EMBARCA, Rumo à Pesca Sustentável

Stage 1: Mapping

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Project:	EMBARCA, Rumo à Pesca Sustentável

Contents

GLOSSARY

CAB	Conformity Assessment Body
CCMAR	Centro de Ciências do Mar da Universidade do Algarve (Center of Marine Science of the University of Algarve)
CECAF	Fishery Committee for the Eastern Central Atlantic
CESAM	Centro de Estudos do Ambiente e do Mar, Universidade de Aveiro (Center for Environmental and Marine Studies, University of Aveiro)
CETEMARES R&D	Centro, Formação e Divulgação do Conhecimento Marítimo, Escola Superior de Turismo e Tecnologia do Mar, Peniche - Polytechnic Institute of Leiria (Center, Training and Dissemination of Maritime knowledge, School of Tourism and Technology of the Sea, Peniche - Polytechnic Institute of Leiria)
DGRM	Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (Directorate-General for NaturalResources, Safety, and Maritime Services)
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization
ICES	International Council for the Exploration of the Sea
ICNF	Instituto da Conservação da Natureza e Florestas (Institute for Nature and Forest Conservation)
INE	Instituto Nacional de Estatística (National Institute of Estatistics)
IPMA	Instituto Português do Mar e da Atmosfera (Portuguese Institute for the Sea and the Atmosphere)
MARE	Centro de Ciências do Mar e do Ambiente (Center of Marine and Environmental Sciences)
MSE	Management Strategy Evaluation
MSY	Maximum Sustainable Yield
NAFO	Northwest Atlantic Fisheries Organization
NUTS	Nomenclatura das Unidades Territoriais para Fins Estatísticos (Nomenclature of Territorial Units for Statistics)
OP	Organização de Produtores (Producer Organizations)
PONG-pesca	Plataforma de Organizações Não Governamentais Portuguesas sobre a Pesca (Platform of Portuguese Non-Governmental Organizations on Fisheries)
PRI	Point where Recruitment would be Impaired
TAC	Total Allowable Catch
UoA	Unit of Assessment
UoC	Unit of Certification
WGIPS	ICES Working Group on International Pelagic Surveys
WWF	World Wildlife Fund

i) Project background

The 'Embarca Project' is part of the Pathway to Sustainability program of the MSC, which aims to help fisheries address environmental impacts, as well as information and management gaps, by providing tools, training materials and a framework for improving environmental performance.

The objectives of this project are:

- Use the MSC Fisheries Standard V2.01, as well as a participatory multistakeholder approach, to identify potential gaps and foster improvement processes towards environmental sustainability in Portuguese fisheries.
- Potentially deliver additional interest in MSC certification as an end goal for Portuguese fisheries.
- By identifying gaps in fisheries and defining action plans for improvement, provide fishers and fishery stakeholders roadmaps towards environmental sustainability.
- Build stakeholder engagement and improve the understanding of Portuguese fisheries and drive performance improvements in the selected fisheries.

The scope of this analysis includes all commercial fisheries operating within ICES Subarea 9a (Portuguese Continental Shelf).

The project consists of two Stages: Stage I, which involves mapping, and Stage II, focusing on pre-assessments. The mapping includes a list of all UoA, with additional information on management systems and landing volumes, operating in the area of scope. From the entire UoA list, MSC will select 30 UoA for deeper analysis that includes information about the gear types, landing data, market details, regulatory measures, management bodies, fishery representatives, stakeholders, and ongoing improvement projects, providing a comprehensive understanding of the fishery's key aspects and initiatives. Moreover, it will include an analysis of the main weaknesses and strengths against the 3 MSC Principles should be broadly identified for each UoA. The results should be expressed as traffic light colour codes (Green = Good / no barriers; Yellow = fair/minor barriers; and Red = bad/significant barriers) and summarized by Principle for each UoA.

While the stage II stage consists in the development of pre-assessments. Three fisheries identified by the project Advisory Council out of the 30 UoAs that will undergone a deep analysis phase. These pre-assessments will provide a gap analysis of each fishery's environmental performance compared to the 25 performance indicators of the MSC fisheries standard v2.01.

This report pertains to the initial part of Stage I, which entails mapping existing Portuguese commercial fisheries operating in ICES Subarea 9a (Portuguese Continental Shelf) to establish the number of potential Units of Assessment (UoA) operating in the scope area.

ii) Work methodology for Stage I and consulted information sources.

In order to establish a list of potential UoA operating in the scope area, the team reviewed a diverse range of publicly available data sets for subsequent analysis, augmented by local expert input. Additionally, internal discussions were held to analyze and categorize the data, and meetings were conducted with MSC to present, validate the data and coordinate the

development of the current analysis. Furthermore, consultations were carried out with key stakeholders to obtain more detailed information related to the data from documentary sources.

Data sources

To compile the fisheries mapping, the team examined various public information sources to collect data on the main species in the study area, along with details on landings and fishing gear. IPMA reports were consulted, including the PRESPO report focusing on artisanal fishing along the Portuguese continental coast [1] and the 2020 stock status report [2]. Also, reports from the Fisheries Statistics of the Portuguese Institute of Statistics [3] and Fisheries Resources from DGRM [4] were reviewed. In the case of barnacle harvesting in the Berlengas Natural Reserve, information from Order No. 16/2023 of January 4th [5] was used.

Moreover, the team consulted the ICES website to review advice reports on various species and landing volumes reported by Portugal. Additionally, the FAO website was examined to identify the FAO codes corresponding to each of the species being analyzed.

Meetings

Internal meetings took place to thoroughly analyze and categorize the collected data. Additionally, meetings were organized with MSC to present, validate the data, confirm the identified stakeholders, and facilitate communication with them, all in the context of coordinating the progression of the analysis. These collaborative efforts were instrumental in ensuring the accuracy and alignment of data for the analysis development.

Stakeholder consultation

After gathering and processing the data found in public sources, the team contacted DOCAPESCA and the DGRM to request species-specific data particularly in cases where species were grouped under the same genus. Furthermore, for cases labeled as "artes polivalentes," or multi-purpose gear which encompass various fishing methods, the team asked if there was information available that distinguished the specific gear used for each species. At the time of writing this report, the data has not been received.

Regarding bivalve mollusks, the team contacted Bivalmar to obtain information on the volume of landings by fishing gear for the species: Solid Surf clam (*Spisula solida*) and Truncate donax (*Donax trunculus*). Bivalmar also provided data about the catch's monetary value.

Preparation of the result

The data collected was compiled and processed in an excel sheet (see **section iv**) where, for each species, different columns were created for the detailed data, including: volume landed by NUT II (see section vi.1 and see Fig. vi 1.2.) and by fishing gear; transaction value at auction; capture area, among other relevant information related to the evaluation of each stock and the existence of management measures, as well as the existence of working groups for each species, namely consultation groups, co-management groups and ICES groups where IPMA has representation, and the responsible entities.

iii) Characterization of fishing in Portugal

In Portugal, in the early 20th century, fishing became one of the most prominent sectors with economic and social importance. During the Estado Novo (1933-1974), the fishing sector continued to evolve, achieving significant economic success [6], and national fisheries policy guidelines were established during this period [7]. Between the 1950s and 1960s, there was an acceleration of processes related to sovereignty and territorialization of the seas and their resources. After the revolution of 1974, the sector began to slowly enter a crisis that was difficult to overcome. Economic competition and the complete lack of control led to the overexploitation of resources, resulting in economic and social impacts for populations that relied on the sea for their subsistence, which continue to be evident today [6].

The abundant presence of small pelagic and demersal species in the Portuguese continental waters is influenced by the nation's geographical location, which is situated in a transitional area with respect to warmer ecosystems. This abundance is further shaped by various geological and physicochemical characteristics of the sea, as well as the cold currents that lead to coastal upwelling.

Currently, the Portuguese fishing fleet predominantly operates within ICES areas IX and X, as well as Fishery Committee for the Eastern Central Atlantic (CECAF) and Northwest Atlantic Fisheries Organization (NAFO). Most of these vessels are categorized as multi-purpose, permitting them to employ a range of fishing techniques, including bottom and surface longlines, gillnets, traps, and pots. Despite the aging of the fleet in general, Portugal holds the fourth position in Europe with 7,608 fishing vessels, trailing behind Greece, Italy, and Spain [4]

Small-scale or artisanal fishing represents about 91% of the national fleet [4]. This sector is characterized by the use of traditional fishing techniques passed down through generations, employing methods such as lines and nets on relatively small and low-tonnage vessels, and some of these boats are even operated without engines. This fleet can be categorized into two segments: local fishing, which involves vessels up to 9 meters in length overall, operating within 6 miles from the coast, and coastal fishing, which comprises vessels ranging from 9 to 12 meters in length overall, primarily operating within territorial waters, up to 12 miles from the coast, and often beyond [4].

The main challenges of small-scale fishing in Portugal are related to various factors, such as: aging of active fishermen and the lack of generational renewal, as it is not an attractive activity for younger generations; high operational costs increased by rising fuel prices; declining fish stocks leading to reduced quotas; low initial sale value at auction; limited financial literacy levels among the community impacting fishers' decision-making, leading to poor choices in determining optimal fishing times, advocating for fair trade prices, and ultimately resulting in increased fishing for lower-value sales rather than maximizing the value of their catches; and, more recently, conflicts arising from the shared use of maritime space with other activities like tourism and offshore wind energy installations.

The fishing, aquaculture, processing, and marketing sector are estimated to account for around 61,600 job positions in the country [4]. In 2022, from this workforce, 14,159 individuals held positions as fishermen. Among these employed fishermen, approximately 69.7% were registered in multipurpose fishing vessels, with 15.5% involved in purse seining, 10% in trawling, and 4.7% participating in inland water fishing [3].

iv) Main fishing methods used

In 2022, there were 7,608 registered vessels in mainland Portugal, out of which 3,875 held licenses to operate with at least one fishing method in a specific area and for a particular period of time [3]. The remaining 3,733 vessels do not have fishing licenses, and the team did not have available information regarding the activities of these vessels.

Of all the vessels with licenses, 79% are under 10 meters in length and make up about 83% of the total licenses for fixed gear, which is commonly associated with multi-purpose fishing vessels. These multi-purpose fleet can hold one or more licenses for various types of gear within this fleet category including 90.8% for hook gears, 64.8% for nets, 45.3% for traps, and 24.1% for other gears. On the other hand, 17.5% of the vessels are trawlers, which include bottom trawler, pelagic trawlers and dredges, while 7.7% are purse seiners [3].
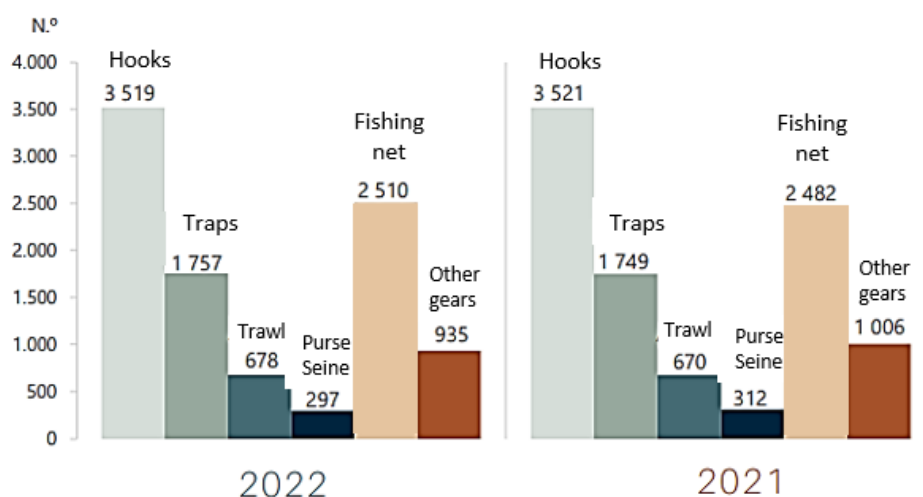
Source: **DGRM, Estatísticas da Pesca (own translation)**
Note: **Each vessel can have permission for various fishing gears**

Figure iv.1 - Licensed vessels by type of fishing gear [3].
https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=66322600&PUBLICACOESmodo=2

Regarding the quantity of landings for each fishing method, purse seining dominates with the largest share, accounting for 53.5% of total landings in 2022. Subsequently, multi-purpose fleets contribute 33.1%, and trawling represents 13.4% of the overall landings. (**Table iv.1**).

It's worth highlighting the importance of specific fisheries in non-marine inland waters (rivers, estuaries, and lagoons under the jurisdiction of the Captaincies). In these fisheries, catches do not rely on auxiliary vessels and include practices like clam harvesting and the manual collection

of various bivalve species using tools such as rakes, and waist drag nets. Licenses for these activities are issued on an individual basis to fishermen rather than to vessels.

Table iv.1– Landing volume and respective first sale price at auction for each fleet segment

Fishing Method	Landing Volume (Ton)	Average transaction value (€/kg)
Purse seine	56 778,1	1,08
Multi-purpose fleets	35 160,1	4,80
Trawling	14 208,1	3,30

Source: Direção-geral de Recursos Naturais, Segurança e Serviços Marítimos [4]

v) Most caught species and species with the highest commercial value

The main species landed are sardine (*Sardina pilchardus*), Atlantic horse mackerel (*Trachurus trachurus*), and Atlantic chub mackerel (*Scomber colias*). These three species are primarily caught by purse seine vessels (see **Figure v.1**)
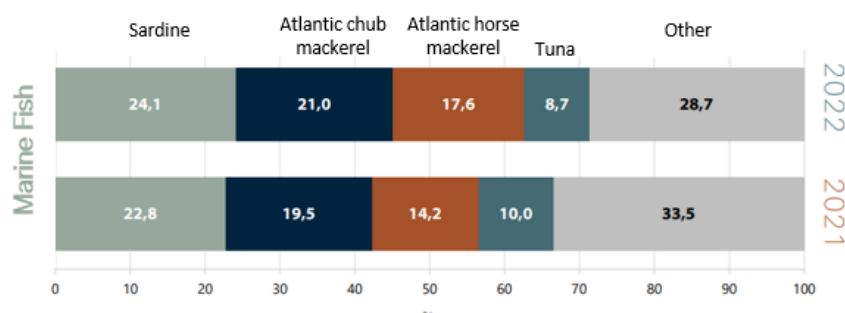

Figure v. 1 – Volume of nominal catches of fresh or refrigerated fish by species [3]

The most commercially valuable species are eel, which has an average transaction value of 110€/kg, with the highest transaction values found in the Northern region (NUTSII Norte). Crustaceans, such as shrimp and lobster, rank second and third respectively, with transaction values of around 30€/kg for both species [3]. However, it's important to be cautious when interpreting the data related to eel. This caution is necessary because eel fishing takes place in inland non-marine waters, and it falls under the jurisdiction of two different ministries. The Ministry of Agriculture and Food (in downstream areas) requires mandatory auction landing, while the Ministry of the Environment (in upstream areas) does not have such a requirement and lacks the necessary infrastructure for landing, resulting in reported catches being significantly lower than the actual numbers.

In 2022, the national fishing quotas increased by 8.2%, totaling approximately 178,000 tons. Substantial growth was noted in the quotas for Atlantic horse mackerel along the continental coast, as well as for megrim, monkfish, and cod in the NAFO 3M fishing area. [3].

In 2022, exports of "Fishery Products or items associated with this industry" reached the amount of 1,315.7 million euros. (see **Figure v.2**).
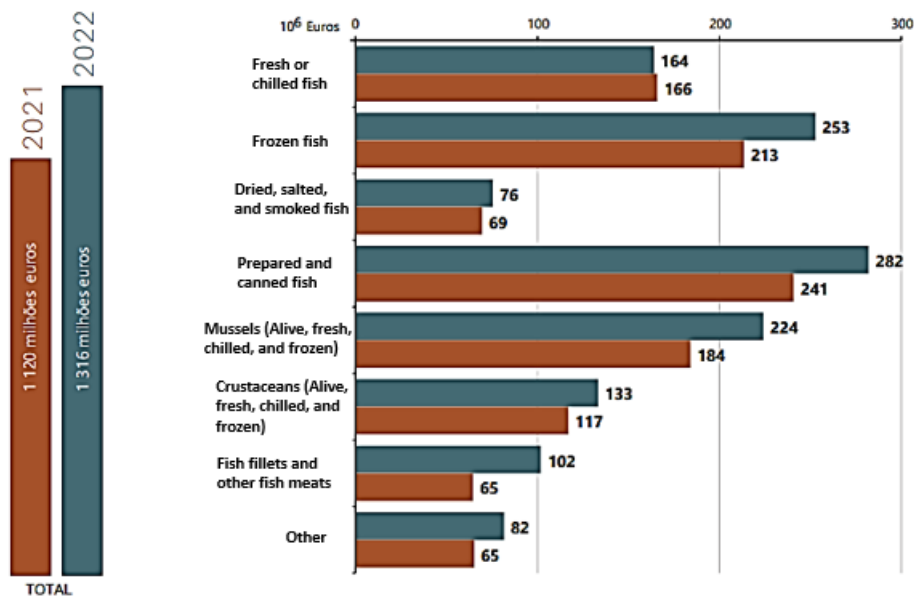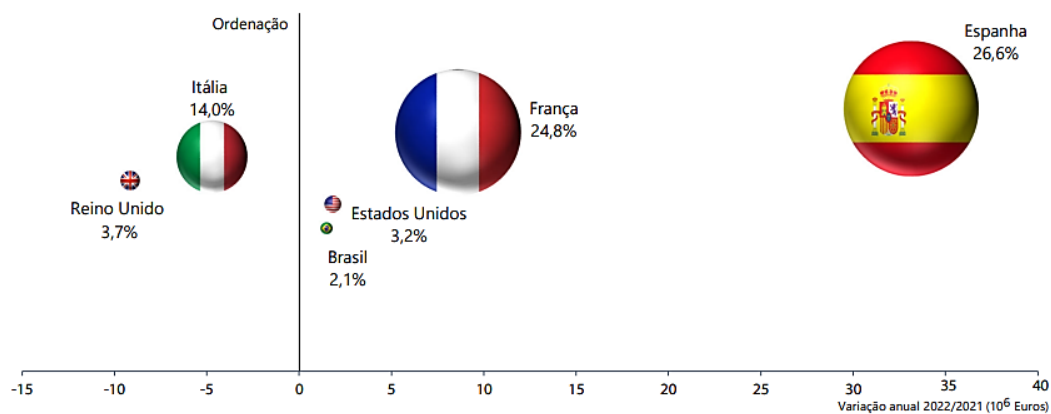

Source: INE, Estatísticas do comércio internacional de bens (Own Translation)

Figure v.2 - Export value by product group [3]

https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=66322600&PUBLICACOESmodo=2

Spain, France, and Italy are the leading importers of national fishery products. The most exported category is "Preparations, canned fish, and fish roe products," making up 21.4% of exports, with Spain as the primary importer. (see **Figure v.3**).

FONTE: INE, Estatísticas do comércio internacional de bens

NOTA: A dimensão dos globos representa o peso relativo de cada país no total da importação de bens em 2022.

Figure v.3 - Main importing countries of fish preparations, canned fish and roe products [3].

https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=66322600&PUBLICACOESmodo=2

Concerning exports of "Fresh or chilled fish, etc.," this category ranks as the fourth major exported group, accounting for 12.5% of transactions. The primary destination countries for these exports are Spain (50.1%), France (10.8%), and Italy (9.9%) "Frozen fish" and "Mussels" categories occupy the second and the third places, respectively. [3].

vi) Administrative competences

vi.1) Geographical fishing area and main landing ports

Based on the FAO classification, Portuguese inland waters are part of subzone 27.9, which is subdivided into two regions, namely Division 27.9.a and 27.9.b (**Fig. vi.1.1**).

Figure vi.1.1 - Portuguese continental waters [8]

The NUTS (Nomenclature of Territorial Units for Statistics) are regional divisions present in all European Union member states. They are utilized by Eurostat to compile regional statistics and by the European Union to shape regional policies and distribute cohesion funds.

Decree-Law No. 46/89 delineated the three levels of the NUTS for territorial units in Portugal (Fig. vi.1.2):

- **NUTS I (NUTS 1)** - Comprising three units, which correspond to the mainland and each of the Autonomous Regions of the Azores and Madeira; for mainland inland waters, NUTS I falls within subzone 27.9 (**Fig. vi.1.2**).

- **NUTS II (NUTS 2)** - consists of seven units, which correspond to regions, having five units located on the mainland and two in the territories of the Autonomous Regions of the Azores and Madeira (**Fig. vi.1.2**);
- **NUTS III (NUTS 3) -** is made up of 30 units, which correspond to sub-regions, with 28 situated on the mainland and 2 in the Autonomous Regions of the Azores and Madeira. These units correspond to Intermunicipal Entities, but the number has been reduced to 23 sub-regions on the mainland.

Figure vi.1.2 depicts NUTS level II regions, as well as the primary fish landing ports.
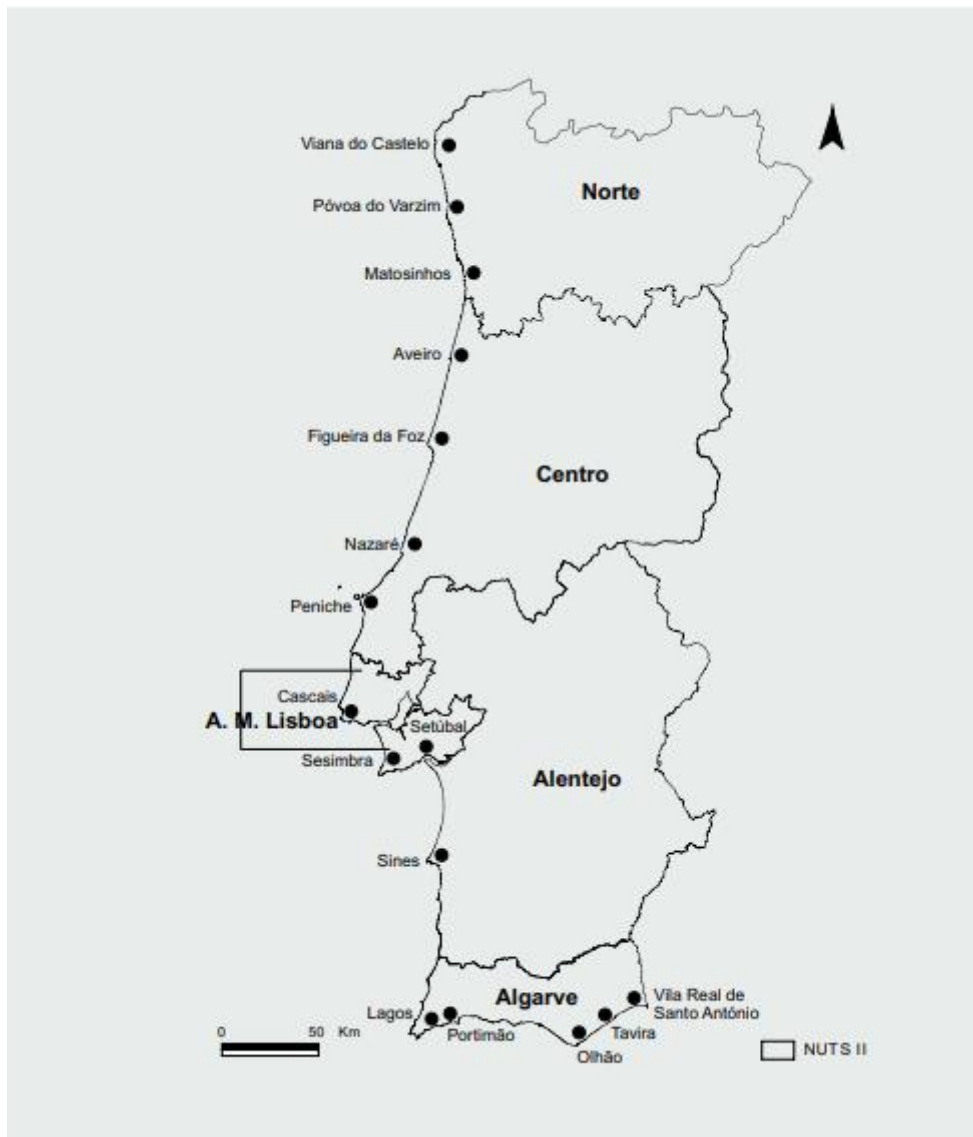

Figure v.1.2 - Primary landing ports and division by NUTS II [3].
https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=66322600&PUBLICACOESmodo=2

vi.2) Organization and management of fishing in Portugal and main stakeholders

In Portugal, the legal framework governing fisheries is established by Decree-Law No. 73/2020, dated September 23. This law approves the regulations for the professional practice of maritime commercial fishing and the authorization, registration, and licensing of vessels or boats used in this industry. It also addresses co-management. Furthermore, the legal framework is defined by Decree-Law No. 278/87, dated July 7, which was subsequently amended by Decree-Law No. 383/98, dated November 27. These laws establish the foundational principles for engaging in fishing and the cultivation of marine species, along with the fundamental guidelines for managing biological resources. Article 1 of Decree-Law 383/1998 outlines the primary objective of these regulations, which is to oversee maritime fishing and mariculture to ensure the long-

term conservation and preservation of marine resources. The ultimate goal is to enable the sustainable utilization of these resources for both commercial and non-commercial purposes. The legal framework also encompasses Regulatory Decree No. 43/87, dated July 17, which outlines measures for the conservation of biological resources. This regulatory decree has undergone modifications through subsequent regulatory decrees, including Regulatory Decree No. 28/90, dated September 11, Regulatory Decree No. 30/91, dated June 4, Regulatory Decree No. 7/2000, dated May 30, Regulatory Decree No. 15/2007, dated March 28, and Regulatory Decree No. 16/2015, dated September 16.

Article 19 of Decree-Law No. 73/2020 defines the fishing techniques allowed in the territorial sea, Exclusive Economic Zone (EEZ), and maritime inland waters, including a) harvesting; b) line fishing; c) trap fishing; d) trawl fishing; e) surround-trawl fishing; f) purse-seine fishing; g) gillnet fishing. The decree also outlines the licensing requirements for engaging in fishing activities and the associated conditions, amending Order No. 14 694/2003 from July 29 and Order No. 16 945/2009 from July 23. Furthermore, specific regulations, like Order No. 172/2017 governing "xávega" fishing, apply to more specialized cases.

In Portugal, fishing in maritime waters falls under the jurisdiction of the Ministry of Agriculture and Food and is managed by its Directorate-General for Natural Resources, Safety, and Maritime Services (DGRM). Scientific advice in this domain is provided by the Portuguese Institute for the Sea and the Atmosphere (IPMA). Non-maritime inland waters are under the purview of the Ministry of Environment and Climate Action, and fishing activities are overseen by the Institute for Nature Conservation and Forests. This entity also holds responsibilities in the management of natural reserves and marine protected areas. Algarve octopus fisheries, co-management group have been formed and it is working in a preliminary phase. In the case of Berlenga barnacle, a co-management group is in place and has a regulation in force and advice is sought from a diverse range of stakeholders forming the committee, which includes representatives from the fishing community.

The **table vi.2.1.**, presents the main stakeholders identified during the development of this phase of the work, as well as their primary roles.

Table vi. 2.1. Principal Stakeholders and their roles

Organisation	Type of Stakeholder (Fishermen, NGOs, Government Agencies, etc.)	Roles
DGRM- Directorate-General for Natural Resources, Safety, and Maritime Services	State management body.	Ensuring compliance with the Common Fisheries Policy and the sustainable management of Portugal's marine natural resources. It's a state management body overseen by three ministries: Economy and the Sea, Agriculture and Food, and Infrastructure.

ICNF - Institute for Nature and Forest Conservation	State management body.	Proposing, monitoring, and ensuring the implementation of nature and forest conservation policies with the aim of preserving, sustainably using, enhancing, enjoying, and publicly recognizing the natural heritage.
IPMA - Portuguese Institute for the Sea and the Atmosphere	Governmental research institute	Government research institute and state laboratory supervised by two ministries: Economy and the Sea; Agriculture and Food. Scientific advice.
DOCAPESCA	State-owned company	Under the supervision of the Ministry of Agriculture and Food, in accordance with Decree-Law No. 107/90 of March 27, it is responsible for the public service of First Sale of Fishery Products in mainland Portugal, as well as providing support to the fishing sector and its ports. Due to its characteristics, DOCAPESCA is geographically distributed across mainland Portugal, with its headquarters in Lisbon. Docapesca comprises five Port and Auction Market Directorates, namely: North and Matosinhos, North Central, Central, South Central, and Algarve.
OP- ProducerOrganizations	Fishers	There are 12 OPs acknowledged by the DGRM, representing multiple fishermen and fleet segments. (**section vi.4**)
ICCAT - International Commission for the Conservation of Atlantic Tunas	RFMO	It is responsible for the conservation and management of approximately 30 species of tunas and non-tunas, as well as other marine resources in the Atlantic Ocean and adjacent seas, including swordfish.
ICES- International Council for the Exploration of the Sea	International Research Institute	Scientific advice and recommendations on the state of stocks. (**section vi.3**)
MARE - Centre of Marine and Environmental Sciences	Research center	A multidisciplinary research, technological development, and innovation center, with an integrative and holistic approach, encompassing a wide range of skills, capabilities, and resources, operating nationally and focusing its research activities on societal issues and challenges. It collaborates closely with national and international research centers and was established as a multipolar center in January 2015, comprising seven branches, six of which are affiliated with Portuguese higher education institutions (University of Coimbra (MARE-UCoimbra), Polytechnic Institute of Leiria (MARE-Polytechnic of Leiria), University of Lisbon (MARE-ULisboa), New University of Lisbon (MARE-NOVA), ISPA - University Institute (MARE-ISPA), and University of Évora (MARE-UÉvora), with one branch located in the Madeira archipelago (MARE-Madeira). MARE possesses the technical and scientific expertise to address various aquatic

		ecosystems, including river basins, adjacent areas, estuaries, coastal marine ecosystems, and the open ocean.
CCMAR: Center of Marine Science of the University of Algarve	University Research Centre	Focused on research and development in marine sciences, CCMAR aims to promote multidisciplinary scientific research and advanced training related to the marine environment, with an emphasis on environmental changes affecting marine ecosystems. In this regard, CCMAR researchers seek to understand the causes and consequences of these environmental changes and to develop approaches for conserving and unlocking the potential of living marine resources.
CESAM: Center for Environmental and Marine Studies, University of Aveiro	University Research Centre	CESAM's mission is to develop internationally research in Environmental and Marine Sciences, following a multi-actor and multisectoral approach, framed within four multidisciplinary thematic areas that promote scientific knowledge and the link between science and policies: Functional Ecology & Biodiversity; Environment & Health; Marine Ecosystems & Resources; Integrated Environmental Systems. The main objective of CESAM is to promote a more efficient use of terrestrial and aquatic environmental resources (from river basins to the deep sea), leading to a more competitive, resilient, and sustainable economy. It also aims to foster advanced training, highly qualified scientific employment, and ensure territorial and social cohesion.
CETEMARES, R&D Center, Training and Dissemination of Maritime knowledge, School of Tourism and Technology of the Sea, Peniche - Polytechnic Institute of Leiria	University Research Centre	It plays a crucial part in bridging the gap between academic research and the business sector. Additionally, it actively participates in the co-management initiative for barnacles within the Berlengas Natural Reserve.
ANP in association with **WWF**	NGO	NGO involved in co-management processes at national level, among other projects related to sustainable fisheries management.
PONG-pesca: Platform of Portuguese Non-Governmental Organizations on Fisheries.	NGO	This is a platform that brings together 8 Portuguese environmental NGOs dedicated to fisheries-related issues. These NGOs include APECE, WWF, Sciaena, LPN, QUERCUS, GEOTA, OMA, and SPEA.

Source: Team's own elaboration based on the official website of each stakeholder

The European Commission, under the Common Fisheries Policy, establishes fishing management rules with the aim of achieving sustainability in EU waters. One of the tools used is the Total Allowable Catches (TACs), which set catch limits for fishing, which are subsequently distributed among countries. These exploitation limits are determined based on the advice of ICES, which assesses the state of EU stocks through fishing and biomass data provided by the Member States, including IPMA in the case of Portugal.

Under the European Data Collection Program, fish stocks are organized into 6 categories as described by ICES [2]. These categories span from well-documented data-rich stocks to those with limited data availability. This categorization helps assess the extent and nature of available data and offers relevant information for evaluating the state of exploitation and productivity of each stock.

The classification of fish stocks under ICES [2] is the following:

- **Category 1:** Stocks with abundant data. This category includes stocks with comprehensive analytical assessments.

- **Category 2:** Stocks with analytical assessments but lacking quantitative predictions. This category covers stocks where the results of quantitative assessments are, for various reasons, only indicative of trends in fishing mortality, recruitment, or biomass.

- **Category 3:** Stocks with assessments based on biomass/abundance trend analysis. This category includes stocks for which there are biomass or abundance indices from research surveys (or other fishery-dependent indices such as CPUE and average length at capture) that provide reliable indicators of vital stock parameters' trends, such as mortality, recruitment, and biomass.

- **Category 4:** Stocks for which only catch data is available, and this time series may be used to estimate Maximum Sustainable Yield (MSY).

- **Category 5:** Data-poor stocks, such as those for which only landing data are available. In such cases, ICES recommends reducing catches unless additional information suggests that the current exploitation level maintains sustainability.

- **Category 6:** Stocks with negligible landings, often resulting from by-catch. This includes stocks whose landings are not significant when compared to discards and/or species assemblages primarily composed of by-catch in fisheries targeting other species.

At a National level Portugal has the Portuguese Institute for the Sea and the Atmosphere, IPMA, I. P., is the Portuguese State laboratory with the mission of promoting and coordinating scientific research, technological development, innovation, and service provision in the fields of oceanography and atmospheric science [9]. Among its primary goals is to contribute to the formulation of national strategies and policies in its areas of expertise, thereby supporting the socio-economic progress of the country. Among its responsibilities is the assessment of the state of exploitation of national stocks through production models and more complex analytical models, which allow for scientific advice on the management

of fishing resources, particularly regarding the future impact of the adoption of different management measures on the exploitation and conservation of fish stocks. IPMA also collaborates with ICES in its working groups, especially in the pelagic group (WGIPS - The Working Group of International Pelagic Surveys) and is the designated entity for collecting national data as part of the European Data Collection Framework.

vi.4) Producer Organizations - OP

Producer organizations, known as Organizações de Produtores (OP), play a vital role in the common organization of the fishery and aquaculture markets. Through these OPs, the sector strives to organize and stabilize markets. These organizations aim to foster a collective sense of responsibility and unite individual efforts to achieve common goals in their activities. While membership in an OP is voluntary, the majority of fishermen in Portugal are part of one or more OPs.

OPs are responsible for creating production and marketing plans, negotiating fish supply contracts, facilitating temporary product storage, and ensuring the distribution of their members' products. Additionally, they provide crucial support to their members, including access to financial credit and technical assistance, the provision of fishing and navigation materials, maintenance and naval repair services, operation of cold storage facilities, participation in marketing or fish product transformation enterprises, and the promotion of their members' products.

The recognition and regulation of these OPs in Portugal fall under the jurisdiction of the DGRM (General Directorate for Natural Resources, Safety, and Maritime Services). There are 14 officially recognized Producer Organizations in Portugal, 2 located in the autonomous regions (Coopescamadeira from Madeira and APASE from Azores), and the remaining 12 mainland as depicted in the following figure (See **Figure vi.4.1**).
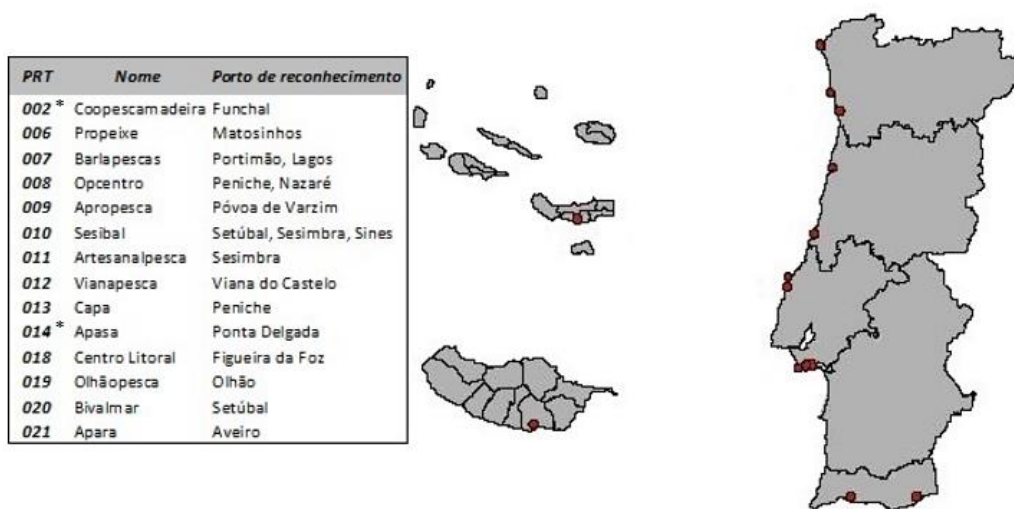
PRT	Nome	Porto de reconhecimento
002 *	Coopescamadeira	Funchal
006	Propeixe	Matosinhos
007	Barlapescas	Portimão, Lagos
008	Opcentro	Peniche, Nazaré
009	Apropesca	Póvoa de Varzim
010	Sesibal	Setúbal, Sesimbra, Sines
011	Artesanalpesca	Sesimbra
012	Vianapesca	Viana do Castelo
013	Capa	Peniche
014 *	Apasa	Ponta Delgada
018	Centro Litoral	Figueira da Foz
019	Olhãopesca	Olhão
020	Bivalmar	Setúbal
021	Apara	Aveiro

Figure vi.4.1 – Producer organizations (OP) recognized by the DGRM and recognized ports [10]. *Areas outside of the scope of this report.

https://acessoreservado.dgrm.mm.gov.pt/xportal/xmain?xpid=dgrm&xpgid=genericPageV2&conteudoDetalhe_v2=207535

vii) Results (Excel)

Using the methodology and sources explained on **section ii** the team has identified a number of potential Units of Assessment (UoA) operating in the scope area. The UoA are the following:

Table vii.1– List of Unit of Assessments.

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volumne (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
1	Abrótea-do-alto Greater forkbeard	*Phycis blennoides*	GFB	Nordeste Atlântico e águas adjacentes (Subáreas 1 a 10, 12 e 14)	WGDEEP -ICES	gfb.27.nea	Trawler	3	4,1	1: ICES 2022c [11] Data: 2021 2: INE 2023[3]
2	Abrótea-do-alto Greater forkbeard	*Phycis blennoides*	GFB		WGDEEP -ICES	gfb.27.nea	Purse seine			
3	Abrótea-do-alto Greater forkbeard	*Phycis blennoides*	GFB		WGDEEP -ICES	gfb.27.nea	Multipurpose (Bottom longline/gillnets)			
4	Abrótea-da-costa Forkbeard	*Phycis phycis*	FOR	Nordeste Atlântico e águas adjacentes (Subáreas 1 a 10, 12 e 14)	WGDEEP -ICES	for.27.9a	Trawler	147,6		1: ICES 2021 [12] Data: 2021 2: INE 2023[3]
5	Abrótea-da-costa Forkbeard	*Phycis phycis*	FOR		WGDEEP -ICES	for.27.9a	Purse seine			
6	Abrótea-da-costa Forkbeard	*Phycis phycis*	FOR		WGDEEP -ICES	for.27.9a	Multipurpose (Bottom longline/gillnets)			
7	Areeiro Megrim	*Lepidorhombus whiffiagonis*	MEG	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8.c e 9.a)	WGBIE	meg.27.8c 9a	Trawler	24	3,58	1: ICES 2023a [13] Ano de dados 2022 2: INE 2023[3]
8	Areeiro Megrim	*Lepidorhombus whiffiagonis*	MEG		WGBIE	meg.27.8c 9a	Multipurpose			
9	Areeiro-4-manchas Four-spot megrim	*Lepidorhombus boscii*	LDB	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8.c e 9.a)	WGBIE	ldb.27.8c9 a	Trawler	78		1: ICES 2022a [14] Ano de dados: 2022. 2: INE 2023[3]
10	Areeiro-4-manchas Four-spot megrim	*Lepidorhombus boscii*	LDB		WGBIE	ldb.27.8c9 a	Multipurpose			

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
11	Badejo Whiting	*Merlangius merlangus*	WHG	Golfo da Biscaia ao estreito de Gibraltar nas áreas oceânicas do Nordeste Atlântico	WGBIE	whg.27.89a	Trawler	0,3	5,11	1 e 2: INE 2023 [3]
12	Badejo Whiting	*Merlangius merlangus*	WHG		WGBIE	whg.27.89a	Multipurpose (Bottom longline/gillnets)	6		1 e 2: INE 2023 [3]
13	Biqueirão European anchovy	*Engraulis encrasicolus*	ANE	Cabo Finisterra ao estreito de Gibraltar (Divisão 9.a).	WGHANSA	ane.27.9a	Trawler	4,8	3,45	1 e 2: INE 2023 [3]
14	Biqueirão European anchovy	*Engraulis encrasicolus*	ANE		WGHANSA	ane.27.9a	Purse seine	3402,7		1 e 2: INE 2023 [3]
15	Biqueirão European anchovy	*Engraulis encrasicolus*	ANE		WGHANSA	ane.27.9a	Multipurpose (gillnets)	126		1 e 2: INE 2023 [3]
16	Cabra-vermelha Red gurnard	*Chelidonichthys cuculus*	GUR	Nordeste Atlântico	WGWIDE	gur.27.9a	Trawler	106,51	2,13	ICES 2021 [12] Ano de dados: 2021
17	Cabra-vermelha Red gurnard	*Chelidonichthys cuculus*	GUR		WGWIDE	gur.27.9a	Purse seine			
18	Cabra-vermelha Red gurnard	*Chelidonichthys cuculus*	GUR		WGWIDE	gur.27.9a	Multipurpose (gillnets)			
19	Cações nep Smooth-hounds	*Mustelus spp.*	SDV	Nordeste Atlântico e águas adjacentes (Subáreas 1 a 10, 12 e 14)	WGEF	sdv.27.nea	Trawler	15,97	4,69	ICES 2021 [12] Ano de dados: 2021
20	Cações nep Smooth-hounds	*Mustelus spp.*	SDV		WGEF	sdv.27.nea	Purse seine			
21	Cações nep Smooth-hounds	*Mustelus spp.*	SDV		WGEF	sdv.27.nea	Multipurpose (Bottom longline/gillnets)			

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
22	Carapau Atlantic horse mackerel	*Trachurus trachurus*	HOM	Cabo Finisterra ao estreito de Gibraltar (Divisão 9.a)	WGHANSA	hom.27.9a	Trawler	4984,5	1,36	1 e 2: INE 2023 [3]
23	Carapau Atlantic horse mackerel	*Trachurus trachurus*	HOM		WGHANSA	hom.27.9a	Purse seine	11352,5		1 e 2: INE 2023 [3]
24	Carapau Atlantic horse mackerel	*Trachurus trachurus*	HOM		WGHANSA	hom.27.9a	Multipurpose (gillnets)	1364,9		1 e 2: INE 2023 [3]
25	Juliana Pollack	*Pollachius pollachius*	POL	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8.c e 9.a).	WGBIE	pol.27.89.a	Trawler	1,3	5,75	1 e 2: INE 2023 [3]
26	Juliana Pollack	*Pollachius pollachius*	POL		WGBIE	pol.27.89.a	Multipurpose (gillnets)	47,1		1 e 2: INE 2023 [3]
27	Lagostim Norway lobster	*Nephrops norvegicus*	NEP	ICES Subárea 9a, embora se recomende a gestão por Unidades Funcionais (UFs). Em Portugal, estão definidas 3 UFs, nomeadamente a UF 27 (Norte de Portugal), UF 28 (Alentejo) e UF 29 (Algarve). Para além destas, a Subárea 9a inclui ainda as UFs 26 (Galiza Oeste) e 30 (Golfo de Cádis).	WGBIE	nep.fu.2829 (NUTSII - Algarve)	Trawler	124	32,14	ICES 2023b [15] Ano de dados: 2022
28	Lagostim Norway lobster	*Nephrops norvegicus*	NEP		WGBIE	nep.fu.2829 (NUTSII - Algarve)	Multipurpose	7		ICES 2023b [15] Ano de dados: 2022
29	Lagostim Norway lobster	*Nephrops norvegicus*	NEP		WGBIE	nep.fu.2627 (NUTSII - Norte)	Trawler		1,91	ICES 2022b [16] Ano de dados: 2021
30	Lagostim Norway lobster	*Nephrops norvegicus*	NEP		WGBIE	nep.fu.2627 (NUTSII - Norte)	Multipurpose			

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
31	Linguado-legítimo Common sole	*Solea solea*	SOL	Golfo da Biscaia ao estreito de Gibraltar (Subárea 8 e Divisão 9.a).	WGBIE	sol.278c9a	Trawler	22,8	11,89	1 e 2: INE 2023 [3]
32	Linguado-legítimo Common sole	*Solea solea*	SOL		WGBIE	sol.278c9a	Purse seine	1,6		1 e 2: INE 2023 [3]
33	Linguado-legítimo Common sole	*Solea solea*	SOL		WGBIE	sol.278c9a	Multipurpose (bottom gillnets)	434,8		1 e 2: INE 2023 [3]
34	Pata-roxa Lesser-spotted dogfish	*Scyliorhinus canicula*	SYC	Mar Cantábrico ao estreito de Gibraltar (Divisões 8.c e 9.a)	WGEF	syc.27.8c9a	Trawler	285,4	0,96	1 e 2: INE 2023 [3]
35	Pata-roxa Lesser-spotted dogfish	*Scyliorhinus canicula*	SYC		WGEF	syc.27.8c9a	Multipurpose (gillnets)	214,1		1 e 2: INE 2023 [3]
36	Peixe-espada-preto Black scabbardfish	*Aphanopus carbo*	BSF	Nordeste Atlântico e Ártico (Subáreas 1, 2, 4-8, 10, e 14 e Divisões 3.a, 9.a e 12.b)	WGDEEP	bsf.27.nea	Trawler	4,4	3,38	1 e 2: INE 2023 [3]
37	Peixe-espada-preto Black scabbardfish	*Aphanopus carbo*	BSF		WGDEEP	bsf.27.nea	Multipurpose (Bottom longline)	1988,5		1 e 2: INE 2023 [3]
38	Pescada-branca European hake	*Merluccius merluccius*	HKE	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8.c e 9.a)	WGBIE	hke.27.8c9a	Trawler	600,1	3,54	1 e 2: INE 2023 [3]
39	Pescada-branca European hake	*Merluccius merluccius*	HKE		WGBIE	hke.27.8c9a	Purse seine	0,2		1 e 2: INE 2023 [3]
40	Pescada-branca European hake	*Merluccius merluccius*	HKE		WGBIE	hke.27.8c9a	Multipurpose (gillnets and longline)	980,8		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
41	Raia de dois olhos Cuckoo ray	*Leucoraja naevus*	RJN	Cabo Finisterra ao estreito de Gibraltar (Divisão 9.a)	WGEF	rjn.27.9a	Trawler	15,32	2,58	1: ICES 2021 [12] Ano de dados: 2021 2: INE 2023[3]
42	Raia de dois olhos Cuckoo ray	*Leucoraja naevus*	RJN		WGEF	rjn.27.9a	Multipurpose (bottom gillnets)			
43	Raia-lenga Thornback ray	*Raja clavata*	RJC		WGEF	rjc.27.9a	Trawler	913,15		
44	Raia-lenga Thornback ray	*Raja clavata*	RJC		WGEF	rjc.27.9a	Multipurpose (bottom gillnets)			
45	Raia-manchada Spotted ray	*Raja montagui*	RJM		WGEF	rjm.27.9a	Trawler	71,19		
46	Raia-manchada Spotted ray	*Raja montagui*	RJM		WGEF	rjm.27.9a	Multipurpose (bottom gillnets)			
47	Raia-pontuada Blonde ray	*Raja brachyura*	RJH		WGEF	rjh.27.9a	Trawler	235,69		
48	Raia-pontuada Blonde ray	*Raja brachyura*	RJH		WGEF	rjh.27.9a	Multipurpose (bottom gillnets)			
49	Robalo European seabass	*Dicentrarchus labrax*	BSS	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8.c e 9.a).	WGBIE	bss.27.8c9a	Trawler	602,2	13,24	1: ICES 2021. [12] Ano de dados: 2021 2: INE 2023 [3]
50	Robalo European seabass	*Dicentrarchus labrax*	BSS		WGBIE	bss.27.8c9a	Purse seine			
51	Robalo European seabass	*Dicentrarchus labrax*	BSS		WGBIE	bss.27.8c9a	Multipurpose (Surface longline/ gill nets and reed)			

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
52	Salmonete-legítimo Surmullet	*Mullus surmuletus*	MUR	Mar do Norte, Golfo de Biscaia, sul do Mar Céltico e aguas Ibéricas do Atlântico (Subáreas 6 e 8, Divisões 7.a–c, 7.e–k, e 9.a do ICES)	WGWIDE	mur.27.9.a	Trawler	113,81	18,07	1: ICES 2021. [12] Ano de dados: 2021 2: INE 2023[3]
53	Salmonete-legítimo Surmullet	*Mullus surmuletus*	MUR		WGWIDE	mur.27.9.a	Purse seine			
54	Salmonete-legítimo Surmullet	*Mullus surmuletus*	MUR		WGWIDE	mur.27.9.a	Multipurpose			
55	Sarda Atlantic mackerel	*Scomber scombrus*	MAC	Nordeste do Atlântico (subáreas 1-8 e 14 e Divisão 9.a do ICES)	WGWIDE	mac.27.nea	Trawler	679,7	1,43	1 e 2: INE 2023 [3]
56	Sarda Atlantic mackerel	*Scomber scombrus*	MAC		WGWIDE	mac.27.nea	Purse seine	44,6		1 e 2: INE 2023 [3]
57	Sarda Atlantic mackerel	*Scomber scombrus*	MAC		WGWIDE	mac.27.nea	Multipurpose (gillnets)	104,1		1 e 2: INE 2023 [3]
58	Sardinha Sardine or European pilchard	*Sardina pilchardus*	PIL	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8c e 9a)	WGHANSA	pil.278c9a	Trawler	6,7	1,17	1 e 2: INE 2023 [3]
59	Sardinha Sardine or European pilchard	*Sardina pilchardus*	PIL		WGHANSA	pil.278c9a	Purse seine	23489,4		1 e 2: INE 2023 [3]
60	Sardinha Sardine or European pilchard	*Sardina pilchardus*	PIL		WGHANSA	pil.278c9a	Multipurpose (gillnets)	776,3		1 e 2: INE 2023 [3]
61	Solha European plaice	*Pleuronectes platessa*	PLE	Golfo da Biscaia ao estreito de Gibraltar (Divisões 8 e 9.a).	WGBIE	ple.27.9a	Purse seine	27,57	4,91	1: ICES 2021 [12] Ano de dados: 2021 2: INE 2023 [3]
62	Solha European plaice	*Pleuronectes platessa*	PLE		WGBIE	ple.27.9a	Multipurpose (Bottom gillnets)			

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volumne (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
63	Tamboril-branco Angler, European angler or common monkfish	*Lophius piscatorius*	MON	Sul do Golfo da Biscaia ao estreito de Gibraltar (Divisões 8.c e 9.a).	WGBIE	mon.27.8c9a	Trawler	19	7,85	ICES 2023c [17] Ano de dados: 2022
64	Tamboril-branco Angler, European angler or common monkfish	*Lophius piscatorius*	MON		WGBIE	mon.27.8c9a	Multipurpose (Bottom gillnets)	61		ICES 2023c [16] Ano de dados: 2022
65	Tamboril-preto Blackbellied angler	*Lophius budegassa*	ANK		WGBIE	ank.27.8c9a	Trawler	78		ICES 2023d [18] Ano de dados: 2022
66	Tamboril-preto Blackbellied angler	*Lophius budegassa*	ANK		WGBIE	ank.27.8c9a	Multipurpose (Bottom gillnets)	262		ICES 2023d [18] Ano de dados: 2022
67	Verdinho Blue whiting	*Micromesistius poutassou*	WHB	Nordeste do Atlântico (Subáreas 1-9, 12 e 14 do ICES)	WGWIDE	whb.27.1-91214 nea	Trawler	1952	0,77	1 e 2: INE 2023 [3]
68	Verdinho Blue whiting	*Micromesistius poutassou*	WHB		WGWIDE	whb.27.1-91214 nea	Purse seine	1,3		1 e 2: INE 2023 [3]
69	Verdinho Blue whiting	*Micromesistius poutassou*	WHB		WGWIDE	whb.27.1-91214 nea	Multipurpose	2,4		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volumne (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
70	Ameijoa-branca Surf clam	*Spisula solida*	ULO	a) Zona Ocidental Norte — delimitada a norte pelo limite do mar territorial e a sul pelo paralelo que passa por Pedrogão (NUTSII 1, 2); b) Zona Ocidental Sul — delimitada a norte pelo paralelo que passa por Pedrogão e a sul pelo paralelo que passa pelo farol do cabo de São Vicente (NUTSII 2,3,4); c) Zona Sul — delimitada a norte pela linha de costa e pelo paralelo que passa pelo farol do cabo de São Vicente e a este pelo limite do mar territorial (NUTSII 5).	IPMA	ulo.27.9a	Multipurpose (Dredgers)	495,9	2,46	1 e 2: BIVALMAR 2023

№	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
71	Besugo Axillary seabream	*Pagellus acarne*	SBA	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	84,1	5,01	1 e 2: INE 2023 [3]
72	Besugo Axillary seabream	*Pagellus acarne*	SBA		IPMA	n.a.	Purse seine	128,9		1 e 2: INE 2023 [3]
73	Besugo Axillary seabream	*Pagellus acarne*	SBA		IPMA	n.a.	Multipurpose (gillnets)	152,5		1 e 2: INE 2023[3]
74	Camarão-vermelho Red prawn	*Aristeus antennatus*	ARA	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	151,7	32,92	1 e 2: INE 2023 [3]
75	Camarão-vermelho Red prawn	*Aristeus antennatus*	ARA		IPMA	n.a.	Multipurpose	0,7		1 e 2: INE 2023 [3]
76	Carabineiro Carabineros shrimp or cardinal prawn	*Aristaeopsis edwardsiana*	SSH	No data	IPMA	n.a.	No data	No data	No data	-
77	Carapau-negrão Blue jack mackerel	*Trachurus picturatus*	JAA	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	36,8	32.92	1 e 2: INE 2023 [3]
78	Carapau-negrão Blue jack mackerel	*Trachurus picturatus*	JAA		IPMA	n.a.	Purse seine	1415,4		1 e 2: INE 2023 [3]
79	Carapau-negrão Blue jack mackerel	*Trachurus picturatus*	JAA		IPMA	n.a.	Multipurpose (gillnets)	118,5		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
80	Cavala Atlantic chub mackerel	*Scomber colias*	MAS	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	596,8	0,44	1 e 2: INE 2023 [3]
81	Cavala Atlantic chub mackerel	*Scomber colias*	MAS		IPMA	n.a.	Purse seine	15949,6		1 e 2: INE 2023 [3]
82	Cavala Atlantic chub mackerel	*Scomber colias*	MAS		IPMA	n.a.	Multipurpose (gillnets)	4093,4		1 e 2: INE 2023 [3]
83	Choco Common cuttlefish	*Sepia officinalis*	CTC	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	36,8	6,46	1 e 2: INE 2023 [3]
84	Choco Common cuttlefish	*Sepia officinalis*	CTC		IPMA	n.a.	Purse seine	5,7		1 e 2: INE 2023 [3]
85	Choco Common cuttlefish	*Sepia officinalis*	CTC		IPMA	n.a.	Multipurpose (cages, gillnets)	1057,6		1 e 2: INE 2023[3]
86	Congro European conger	*Conger conger*	COE	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a	Trawler	18,8	3,22	1 e 2: INE 2023 [3]
87	Congro European conger	*Conger conger*	COE		IPMA	n.a	Purse seine	1,8		1 e 2: INE 2023 [3]
88	Congro European conger	*Conger conger*	COE		IPMA	n.a	Multipurpose (Bottom longline)	660,1		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volumne (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
89	Conquilha Truncate donax	*Donax trunculus*	DXL	a) Zona Ocidental Sul — delimitada a norte pelo paralelo que passa por Pedrogão e a sul pelo paralelo que passa pelo farol do cabo de São Vicente; b) Zona Sul — delimitada a norte pela linha de costa e pelo paralelo que passa pelo farol do cabo de São Vicente e a este pelo limite do mar territorial.	IPMA	dxl.27.9a	Multipurpose (Dredgers)	70,32	3,75	1 e 2: BIVALMAR 2023

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
90	Corvinas nep Mulloway	*Argyrosomus spp*	RXY	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a	Trawler	3	7,66	1 e 2: INE 2023 [3]
91	Corvinas nep Mulloway	*Argyrosomus spp*	RXY		IPMA	n.a	Purse seine	18,5		1 e 2: INE 2023 [3]
92	Corvinas nep Mulloway	*Argyrosomus spp*	RXY		IPMA	n.a	Multipurpose (gillnets)	366,1		1 e 2: INE 2023 [3]
93	Dourada Gilthead seabream	*Sparus aurata*	SBG	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a	Trawler	1,4	13,74	1 e 2: INE 2023 [3]
94	Dourada Gilthead seabream	*Sparus aurata*	SBG		IPMA	n.a	Purse seine	7,9		1 e 2: INE 2023 [3]
95	Dourada Gilthead seabream	*Sparus aurata*	SBG		IPMA	n.a	Multipurpose (gillnets)	208,9		1 e 2: INE 2023 [3]
96	Espadarte Swordfish	*Xiphias gladius*	SWO	Área ICCAT. 9 e 10a	ICCAT/RFMO	n.a	Trawler	8,3	8,3	1 e 2: INE 2023 [3]
97	Espadarte Swordfish	*Xiphias gladius*	SWO		ICCAT/RFMO	n.a	Purse seine	0,1		1 e 2: INE 2023 [3]
98	Espadarte Swordfish	*Xiphias gladius*	SWO		ICCAT/RFMO	n.a	Multipurpose (longline)	632,7		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
99	Faneca Pouting	*Trisopterus luscus*	BIB	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	341,1	2,1	1 e 2: INE 2023 [3]
100	Faneca Pouting	*Trisopterus luscus*	BIB		IPMA	n.a.	Purse seine	7,3		1 e 2: INE 2023 [3]
101	Faneca Pouting	*Trisopterus luscus*	BIB		IPMA	n.a.	Multipurpose (gillnets)	968,9		1 e 2: INE 2023 [3]
102	Gamba-branca Deep-water rose shrimp	*Parapenaeus longirostris*	DPS	ZEE continental portuguesa, costa sudoeste alentejana a sul do Cabo Espichel e costa algarvia, entre os 100 e os 400 metros de profundidade	IPMA	dps.27.9a	Trawler	681,4	11,5	1 e 2: INE 2023 [3]
103	Gamba-branca Deep-water rose shrimp	*Parapenaeus longirostris*	DPS		IPMA	dps.27.9a	Multipurpose	0,1		1 e 2: INE 2023 [3]
104	Lula European squid	*Loligo vulgaris*	SQR	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	641,7	9,65	1 e 2: INE 2023 [3]
105	Lula European squid	*Loligo vulgaris*	SQR		IPMA	n.a.	Purse seine	3,1		1 e 2: INE 2023 [3]
106	Lula European squid	*Loligo vulgaris*	SQR		IPMA	n.a.	Multipurpose	120,5		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volume (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
107	Percebe Barnacle	*Pollicepes pollicepes*	SRG	Reserva Natural das Berlengas	Comite de Cogestão	n.a.	Multipurpose (faca de mariscar)	14,2	No data	1 e 2: INE 2023 [3]
108	Polvo nep Octopus vulgaris	*Octopodidae*	OCC/OCT	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	287,9	7,86	1 e 2: INE 2023 [3]
109	Polvo nep Octopus vulgaris	*/Octopodidae*	OCC/OCT		IPMA	n.a.	Purse seine	17,69		1 e 2: INE 2023 [3]
110	Polvo nep Octopus vulgaris	*/Octopodidae*	OCC/OCT		IPMA	n.a.	Multipurpose (Pots/ cages)	7582		1 e 2: INE 2023 [3]
111	Sargos nep Sargo breams nei	*Diplodus spp*	SRG	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a	Trawler	0,1	6,42	1 e 2: INE 2023 [3]
112	Sargos nep Sargo breams nei	*Diplodus spp*	SRG		IPMA	n.a	Purse seine	31,3		1 e 2: INE 2023 [3]
113	Sargos nep Sargo breams nei	*Diplodus spp*	SRG		IPMA	n.a	Multipurpose (gillnets)	296,5		1 e 2: INE 2023 [3]
114	Sargo-safia Common two-banded seabream	*Diplodus vulgaris*	CTB	Divisão 27.9.a Águas Portuguesas Orientais (Divisão IX a) Divisão 27.9.b Águas Portuguesas Ocidentais (Divisão IX b)	IPMA	n.a.	Trawler	37,1	2,37	1 e 2: INE 2023 [3]
115	Sargo-safia Common two-banded seabream	*Diplodus vulgaris*	CTB		IPMA	n.a.	Purse seine	75,6		1 e 2: INE 2023 [3]
116	Sargo-safia Common two-banded seabream	*Diplodus vulgaris*	CTB		IPMA	n.a.	Multipurpose (gillnets)	166,5		1 e 2: INE 2023 [3]

Nº	Common name (Portuguese and English)	Scientific Name	FAO code	Management Unit	Final responsible for stock assessment	Stock Reference	Fishing Gear	Landing Volumne (Ton)	Economic Value (€/Kg)	Information Sources (1. Landing Volume. 2. Economic Value)
117	Navalha/Lingueirão Razor clam	*Ensis ensis*	EQE	a) Zona Ocidental Sul — delimitada a norte pelo paralelo que passa por Pedrogão e a sul pelo paralelo que passa pelo farol do cabo de São Vicente; b) Zona Sul — delimitada a norte pela linha de costa e pelo paralelo que passa pelo farol do cabo de São Vicente e a este pelo limite do mar territorial	IPMA	n.a.	Multipurpose (Dredgers)	489.3	3.04	1 e 2: BIVALMAR 2023

Source: Team's own elaboration

A total of 117 different assessment units have been identified. **Table vii.1** provides the common name in Portuguese, as well as the scientific name, weights, value, stock areas, geographical location, and administrative competencies. It is noteworthy that the bibliographic sources column details the source of both the landing volume and economic value.

Regarding multi-purpose gear ('polivalente'), national statistics do not offer specific details about the particular type of gear used. However, based on the team's experience, specific fishing gear used for certain species has been outlined in some instances (refer to column "Fishing Gear" in **Table vii.1).**

Species highlighted in yellow in **Table vii.1** are those that National Institute of Statistics in Portugal reports in a consolidated manner. For further information on species reported jointly, please consult **Table vii.4**. In instances involving group cases, specifically for ICES species (UoA from 1 to 69), the team verified the information that Portugal provided to ICES in order to acquire detailed data for each species.

From the 117 UoA, the proportion of the different fleet segments was calculated (**Fig. vii.1**). Additionally, the range of auction transaction values was also calculated (**Fig. vii.2**).
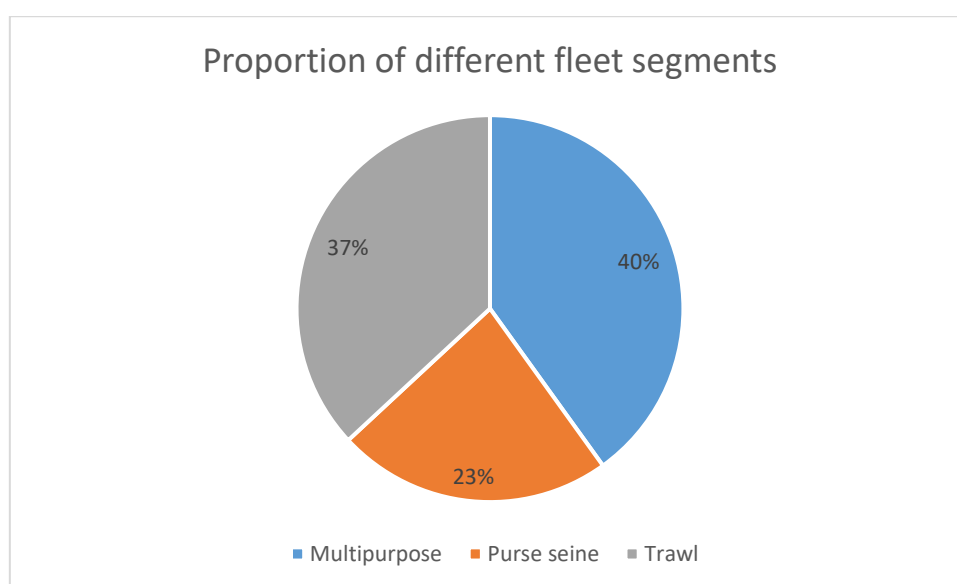

Figure vii.1. – Proportion of fleet segments used for the 117 UoA identified. Source: Team's own elaboration.

"Multipurpose" fleet is the one with the greatest expression, 40%, since this denomination includes all fishing gear that is not seine or trawling and corresponds to vessels that can use more than one multipurpose gear, such as nets, traps, hooks, among others previously described in this report. Seine, in turn, is the fleet with the smallest number of vessels registered. Regarding trawling, it's not specified that there are different methods of trawling. It is worth noting that these methods include bottom and beam trawling, which fish on the seabed, and pelagic trawling, which fishes in the water column.
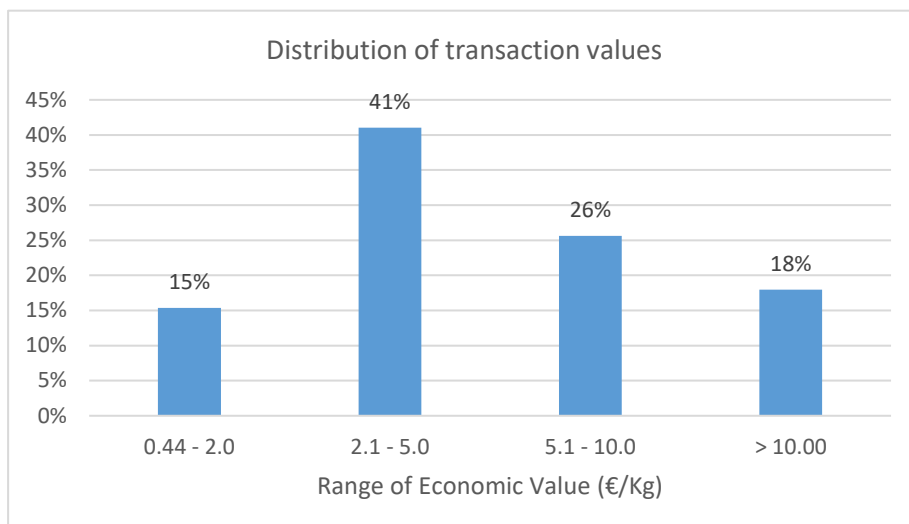
Figure vii.2. – Range of auction transaction values (first sale). Source: Team's own elaboration.

The value of identified species varies between €0.44/kg and €32.14/kg. However, only 7 of the 117 UoA identified have first sale values above €10/kg, compiled in **table vii.2.**

Table vii.2. Species with a first sale value of more than €10/kg

Species	Economic value (€/Kg)
Camarão-vermelho Red prawn	32,92
Lagostim Norway lobster	32,14
Salmonete-legítimo Surmullet	18,07
Dourada Gilthead seabream	13,74
Robalo European seabass	13,24
Linguado-legítimo Common sole	11,89
Gamba-branca Deep-water rose shrimp	11,51

Source: Team's own elaboration.

The three most captured species are small pelagic species whose capture is mainly carried out by the purse seine fleet. Table vii.3 presents the volume of landings for each of the three species.

Table vii.3. Most captured species

Species	Landing volume (Ton)
Sardine	24272,4
Chub mackerel	20639,8
Atlantic mackerel	17701,9

Source: Team's own elaboration.

Table vii.4 Species grouping in the report from the National Institute of Statistics (2023)

Group	Species	Group	Species	Group	Species
Forkbeard and similar	White hake	Seabass	Spotted seabass	Shrimps	Pandalus shrimps nei
	Forkbeard		European seabass		Indian white prawn
	Forkbeards nei		Seabasses nei		Guinea shrimp
	Greater forkbeard	Surmullets	West African goatfish		Speckled shrimp
	Pollack		Red mullet		Western king prawn
	Red hake		Stout beardfish		Knife shrimp
Megrim	Megrim		Surmullet		Penaeus shrimps nei
	Four-spot megrim		Surmullets(=Red mullets) nei		Giant red shrimp
	Lefteye flounders nei	Plaice	European flounder		Southern pink shrimp
Sharks	Smooth-hound		European plaice		Giant tiger prawn
	Starry smooth-hound	Anglers	Anglerfish		Green tiger prawn
	Smooth-hounds nei		Shortspine African angler		Blue and red shrimp
Lobsters	Norway lobster		American angler		Striped red shrimp
	Mozambique lobster		Blackbellied angler		Pandalid shrimps nei
	Red swamp crawfish		Monkfishes nei		Scarlet shrimp
Rays	Longnosed skate	Clams	Grooved carpet shell	Squids	Squid
	Undulate ray		Golden carpet shell		Alloteuthis squids nei
	Bigelow's ray		Cut through shell		European common squid
	Cuckoo ray		Japanese carpet shell		Patagonian squid
	Brown ray		Pullet carpet shell		Longfin squid
	Sandy ray		Mature dosinia		Veined squid
	Thornback ray		Banded carpet shell		Common squids nei
	Spotted ray		Undulate venus	Octopus	Common octopus
	Blonde ray		Striped venus		Horned octopus
	Starry ray		Warty venus		Musky octopus
	Small-eyed ray		Tellins nei		Octopuses, etc. nei
	Raja rays nei			Meagres?	Meagre
					Blotched croaker
					Meagres nei
					Squeteague(=Gray weakfish)

Source: Fisheries Statistics [3].

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