industry were salted foods and canned foods, which were later followed by frozen foods, and, subsequently and to a much lesser extent, by other preparations (smoked and pre-cooked products).

There are roughly two hundred processing enterprises in mainland Portugal, about a dozen in the Azores and about half a dozen in Madeira. Over half of the mainland enterprises produce frozen fish, a quarter produce cod products and a little over 10% produce canned fish. Generally speaking, processing enterprises are concentrated in the Centre and North regions of Portugal. Almost half of canning enterprises are located in the North region, whilst the Lisbon region has a concentration of frozen fish enterprises and about 70% of cod-based enterprises are located in the Centre region.

The largest proportion of the Portuguese fisheries processing industry comprises small and medium-sized undertakings which employ mainly women. The manufacture of tinned products, especially sardine, tuna and mackerel, absorbs 40% of the workforce and accounts for 30% of the volume of processed products and 25% of their value.

The fishing and consumption of cod are closely linked with Portuguese history. Back in the 14th century, Portugal concluded a fisheries agreement with England relating to cod fishing. Fishing in distant fishing grounds required conservation techniques which suffered from huge wastage due to the lack of refrigeration. Drying technology has progressed from the days of spreading products out in the sun to artificial drying.
Over the past decade, there has been considerable investment, and an updating of technology, in the salting and drying subsector, improving standards of health and hygiene. Although this process has brought about substantial improvements in competitiveness, it has caused the disappearance of certain traditional production methods.

Dried and salted products account for 24% of the volume of production. The cod subsector is heavily dependent on the availability of raw materials and imports. It represents 26% of the volume of processed products, 55% of the value and absorbs 22% of the workforce. There are currently 44 authorised enterprises employing around 1,500 people, about 70% of whom are women. The high volume of production is due to the high consumption of cod which represents about one third of consumption in Portugal, including fresh products.

The production of the canning and drying industries is tending to fall. In particular, smaller catches have seriously affected the sardine canning industry. For their part, the salting and drying industries are basically dependent on a single species, namely cod. In the 1990s, imports of cod increased rapidly to offset the reduction in landings by the Portuguese fleet. Production is, therefore, almost entirely dependent on imported raw materials, especially from Norway, and any fluctuation in supply has a huge impact on enterprises in this sector.

The two World Wars encouraged the development of canned fish consumption. After the end of the Second World War, production grew, with various fluctuations, until the middle of the 1970s, peaking in 1964 at 85,633 t. The canning industry went into a recession and stabilised in the 1970s, although there have been marked fluctuations.

The production of the canning industry is based almost exclusively on three pelagic species (sardine, tuna and mackerel [of the species *Scomber Scombrus* or *Scomber japonicus*]). Canned products represent 24% of the volume of production and sales of the fishery products processing industry, but only 22% of its turnover. Of this, 39% corresponds to the various sardine preparations, 33% to tuna preparations and 9% to mackerel preparations.

In terms of volume, over half of canned products use sardines as the raw material, a third use tuna, with mackerel accounting for much smaller percentages. A little over 60% of canned tuna products are manufactured in the Lisbon region and the Azores. Mackerel canning takes place mainly in the northern parts of the mainland, 52% in the North region and 25% in the Centre region, with sardine canning centred on the North (40%) and Lisbon (45%) regions. In recent years, some of the mackerel canning activity has moved from France to Portugal.

Since the 1990s, sardines have been the main export product, whereas the main outlet for tuna has been the domestic market. Traditionally, canned sardines have mainly been destined for export, and exports now account for two thirds of production. However, 2002 represented a break with tradition, and, for the first time, domestic consumption overtook exports.

The semi-preserved product sector has traditionally used anchovies as its raw material, but it is now tending also to use sardines. The canning industry employs about 3,000 people directly, most of these being women.

The canning industry plays an important role in the economy of the Azores, as it is the main source of employment in the private sector. Canned tuna products account for between 40% and 60% of exports from that region, most of which are destined for the
Italian market. AICPA applied for and obtained a protected geographical indication for ‘Conservera de Atum dos Açores’, based on the exclusive use of fresh tuna caught on a small scale as the raw material. This protected geographical indication is managed by AICPA.

Freezing is also highly dependent on imports and is the most dynamic and flexible sector of the Portuguese processing industry with the greatest potential for growth. One third of the workforce in the industry is employed in the manufacture of frozen products, accounting for around 2 500 jobs.

Frozen products represent 51% of the volume of production of the fishery products processing industry. Portuguese imports of frozen tuna come mainly from Ghana and are falling off sharply as a result of the increasing supplies coming from Spain, whose exports to Portugal are rapidly growing. Furthermore, imports of tuna loins for processing (mainly from Ecuador) are increasing.

Only 16 enterprises manufacture other products, and they employ less than 200 people. Within this sector, the main activity is the manufacture of smoked products, especially swordfish, or pre-cooked products.

9.3. Sales

The increasing concentration of demand on the supermarkets is creating strong pressure to reduce profits at source. In addition, the gradual reduction in catches and the high level of consumption are dictating an ever-increasing rise in imports. Due to the scattered nature of local supply, the increased demand for imported products has opened the way to penetration by Spanish undertakings, which currently have a considerable and growing market share.

Docapesca – Portos e Lotas SA is a State company which manages port infrastructure and primary fish auctions. There are 20 auctions in all, although the eight in the Algarve have grouped together in two structures, the Sotavento auction (Vila Real de Santo António, Tavira, Santa Luzia, Olhão and Quarteira) and the Barlovento auction (Baleeira/Sagres, Lagos and Portimão). It also has 36 sales points.

Only the Lisbon and Matosinhos auctions used to have refrigerated storage facilities, but the Lisbon auction ceased in 2004, whilst retaining its refrigeration facilities and ice-making factory. In Matosinhos, there is also a retail market. The closure of the Lisbon auction had the effect of increasing the sales of the nearest auctions (Cascais, Sesimbra and Setúbal). This was a very short-lived effect in the case of the Cascais auction. In Lisbon, there used to be a retail market in Pedrouços but, following many vicissitudes associated with problems of various kinds, its operations were transferred to MARL (Mercado Abastecedor da Região de Lisboa). Some of the enterprises forming part of Docapesca Lisbon in Pedrouços did not have the economic or financial clout to bear the cost of the transfer to MARL. Although hygiene and sanitary conditions have improved considerably, its distance from the capital (about 50 km) makes sales to the smaller retailers considerably more difficult.

---

4See 12. Organisation of the sector
With the introduction of the Autonomous System in the Azores, the duties of the Serviço de Lotas e Vendagem were transferred. The Serviço Açoriano de Lotas, EP – LOTAÇOR was created in 1981, absorbing the staff of the Serviço Regional de Lotas e Vendagem; it operates 52 auctions. Of these, the best equipped are those of Ponta Delgada, Rabo de Peixe, São Mateus da Calheta and Praia da Vitória. In 2005, LOTAÇOR became a public limited company and changed its name to LOTAÇOR – Serviço de Lotas dos Açores, SA. Under the aegis of LOTAÇOR, a public company ‘Espada Pescas’ was set up to export top-of-the-range products.
10. External trade

External trade in fishery products suffers from a structural deficit in that production does not satisfy domestic demand. This imbalance stems from high demand and a fall in catches.

Figure 6: Portugal's external trade in fishery products

The external trade deficit in fishery products is gradually becoming more marked due to falling domestic production, the resultant reduction in exports and a bigger increase in imports.

Portuguese imports of fishery products amount to 400 000 t. Almost half the value of imports is accounted for by fresh, chilled or frozen fish, one quarter by smoked, dried or salted fish (basically cod), most of the remaining quarter being crustaceans and molluscs, with canned products being only of minor importance.

Traditionally, the main suppliers of fish to the Portuguese market were Morocco and Mauritania, where sardines play an important role. Spain is a major supplier, and considerable quantities of farmed seabream and seabass come from Greece. Imports from Norway are mostly of cod, and imports from Asia have been increasing in recent years.

Cod is the main product imported into Portugal, with most of it being channelled into the processing industry. Since 2000, for an indefinite period and without any quantitative restrictions, fresh, chilled and frozen cod for processing has enjoyed a reduced tariff of 3%. During the period 2001 to 2003, an annual quota of 10 000 t of dried, unsalted cod for processing was zero-rated.

Following the approval of Regulation (EC) No 1771/2003 of 7 October 2003 on autonomous Community tariff quotas for certain fishery products, a zero-rated quota of 50 000 t was established for chilled or frozen cod for processing.
Exports have been increasing in recent years and, since 2007, they have topped 100 000 t. Fresh, chilled or frozen fish account for 40% of the value of exports, canned products for 25%, crustaceans and molluscs for 23% and smoked, dried or salted products for 11%.

**Figure 7: Share of intra-Community trade (EU 27) in external trade**

Portuguese exports have almost doubled in the past 10 years, but intra-Community exports are growing faster than extra-Community exports. However, whereas intra-Community imports have fallen, there has been a sharp rise in extra-Community imports. Most exports of fresh, chilled and frozen products go to Spain, whereas Brazil is the main market for salted products and France for fish-based preparations.

*Source: Own graph based on EUROSTAT.*
11. Research

The National Institute of Agronomy and Fisheries Research (Instituto Nacional de Investigação Agrária e das Pescas, INIAP) is the outcome of a merger between the National Institute of Agronomy Research (Instituto Nacional de Investigação Agrária, INIA) and the National Institute for Fisheries and Sea Research (Instituto de Investigação des Pescas e do Mar, IPIMAR), as established by Law No 16-A/2002 of 31 May 2002 and the Organic Law of the Ministry of Agriculture, Rural Development and Fisheries (MADRP), approved by Decree-Law No 246/2002 of 8 November 2002.

INIAP is empowered to ‘undertake the research, experiments and demonstrations necessary to support the agricultural, livestock and forestry sectors, including, principally, actions aimed at improving production and protecting the plant and animal gene pool and the development of scientific and technological bases to support fisheries policy, by carrying out studies to evaluate fishery resources and by providing technical and scientific support to the fishing industry and related activities’.

INIAP, in its capacity as State laboratory, is a body which comes under the joint supervision of the Ministry of Agriculture, Rural Development and Fisheries and the Ministry for Science, Technology and Higher Education.

INIAP pursues its activities through two structures: the agricultural structure (INIA) and the fisheries structure (IPIMAR).

IPIMAR is responsible for developing the scientific and technological bases to support fisheries policy, by carrying out studies to evaluate existing fishery resources, and for providing technical and scientific support to the fishing industry and related activities.
12. Organisation of the sector

There are currently 16 recognised producer organisations in Portugal. Five of them are located in the Centre region, three in the Lisbon region, two in the Algarve, three in the North region, two in the Azores and one in Madeira. The majority of the producer organisations (7) were recognised in 1986, two were recognised in 1988, a further two in 1990, one in 1993, another in 1994, two in 2000 and two more in 2008. No producer organisation has been recognised since then.

On 9 March 2006, recognition was withdrawn from BIVALPESCA (Setúbal) for failing to comply with Community requirements under Council Regulation (EC) No 104/2000 and Commission Regulation (EC) No 2318/2001. BIVALPESCA gained its recognition as a producer organisation in September 1994. However, on 24 July 2008, BIVALMAR (Pesca de Bivalves, CRL) obtained recognition under the same management as BIVALPESCA.

Surrounding net producer organisations are grouped together under the umbrella of ANOPCERCO (As sociação Nacional das Organizações de Produtores da Pesca de Cerco). ANOPCERCO and DOCAPESCA collaborate with the DGPA in terms of following up measures to regulate sardine fishing.

In addition to the cooperatives, there are eight associations of aquaculture producers: Associação de Aquicultores de Portugal (Vila do Conde), Associação de Piscicultores da Ria de Aveiro (Ilhavo), Associação Portuguesa de Produtores Aquícolas (Lisbon), Associação de Piscicultores do Algarve (Loulé), ANAQUA – Associação Portuguesa de Aquicultores (Olhão), Associação de Produtores em Aquacultura do Algarve (Olhão), VIVMAR – Associação de Viveiristas e Mariscadores da Ria Formosa (Faro) and Associação de Produtores de Produtos do Mar (Odiáxere).

The main objective of the National Association of Cod Processors (Associação dos Industriais do Bacalhau, AIB) is to promote and develop the cod processing industry and to promote the sector’s business interests. The AIB was founded in 1993, and its head office is in Gafanha da Nazaré, Ilhavo. The members of the AIB represent around 75% of the industries in the sector.

The National Association of Canned Fish Manufacturers (Associação Nacional dos Industriais de Conservas de Peixe, ANICP) was founded in 1977 and has its head office in Matosinhos. In the Azores, the National Association of Canned Fish Manufacturers (Associação Nacional dos Industriais de Conservas de Peixe dos Açores, AICPA) was founded in 1984 and has its head office in Ponta Delgada.

The Free Association of Chilled Food Manufacturers (Associação Livre dos Industriais pelo Frio, ALIF) consists of about 50 enterprises, although not all of them work with fishery products.

The members of the Association of Fish Traders (Associação dos Comerciantes de Pescado, ACOPE), which was founded in January 1976, are fish traders.
Role

The Policy Departments are research units that provide specialised advice to committees, inter-parliamentary delegations and other parliamentary bodies.

Policy Areas

- Agriculture and Rural Development
- Culture and Education
- Fisheries
- Regional Development
- Transport and Tourism

Documents

Visit the European Parliament website:
http://www.europarl.europa.eu/studies