

ANNUAL REPORT ON THE PORTUGUESE FISHING FLEET – 2022

1. SUMMARY

❖ *Conclusions on the balance between fleet capacity and fishing opportunities*

Combined analysis of the vessel use, biological sustainability and economic indicators shows that the capacity of the Portuguese fleet is more or less in balance with the fishing opportunities in the case of all segments. However, as some issues are deemed to exist in the hook-and-line (HOK) segments, we intend to continue with the Action Plan forming part of this report, which aims to improve the alignment of fleet capacity with the available resources.

❖ *Fleet capacity*

On 31 December 2022, the Portuguese fishing fleet consisted of 7 608 vessels with a total gross tonnage of 86 304 GT and a total propulsion power of 347 619 kW.

❖ *Description of the major segments*

The purse-seiner and trawler segments accounted for approximately 54% and 13% respectively of the total catch of fresh and chilled fish. Sardine, horse mackerel and Atlantic chub mackerel were the main species landed by purse seiners, making up 90% of the total volume of fish landed in that segment. Sardine and Atlantic chub mackerel were the most commonly caught species, accounting for about 42% and 28% respectively of the total volume. Horse mackerel, blue whiting and squid were the main species landed by trawlers, accounting for 55% of the total volume of fresh and chilled fish landed in that segment. The proportion of horse mackerel landed in that context, which was about 35% (4 987 tonnes), is worthy of mention. The polyvalent fleet segment, which mainly fishes octopus, Atlantic chub mackerel and black scabbardfish, landed approximately 39% (13 581 tonnes) of the total catch of fresh and chilled fish.

❖ *Fleet entries and exits in 2022*

In 2022, 53 vessels (representing a total of 314 GT and 2 833 kW) entered the national fishing fleet and 88 vessels (representing a total of 365 GT and 2 918 kW) left. The majority of the vessels entering and leaving the fleet were vessels in the polyvalent fishing segment (PGP), doing so mostly in the context of fleet renewal.

❖ *Changes in the status of resources and/or fishing opportunities*

As regards the status of the resources fished by the Portuguese fleet and subject to total allowable catch limits (TACs), the introduction of an increasing number of TACs established on the basis of the maximum sustainable yield (MSY) is resulting in more frequent fluctuations in the maximum permitted catch limits. Thus, although we are observing positive developments overall in the abundance and availability of species important to fisheries in Portugal (as is clear from Regulation (EU) 2022/109 of 27 January 2022, as updated), TAC reductions are now being proposed more frequently on the basis of small fluctuations in stock levels, which are not necessarily caused by the extent of fishing. Accordingly, the fishing opportunities for the main TAC species were 5% higher overall in 2022 compared with 2021, with some small increases, for instance horse mackerel in ICES area 9a (+11%), compensating for one-off reductions for other species, such as hake and Norway lobster. Under normal circumstances, the stabilisation of the fishing opportunities (which is the result of management at MSY levels) now only illustrates the natural variability in the abundance of fish stocks, which are subject not only to fishing pressure but also to predation pressure (which may increase under better environmental conditions) and climate change (which is favourable to some species but unfavourable to others). From time to time, methodological reviews at stock assessment level, which are based on the work of scientific institutions, particularly those represented in the ICES, may also have direct consequences for our understanding of the conservation status of resources, as well as an impact on fishing opportunities. In the case of hake, for example, the result of the ICES reassessment in 2022 allowed the quota initially adopted for that year to be increased.

Certain resources with a short lifespan, including the small pelagic species most emblematic of Portugal, such as sardine and anchovy, are particularly sensitive to the influence of the environment (with all its biotic and abiotic elements) and display significant fluctuations in population size. Fortunately for the Portuguese fishing sector, those two species have different preferences in terms of salinity and temperatures, so their stocks tend to fluctuate in a countercyclical manner. Indeed, anchovy has a preference for more tropical conditions (higher temperatures and lower salinity) compared with sardine, which prefers temperate conditions. Thus, although the two species do not compete directly with one another, years in which one of them is less abundant are years in which the other is more abundant, which allows the sector to exploit both species on an alternating basis.

As regards the activity of the national fleet operating in external fishing grounds, external fishing opportunities generally remained relatively stable in 2022. Nevertheless, we should highlight the marked increase in the TAC for cod in NAFO division 3M, which came about as a result of the improvement in its biological situation in the Flemish Cap area. That improvement led to the national quota being increased from 293 tonnes (2021) to 786 tonnes (2022), meaning around 493 additional tonnes of cod could be fished in division 3M.

With respect to the most important fishing grounds for the national fleet, the most significant changes were as follows:

- NAFO – The number of vessels operating in this fishing ground has stabilised. Besides the aforementioned improvement in 3M cod, there was also a slight decrease in the TAC for Greenland halibut as a result of the harvest control rule adopted for that stock, which resulted in a 73-tonne reduction in the national quota compared with the previous year. Furthermore, the moratorium on shrimp fishing in division 3M was re-established.
- NEAFC – At its annual meeting in November 2021, management measures were adopted for 2022. With regard to Portugal, and to redfish in particular, a TAC of 0 tonnes was maintained for the Irminger Sea, while a 1% increase was decided on for ICES areas 1 and 2. Moreover, reductions of 19% and 7% were adopted for blue whiting and Atlantic mackerel respectively.
- ICCAT – The TACs agreed upon for 2021 were maintained for most of the stocks of relevance to Portugal, namely swordfish, bluefin tuna, bigeye tuna and albacore tuna. Portugal's quotas were therefore also maintained. At the annual meeting, proposals to amend the recommendation concerning the conservation and management of tropical tunas were presented. The proposals were based on the opinion of ICCAT's scientific committee, which reported an improvement in the stock of bigeye tuna, which is of strategic interest for the small-scale pole-and-line fleets of Madeira and the Azores. Nevertheless, as there was no consensus, the TAC of 62 000 tonnes was maintained and the measures were rolled over. A recommendation on the conservation of shortfin mako sharks, which are caught as a by-catch in North Atlantic fisheries, was also adopted.

❖ **Effort reduction and capacity adjustment schemes**

In 2022, the following recovery/fishing effort adjustment plans and capacity control schemes were in effect:

The Multiannual Plan for Western Waters, which establishes rules for setting TACs covering the most economically relevant resources in European waters, specifically with a view to optimising the productive potential of a wide range of resources managed on the basis of MSY (Regulation (EU) 2019/472 of 19 March 2019).

The Fishing Capacity Control Scheme, which involves managing the granting of fishing permits in accordance with the objective of aligning capacity with opportunities established on an annual basis, the principle being to reduce the number of permits granted for gear with the greatest environmental impact.

*The Multiannual Plan for the Conservation and Management of Tropical Tunas (yellowfin tuna (*Thunnus albacares*), bigeye tuna (*Thunnus obesus*) and skipjack tuna (*Katsuwonus pelamis*))*, which aims to reduce the current mortality rates for tropical tunas, particularly bigeye and yellowfin tuna, had been implemented in 2020 and 2021. As there was no consensus on the revision of this plan, the measures were rolled over to 2022.

The Management Plan for Sardine Fishing (2021–2026), which replaces the Recovery Plan for Sardine Fishing, was implemented on the joint initiative of the Portuguese and Spanish authorities further to an ICES opinion assessing the stock as falling within safe biological limits and validating a new harvest control rule. The stock continues to be managed jointly, with the two Member States laying down the quantities that may be fished, and establishing measures for managing and monitoring the activity of vessels fishing for sardine. Since the plan seeks to promote the most up-to-date scientific

information, it is put into effect by publishing legislation implementing adjustments to fishing effort in liaison with the sector.

The Management Plan for European Eel, which has been in force since 2009, establishes effort control measures, catch limits for young eels (glass eels) and adult eels (silver eels), a restriction on recreational fishing and a closed season.

❖ **Implementation of the entry/exit scheme**

The fleet entry and exit scheme is implemented in accordance with Article 22(5) and (6) and Article 23(1) of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (CFP). In other words, entries/re-entries of vessels are only permitted if at least the same capacity in terms of gross tonnage (GT) and propulsion power (kW) is withdrawn from the fleet.

In 2022, Portugal complied with the fishing capacity ceilings laid down in Annex II to the CFP Regulation, both in the case of the fleet registered on the mainland (MFL – mainland fleet) and in that of the fleets registered in the outermost regions.

❖ **Plans for improving the fleet management system**

In 2022, licensing restrictions for certain types of gear remained in force with a view to improving the fleet management system. Some were aimed at regulating fishing effort and catches of species considered more vulnerable or whose fishing levels are deemed less sustainable, while some applied to certain river basins or in the context of establishing marine biodiversity reserves. Restrictions on the granting of new permits were also maintained in order to prevent increases in the fishing effort for the various resources fished and to help maintain the existing balances. Another measure that has been used in managing the fleet is vessel decommissioning, whereby gear is sometimes transferred from decommissioned vessels to other vessels remaining active, thus allowing for greater profitability without any increase in fishing effort.

❖ **Use of the balance indicators**

Vessel use and economic indicators were calculated for all segments, while biological sustainability indicators were used for the main species fished by Portugal and covered by an ICES assessment.

2. BALANCE BETWEEN FLEET CAPACITY AND FISHING OPPORTUNITIES

In 2022, Portugal continued to implement a policy of sustainable exploitation of resources, aiming to reconcile that approach with the balanced management of the capacity of the national fishing fleet. At the same time, measures aimed at improving the safety and habitability of vessels were taken in order to provide greater safety and better working conditions for crews. However, this action is insufficient overall, given the progressive ageing of the fleet.

As regards the balance between fleet capacity and fishing opportunities, the combined application of the biological, economic and activity indicators shows that the HOK segment presents weaknesses in the length classes upwards of 12 metres. That situation becomes more acute in the case of vessels with an LOA of more than 24 metres, given that such vessels are especially vulnerable in terms of profitability, being more labour-intensive to operate and having a smaller catch capacity. One of the sub-segments of that fleet consists of surface longliners, which mainly fish swordfish and whose quota is clearly insufficient for them to carry out regular activity throughout the year. Therefore, considering the results that have been observed in recent years in the segments comprising smaller vessels operating with hooks, and discounting any future improvements that may reverse the current trend in the short term, we believe there to be an imbalance between the capacity of that fleet and its fishing opportunities. As a result, measures must be taken to align the fleet capacity with the available resources.

For their part, the remaining fleet segments are not considered to be structurally out of balance. Nevertheless, some present weak economic indicators, such as vessels using the *xávega* technique (beach seines – MGO) and the fleet of larger-sized trawlers, and continue to be monitored closely.

As regards the purse-seiner segment, purse seiners land the greatest volume of fish in terms of the coastal fleet and account for most of the small pelagic species caught, including sardine. Despite the restrictions that have been applied to sardine in

recent years, and the fluctuations that are typical for this type of resource, the economic performance of the segment remains positive overall, showing an upturn in 2022 compared with 2021.

In the case of the biological indicators, most segments are in biological equilibrium.

3. GENERAL DESCRIPTION OF THE FLEET IN TERMS OF FISHERIES

On 31 December 2022, the Portuguese fishing fleet consisted of 7 608 vessels with a total gross tonnage of 86 304 GT and a total propulsion power of 347 619 kW. It is spread across the mainland, the Azores and Madeira.

The national fleet mainly comprises small fishing boats: around 91% of the registered vessels have an LOA of less than 12 metres. These small boats also have a low gross tonnage, which, as a whole, only accounts for about 14.2% of the national total. The average age of the registered fleet is around 37 years and, in terms of the active fleet, around 27 years. Additional information can be found in Annex I, which provides a more detailed breakdown of the national fishing fleet.

Fisheries carried out

The national fishing fleet comprises the fleets of the mainland and the outermost regions of Madeira and the Azores. The respective fisheries are carried out on the basis of the areas of operation and the gear assigned, which can be divided into the following groups: gillnets and trammel nets (DFN); dredges (DRB); trawls (DTS); traps (FPO); hooks and lines (HOK); *xávega* (beach seines – MGO); purse seines (PS); beam trawls (TBB) and polyvalent vessels (MGP, PGP and PMP). Annex II provides a description of the fisheries carried out, with information on the main species fished, the areas of operation and the proportion of each group’s activity in relation to the total active fleet. Annex III shows the situation of the Portuguese fleet on 31 December 2022, by region and licensed gear, in accordance with the segmentation established in the national programme for fisheries data collection (PNRD).

The fishing fleet registered in Madeira is active mainly in subarea 2 of the Madeira EEZ, with vessels operating at certain times of the year in the waters of the Azores and the Canary Islands, under reciprocal agreements and in international CECAF waters. The Madeiran fleet, which is mostly polyvalent, is licensed in the main for pole-and-line, deep-water-longline and purse-seine fishing. The most commonly fished species are tunas, black scabbardfish and small pelagics (Atlantic chub mackerel and blue jack mackerel), which constitute around 91% of the fish landed. Coastal demersal species and molluscs account for around 9% of the total volume of fish landed in the region and are caught mainly using bottom-set longlines, handlines, traps, and, in the case of molluscs (limpets), harvesting tools.

The fishing fleet of the Azores is a small-scale fleet consisting mainly of vessels less than ten metres in length. Even though the number of such vessels has been falling over time, they still accounted for approximately 73% of the total active fishing fleet in the Azores in 2022 (Figure 1). The Azores fishing fleet is dominated by vessels operating with hooks and lines, which make up 84% of the region’s total active fleet (Figure 2).

Figure 1 – Composition of the Azores fleet by length class

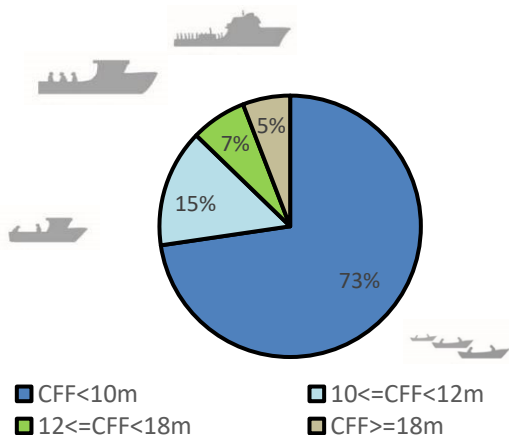
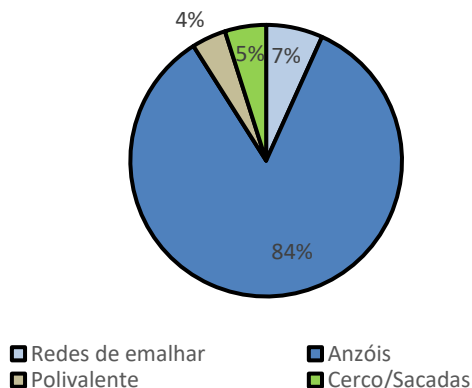


Figure 2 – Composition in terms of groups of fishing gear most commonly used by the Azores fleet



<u>Portuguese</u>	<u>English</u>
CFF	LOA
Redes de emalhar	Gillnets
Anzóis	Hooks
Polivalente	Polyvalent gear
Cerco/Sacadas	Purse seines/lift nets

As regards the activity of the national fleet operating in external fishing grounds in 2022 and activity under sustainable fisheries partnership agreements (SFPAs), we should mention the fishing permits issued under the agreements with Cabo Verde and São Tomé and Príncipe and the corresponding fishing by Portuguese vessels.

Moreover, on the subject of those agreements, Portugal participated in the negotiations to renew the fisheries protocols signed with Mauritius and Madagascar. Portugal was also represented at the Joint Committee meetings on the SFPAs with Mauritania, Cabo Verde, Côte d'Ivoire, Senegal, Morocco, Guinea-Bissau and Seychelles.

It is also worth mentioning the new protocol to the SFPA between the EU and Mauritius, which entered into force on 21 December 2022 and is valid for 4 years, from 2022 to 2026. Under that protocol, Portugal retains access to Mauritian waters for 4 longliners.

Within the framework of the Indian Ocean tuna agreements, negotiations continued in 2022 for the agreement of a new EU-Madagascar protocol, as the previous one expired on 31 December 2018. We are awaiting future developments that will allow the Portuguese fleet to return to that fishing ground.

As regards the EU-Norway fisheries agreement, which includes the waters around Svalbard, the Portuguese fleet maintained its pattern of activity of recent years, namely the regular presence of three fishing units that engage in cod (and other) fisheries.

Following the United Kingdom's withdrawal from the EU, a fisheries agreement between the 27 EU Member States and the United Kingdom was signed on 24 December 2020, establishing the rules governing the new agreement. In 2022, Portugal licensed two vessels to fish in United Kingdom waters, and they went on to do so.

As regards regional fisheries management organisations (RFMOs), the activity carried out by Portuguese vessels in 2022 was mainly within the framework of the International Commission for the Conservation of Atlantic Tunas (ICCAT), the North East Atlantic Fisheries Commission (NEAFC) and the Northwest Atlantic Fisheries Organization (NAFO). Nevertheless, fishing was also carried out in other RFMOs, but in a more peripheral manner. This was the case for the Indian Ocean Tuna Commission (IOTC), where two Portuguese-flagged vessels were involved in fishing for tunas and tuna-like species, the General Fisheries Commission for the Mediterranean (GFCM), where one vessel used traps to fish for shrimp, and the Inter-American Tropical Tuna Commission (IATTC), where four fishing units were involved in fishing for tunas and tuna-like species.

We should point out that the national tuna fleet only uses surface longlines when operating in external fishing grounds.

Development of the fleet

The Portuguese fishing fleet continues to shrink, as a result of the process that has been taking place to adapt capacity to available resources. Comparing the situation on 31 December 2022 with the situation on 1 January 2014, there has been a 7.75% reduction in the number of vessels, a 15.29% reduction in capacity in terms of gross tonnage and a 5.01% reduction in capacity in terms of propulsion power (Table 1). Annexes IV and IV-a show the development of the active fleet over the last five years (2018–2022), by region, length class and fleet segment. The number of licensed vessels and the corresponding capacity (in terms of gross tonnage and propulsion power) are similar to the previous year.

Table 1 – Development of the fleet between 2014 and 2022

REGION	FLEET ON 1.1.2014			FLEET ON 31.12.2022			DIFFERENCE IN ABSOLUTE TERMS			DIFFERENCE IN PERCENTAGE TERMS		
	NUMBER	GT	POWER (kW)	NUMBER	GT	POWER (kW)	NUMBER	GT	POWER (kW)	NUMBER	GT	POWER (kW)
MAINLAND	6 996	85 453	294 683	6 499	73 395	280 297	-497	-12 058	-14 386	-7.65	-16.43	-5.13
AZORES	764	10 112	54 124	706	9 238	51 678	-58	-874	-2 446	-8.22	-9.46	-4.73
MADEIRA	438	3 938	16 222	403	3 670	15 643	-35	-268	-579	-8.68	-7.31	-3.70
NATIONAL TOTAL	8 198	99 503	365 029	7 608	86 304	347 619	-590	-13 199	-17 410	-7.75	-15.29	-5.01

Changes in 2022 – entries and exits

In 2022, 53 vessels entered the national fishing fleet, amounting, in terms of capacity, to 314 GT (gross tonnage) and 2 833 kW (propulsion power). Most of those vessels entered the mainland fleet (84.9%). Table 2 shows the number of vessels newly registered per fleet segment, while Table 3 shows their origin: 56.6% were newly constructed vessels (CST), 41.5% were vessels that had changed activity (CHA) and 1.9% were units imported from other Member States (IMP). The figures reflect the effort being made to renew the fishing fleet through new units, thereby ensuring better safety and working conditions on board.

Table 2 – Entries by fleet segment

SEGMENT/ REGION	DFN	FPO	HOK	PGP	PMP	PS	TBB	INACTIVE	TOTAL
MAINLAND	6	3	1	12	1	1	2	19	45
AZORES	3		2					2	7
MADEIRA			1						1
TOTAL	9	3	4	12	1	1	2	21	53

Table 3 – Entries by event type

REGION	TYPE OF ENTRY			TOTAL
	CHA	CST	IMP	
MAINLAND	16	28	1	45
AZORES	5	2		7
MADEIRA	1			1
TOTAL	22	30	1	53

In 2022, 88 units left the national fishing fleet, amounting, in terms of capacity, to 365 GT (gross tonnage) and 2 918 kW (propulsion power). Table 4 shows the number of vessels decommissioned by fleet segment, while Table 5 shows the number of exits from the fleet by type of event: 75% were scrapped (DES), 22.7% were registered for a different activity (RET) and 2.3% were exported (EXP).

Table 4 – Exits by fleet segment

SEGMENT/REGION	DFN	FPO	HOK	PGP	PS	TBB	INACTIVE	TOTAL
MAINLAND	3	2	3	24	1	2	38	73
AZORES	2			1			7	10
MADEIRA							5	5
TOTAL	5	2	3	25	1	2	50	88

Table 5 – Exits by event type

REGION	TYPE OF EXIT			TOTAL
	DES	EXP	RET	
MAINLAND	54	2	17	73
AZORES	8		2	10
MADEIRA	4		1	5
TOTAL	66	2	20	88

Table 6 – Development of the fleet in 2022

DEVELOPMENT OF THE FLEET IN 2022	PORTUGAL			MAINLAND			AZORES			MADEIRA		
	NUMBER	GT	POWER (kW)	NUMBER	GT	POWER (kW)	NUMBER	GT	POWER (kW)	NUMBER	GT	POWER (kW)
FLEET CAPACITY ON 1.1.2022	7 643	86 336	345 562	6 526	73 418	278 295	710	9 240	51 666	407	3 678	15 601
ENTRIES IN 2022	53	314	2 833	45	265	2 349	7	47	463	1	2	21
CHANGES IN 2022	0	19	2 142	1	34	2 095	-1	-15	-32	0	0	79
EXITS IN 2022	88	365	2 918	73	322	2 441	10	34	419	5	10	58
FLEET CAPACITY ON 31.12.2022	7 608	86 304	347 619	6 499	73 395	280 297	706	9 238	51 678	403	3 670	15 643
CHANGE IN ABSOLUTE TERMS	-35	-33	2 057	-27	-23	2 003	-4	-2	12	-4	-8	42
CHANGE IN PERCENTAGE TERMS	-0.46	-0.04	0.59	-0.42	-0.03	0.71	-0.57	-0.02	0.02	-0.99	-0.21	0.27

Table 6 shows, by region, the movements of the fleet in 2022 in terms of entries, exits and changes in capacity (GT and kW). The general downward trend in the number of vessels continued.

4. FISHING EFFORT

Reduction schemes for fishing effort and capacity

In 2022, the plans listed in Table 7 were in force.

Table 7 – Recovery plans, fishing effort adjustment plans and capacity reduction plans

In force or established in 2022	Target group	Objectives
The Fishing Capacity Control Scheme	Vessels licensed for a wide range of fishing gear	To limit fishing capacity through the number of permits granted
The Management Plan for Iberian Sardine (2021–2026)	Particularly vessels licensed to use purse seines	Exploitation of the resource in accordance with a precautionary fishing rule. Closed season of at least 3 months, annual and daily catch limits.
The Management Plan for European Eel (in force since 2009)	All vessels/fishers involved in commercial and recreational fishing	To recover silver eel biomass to pristine values
The Multiannual Plan for Western Waters	All vessels fishing for quota species in ICES areas 8b, 8c, 9a and 10 (European waters)	Joint management of some of the most important stocks throughout the area, balancing the respective MSY ranges so that the various optimal fishing levels can be aligned
The Management Plan for Bluefin Tuna	Traps Vessels licensed for surface-longline fishing (by-catches) or targeted fishing in the outermost regions (pole and line)	To regulate this fishery in accordance with the ICCAT recommendation in force since 2019
The Multiannual Plan for the Conservation and Management of Tropical Tunas	Vessels licensed for surface-longline or pole-and-line fishing	To reduce the mortality levels of tropical tunas

The reduction schemes' impact on fishing capacity

The Management Plan for Sardine Fishing (2021–2026)

In 2021, a management plan for Iberian sardine was implemented on the joint initiative of the Portuguese and Spanish authorities for the period 2021–2026, replacing the Recovery Plan for 2018–2023. This followed the improvement in the situation of the sardine stock, which has now been restored to safe biological limits. The new plan includes a new harvest control rule assessed as precautionary by the ICES (Request from Portugal and Spain to evaluate a new Harvest Control Rule for the management of the Iberian sardine stock (divisions 8.c and 9.a), in Report of the ICES Advisory Committee, 2021. ICES Advice 2021, sr.2021.05. <https://doi.org/10.17895/ices.advice.8163>), and provides that the number of vessels involved in the fishery must not increase. Furthermore, it lays down the quantities that may be fished, and establishes measures for managing and monitoring the activity of vessels fishing for sardine. The fishing effort has been adjusted through the publication of various legal provisions as part of a local, rapid-response management system, aligning the activity of fishers with the level of fishing and the existence of juvenile fish.

The Management Plan for Bluefin Tuna in the Eastern Atlantic and the Mediterranean

Moving from a recovery plan to a management plan in 2019 meant that it was no longer necessary to fish bluefin tuna exclusively using traps and that the national plan could include bluefin tuna fishing by small-scale fleets, as practised in the outermost regions. In that same year, Recommendation 19-04, which continued to endorse a multiannual management plan for the resource, was adopted. The Recommendation came into effect in June 2020.

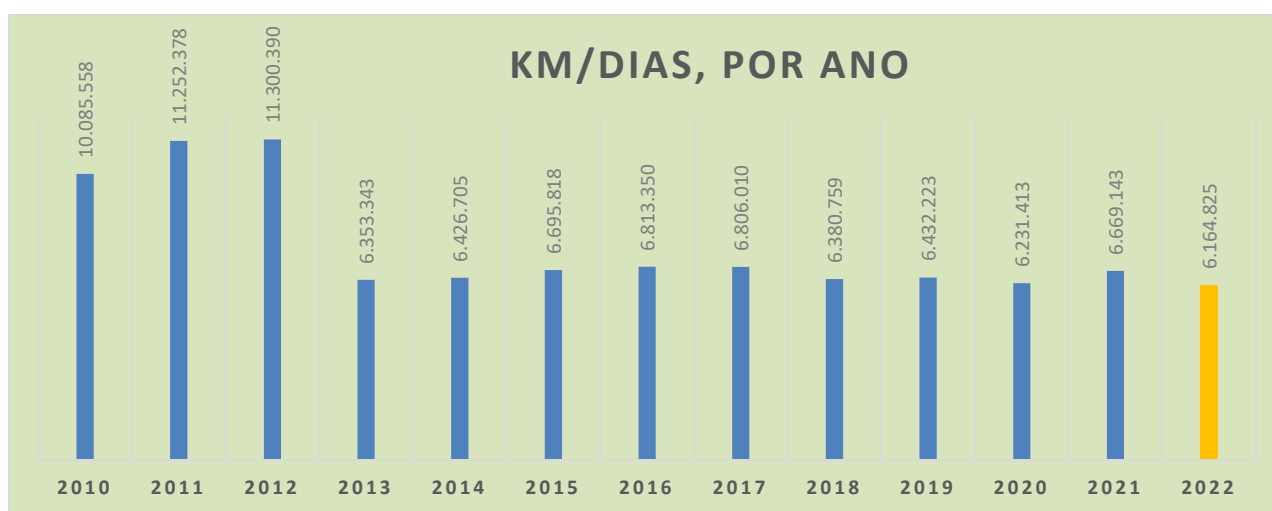
In 2022, fleets in the outermost regions retained their permits to fish bluefin tuna, and the percentage of by-catch remained lower than that indicated in the Recommendation.

The provisions adopted in the context of the ICCAT continue to be reflected in EU law through Regulation (EU) 2016/1627 of the European Parliament and of the Council of 14 September 2016.

Overall fishing effort in south-western waters

The overall fishing effort of the Portuguese fleet in western waters under Council Regulation (EC) No 1954/2003 of 4 November 2003, as amended, is shown in Figure 3 (in kW/day). We can see that this fell by 39% between 2010 and 2022.

Figure 3 – Fishing effort in south-western waters



Portuguese	English
Km/dias, por ano	Km/day, per year

5. ENTRY AND EXIT SCHEME AND CAPACITY CEILINGS

As far as the capacity of the EU fishing fleet is concerned, each Member State has its own defined segmentation. In the case of Portugal, capacity (in GT and kW) is managed at regional level (the regions being the mainland, the Azores and Madeira). The mainland fleet is managed as a whole, while the fleets of the Azores and Madeira are managed in accordance with the segmentation for Portugal's outermost fleets laid down in Annex II to Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013. In 2022, Portugal complied with the rules of the entry and exit scheme, as well as the fishing capacity ceilings established for the mainland fleet and the fleets of the outermost regions.

Table 8 shows, by region, the capacity of the national fishing fleet in terms of tonnage and propulsion power as at 1 January 2014 and 31 December 2021, in accordance with Articles 22 and 23 of Regulation (EU) No 1380/2013.

Table 8 – Reference levels

CALCULATION OF COMPLIANCE WITH THE FISHING CAPACITY CEILINGS IN ACCORDANCE WITH ARTICLE 22(6) AND (7) OF REGULATION (EU) NO 1380/2013	MAINLAND		MADEIRA						AZORES				NATIONAL TOTAL	
			Demersal species – LOA < 12 m (4K6)		Demersal and pelagic species – LOA > 12 m (4K7)		Pelagic species – seine nets – LOA > 12 m (4K8)		Demersal species – LOA < 12 m (4K9)		Demersal and pelagic species – LOA > 12 m (4KA)			
	GT	kW	GT	kW	GT	kW	GT	kW	GT	kW	GT	kW	GT	kW
FISHING CAPACITY CEILINGS LAID DOWN IN ANNEX II TO REGULATION (EU) NO 1380/2013	94 054	313 468	604	3 969	4 114	12 734	181	777	2 617	29 870	12 979	25 721	114 549	386 539
CAPACITY AS AT 1.1.2014	85 459	294 691	485	4 019	3 333	11 581	136	777	2 244	29 422	7 845	24 578	99 501	365 068
CAPACITY WITHDRAWN WITH PUBLIC AID (GTa AND kWa)	1 946	4 319	0	0	0	0	0	0	62	1 095	0	0	2 007	5 414
FISHING CAPACITY CEILING AS AT 31.12.2022	92 108	309 149	604	3 969	4 114	12 734	181	777	2 555	28 775	12 979	25 721	112 542	381 125
FISHING CAPACITY AS AT 31.12.2022	73 395	280 298	422	3 602	3 112	11 264	136	777	2 224	28 142	7 014	23 536	86 304	347 619
BALANCE	18 713	28 851	182	367	1 002	1 470	45	0	331	633	5 965	2 185	26 238	33 506

6. MANAGEMENT OF THE FISHING FLEETS

Strengths and weaknesses of the fleet management system

Strengths:

- Existence of an effective integrated fisheries information system (SI2P), which, in addition to enabling the recording of all fishing vessel movements, namely entries, changes and exits, facilitates the sound management of the capacity of the national fleet and, among other functions, the monitoring of catches.
- Existence of a digital licensing system, which allows inspection and monitoring staff to check licences in real time, via a dedicated website (<https://www.portuguese-flagcontrol.pt/>).
- Existence of monitoring and control equipment that allows effective monitoring and surveillance of fleet activity.
- Requirement for fish to be sold first at auction, which enables better checks of landings in relation to catches made.
- 24/7 operation of the Fisheries Monitoring and Surveillance Centre [*Centro de Controlo e Vigilância da Pesca – CCVP*], allowing ongoing monitoring and surveillance of fleet activity.
- Linking licences to proof of activity for each sale at auction, so as to minimise the tendency of underdeclaration.
- Artisanal fleet comprising small vessels that engage in more sustainable fishing, given that they are more selective and catch a relatively small volume of high-quality fish.
- Fleet segments made up of larger vessels operating on the coast and offshore in accordance with strict capacity management rules.
- Local-level management involving the authorities, the scientific community and fishers, with a regional approach and the ability to implement measures in an agile manner.

Weaknesses:

- In the case of multispecies fisheries, the difficulty of implementing fishing effort control schemes by species, given that it is impossible to indicate a target species or the specific gear being used in a particular fishing operation.
- Large number of vessels using various types of gear throughout the year, which makes it difficult to analyse the fishing effort linked to each type of gear.
- High average age of the fleet and inadequate operating conditions for a large number of vessels, particularly in small-scale fisheries.
- Large number of small or very small vessels that are not fitted with monitoring equipment, which makes it difficult to monitor them and to cross-check information.

Plans to improve the fleet management system

For several years, licensing restrictions regarding the use of certain types of gear have been in place for the fishing of species that are considered to be more vulnerable or whose fishing levels are less sustainable, as well as for certain river basins and in the context of establishing marine biodiversity reserves. Furthermore, with a view to preventing resources that could be exploited in a sustainable manner from being wasted, and to increasing flexibility with regard to earnings, the authorities permit the transfer of gear between vessels in specific situations. In cases where the viability of the activity is in question, granting permits for fishing with certain types of gear is offset by decommissioning other vessels using the same gear. This allows for greater profitability in the case of the vessels remaining active, without any increase in fishing effort. In order to prevent increases in the fishing effort for the various resources fished and to maintain the existing balance, no new fishing permits are issued for certain types of gear. We would also emphasise the scale of the sector's involvement in managing resources that present some weaknesses, with regular meetings having been stepped up in the framework of certain fisheries monitoring committees.

Information on the general level of compliance with fleet policy instruments

With regard to the EU rules on fleets, we consider it relevant to highlight the following areas:

Monitoring the capacity of the fishing fleet

The capacity of the national fleet in terms of tonnage (GT) and propulsion power (kW) is managed through the rigorous monitoring of capacity added versus capacity withdrawn, in accordance with the common fisheries policy (Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013). The Directorate-General for Natural Resources, Safety and Maritime Services (DGRM) is responsible for authorising both the addition of new capacity to the mainland fleet and increases in the capacity of the registered fleet. That responsibility lies with the relevant regional bodies in the case of the fleets of the outermost regions. Fleet capacity monitoring is undertaken on a case-by-case basis for all situations involving additions of or increases in capacity, and regular assessments are carried out on the basis of the information in the EU register (Fleet Register).

Monitoring and inspection of fishing activity

The fishing activity monitoring system established by Council Regulation (EC) No 1224/2009 of 20 November 2009, which is implemented on the basis of Commission Implementing Regulation (EU) No 404/2011 of 8 April 2011, as amended, takes the form of checks on compliance with the technical measures adopted. These checks are carried out in accordance with the procedures and systems for monitoring and cross-checking information from different sources, particularly the information from electronic fishing logbooks and the continuous satellite monitoring system (VMS). Through the VMS, information is obtained in real time on the location, route and speed of vessels fitted with such equipment (vessels with an LOA of more than 12 metres), which enables comprehensive monitoring of the activity in question. The data transmitted are cross-checked with the catch/landing data, ensuring greater scrutiny. This also allows information to be obtained which is used for the purpose of complying with EU rules in the area of fisheries, e.g. the requirements to control fishing effort, to monitor quota uptake and, where applicable, to enforce closed seasons.

The competent authorities of the autonomous regions and the DGRM are responsible for carrying out monitoring and inspection of fisheries and related activities under the common fisheries policy, and for implementing measures against illegal, unreported and unregulated fishing (IUU fishing). The DGRM is tasked with coordinating the activity of the various bodies with responsibilities in the area of monitoring and inspection. In addition to the DGRM, the Regional Fisheries

Inspectorate of the Azores (IRPA), the Regional Fisheries Directorate of Madeira, the National Republican Guard (GNR), the Portuguese Air Force (FAP) and the Directorate-General of the Maritime Authority (DGAM) are involved in carrying out monitoring, inspection and surveillance activities. They all form part of the System for Notifying, Monitoring, Inspecting and Controlling Fishing Activities (SIFICAP).

In the area of inspection, measures focusing on TAC species were established as the main objective in 2022, and inspections targeting vessels fishing such species were prioritised. In that context, all NAFO landings were inspected, with 13 checks being carried out on 8 vessels and 16 suspected infringements being detected.

As regards the specific control and inspection programme (SCIP) for fisheries exploiting stocks of bluefin tuna (BFT) in the eastern Atlantic, and in order to comply with the reporting obligation laid down in Article 11(1) of Commission Implementing Decision (EU) 2018/1986 of 13 December 2018, 54 inspections at sea and 143 landing inspections were carried out. 6 hours of aerial surveillance, with 1 sighting, were also undertaken. 14 serious infringements were detected, giving an average serious infringement rate of 7.8% (the infringement rate is the ratio between the number of suspected infringements and the number of inspections, expressed as a percentage).

The National Maritime Authority (AMN) carried out 8 234 checks throughout Portugal, including the Azores and Madeira, and detected 1 045 suspected infringements, giving an infringement rate of 12.6%. The Regional Fisheries Inspectorate of the Azores (IRPA) carried out 1 097 checks and detected 63 suspected infringements, giving an infringement rate of 5.7%. The Regional Fisheries Directorate of Madeira carried out 209 checks and detected 13 suspected infringements, giving an infringement rate of 6.2%. The Portuguese Air Force (FAP) spotted 100 targets in its surveillance activities, with an infringement rate of 1%. Within the scope of its powers, the National Republican Guard (GNR) carried out monitoring of recreational fishing, professional fishing, warehouses, transportation, fishmongers, markets, aquaculture and businesses, among others, in 2022.

A regional monitoring centre has been established in Madeira, which replicates the National Fisheries Monitoring and Surveillance Centre (CCVP). This set-up allows the movements of fishing vessels to be monitored on a daily basis. The information obtained is cross-checked against data from landings and fishing logbooks, and alerts which generate notifications are triggered in the event of infringements.

Besides facilitating coordination between its various constituent bodies, the SIFICAP allows access to fleet, licensing and register data and other information that is relevant for the monitoring process. That information is used to carry out a risk analysis, which allows monitoring and inspection priorities to be established and is distributed among the competent bodies in the area of fisheries monitoring, namely the Navy, the National Republican Guard (GNR), the Portuguese Air Force (FAP) and the national fisheries authority, the DGRM.

Monitoring activities in Madeira are organised on a monthly basis with the other bodies on the SIFICAP's Programming and Planning Committee, under the coordination of the DGRM.

7. CHANGES TO ADMINISTRATIVE PROCEDURES RELEVANT TO FLEET MANAGEMENT

In 2022, the changes to administrative procedures fell within the scope of the fisheries management measures listed below:

- Regulation (EU) 2021/91, which concerns the fishing opportunities for deep-sea species in 2021 and 2022, and which expressly prohibits fishing for deep-sea sharks (DWS) in the ICES 9 and 10 and CECAF 34.1.2 fishing areas, including the species listed in part 1, point 2, of the Annex to that Regulation, meaning that deep-sea sharks may not be fished for in those areas and those caught may not be retained on board, transshipped, relocated or landed;
- Ministerial Implementing Order No 10/2021 of 8 January 2021 establishing the rules on fishing permits for the deep-sea species listed in Annex I to Regulation (EU) 2016/2336 of the European Parliament and of the Council of 14 December 2016;
- Ministerial Implementing Order No 6/2022 of 27 January 2022 establishing the licensing model for commercial maritime fishing in the sea surrounding the Azores, by fishing vessels registered at ports in the Azores;
- Ministerial Implementing Order No 20-A/2022 of 18 March 2022 approving the Regulation establishing, for 2022, the total permitted catch volumes for red seabream, and the associated conditions, for fishing vessels registered at ports in the Azores;

- Ministerial Implementing Order No 28/2022 of 29 April 2022 approving the support scheme linked to the programme for the joint management of blue jack mackerel (*Trachurus picturatus*) fisheries in the Azores, extended by Ministerial Implementing Order No 96/2022 of 2 November 2022;
- Order No 1696/2022 of 17 August 2022 transferring the fishing opportunities for parrotfish (*Sparisoma cretense*) between islands;
- Ministerial Implementing Order No 84/2022 of 23 August 2022 approving the temporary arrangements reducing the conservation prices for tuna laid down in the General Regulation on the operation of auction halls, warehouses, collection points and collection vehicles in the Azores;
- Order No 1852/2022 of 12 September 2022 distributing the 2022 quota for red seabream (*Pagellus bogaraveo*) in ICES subarea X, earmarked for the nine islands of the Azores, among local and coastal fishing vessels registered at ports in the Azores, and revoking Order No 1440/2022 of 15 July 2022;
- Order No 2129/2022 of 6 October 2022 removing the catch limits for each island and for each vessel and/or fishing trip, as laid down in Article 3(3) and (4) of and Annex I to Ministerial Implementing Order No 130/2021 of 21 December 2021, as amended;
- Ministerial Implementing Order No 51/2022 of 20 January 2022 establishing rules on fishing in the Aveiro Lagoon (Ria de Aveiro), and Order No 24/DG/2022 establishing additional management rules, including daily bivalve limits for vessels/harvesters;
- Ministerial Implementing Order No 238/2022 of 15 September 2022 establishing rules on fishing in the Lagoa de Óbidos lagoon;
- Ministerial Implementing Order No 255/2022 of 26 October 2022 establishing minimum conservation reference sizes;
- Order No 20/DG/2022 of 28 April 2022 establishing, for all fishing areas, the period in which dredge fishing for all bivalve mollusc species is to be prohibited for biological reasons in 2022;
- Ministerial Implementing Order No 237/2022 of 14 September 2022 establishing the management model for swordfish fishing with surface longlines in the Atlantic Ocean;
- Order No 53/DG/2021 on the rules for the specific licensing of undulate ray fishing in 2022, enabling the continuation of the scientific studies previously carried out under Ministerial Implementing Order No 4/2019 of 3 January 2019;
- Council Regulation (EU) 2022/109 of 27 January 2022 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters, as amended;
- Order No 16/DG/2022 of 6 April 2022 distributing the Atlantic mackerel quota for vessels authorised to use trawls in ICES area 8c under the Portuguese-Spanish Agreement;
- Order No 15/DG/2022 of 5 April 2022 distributing the mainland quota for swordfish in the Atlantic Ocean, north and south of 5° North;
- Order No 5126-A/2022 of 29 April 2022 re-opening sardine fishing from 00.00 on 1 May 2022 and establishing management measures for the fishery;
- Ministerial Implementing Order No 40/2022 of 18 January 2022 establishing exceptional rules for the capture of by-catch species by purse seiners in 2022;
- Order No 43/DG/2022 of 8 December 2022 closing sardine fishing from 12.00 on 17 December 2022;
- Order No 30/DG/2022 of 27 June 2022 establishing new management measures for anchovy fishing with effect from 00.00 on 4 July 2022, and Order No 38/DG/2022 of 28 October 2022 amending the daily catch limits for vessels fishing for anchovy, with effect from 2 November 2022.

8. BALANCE INDICATORS

The indicators for analysing the balance between the Portuguese fleet's fishing capacity and fishing opportunities were applied in accordance with the Commission's guidelines of 2 September 2014 (COM(2014) 545 final). The details are presented separately for the fleets of the mainland, Madeira and the Azores, as well as for the fleet operating exclusively outside EU waters.

In compliance with Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017, which concerns the use of data in the fisheries sector under the common fisheries policy, socioeconomic data have been included in clusters where necessary, thus keeping the primary data confidential.

8.1. The inactive fleet indicator

In 2022, 4 237 vessels did not carry out any activity. However, while the number of inactive units may be significant, in terms of capacity they only represent around 22% of the gross tonnage (GT) and 25% of the propulsion power (kW) of the entire registered fleet. Most of the vessels in the inactive fleet (around 93%) have an LOA of up to 10 metres. Annex V shows the number of inactive vessels and the corresponding capacity (GT and kW), by length class and region.

A process of decommissioning vessels that have been inactive for a long period of time is ongoing. It is expected to run over the next year and affect around 20% of the inactive fleet.

8.2. The vessel use indicator – the ratio between the average number and the maximum number of sea days

The activity levels of the national fishing fleet were assessed on the basis of the number of sea days of each vessel in each fleet segment. The data used to calculate the indicator were obtained from (electronic and non-electronic) fishing logbook data, as well as from data on landings at auction halls. The ratio between the average number of sea days per vessel and the maximum number of sea days observed was applied. The activity of the Portuguese fleet was assessed by region (the mainland, Madeira and the Azores), with the results for the fleet operating exclusively in non-EU waters also being presented separately.

The mainland fleet

Annex VI shows the last four years' figures for the mainland fleet and for vessels operating exclusively in non-EU waters. The trawler (DTS and TBB) and dredger (DRB) segments comprise vessels that use one group of gear only. The purse-seiner (PS) segment consists mainly of vessels that use purse seines only; however, it also includes vessels mostly using purse seines but licensed for other types of gear too. The remaining segments comprise vessels that use two or more types of gear.

As we can see, the ratios for the segments of the mainland fleet show rates of use ranging from 0.28 to 0.87 in 2022. The traffic light system indicates that 61.8% of the segments/length classes of the mainland fleet operating in national waters present unsatisfactory (red) ratios, while 38.2% present barely satisfactory (yellow) ratios.

With the exception of the trawler segment, all segments that include vessels with an LOA of up to 10 metres display unsatisfactory activity ratios. This is due mainly to situations relating to adverse weather conditions, which prevent smaller vessels from operating regularly during the winter. This is the case especially in the northern part of the country, where vessels are faced with less favourable weather conditions than the fleet operating in the south. It should also be noted that vessels with an LOA of up to 10 metres account for 71% of the total number of licensed vessels in the mainland fleet.

The dredger (DRB), trap (FPO), *xávega* (beach seines – MGO), polyvalent (PGP), and beam-trawler (TBB) segments present unsatisfactory activity ratios in all length classes. The performance of vessels using gillnets and trammel nets (DFN) has been barely satisfactory in recent years, particularly in the case of segments comprising vessels of less than 12 metres.

In the purse-seiner segment (PS), the unsatisfactory activity ratios stem, in the main, from the restrictions on sardine fishing (which is subject to a minimum closed season of three months) and those on anchovy fishing, imposed for quota management reasons. We can see that, although the ratios for vessels over 18 metres are barely satisfactory, they have nevertheless improved compared with 2021.

In addition to the aforementioned constraints on smaller vessels, vessels in these fleet segments also face circumstances that prevent them from operating for long periods of the year, in particular mandatory closed seasons (as in the case of the DRB, FPO, PS and TBB segments) and the presence of toxins in bivalve molluscs (DRB segment).

In recent years, the trawler segment has presented solid use ratios (albeit lower than 0.9 [i.e. yellow] according to the traffic light system), which reflect the fact that the average number and the maximum number of sea days are almost on par.

The hooks and lines (HOK) segment continues to present unsatisfactory activity ratios in the length classes for vessels with an LOA of between 0 and 10 metres and between 12 and 18 metres. The reasons are essentially the same as those provided above for other segments with identical ratios.

In the case of the fleet operating exclusively in non-EU waters, the VL2440 and VL40XX length classes of the HOK segment operating in the OFR (Other Fishing Regions) performed better with respect to 2021, recording ratios of 0.81 and 0.90 respectively. As for the DTS segment, the performance of vessels operating in the NAO (the North Atlantic Ocean) also improved compared with the previous year. It is important to note that, although this fleet fishes regularly throughout the year, its activity levels were impacted by the COVID-19 pandemic in 2021.

As we have stated in previous years' reports, the indicator – as it is defined – does not appear to be the most appropriate means of assessing the actual activity of the vessels. Therefore, it is not possible to draw reliable conclusions on overcapacity in the fleet. The variability between the average number and the maximum number of sea days is mostly due to the particularities of vessels in the segments concerned and has little to do with structural underactivity. While this observation applies to the majority of fleet segments, the mismatch is more evident in the case of small-scale fishing vessels, as the activity carried out in that segment is very varied. The main factors contributing to these differences are the great variability in the weather and sea conditions of the different areas/regions of the mainland, the fact that a large number of vessels operate on a part-time basis (seasonal activity), and the requirement to observe specific closed seasons for certain areas or types of fishing gear.

The Azores fleet

As regards the activity of the fleet registered in the Azores, the values for the use ratios were relatively low between 2017 and 2022 and did not display a clear trend. The relative variation in the values displayed by the different segments of the Azores fleet is intrinsically linked to the vessels' technical characteristics and fishing patterns. Various factors contribute to these differences, such as weather conditions that significantly affect the vessels' ability to operate (especially smaller vessels) and can vary greatly between the different islands (e.g. the Western Group compared with the Eastern Group, the north coast compared with the south coast). Furthermore, a large percentage of owners of smaller vessels have more than one professional activity or carry out their activity on a seasonal basis as fishers on board other vessels (e.g. during the tuna season).

In view of the characteristics of the Azores fleet, the proposed use indicator does not allow conclusions to be drawn on the existence of any imbalances in technical capacity.

Table 9 – Use indicator for the Azores fleet

Region	Fishing tech.	Vessel length	2017			2018			2019			2020			2021			2022		
			Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio
Azores, Area 27	DFN	VL0010	74	142	0.52	80	153	0.52	68	156	0.44	60	149	0.40	64	185	0.35	65	215	0.30
	HOK	VL0010	59	250	0.24	69	203	0.34	63	237	0.27	59	221	0.27	70	191	0.36	69	268	0.26
		VL1012	90	244	0.37	110	134	0.82	127	225	0.56	113	212	0.53	90	196	0.46	110	258	0.43
		VL1218	63	198	0.32	71	186	0.38	118	217	0.54	126	260	0.48	90	188	0.48	116	225	0.52
		VL2440	12	49	0.24	89	165	0.54	129	254	0.51	106	232	0.46	76	187	0.41	112	237	0.47
	PGP	VL0010	83	162	0.51	91	153	0.59	85	222	0.38	81	185	0.44	78	190	0.41	72	151	0.48
	PS	VL0010	74	134	0.55	71	123	0.58	92	143	0.64	73	133	0.55	77	173	0.44	94	180	0.52
		VL1012	118	185	0.64	136	194	0.70	195	259	0.75	181	261	0.69	162	184	0.88	166	221	0.75
		VL1218	-	-	-	-	-	-	-	-	-	-	174	185	0.94	134	178	0.75	110	179

The Madeiran fleet

The activity of the fleet registered in Madeira in 2022 was analysed on the basis of the ratio between the actual effort deployed by each vessel and the maximum effort observed. In this context, all vessels authorised to fish during the year and recording at least one day at sea were taken into account.

The HOK VL0010 segment continued to present a variable pattern over the period under analysis (2017–2022), with a decrease in the value of the indicator between 2019 and 2020, an upturn in 2021, and a further decrease in 2022. The fundamental reason for the fluctuation in the value of the indicator is the highly seasonal activity of this segment, which is significantly influenced by the weather conditions. In 2022, the ratio for the HOK VL1218 segment decreased vis-à-vis 2021; however, it does not indicate technical overcapacity. The HOK VL2440 segment displayed the same trend in 2022 as in 2021, moving closer towards a state of balance with a ratio of 0.79.

As regards the MGP VL0010 segment, the ratio revealed a clear upturn in the segment’s activity, mirroring the general trend of progressive recovery observed between 2017 and 2020 and contrasting with 2021. In 2022, the average activity amounted to more than 90% of the maximum activity, which indicates that the activity of this fleet segment is, at present, largely consistent. The MGP VL1824 segment presented the same pattern as for the period 2017–2019; in other words, it is in balance, having achieved the maximum value for the indicator (1.00). This means that the average activity is the same as the maximum activity (100%).

Table 10 – Use indicator for the Madeiran fleet

	Fishing tech.	Vessel length	2017			2018			2019			2020			2021			2022		
			Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio
			Madeira	HOK	VL0010	187	212	0.88	170	188	0.91	173	200	0.87	177	228	0.78	166	199	0.83
VL1218	262	296	0.89		244	276	0.88	245	269	0.91	221	253	0.87	204	221	0.92	156	206	0.76	
VL2440	184	259	0.71		180	208	0.86	163	187	0.87	132	187	0.71	165	212	0.78	124	157	0.79	
NAO	MGP	VL0010	96.8	108	0.90	80.2	105	0.76	83	103	0.81	77	93	0.83	75	115	0.65	71	75	0.95
		VL1824	184	189	0.97	180	193	0.93	207	212	0.98	91	106	0.86	147	177	0.83	126	126	1.00

8.3. Biological sustainability indicators

The mainland fleet

The principal segments of Portugal’s mainland fleet are the purse-seiner, trawler and polyvalent segments. The latter comprises very diverse fleets that fish a great many species, often on a seasonal basis, mostly using cage traps targeting octopus or cuttlefish, gillnets or trammel nets, and hooks. Other vessels in this segment fish for species such as wedge sole with beam trawls, small pelagics using the *xávega* technique, and bivalve molluscs with dredges. Other established fisheries for which specific licences are issued are deep-sea fisheries and swordfish fishing.

Of the 300 species (approx.) landed for auction, 27 species fished in Portuguese continental waters are managed under quotas set by the EU. Yet even in the case of the quota species, quantitative assessments that allow fishing mortality rates and thus biological sustainability indicators to be calculated are not always carried out. Indeed, when providing management advice, the ICES mainly considers the precautionary approach and information on trends.

There is a huge variety of species present in Portuguese waters, most of which are fished in the context of polyvalent fisheries, as mentioned above. It should be noted that this situation makes carrying out quantitative assessments very difficult and unreasonably costly. A further complication is the prevalence of small-scale fisheries, where the gear used depends on the time of year and it is more difficult to calculate the fishing effort linked to each type of gear.

Nevertheless, information can be gleaned from the second report evaluating the measures taken under the Marine Strategy Framework Directive (MSFD), which was drawn up by the Portuguese Institute for Sea and Atmosphere (IPMA) in 2021, in accordance with ICES guidelines. In terms of trends, that report, which covers 48 species of commercial interest, indicates that deep-sea resources, namely black scabbardfish (BSF), alfonosinos (ALF) and red seabream (SBR), are stable, while greater forkbeard (GFB) is decreasing. Moreover, in the case of two species harvested by dredgers, it indicates that the wedge shell (DON) is stable and the surf clam (DPS) [sic] is increasing.

As regards the trawler fleet targeting crustaceans, the analysis in question shows that there have been increases in red shrimp (ARA) and scarlet shrimp (ARV) and a reduction in deep-water rose shrimp (DPS). In the case of Norway lobster, an ICES assessment indicates that this is stable in the functional units off the coast of mainland Portugal.

With respect to purse seiners, which mainly fish small pelagic species subject to significant fluctuations in stock levels, the report indicates stability in the case of bogue (BOG) and an upward trend in the case of Atlantic chub mackerel (MAS).

Furthermore, the qualitative analysis for the polyvalent fleet shows a downward trend in the case of pouting (BIB) but a positive trend in the case of other important resources fished, namely the molluscs squid (SQR), octopus (OCC) and cuttlefish (CTC), and demersal species such as small-spotted catshark (SYC), common two-banded seabream (CTB), John Dory (JOD) and various rays (RJC, RJM, RJN, RJU).

Tables 11 to 13 [sic] show the sustainability indicators for the fleet segments where quantitative information is available from scientific assessments carried out by the ICES, namely the DTS, PS, PGP and HOK (swordfish) segments.

As we can see, the dependency of each segment on stocks subject to assessment remains low in relation to the total stocks fished. The number of stocks fished above MSY also continues to be low. The stocks fished above MSY are Atlantic mackerel (MAC), blue whiting (WHB) and sardine, which present ratio values, in descending order, of 1.35, 1.16 and 1.10 respectively.

Here, we should point out that Atlantic mackerel is the object of targeted fishing on a seasonal basis by around 25 trawlers licensed to operate in Spain, while blue whiting is caught as a by-catch by trawlers targeting crustaceans as part of mixed fisheries. In the case of sardine, the F/F_{MSY} ratio is positive; however, the species is fished by purse seiners, which are subject to catch limits in accordance with the management plan approved by the ICES. That plan contains reference points calculated on the basis of a low productivity regime – a regime that is no longer justified given the recovery of the resource.

Table 11 – Sustainability indicators for the trawler fleet, indicating, for each length class, the significance of species under assessment

Catches	HKE	MON	ANK	MEG	LDB	HOM	WHB	MAC	Total	Segment total
DTS-VL0010	2 935		1 431	142	2	24 653		3 339	32 502	137 621
DTS-VL1012	46 785	2 326	9 915	8 223	15	87 004	17 859	7 788	179 915	552 783
DTS-VL1218	21 913	4 689	9 474	202	121	39 860	255 574	1 542	333 375	740 749
DTS-VL1824	29 666	8 055	35 138	1 658	921	4 662	56 269	142	136 511	633 666
DTS-VL2440	637 227	28 368	44 702	30 245	28 836	5 028 406	1 929 069	3 423 268	11 150 121	17 940 715
Indicator										
F/F_{MSY}	0.90	0.37	0.36	0.60	0.53	0.15	1.16	1.35		
DTS-VL0010	2 630		509	85	1	3 616	0	6 841	0.42	23.6%
DTS-VL1012	41 916	853	3 525	4 943	8	12 761	20 716	10 514	0.53	32.5%
DTS-VL1218	19 632	1 719	3 369	121	64	5 846	296 466	2 082	0.99	45.0%
DTS-VL1824	26 579	2 954	12 494	997	487	684	65 272	192	0.80	21.5%
DTS-VL2440	570 909	10 402	15 894	18 182	15 237	737 500	2 237 720	4 621 412	0.74	62.1%

All segments of the trawler fleet present an indicator below 1, which indicates biological sustainability. However, only in the segment comprising the largest vessels do species under assessment account for over 50% of the total catch. The vessels in that segment are typical coastal trawlers targeting fish.

Table 12 – Sustainability indicators for the purse-seiner fleet, indicating, for each length class, the significance of species under assessment

Catches	MAC	HOM	PIL	Total	Segment total
PS-VL0010	26	49 886	229 410	279 322	532 765
PS-VL1012	1 376	221 523	1 294 986	1 517 885	3 136 998
PS-VL1218	5 131	908 955	3 700 442	4 614 528	7 897 451
PS-VL1824	26 997	7 622 946	13 370 284	21 020 227	33 454 999
PS-VL2440	12 103	2 799 905	6 728 439	9 540 447	15 295 424
Indicator					
F/F_{MSY}	1.35	0.15	1.10		
PS-VL0010	35	7 483	252 351	0.93	52.4%
PS-VL1012	1 858	33 228	1 424 485	0.96	48.4%
PS-VL1218	6 927	136 343	4 070 486	0.91	58.4%
PS-VL1824	36 446	1 143 442	14 707 312	0.76	62.8%
PS-VL2440	16 339	419 986	7 401 283	0.82	62.4%

All segments of the purse-seiner fleet present an indicator below 1, which indicates biological sustainability. Species under assessment account for over 50% of the total catch in most segments, since sardine, which is under assessment, is very

common. If we also consider the assessments of the trends for Atlantic chub mackerel (MAS) and anchovy (ANE), we can conclude that the purse-seiner fleet is sustainable.

Table 13 – Sustainability indicators for the polyvalent fleet, indicating, for each length class, the significance of species under assessment

	HKE	MEG	MAC	LDB	ANK	HOM	PIL	MON	Total	Segment total
PGP-VL0010	74 294	217	10 735	12	18 421	82 738	9 960	2 363	198 740	7 065 875
PGP-VL1012	343			7	73	174		135	732	57 120
PGP-VL1218	44 452	113	20 514	52	17 013	36 632	39 578	16 054	174 408	1 172 043
PGP-VL1824	18 264	27	3 909	9	148	8 380		182	30 919	304 137
Indicator										
F/F _{MSY}	0.90	0.60	1.35	0.53	0.36	0.15	1.1	0.37		
PGP-VL0010	66 562	130	14 492	6	6 550	12 135	10 956	866	0.56	2.8%
PGP-VL1012	307	0	0	4	26	26	0	50	0.56	1.3%
PGP-VL1218	39 826	68	27 694	27	6 049	5 373	43 536	5 886	0.74	14.9%
PGP-VL1824	16 363	16	5 277	5	53	1 229	0	67	0.74	10.2%

The results of the analysis for this fleet are not conclusive, given the low proportion of species under assessment in the total catch.

Table 14 – Sustainability indicators for the surface longliner fleet targeting swordfish, indicating, for each length class, the significance of species under assessment

	Catches	SWO-N	SWO-S	Total	Segment total
HOK-VL0010		50		50	818 311
HOK-VL1012		201		201	42 934
HOK-VL1218		17 121		17 121	1 573 155
HOK-VL1824		604 399		604 399	2 132 065
HOK-VL2440		743 273	220 000	963 273	4 017 083
Indicator					
F/F _{MSY}		0.80	1.03		
HOK-VL0010		40	0	0,80	0.0%
HOK-VL1012		161	0	0,80	0.5%
HOK-VL1218		13 697	0	0,80	1.1%
HOK-VL1824		483 519	0	0,80	28.3%
HOK-VL2440		594 618	0	0,85	24.0%

As regards surface longline fisheries targeting highly migratory species, swordfish is the only such species fished by the mainland fleet, with a quota distributed among some 50 vessels. Although the indicators do not point to a situation of unsustainability, the Portuguese fleet has a small quota, which means that quotas must be continuously increased through exchanges with Spain. Surface sharks, which now have special protected statuses or must not be fished, are a significant component of these fisheries. As a result, this fleet is not deemed to be sustainable in the short term.

The Azores fleet

In 2022, landings by the Azores fleet were clearly dominated by tunas, which accounted for about 61% of the total landed volume by weight. The second most common group of species was demersal/deep-sea species, which accounted for around 20% of the total volume landed (Figure 4).

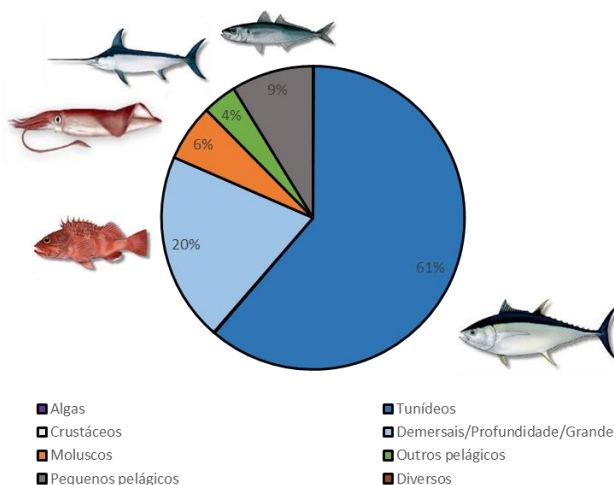


Figure 4 – Relative composition, by weight, of landings by the Azores fleet in 2022

Portuguese	English
Algas	Algae
Crustáceos	Crustaceans
Moluscos	Molluscs
Pequenos pelágicos	Small pelagic species
Tunídeos	Tunas
Demersais/Profundidade/Grande	Demersal/deep-sea/very-deep-sea species
Outros pelágicos	Other pelagic species
Diversos	Miscellaneous

Analysis of the composition of landings in terms of species group and value shows that demersal/deep-sea species accounted for 47% of the total value landed by the Azores fleet in 2022. Tunas only accounted for 29% of the value of sales at auction by Azorean vessels, despite dominating in terms of volume landed.

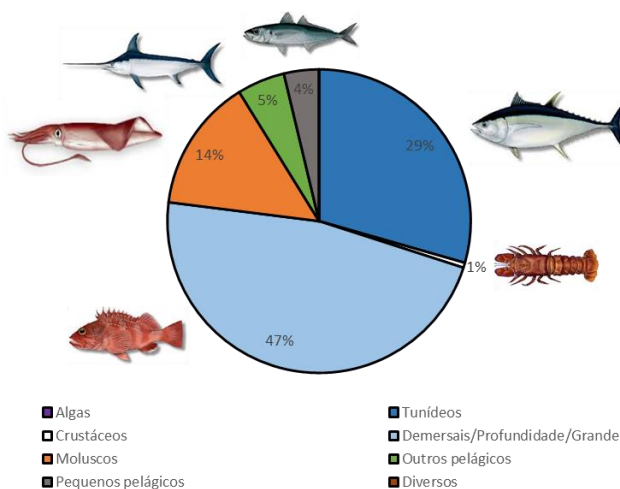


Figure 5 – Relative composition, by value, of landings by the Azores fleet in 2022

Portuguese	English
Algas	Algae
Crustáceos	Crustaceans
Moluscos	Molluscs
Pequenos pelágicos	Small pelagic species
Tunídeos	Tunas
Demersais/Profundidade/Grande	Demersal/deep-sea/very-deep-sea species
Outros pelágicos	Other pelagic species
Diversos	Miscellaneous

According to the guidelines for analysing the balance between fishing capacity and fishing opportunities under Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy set out in Communication from the Commission to the European Parliament and the Council COM(2014) 545 final, the biological indicators to be used are the sustainable harvest indicator (SHI) and the stock-at-risk indicator (SAR).

The sustainable harvest indicator (SHI)

Most of the resources fished in the Azores subdivision have not been the subject of analytical assessments that would allow the biological reference points to be identified and the primary indicators and MSYs to be calculated. The lack of analytical assessments is linked to the difficulty of defining local management units, given that most of the species are distributed over an area that extends far beyond the boundaries of the Azores subarea of the Portuguese EEZ. Therefore, as the data on them is limited, these stocks are managed according to the precautionary approach (category 3–5 stocks).

In the framework of the Marine Strategy Framework Directive (MSFD), a reassessment of the environmental status of commercially fished species was carried out in 2020 for the Azores subdivision. The indicators used were the exploitation rate (ratio between catch and biomass index), spawning capacity (spawning stock biomass index) and population structure. The assessment was based mainly on information from the annual research surveys on demersal species in the Azores (ARQDAÇO) and the national programme for fisheries data collection (PNRD).

The only stocks fished by the Azores fleet that are subject to regular analytical assessments are those managed at Atlantic level by the ICCAT, namely bigeye tuna, skipjack tuna, albacore tuna, bluefin tuna, swordfish, white marlin and blue marlin. For these species, the reference values resulting from the most recent assessments were used to calculate the sustainable harvest indicator (Table 15).

Table 15 – Relative mortality of stocks assessed by the ICCAT

	Relative mortality (F/F _{MSY} or F _{0.1})	Reference
Bigeye tuna	1.00	https://iccat.int/Documents/SCRS/ExecSum/BET_ENG.pdf
Skipjack tuna	0.63	https://iccat.int/Documents/SCRS/ExecSum/SKJ_ENG.pdf
Albacore tuna	0.62	https://iccat.int/Documents/SCRS/ExecSum/ALB_ENG.pdf
Bluefin tuna	0.43	https://iccat.int/Documents/SCRS/ExecSum/BFT_ENG.pdf
Yellowfin tuna	0.96	https://iccat.int/Documents/SCRS/ExecSum/YFT_ENG.pdf
Swordfish	0.80	https://iccat.int/Documents/SCRS/ExecSum/SWO_ATL_ENG.pdf
Blue marlin	1.03	https://iccat.int/Documents/SCRS/ExecSum/BUM_ENG.pdf
White marlin	0.65	https://iccat.int/Documents/SCRS/ExecSum/WHM_ENG.pdf

The only segment for which this indicator could be calculated was the HOK VL2440 segment, which mainly comprises vessels belonging to the pole-and-line tuna fleet. According to the results obtained, it does not depend on overfished stocks. Based on the guidelines set out in COM(2014) 545 final, we do not consider it possible to calculate the sustainable harvest indicator for the remaining fleet segments, since stocks for which no F and F_{MSY} values are available account for over 60% of the value of the catch.

Table 16 – Sustainable harvest indicator (SHI) by fleet segment, 2020–2022

		2020	2021	2022
DFN	VL0010	n/a	n/a	n/a
HOK	VL0010	n/a	n/a	n/a
	VL1012	n/a	n/a	n/a
	VL1218	n/a	n/a	n/a
	VL2440	0.80	0.78	0.85
PGP	VL0010	n/a	n/a	n/a
PS	VL0010	n/a	n/a	n/a
	VL1012	n/a	n/a	n/a
	VL1218	n/a	n/a	n/a

The stock-at-risk indicator (SAR)

According to the guidelines set out in COM(2014) 545 final, only *Beryx* spp. are considered a stock at high biological risk, since existing EU legislation (Council Regulation (EU) 2023/194 of 30 January 2023) prohibits fishing for them. Nevertheless, this group of species, which includes alfonsino (*Beryx decadactylus*) and splendid alfonsino (*Beryx splendens*), did not account for more than 10% of the total catch in any of the segments of the Azores fleet in 2022.

The trend in the landings of the main groups of species fished by the Azores fleet in the period 2012–2022 is presented in the following section.

Demersal and deep-sea species

Despite the slight increase recorded in the last two years, the analysis of demersal species landings in the period 2012–2022 shows that the volume landed is decreasing, with the average annual volume now standing at 2 926 tonnes (Table 17). The region has implemented a range of technical measures, such as minimum landing sizes or weights, a limit on the number of licences, and maximum catch limits, with the aim of reducing the fishing effort for this group of species. In this context, we should highlight the fact that Ministerial Implementing Order No 92/2019 of 30 December 2019, and subsequently Ministerial Implementing Orders No 130/2021 of 21 December 2021 and No 105/2022 of 28 December 2022, set maximum annual catch limits for a number of demersal species and also imposed catch limits per quarter, trip and vessel for some of those species.

Table 17 – Landings of demersal and deep-sea/very-deep-sea species in the Azores, 2012–2022

Year	Landings by weight (t)
2012	3 739
2013	3 528
2014	3 797
2015	3 684
2016	3 229
2017	2 939
2018	2 553
2019	2 080
2020	2 056
2021	2 344
2022	2 241
Average	2 926

Catches of demersal species in the Azores include some 70 species, with 10 species making up around 75% of the total volume landed. The main species caught during the reporting period were red seabream (*Pagellus bogaraveo*), with an average annual volume landed of 558 tonnes, conger eel (*Conger conger*), with 363 tonnes, blackbelly rosefish (*Helicolenus dactylopterus*), with 219 tonnes, silver scabbardfish (*Lepidopus caudatus*), with 212 tonnes, parrotfish (*Sparisoma cretense*), with 205 tonnes, forkbeard (*Phycis phycis*) with 198 tonnes, alfonsinos (*Beryx* spp.), with 150 tonnes, wreckfish (*Polyprion americanus*), with 115 tonnes, grey triggerfish (*Balistes capricus*), with 110 tonnes, and ray [sic] (*Raja clavata*), with 100 tonnes.

Morphometric and biological information are collected for all these species as part of the national programme for fisheries data collection (PNRD). This information is regularly sent to and analysed in ICES working groups, which draw up management advice on an annual basis. However, as we stated above, the characteristics and complexity of demersal fishing in the Azores have made it impossible to carry out an analytical assessment of the exploitation status of these species, especially a calculation of the biological reference points.

Over the period 2012–2017, the trends in the biomass of 24 demersal species were examined in accordance with the analytical procedures for evaluating ‘good environmental status’ under the MSFD. The biomass was increasing in the case of seven of the species, decreasing in the case of another seven, and stable in the case of three. For the remaining seven species it was not possible to carry out an assessment. It should be noted that even though the study revealed a downward trend in red seabream (*Pagellus bogaraveo*), which is the most important demersal/deep-sea species fished in the Azores, the TAC was increased for 2021 and 2022.

Small pelagic species

The analysis of the landings of small pelagic species in the period 2012–2022 shows that the volume landed varies somewhat from year to year, with no clear trend and an average annual volume of 1 082 tonnes (Table 18).

Table 18 – Landings of small pelagics in the Azores, 2012–2022

Year	Landings by weight (t)
2012	945
2013	1 022
2014	1 307
2015	1 282
2016	887
2017	831
2018	1 074
2019	1 289
2020	1 175
2021	1 116
2022	975
Average	1 082

Small pelagic fisheries in the Azores target three species: blue jack mackerel (*Trachurus picturatus*), with an annual volume landed of 762 tonnes, Atlantic chub mackerel (*Scomber colias*), with 300 tonnes, and sardine (*Sardina pilchardus*), with 21 tonnes.

Morphometric and biological information are collected for all these species as part of the national programme for fisheries data collection (PNRD). This information is regularly sent to and analysed in ICES working groups, which draw up management advice on an annual basis. However, the complex nature of the fisheries has made it impossible to carry out an analytical assessment of the exploitation status of these species, especially a calculation of the biological reference points.

Following the analytical procedures for evaluating ‘good environmental status’ under the MSFD, it was not possible to complete an assessment for any of the small pelagic species fished commercially in the region.

Tunas

These stocks, which are managed at Atlantic level by the ICCAT, are fished mainly by the pole-and-line tuna fleet (included in the HOK VL2440 segment), which traditionally starts the season in Madeira and moves to the Azores later on. In the period 2012–2022, the average annual volume of tuna landed was 6 610 tonnes (Table 19), which represents approximately 61% (in terms of weight) of the total volume of fish landed in 2022 by the Azores fleet.

Table 19 – Landings of tunas, 2012–2022

Year	Landings by weight (t)
2012	7 994
2013	9 035
2014	6 308
2015	4 311
2016	2 749
2017	5 523
2018	9 334
2019	6 601
2020	5 002
2021	9 050
2022	6 805
Average	6 610

The main Atlantic tuna species are found in the Azores, with catches dominated by skipjack tuna (*Katsuwonus pelamis*) and bigeye tuna (*Thunnus obesus*). In the period 2011–2022, these species accounted for 49% and 42% respectively of the total volume of tuna landed in the region. The geographical location of the Azores archipelago and the migratory nature of tunas – which is linked to the amount of food available and ocean currents – cause significant fluctuations in the annual tuna catch and mean tuna fishing is highly seasonal.

The Madeiran fleet

In the case of the active Madeiran fleet in CECAF area 34, two biological indicators were calculated: the sustainable harvest indicator (SHI) and the stock-at-risk indicator (SAR).

The indicators were obtained in accordance with the guidelines set out in Commission Communication COM(2014) 545 final. Where available, F_{msy} (or approximations such as F_{max} and $F_{0.1}$) and F_{act} values published by international scientific institutions were used to calculate the SHIs. This was the case for tunas and tuna-like species (bigeye tuna, albacore tuna, skipjack tuna, bluefin tuna and swordfish), where reference values published by the ICCAT in the context of the latest available assessments for each of the species were used.

Quantitative and qualitative information exists on the status of some of the other species (e.g. Atlantic chub mackerel, blue jack mackerel, the limpets *Patella aspera* and *Patella ordinaria*), even though no assessments have been carried out by international scientific bodies. The stocks of these species are not influenced by significant migratory movements and are only fished locally. The information is based on biological and statistical data collected in the context of sampling schemes under the national programme for fisheries data collection (PNRD). The PNRD allowed the required parameters to be obtained, with each stock being considered as a functional unit that needs to be managed.

The results obtained for the years 2017 to 2022 are set out in the table ‘Biological indicators for the Madeiran fleet’ (Table 20).

Table 20 – Biological indicators for the Madeiran fleet

DCF gear	LOA class	SHI (value of landings)						SAR											
		2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
HOK	VL0010	1.11	1.03	1.22	0.75	0.90	0.91	1	1	1	1	1	1						
	VL1218	1.11	1.19	1.51	0.91	0.92	0.90	1	1	1	1	1	1						
	VL1824																		
	VL2440	1.05	1.28	1.05	1.75	0.98	0.99	1	1	1	1	1	1						
MGP	VL0010	0.80	0.60	1.14	0.95	0.96	0.94	0	0	1	1	1	1						
	VL1824	3.24	3.12	3.11	3.14	3.12	3.15	2	2	2	2	2	2						

In the case of hook fisheries (HOK), SHIs were calculated with F_{msy} and F_{act} for bigeye tuna (*Thunnus obesus*), albacore tuna (*Thunnus alalunga*), skipjack tuna (*Katsuwonus pelamis*) and swordfish (*Xiphias gladius*). In the case of bluefin tuna (*Thunnus thynnus*), the SHI was calculated with $F_{0.1}$ and F_{act} on the basis of the most recent assessments published by the ICCAT.

In the case of MGP, which mainly encompasses the Madeiran fleet’s purse-seine fisheries (small pelagics) and the harvesting of molluscs (limpets), no assessments have been carried out by international institutions on the stocks fished by those fleet segments. Therefore, the SHIs were calculated on the basis of the most recent local assessments on the stocks of the limpets *Patella aspera* and *Patella ordinaria*, Atlantic chub mackerel (*Scomber colias*) and blue jack mackerel (*Trachurus picturatus*). Proxy values for F_{msy} were used (F_{max} was obtained through the yield per recruit model).

The SHI is above 1 in just one of the segments assessed, namely the MGP VL1824 segment, which is dominated by three local purse seiners mainly fishing Atlantic chub mackerel and blue jack mackerel. The most recent assessment of these two species, which considered the stocks fished locally, indicates limits above MSY ($F_{act}/F_{max} > 1$) in both cases, using the yield per recruit model.

As regards the HOK segments, where fishing for black scabbardfish (*Aphanopus* sp) predominates, and particularly the VL1218 segment, the results show that the fleet's capacity is in balance with the available fisheries resources.

8.4. Economic indicators

We have improved our methodology and the way we process data in order to carry out more reliable analysis. For example, actual data on the fuel consumption and corresponding costs of a large number of vessels in the fishing fleet were used in addition to the information obtained through data collection surveys, and the new model for calculating the majority of the costs is now in place.

The depreciation costs now take into account the values attributed for the useful life of the various components used in the Perpetual Inventory Method (PIM), adjusting them to values that are more in line with the reality of the national fishing fleet. Table 21 shows the values used in the PIM.

Table 21 – Useful life (in number of years), according to vessel length class

Length class	Hull	Engine	Electronics	Other
VL0012	20	10	5	7
VL1218	30	18	5	7
VL18XX	30	24	5	7

Two indicators were used for the economic assessment of the national fleet: its long-term and short-term economic viability. The return on fixed tangible assets (RoFTA) was used to assess the return on investment (long-term viability), and the ratio between current revenue and break-even revenue (CR/BER) was calculated for the short-term assessment, as detailed below:

- Return on fixed tangible assets (RoFTA) = net profit/value of assets
- Ratio between current revenue (CR) and break-even revenue (BER), where break-even revenue is the revenue required to cover the fixed costs without loss or profit, and current revenue is the total operating income of the fleet segment

As proposed in the Commission's guidelines (COM(2014) 545 final of 2 September 2014), and taking into account an assessment of the return on the same capital had it been invested in the best available alternative, the RoFTA was compared with the reference interest rate.

The indicators were calculated using the data from the PNRD on vessels active in the years under analysis. As the economic data for 2022 are not yet available, the economic indicators for the year in question were estimated from a projection based on data from 2017 to 2021 for the mainland fleet.

The mainland fleet

In the case of the mainland fleet, and as can be seen from Annexes VII, VII-a and VII-b, the estimate for 2022 predicts that 88% of the segments with vessels operating in national waters performed well. As regards vessels operating exclusively in international waters, the estimated values give negative results.

Compared with 2021, the estimates for 2022 point to continued negative performance in 4 segments and a drop in profitability in 3 fleet segments, which also translates into negative ratios. We must point out that the projection for 2022 is based on the trend observed in recent years and could therefore be influenced by the pandemic. Accordingly, it appears that the performance of the DTS, HOK and PS fleet segments worsened slightly in 2022.

Conversely, all length classes in the DFN, DRB, FPO, PGP, PMP and TBB segments continued the trend of the last few years by performing positively.

Furthermore, most of the segments of the purse-seiner fleet (PS) continued to perform well economically, despite the constraints that have affected the fleet in recent years. It is anticipated that the PS VL1218 segment may show a slight drop in profitability in 2022.

The profitability of vessels in the HOK VL2440 segment operating in mainland Portugal was insufficient in the last three years. The performance of vessels in the same length class operating in external waters with the same gear was similar.

The fleet operating exclusively in international waters is also expected to continue presenting some economic weakness in 2022, particularly the HOK VL40XX segment, which is showing a drop in income for the third year in a row. This translates into negative values for RoFTA and the ratio between current revenue and break-even revenue.

The Azores fleet

Analysis of the economic indicators shows that all segments of the Azores fleet performed positively from an economic perspective in the period 2017–2019. According to the information collected for that period, all segments of the Azores fleet were economically sustainable in the long term and could cover their costs in the short term.

Nevertheless, the impact of the COVID-19 pandemic caused a significant drop in the quantity and value of fish landed for auction in 2020. Naturally, that drop led to a worsening of the economic performance of almost all segments of the Azores fleet, particularly vessels operating with hooks and lines. However, in 2021, the economic performance of the fleet improved, despite the fact that the price of diesel used for fishing increased by 78% over the year, from EUR 0.434/l in January to EUR 0.772/l in December.

For 2022, the average of the last 5 years was used, given that the economic indicators are not yet available.

Table 22 – Economic indicators for the Azores fleet in the period 2017–2022

Fishing tech.	Vessel length	2017		2018		2019		2020		2021		2022	
		RoFTA	Ratio CR/BER	RoFTA	Ratio CR/BER	RoFTA	Ratio CR/BER	RoFTA	Ratio CR/BER	RoFTA	Ratio CR/BER	RoFTA	Ratio CR/BER
DFN	VL0010	0.41	3.55	0.49	0.41	0.45	3.01	0.11	1.45	0.13	1.55	0.32	1.99
HOK	VL0010	0.26	2.77	0.22	0.26	0.32	2.56	0.15	1.68	0.33	2.61	0.26	1.98
	VL1012	0.26	2.85	0.33	0.26	0.37	2.24	-0.17	0.76	0.30	2.13	0.22	1.65
	VL1218	0.21	2.28	0.25	0.21	0.45	2.69	0.21	1.75	0.36	2.34	0.30	1.85
	VL2440	0.12	1.69	0.13	0.12	0.02	1.14	-0.10	0.50	0.02	1.11	0.04	0.91
PGP	VL0010	0.15	1.91	0.10	0.15	0.41	2.85	0.08	1.33	0.33	2.09	0.21	1.67
PS	VL0010	0.29	2.38	0.29	0.29	0.17	1.83	0.27	2.18	0.36	2.62	0.28	1.87
	VL1012	0.51	4.55	0.05	0.51	0.19	2.22	0.21	1.75	0.18	1.75	0.23	2.16
	VL1218	-	-	-	-	0.74	4.79	0.42	2.58	0.19	1.86	0.45	3.08

The Madeiran fleet

For 2022, the average of the last 5 years was used, given that the economic indicators are not available.

Like 2020, 2021 was atypical due to the outbreak of the COVID-19 pandemic, which severely impacted the fisheries sector. Fisheries production was particularly affected, as a result of the significant reduction in demand caused by the closure of markets and distribution channels such as HORECA, tourist accommodation and catering (tourism and related sectors have a significant impact on GDP and employment in Madeira). Moreover, sales outside the region suffered a major downturn, as traditional European markets were also experiencing the same difficulties.

Thus, the provisional data for 2022, which were obtained using the average of the last 5 years, will reflect the recovery that was observed during the year in question – and the final economic data will undoubtedly confirm it.

Table 23 – RoFTA

Fishing tech.	Vessel length	RoFTA					
		2017	2018	2019	2020	2021	2022
HOK	VL0010	0.28	0.39	0.71	0.38	0.53	0.46
	VL1218	0.76	1.32	1.34	0.89	0.46	0.95

	VL2440	0.45	0.08	0.13	-0.04	-0.40	0.04
MGP	VL0010	0.76	0.71	1.12	1.47	1.80	1.17
	VL1824	0.01	0.20	-0.12	-0.11	-0.08	-0.02

Table 24 – Ratio

Fishing tech.	Vessel length	Ratio					
		2017	2018	2019	2020	2021	2022
HOK	VL0010	2.37	2.96	4.52	2.49	2.63	2.99
	VL1218	4.07	6.08	6.85	3.16	2.26	4.48
	VL2440	3.10	2.27	1.61	0.80	0.24	1.60
MGP	VL0010	3.71	3.79	5.64	4.65	6.60	4.88
	VL1824	1.05	2.40	0.46	0.60	0.68	1.04

The MGP VL1824 segment – purse seiners fishing for small pelagic species – has presented low or negative returns in recent years and not generated sufficient revenue to cover operating and capital costs. This indicator, together with the biological and activity indicators, may signal the need for an adjustment to be made to the segment in the future. It should therefore be monitored very closely.

In 2021, the HOK VL2440 segment experienced negative returns owing to the outbreak of the COVID-19 pandemic, which, as we explained above, hit the sector hard. In the same year, sales from Madeiran vessels fell by 24% in terms of volume and 23% in terms of value compared with 2019. We now expect a turnaround in this indicator in 2022.

No other segments performed negatively, which is encouraging. Vessel owners are balancing the operation of their businesses, i.e. costs, with income from fishing.

Catches remain stable and provide business owners with adequate returns. This results in better salaries and better liquidity.

9. ACTION PLAN

Analysis of the vessel use and economic indicators for the fleet operating with hooks, as well as the fact that catch restrictions have been imposed for swordfish and also deep-sea species, suggest there is a need to consider adjusting the capacity of that fleet. Indeed, in recent years, some segments of the fleet operating with hooks have performed poorly from an economic perspective. This weakness looks set to continue, particularly in the case of larger vessels. In view of the results observed, and the fact that the swordfish quota is not sufficient to provide good returns for the swordfish fleet, we have decided to continue with the Action Plan set out in Annex VIII.