

ANNUAL REPORT ON THE PORTUGUESE FISHING FLEET – 2021

1. SUMMARY

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

Combined analysis of the results 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 vulnerabilities are deemed to exist in the segments operating with hooks and lines (HOK), it was proposed that the fleet be adjusted. This intervention is supported by the Action Plan forming part of this report, which aims to improve alignment of fleet capacity with available resources.

In 2021, the seiner segment was relatively stable owing to the measures implemented by Portugal and Spain within the framework of the 2018–2023 Recovery and Management Plan for the Iberian Sardine. On account of the positive development of Iberian sardine stocks in 2021, the resource was deemed to be within safe biological limits and is now being managed within the framework of a management plan for 2021–2026, based on the precautionary approach.

❖ *Fleet capacity*

On 31 December 2021, the Portuguese fishing fleet comprised 7 655 vessels with a total gross tonnage of 86 479 GT and a total propulsion power of 346 125 kW.

❖ *Description of the major segments*

Respectively, the seiner and trawler segments accounted for approximately 56% and 20% of the total volume of fresh and chilled fish caught. Sardine, Atlantic chub mackerel, horse mackerel and anchovy are the main species landed in the seiner segment, representing 90% of the total landings. This year, sardine and Atlantic chub mackerel stood out as the species most commonly caught by seiners, accounting, respectively, for about 36% and 35% of the total landings. Horse mackerel, Atlantic mackerel, blue whiting and Atlantic chub mackerel were the main species of fresh and chilled fish landed in the trawler segment, representing 65% of the total volume of fish landed. We should underline the proportion of horse mackerel in the total volume landed by trawlers, which was about 54% (20 884 tonnes). The polyvalent fleet segment, which mainly fishes tuna and tuna-like species, Atlantic chub mackerel, octopus and black scabbardfish, landed approximately 49% (26 099 tonnes) of the total catch of fresh and chilled fish.

❖ *Entries into and exits from the fleet during 2021*

In 2021, 48 vessels (representing 614 GT and 3 505 kW in total) entered the national fishing fleet and 101 vessels (representing 512 GT and 3 534 kW in total) left. The majority of the vessels entering and leaving the fleet were vessels in the polyvalent fishing segment (PGP), mostly in the context of renewal of the fishing fleet.

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

As regards the resources fished by the Portuguese fleet and subject to total allowable catch (TAC) limits, 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) 2021/92 of 28 January 2021, as updated), TAC reductions are now more frequently being proposed based on small fluctuations in stock levels, which are not necessarily caused by the extent of fishing. In 2021, fishing opportunities for the main TAC species were 6% lower overall than in 2020. However, there were some small increases, for example horse mackerel in ICES area 9a (+7%) and red seabream in ICES area 10 (+10%). The stabilisation of the fishing opportunities, which is the result of management at maximum sustainable yield levels, now only reflects – under normal circumstances – 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 (favourable to some species but

unfavourable to others). Methodological reviews at stock assessment level that are carried out on an ad hoc basis in the light of the work of scientific institutions, particularly those represented on the ICES, may also have direct consequences for our understanding of the conservation status of resources, as well as an impact on fishing opportunities.

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 factors), displaying significant fluctuations in population size. Fortunately for the Portuguese sector, the two species have different preferences in terms of salinity and temperatures, so their stocks tend to fluctuate on a countercyclical basis. Anchovy has a preference for more tropical conditions (higher temperatures and lower salinity) compared to 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 for the activity of the national fleet operating in external fishing grounds, external fishing opportunities generally remained relatively stable in 2021, with the exception of cod in NAFO 3M.

As regards the most important fisheries for the national fleet, the most significant changes concerned activity carried out in the context of the:

- NAFO, where there was an 82% decrease in the cod quota for NAFO 3M. The quotas for species such as redfish, forkbeard and skates/rays remained the same compared to the previous year. However, we should highlight the continuation of shrimp fisheries, whose management system is based on fishing effort rather than TACs.
- NEAFC, where, at its annual meeting held in November 2020, management measures were adopted for 2021. In the case of Portugal, a TAC of 0 tonnes was adopted for redfish in the Irminger Sea, as well as a 21% increase for the same species in ICES areas 1 and 2.
- ICCAT, where a new recommendation concerning the conservation and management of tropical tunas was adopted. This will introduce significant changes to the previous regulatory framework with regard to the overall TAC and, in particular, the EU quota, with EU fishing opportunities decreasing by 21%. The annual meeting did not take place, with most of the measures and fishing opportunities being rolled over. Nevertheless, the TAC for bigeye tuna was reduced due to the stock being overfished, with Portugal's quota decreasing by 14% compared to the previous year. With regard to shortfin mako sharks, the recommendation allows for the on-board retention of fish already caught dead (exclusively), provided that the vessel has an observer on board or is equipped with an electronic monitoring system. However, this is a matter under discussion. A TAC for blue shark was established and allocated for the first time. With respect to all the other stocks relevant for Portugal, the status quo was generally maintained as regards fishing opportunities and operating conditions. In the longliner segment, scientific observer coverage increased from 5% to 10%.

❖ **Effort reduction and capacity adjustment schemes**

In 2021, the following fishing effort recovery/adjustment plans and capacity control schemes were in effect:

The Multiannual Plan for Western Waters, published by the European Commission (Regulation (EU) 2019/472 of 19 March 2019) with a view to organising the particular management of the most economically relevant resources in European waters, and specifically to optimising the productive potential of a wide range of resources managed at MSY. This cancelled a number of outstanding recovery plans, even though they were out-of-date in technical terms.

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

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 tuna, particularly bigeye and yellowfin tuna, was implemented for 2020 and 2021.

The Recovery and Management Plan for Sardine Fishing (2018–2023), which was implemented in 2018 on the joint initiative of the Portuguese and Spanish authorities, lays down the quantities that may be fished and establishes measures aimed at managing and monitoring the activity of vessels fishing for sardine. As the plan seeks to promote the most up-to-date scientific information, the focus is on publishing legislation making adjustments to effort and implementation. In 2021, fishing opportunities were updated in line with the ICES opinion of June 2021, which assessed the resource as falling within

safe biological limits. Following the positive ICES opinion on a new fishing rule, the resource remains under bilateral management and is now covered by a management plan for 2021–2026.

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 the closed season. In 2018, a new plan entered in force establishing regular reporting and extending the closed season to all Member States (COM(2012) 413 final – 2012/0201 (COD) and Regulation (EU) 2018/120 of 23 January 2018).

❖ **Compliance with 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 or 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 2021, Portugal complied with the fishing capacity ceilings laid down in Annex II to the CFP Regulation, in the case of the fleet registered on the mainland and the fleets registered in the outermost regions.

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

In 2021, 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 which are considered more vulnerable or whose fishing levels are considered 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. The gear of decommissioned vessels is sometimes transferred to other vessels remaining active, which ensures greater profitability without any increase in fishing effort.

❖ **Application of the balance indicators**

Vessel use indicators and economic indicators were calculated in 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 2021, Portugal continued to implement a policy of sustainable exploitation of resources, aiming to reconcile that policy 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 fishing 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 is especially vulnerable in terms of profitability, given that it is more labour-intensive and has a smaller catch capacity. Thus, as this segment has consistently presented negative or barely satisfactory economic and use indicators, an imbalance between fleet capacity and fishing opportunities is considered to exist in the overall length classes upwards of 12 m, meaning that corrective measures need to be implemented.

For their part, the remaining fleet segments are not considered to be structurally out of balance, even though some present weak economic indicators, such as vessels using *xávega*/beach seines (MGO), the fleet of larger-sized trawlers, and vessels using polyvalent passive gears (PGP). These segments continue to be monitored closely. In terms of the coastal fleet, the seiner segment lands the greatest volume of fish. It also accounts for most of the small pelagic species caught, including sardine. Despite, or as a result of, the restrictions that have been applied to sardine in recent years, the economic performance of this segment remains positive overall. Nevertheless, the larger fleet displays some weaknesses that require closer attention, particularly since it depends almost exclusively on a small number of stocks that are heavily influenced by

environmental conditions and on the evolution of stocks whose abundance is highly variable. As regards the biological indicators, the segments are generally in biological equilibrium.

3. GENERAL DESCRIPTION OF THE FLEET IN TERMS OF FISHERIES

On 31 December 2021, the Portuguese fishing fleet consisted of 7 655 vessels with a total gross tonnage of 86 479 GT and a total propulsion power of 346 125 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 overall length of less than 12 metres and a low gross tonnage, which, as a whole, only accounts for about 14.3% of the national total. The average age of the registered fleet is around 36 years and, in terms of the active fleet, around 26 years. Additional information can be found in Annex I, which provides a more detailed breakdown of the national fishing fleet.

Fishing activities carried out

The national fishing fleet comprises the mainland fleet and those of the outermost regions of Madeira and the Azores. It carries out its fishing activities according to 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); seines (PS); beam trawls (TBB) and polyvalent vessels (MGP, PGP and PMP). Annex II provides a breakdown of the fishing activities 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 2021, by region and licensed gear, according to the segmentation established in the national data collection programme (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. This fleet, which is mostly polyvalent, is licensed in the main for pole and line, deep-water longline and seine fishing. The most commonly fished species are tuna, black scabbardfish and small pelagics (Atlantic chub mackerel and blue jack mackerel), which represent around 91% of the fish landed. Coastal demersal species and shellfish account for around 9% of the total volume of fish landed in the region and are caught mainly by bottom-set longlines, handlines, traps and harvesting tools in the case of shellfish (limpets).

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, in 2021 they still accounted for approximately 73% of the total active fishing fleet in the Azores (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

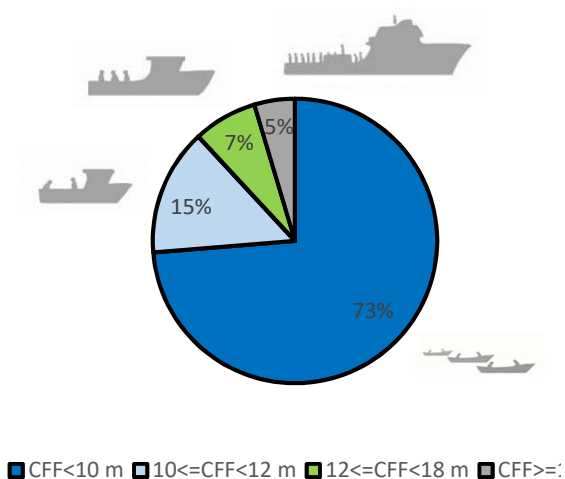
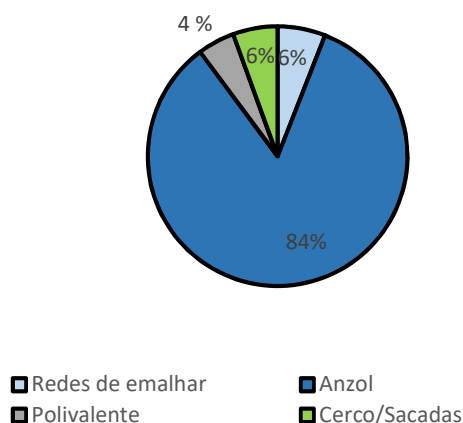


Figure 2 – Composition in terms of groups of fishing gear most commonly used by the Azores fleet



<u>Portuguese</u>	<u>English</u>
CFF	Overall length
Redes de emalhar	Gillnets
Anzol	Hooked gear
Polivalente	Polyvalent gear
Cerco/Sacadas	Seines/lift nets

As regards the activity of the national fleet operating in external fishing grounds during 2021 and activity under sustainable fisheries partnership agreements (SFPAs), we should mention the fishing permits issued under the agreements with the Seychelles and São Tomé and Príncipe and the corresponding activity carried out by Portuguese vessels.

Moreover, on the subject of these agreements, Portugal participated in the negotiations to renew the fisheries protocols between the EU and Greenland, Mauritania, Mauritius, Madagascar, the Cook Islands and Gabon. Portugal was also represented at the Joint Committee meetings on the SFPAs with Cape Verde, Côte d'Ivoire, Senegal, Morocco, Guinea-Bissau and the Seychelles.

Given its historic importance, it is worth mentioning the new SFPA (and protocol) between the EU and Mauritania, which was initialled by the parties on 28 July 2021 and is valid for 5 years, from 2021 to 2026. Under this agreement, Portugal retains the possibility of fishing 250 tonnes of crustaceans, with the exception of spiny lobster and crab.

Within the framework of the Indian Ocean tuna agreements, negotiations continued in 2021 for the agreement of a new EU-Madagascar protocol, which expired on 31 December 2018. We are awaiting future developments that will allow the Portuguese fleet to return to those fishing grounds.

Furthermore, the protocol to the EU-Mauritius SFPA was extended for six more months through the provisional application of an agreement in the form of an exchange of letters.

As an EU Member State, Portugal enjoys fishing opportunities under the SFPAs in force with the following countries: Cape Verde, Côte d'Ivoire, Guinea-Bissau, Morocco, Mauritius, Mauritania, São Tomé and Príncipe, the Seychelles and Senegal.

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. Although Portugal obtained fishing permits for UK waters for 2021, no Portuguese vessels were active in them.

As regards regional fisheries management organisations (RFMOs), the activity carried out by Portuguese vessels in 2021 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 activity was also carried out in other RFMOs, but in a more peripheral manner, such as the Indian Ocean Tuna Commission (IOTC), where two Portuguese-flagged vessels were involved in fishing tuna and tuna-like species, the General Fisheries Commission for the Mediterranean (GFCM), where there was one vessel using traps to catch shrimp, and the Inter-American Tropical Tuna Commission (IATTC), where four fishing units were involved in fishing tuna and tuna-like species.

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

Development of the fleet

The Portuguese fishing fleet continues to decrease as a result of the ongoing process of adapting capacity to the available resources. Comparing the situation on 31 December 2021 with the situation on 1 January 2014, there has been a 7.09% reduction in the number of vessels, a 15.06% reduction in capacity in terms of gross tonnage and a 5.46% reduction in capacity in terms of propulsion power (Table 1). In terms of the active fleet, Annexes IV and IV-a show its development over the last five years (2017–2021) by region, length class and fleet segment. A reduction of approximately 9.2% in the number of licensed vessels can be observed, as well as reductions in gross tonnage (GT) and propulsion power (kW) of 6.9% and 5% respectively.

Table 1

REGION	FLEET ON 1.1.2014			FLEET ON 31.12.2021			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	6 532	73 476	278 631	-464	-11 977	-16 052	-7.10	-16.30	-5.76
AZORES	764	10 112	54 124	711	9 241	51 681	-53	-871	-2 443	-7.45	-9.43	-4.73
MADEIRA	438	3 938	16 222	412	3 763	15 812	-26	-175	-410	-6.31	-4.65	-2.59
TOTAL PORTUGAL	8 198	99 503	365 029	7 655	86 479	346 125	-543	-13 024	-18 904	-7.09	-15.06	-5.46

Changes in 2021 – entries and exits

In 2021, 48 vessels entered the national fishing fleet, amounting, in terms of capacity, to 614 GT and 3 505 kW. Most of the vessels entered the mainland fleet (87.5%). Table 2 shows the number of vessels registered per fleet segment and Table 3 shows their origin. It can be concluded that 52% were newly constructed vessels (CST), 43.8% were vessels that had changed activity (CHA) and 4.2% were units imported from other Member States (IMP). The figures reflect the effort to renew the fishing fleet through new units, thereby ensuring better safety and working conditions on board vessels.

ENTRIES BY FLEET SEGMENT

Table 2

SEGMENT/REGION	DFN	DRB	DTS	FPO	HOK	MGP	PGP	PMP	PS	INACTIVE	TOTAL
MAINLAND	3	2	3	2			10	1	1	20	42
AZORES					1					1	2
MADEIRA					2	1				1	4
TOTAL	3	2	3	2	3	1	10	1	1	22	48

ENTRIES BY EVENT TYPE

Table 3

REGION	TYPE OF ENTRY			TOTAL
	CHA	CST	IMP	
MAINLAND	16	24	2	42
AZORES	2			2
MADEIRA	3	1		4
TOTAL	21	25	2	48

In 2021, 101 units left the national fishing fleet, amounting, in terms of capacity, to a gross tonnage of 512 GT and a propulsion power of 3 534 kW. Table 4 shows the number of vessels decommissioned by fleet segment and Table 5 shows the number of exits from the fleet by type of event. 81% were scrapped (DES) and 19% were registered for a different activity (RET).

EXITS BY FLEET SEGMENT

Table 4

SEGMENT/REGION	DFN	DTS	FPO	HOK	MGO	PGP	PMP	INACTIVE	TOTAL
MAINLAND	5	1	1	2	1	12	1	49	72
AZORES				7				16	23
MADEIRA								6	6
TOTAL	5	1	1	9	1	12	1	71	101

EXITS BY EVENT TYPE

Table 5

REGION	TYPE OF EXIT		TOTAL
	DES	RET	
MAINLAND	56	16	72
AZORES	21	2	23
MADEIRA	5	1	6
TOTAL	82	19	101

Table 6

DEVELOPMENT OF THE FLEET IN 2021	PORTUGAL			MAINLAND			AZORES			MADEIRA		
	NUMBER	T	G POWER (kW)	NUMBER	T	G POWER (kW)	NUMBER	T	G POWER (kW)	NUMBER	T	G POWER (kW)
FLEET CAPACITY ON 1.1.2021	7 709	86 378	344 796	6 562	73 342	276 887	732	9 263	52 095	415	3 773	15 814
ENTRIES IN 2021	48	614	3 505	42	592	3 244	2	13	148	4	9	113
CHANGES IN 2021	-1	0	1 358	0	1	1 346	0	5	0	0	-7	11
EXITS IN 2021	101	512	3 534	72	460	2 847	23	40	562	6	12	126
FLEET CAPACITY ON 31.12.2021	7 655	86 479	346 125	6 532	73 476	278 631	711	9 241	51 681	412	3 763	15 812
CHANGE IN ABSOLUTE TERMS	-54	101	1 329	-30	134	1 744	-21	-22	-413	-3	-10	-1
CHANGE IN PERCENTAGE TERMS	-0.71	0.12	0.38	-0.46	0.18	0.63	-2.95	0.24	-0.80	-0.73	0.26	-0.01

Table 6 shows, by region, the movements of the fleet in 2021 in terms of entries, exits and changes in capacity (GT and kW). The overall downward trend in terms of the number of vessels is maintained.

FISHING EFFORT

Fishing effort reduction and fishing capacity reduction schemes

In 2021, the plans set out in Table 7 were in force.

Fishing effort recovery/adjustment or capacity reduction plans

Table 7

In force in 2021 or established in 2021	Target group	Objectives
Fishing Capacity Control Scheme	Vessels licensed for a wide range of fishing gear	Limiting fishing capacity through the number of licences
Recovery and Management Plan for the Iberian Sardine (2018–2023) and Management Plan for the Iberian Sardine (2021–2026)	All catches of sardine, particularly by vessels licensed to use seines	Exploitation of the resource in accordance with a precautionary fishing rule 3-month minimum closure period, annual and daily catch limits
Management Plan for European Eel (in effect since 2009)	All vessels/fishermen involved in commercial and recreational fishing	To recover silver eel biomass to pristine values
Multiannual Plan for Western Waters	All vessels operating in European waters in ICES areas 8b, 8c, 9a and 10	Joint management of some of the most important stocks throughout the area, balancing the respective Maximum Sustainable Yield ranges so that the various optimal fishing levels can be aligned
Management Plan for Bluefin Tuna	Traps Vessels licensed for surface longline fishing (by-catches) and vessels licensed for fishing in the outermost regions (pole and line)	To regulate this fishery in accordance with the ICCAT Recommendation in force since 2019

Multiannual Plan for the Conservation and Management of Tropical Tunas	Vessels licensed for surface longline or pole and line fishing	To reduce levels of mortality in tropical tunas
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Impact of reduction schemes on fishing capacity

The Management Plan for Sardine Fishing (2021–2026)

In 2021, following the improvement in the situation of the stock, which has now been restored to safe biological limits, a management plan for the Iberian sardine (2021–2026) was implemented on the joint initiative of the Portuguese and Spanish authorities. This replaces the previous recovery plan (2018–2023) and includes a new fishing rule assessed as a 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>. The plan states that the number of vessels involved in the fishery should not increase, 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, adapting fishermen’s activity to 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 bluefin tuna fishing was no longer restricted to traps and the national plan could include bluefin tuna fishing by small-scale fleets, as practised in the outermost regions. In the same year, Recommendation 19-04, which continued to endorse a multiannual management plan for bluefin tuna, was adopted. The Recommendation came into effect in June 2020.

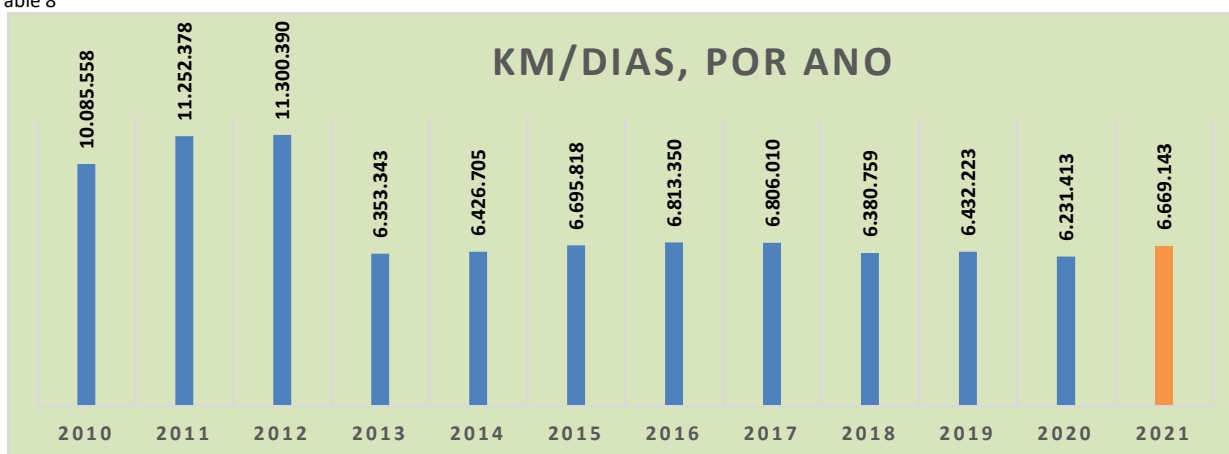
In 2021, fleets in the outermost regions retained their permits to fish bluefin tuna, and the percentage of by-catch remained steady at 7%.

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 set out in Table 8. We can see that the overall fishing effort (kW/day) fell by 34% between 2010 and 2021.

Table 8



<u>Portuguese</u>	<u>English</u>
Km/dias, por ano	Km/day, per year

5. ENTRY AND EXIT SCHEME AND CAPACITY CEILINGS

In terms of the capacity of the EU fishing fleet, each Member State has its own defined segmentation. In the case of Portugal, capacity (in GT and kW) is managed at regional level (the mainland, the Azores and Madeira). The mainland fleet is managed as a whole and the fleets of the Azores and Madeira are managed in accordance with the segmentation laid down in Annex II to Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 for Portugal's outermost fleets. In 2021, Portugal complied with the rules of the entry and exit scheme and observed the fishing capacity ceilings established for the mainland fleet and the fleets of the outermost regions.

Table 9 shows, by region, the capacity of the national fishing fleet as at 1 January 2014 and 31 December 2021, in terms of tonnage and propulsion power, in accordance with Articles 22 and 23 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013.

Table 9

CALCULATION OF COMPLIANCE WITH THE FISHING CAPACITY CEILINGS IN ACCORDANCE WITH ARTICLE 22(6) AND (7) OF REGULATION (EU) NO 1380/2013 OF 11 DECEMBER 2013	MAINLAND		MADEIRA						AZORES				TOTAL PT	
			Demersal species – overall length <12 m (4K6)		Demersal and pelagic species – overall length > 12 m (4K7)		Pelagic species – seine nets – overall length > 12 m (4K8)		Demersal species – overall length < 12 m (4K9)		Demersal and pelagic species – overall length > 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 OF 11 DECEMBER 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	85 447	294 621	485	4 019	3 333	11 581	136	777	2 257	29 497	7 845	24 578	99 502	365 073
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 31.12.2021	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 31.12.2021	73 476	278 631	437	3 687	3 191	11 349	136	777	2 254	28 361	6 987	23 321	86 479	346 125
BALANCE	18 633	30 518	168	283	923	1 385	45	0	302	415	5 992	2 400	26 062	35 001

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 proper management of the national fleet capacity and enables, *inter alia*, the monitoring of catches.
- Establishment of a digital licensing system, which enables the cross-checking of fishing permits with closed seasons, as well as the management of seaworthiness certificates, allowing licences to be activated and deactivated as necessary. The system also allows the particularities of each licence to be monitored by the inspection and monitoring personnel, via a dedicated website (<https://www.portugueseeflagcontrol.pt/>).
- Installation of a new kind of monitoring and control equipment to improve the monitoring and surveillance of the activity of the fleet.
- 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 fishing fleet comprising small vessels and engaging in more sustainable fishing, given that it is more selective and catches 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.

Weaknesses:

- In the case of multispecies fisheries, the difficulty in implementing fishing effort control schemes for each species, as it is not possible to identify a target species or the use of a particular gear in a given 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 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 equipped with monitoring equipment, which makes it difficult to monitor the vessels as well as 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 considered to be less sustainable, for certain river basins or 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, the authorities allow gear to be transferred between vessels in specific situations. In cases where the viability of the activity is at stake, transferring gear from vessels to be decommissioned increases the profitability of the vessels remaining active, without any increase in fishing effort. Restrictions are imposed on the granting of new fishing permits for the use of certain gear, in order to prevent increases in the fishing effort for the various resources fished and to help maintain the existing balances. We would also emphasise the scale of the sector's involvement in the management of 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

As regards the European rules concerning 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 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) has the power to authorise both the entry of new capacity into the mainland fleet and increases in the capacity of the registered fleet. That same power is held by 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 new entries or increases in capacity, and regular assessments are carried out on the basis of the data recorded in the EU register (Fleet Register).

Monitoring and inspection of fishing activity

The monitoring of fishing activity established by Council Regulation (EC) No 1224/2009 of 20 November 2009 and its implementation under Commission Implementing Regulation (EU) No 404/2011 of 8 April 2011, as amended, are carried out by checking compliance with the technical measures adopted, in accordance with the procedures and systems for monitoring and cross-checking information from different sources. In this context, we should mention the information from the electronic fishing logbook and the continuous satellite monitoring system (VMS). Through VMS, information is obtained in real time on the location, route and speed of vessels equipped with such equipment (vessels with an overall length of more than 12 metres), which enables comprehensive monitoring of the relevant activity. The data transmitted is cross-checked with the catch/landing data, ensuring greater scrutiny. This also allows information to be obtained which is used for the purpose of fulfilling European requirements in the area of fishing activity, i.e. controlling fishing effort, monitoring quota uptake and closing fisheries, where applicable.

Monitoring and inspection of fisheries and related activities under the common fisheries policy and the fight against illegal, unreported and unregulated fishing (IUU fishing) are undertaken by the competent authorities of the autonomous regions and the *DGRM*, which is tasked with coordinating the activity carried out by the various bodies with responsibilities in the area of monitoring and surveillance. In addition to the *DGRM*, the Regional Fisheries Inspectorate of the Azores, the Regional Fisheries Directorate of Madeira, the National Republican Guard, the Air Force and the Directorate-General of the Maritime Authority, which form part of the System for Notifying, Monitoring and Inspecting Fishing Activities (*SIFICAP*), are involved in carrying out monitoring, inspection and surveillance activities.

SIFICAP facilitates coordination between the different bodies that are part of it, as well as 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 which is distributed among the competent authorities in the area of fisheries monitoring: the Navy, the National Republican Guard, the Air Force and the national fisheries authority, the *DGRM*.

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

In the area of inspection, activities with a particular impact on species subject to TACs and recovery plans were established as the main focus in 2021. Inspections targeted at vessels carrying out that type of fishing were considered to have priority. In that context, the *DGRM* carried out 139 checks, including 70 at sea, resulting in 13 suspected infringements being detected. Furthermore, in the course of the year, 9 NAFO vessels underwent landing inspections, as part of which a total of 16 checks were carried out and 18 suspected infringements were detected.

As regards the specific control and inspection programme (SCIP) for fisheries exploiting stocks of bluefin tuna 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, 48 inspections at sea and 267 landing inspections were carried out and reported. 54 hours of aerial surveillance were also undertaken, resulting in 33 sightings.

- During the 48 inspections carried out at sea, 8 serious infringements were detected, which gives an average serious infringement rate of 17% (the infringement rate is defined as the ratio between the number of suspected infringements and the number of inspections, expressed as a percentage).
- During the 267 inspections carried out at landing, 11 serious infringements were detected, giving an average serious infringement rate of 4%.
- The 33 sightings made by aerial surveillance resulted in the detection of 6 serious infringements.

The National Maritime Authority (*AMN*) carried out 7 738 checks throughout Portugal, including the Azores and Madeira, and detected 1 029 suspected infringements, giving an infringement rate of 13.29%. The Regional Fisheries Inspectorate of the Azores (*IRPA*) carried out 1 639 checks and detected 63 suspected infringements, giving an infringement rate of 3.8%. The Portuguese Air Force (*FAP*) spotted 100 targets in its surveillance activities. In 2021, the National Republican Guard (*GNR*), within the scope of its powers, carried out monitoring of recreational fishing, professional fishing, warehouses, transportation, fishmongers, markets, aquaculture, etc. This amounted to 3 379 checks – 2 990 on land and 389 at sea – and 1 564 infringements.

During the course of 2021, the bodies forming part of *SIFICAP* were responsible for the launch of 770 infringement procedures. In the same period, the Spanish authorities drew up 26 inspection reports on Portuguese fishing vessels.

7. CHANGES IN ADMINISTRATIVE PROCEDURES RELEVANT TO FLEET MANAGEMENT

In 2021, the establishment of fisheries management measures and technical measures led to the following changes in administrative procedures. These changes have consequences for the management of the fishing fleet:

- Ministerial Implementing Order No 93/2017 of 14 December 2017 establishing the limit for commercial catches of alfoncino (*Beryx spp.*) in the Azores per trip and per year, as amended by and last republished under Ministerial Implementing Order No 121/2021 of 30 November 2021

- Ministerial Implementing Order No 116/2018 of 25 October 2018 approving the Regulation on line fishing in the sea surrounding the Azores, as amended by and last republished under Ministerial Implementing Order No 136/2021 of 31 December 2021
- Ministerial Implementing Order No 92/2019 of 30 December 2019 establishing the annual limit on catches of species or groups of species, as well as the annual limits for by-catches, in the Azores fishing area, as corrected by Corrigendum No 1/2020 of 7 January 2020 and amended by and republished under Ministerial Implementing Orders Nos 113/2020 of 17 August 2020, 30/2021 of 1 April 2021, 105/2021 of 23 September 2021 and 122/2021 of 30 November 2021
- Ministerial Implementing Order No 70/2021 of 14 July 2021 approving the catch limits for bigeye tuna (*Thunnus obesus*)
- Ministerial Implementing Order No 108/2021 of 30 September 2021 regulating the catch and landing limits for skipjack tuna (*Katsuwonus pelamis*) and albacore tuna (*Thunnus alalunga*) and revoking Ministerial Implementing Order No 102/2021 of 21 September 2021
- Ministerial Implementing Order No 76/2021 of 23 July 2021 establishing, for 2021 and 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 156-A/2021 of 20 July 2021 establishing the rules for distributing, among Portuguese vessels, the available quotas for fishing in the North Atlantic, with a view to making better use of the fishing quotas at national level
- Order No 1601/2021 of 27 July 2021 distributing, among fishing vessels registered at the ports of the archipelago, the remaining quota for red seabream (*Pagellus bogaraveo*) in ICES subarea 10 allocated to the different islands of the Azores for 2021
- Order No 1/DG/2021 on the rules for the specific licensing of undulate ray fishing, enabling the continuation of the scientific studies previously carried out
- Council Regulation (EU) 2021/91 of 28 January 2021, which concerns the fishing opportunities for deep-sea species in 2021 and 2022, and expressly prohibits fishing for deep-sea sharks (i.e. the species listed in point 2 of part 1 of the Annex to that Regulation) in ICES subareas 9 and 10 and CECAF area 34.1.2, 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
- Council Regulation (EU) 2021/92 of 28 January 2021 fixing for 2021 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
- Order No 9/DG/2021 establishing the quota allocation for Atlantic mackerel for vessels authorised to use trawls in ICES area 8c under the Portuguese-Spanish Agreement
- Order No 19/DG/2021 of 4 May 2021 on closure periods in 2021 for fishing with dredging gear
- Order No 4626/2021 of 6 May 2021 re-opening sardine fishing from 00.00 on 17 May 2021 and establishing the management measures to be applied to this fishery
- Ministerial Implementing Order No 14/2021 of 12 January 2021 establishing exceptional rules in 2021 for the capture of by-catch species in seine fishing
- 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
- Order No 26/2021 of the Director-General of the DGRM of 18 June 2021 on deep-sea fisheries
- Order No 27/2021 of the Director-General of the DGRM on the daily quantities of sardine that may be fished by each type of vessel, from Monday 21 June 2021
- Order No 28/DG/2021 on the new daily catch limits for T4 sardine, which enter into force at 00.00 on 28 June 2021
- Order No 31/DG/2021 establishing that targeted fishing for anchovy is now authorised under new rules
- Order No 33/DG/2021 of the Director-General of the DGRM on the quantities of sardine that may be fished from 00.00 on 2 August 2021

- Order No 9171-A/2021 amending Order No 1127-B/2019 of 31 January 2019, published in Series II of the Portuguese Official Gazette (*Diário da República*), which authorised vessels licensed for commercial fishing, registered in Sagres and Lagos and covered by that Order, whose owners live on the west coast, to fish and land octopus (*Octopus vulgaris*) between 22.00 on Fridays and 22.00 on Sundays, provided that they operate and land their catches at one of the landing sites on the south-west coast, north of 37°00'13.80"N
- Order No 37/DG/2021 amending the daily catch limits for sardine from 00.00 on 21 September 2021
- Order No 41/DG/2021 establishing new management measures for sardine fishing, to be implemented from 00.00 on 4 October 2021
- Order No 42/DG/2021 establishing new management measures for anchovy fishing, to be implemented from 00.00 on 4 October 2021
- Order No 53/DG/2021 on the rules for the specific licensing of undulate ray fishing, enabling the continuation of the scientific studies that have been carried out

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-545 final). The data is presented separately for the fleets of mainland Portugal, Madeira and the Azores, as well as for the fleet operating exclusively outside EU waters.

8.1. Inactive fleet indicator

In 2021, 4 213 vessels did not carry out any activity. Although the number of inactive units is significant, in terms of fleet 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 94%) have an overall length of up to 10 metres. Annex V sets out the number of inactive vessels and their capacity (GT and kW) by length class and region.

We should point out that a process of decommissioning vessels that have been inactive for a long time is currently ongoing. This is expected to affect around 20% of the inactive fleet over the next two years.

8.2. Vessel use indicator – ratio between the average number of days and the maximum number of days at sea

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

Mainland fleet

Annex VI shows the values for the last four years for the mainland fleet and vessels operating exclusively in non-EU waters. The trawler (DTS and TBB) and dredger (DRB) segments include vessels that use only one group of gear. The seiner segment (PS) consists mainly of vessels operating exclusively with seines; however, it also includes vessels which, although they mostly use seines, are licensed to use other types of gear. The other segments include 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 0.27 to 0.88 in 2021. The traffic light system applied in 2021 indicates that 70.6% of the segments/length classes of the mainland fleet operating in national waters present ratios with unsatisfactory (red) values, while 29.4% present barely satisfactory (yellow) ratios.

We should point out that all segments comprising vessels with an overall length of up to 10 metres display unsatisfactory activity ratios, mainly on account of situations relating to adverse weather conditions that prevent smaller vessels from

operating regularly during the winter. Vessels with an overall length of up to 10 metres account for 79% of the total number of licensed vessels in the mainland fleet.

The dredger (DRB), trap (FPO), *xávega*/beach seine (MGO), polyvalent (PGP), seiner (PS) and beam trawler (TBB) segments present unsatisfactory activity ratios in all length classes. In addition to the aforementioned constraints on smaller vessels, vessels in these fleet segments are also subject to situations that prevent them from operating for long periods of the year, particularly mandatory closure periods (as in the case of the DRB, FPO, PS and TBB segments) and the presence of toxins in bivalve molluscs (DRB segment).

The hooks and lines (HOK) segment continues to present unsatisfactory activity ratios in the length classes for vessels with an overall length of between 12 and 24 metres, which may be explained by the fact that some species are subject to catch restrictions. In the seiner segment (PS), the unsatisfactory activity ratios stem, in the main, from the fact that the segment comprises vessels whose fisheries continued to be subject to the activity restrictions implemented in the context of plans and management measures, such as those for the recovery of sardine. They also result from the restrictions on anchovy fishing.

In the case of the fleet operating exclusively in non-EU waters, the performance of the HOK segment – length classes VL2440 and VL40XX – operating in OFR (Other Fishing Regions) improved slightly compared to 2020, recording ratios of 0.74 and 0.85 respectively. Nevertheless, these are barely satisfactory (yellow). Moreover, the performance of vessels in the DTS segment operating in the NAO (North Atlantic Ocean) worsened compared to the previous year. As the fleet operating exclusively in non-EU waters is engaged in ongoing activity throughout the year, we consider that the ratios obtained suggest that the indicator used is not the most appropriate for assessing the vessels' activity.

With regard to 2021, account should also be taken of the impact of the SARS-CoV-2 pandemic, which has led to increased difficulties in the fisheries sector. For example, cases of preventive isolation where vessels were consequently unable to operate on a daily basis have caused an overall reduction in the fleet's activity.

As we have stated in reports in previous years, we consider that the indicator – as it is defined – does not seem to be the most appropriate way to assess the actual activity of the vessels, and as a result it is not possible to draw reliable conclusions on potential overcapacity in the fleet. The variability between the maximum number of days at sea observed and the average number is mostly due to the particularities of vessels classified in those segments and has little to do with structural underactivity. While this observation applies to the majority of the fleet segments, the mismatch is more evident in the case of vessels engaged in small-scale fisheries, as there is a high degree of diversity in the activity carried out in that segment. 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 exercise of part-time activity by a large number of vessels (seasonal activity) and the observance of specific closure periods for certain areas or types of fishing gear.

Azores fleet

As regards the activity of the fleet registered in the Azores, the values for the use ratios were relatively low between 2016 and 2021 and did not display a clear trend (Table 10). The relative diversity of the different segments of the Azores fleet is intrinsically linked to the technical characteristics of the vessels and their fishing pattern. Various factors contribute to this diversity, such as weather conditions which significantly affect the operating capacity of the vessels, especially smaller vessels, and which can vary significantly between the different islands of the archipelago (e.g. the Western Group compared with the Eastern Group, the north coast compared with the south coast). Furthermore, a significant proportion of owners of smaller vessels have more than one professional activity or carry out their activity on a seasonal basis as fishermen on board other vessels (e.g. during the tuna season).

Given the characteristics of the Azores fleet, the application of the proposed use indicator does not allow conclusions to be drawn regarding the existence of any imbalances in technical capacity.

Table 10

REGIO N	Fishi ng tech.	Vesse l lengt h	2016			2017			2018			2019			2020			2021		
			Avera ge	Ma x.	Rati o	Avera ge	Ma x.	Rati o	Avera ge	Ma x.	Rati o	Avera ge	Ma x.	Rati o	Avera ge	Ma x.	Rati o	Avera ge	Ma x.	Rati o
Azore s	DFN	VL00 10	87	157	0.5 5	74	142	0.5 2	80	153	0.5 2	68	156	0.4 4	60	149	0.4 0	64	185	0.3 5
		VL00 10	63	195	0.3 2	59	250	0.2 4	69	203	0.3 4	63	237	0.2 7	59	221	0.2 7	70	191	0.3 6
NAO	HOK	VL10 12	90	194	0.4 6	90	244	0.3 7	110	134	0.8 2	127	225	0.5 6	113	212	0.5 3	90	196	0.4 6

	PGP	VL1218	82	185	0.44	63	198	0.32	71	186	0.38	118	217	0.54	126	260	0.48	90	188	0.48	
		VL2440	83	176	0.47	12	49	0.24	89	165	0.54	129	254	0.51	106	232	0.46	76	187	0.41	
		VL0010	89	134	0.66	83	162	0.51	91	153	0.59	85	222	0.38	81	185	0.44	78	190	0.41	
	PS	VL0010	83	155	0.54	74	134	0.55	71	123	0.58	92	143	0.64	73	133	0.55	77	173	0.44	
		VL1012	126	168	0.75	118	185	0.64	136	194	0.70	195	259	0.75	181	261	0.69	162	184	0.88	
		VL1218	-	-	-	-	-	-	-	-	-	-	-	-	-	174	185	0.94	134	178	0.75

Madeira fleet

As regards the activity of the fleet registered in Madeira (Table 11), there has been a slight decline overall in the activity of some fleet segments. This was influenced by the state of emergency in the country owing to the SARS-CoV-2 pandemic.

In the period 2015–2019, the HOK VL1218 segment maintained a positive trend, achieving a state of balance in 2019. While there was a slight decline in 2020, a state of balance was restored in 2021. The HOK VL2440 segment has shown a slight improvement, moving closer towards a state of balance. However, there was a decline in 2020 and 2021. The HOK VL0010 segment presents a variable pattern over the period under analysis. A decrease has been observed since 2019, due largely to the fact that the segment is made up of vessels whose activity is highly seasonal and is also influenced by the weather conditions.

As regards the MGP VL0010 segment, there was a clear upturn in the activity ratios, reversing the trajectory of previous years (2014–2016). However, there was a downturn again in 2021. The MGP VL1824 segment remains in balance, with a substantial improvement in the ratio values up to 2019. Thus the reduction observed in 2020 and 2021 is linked to the aforementioned pandemic.

Table 11

GEAR DCF	OVERALL LENGTH CLASS	2016			2017			2018			2019			2020			2021		
		Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio	Average	Max.	Ratio
		Madeira NAO	VL0010	186	235	0.79	187	212	0.88	170	188	0.91	173	200	0.87	177	228	0.78	166
VL1218	263		312	0.84	262	296	0.89	244	276	0.88	245	269	0.91	221	253	0.87	204	221	0.92
VL2440	120		149	0.81	184	259	0.71	180	208	0.86	163	187	0.87	132	187	0.71	165	212	0.78
MGP	VL0010	94	138	0.68	96.8	108	0.90	80.2	105	0.76	83	103	0.81	77	93	0.83	75	115	0.65
	VL1824	200	219	0.91	184	189	0.97	180	193	0.93	207	212	0.98	91	106	0.86	147	177	0.83

8.3. Biological sustainability indicators

The fleet was grouped into segments based on the gear identified in previous years, but aggregated by type of fishing: towed dredges, hand dredges, cage traps, fyke nets, bottom-set gillnets, combined nets (gill and trammel), trammel nets, handlines and hand-operated pole lines, drifting longlines, bottom-set longlines, bottom otter trawls, seines, *xávega* (beach seines) and beam trawls. In 2021, 72 stocks subject to some form of scientific assessment, with proposals for catch limits, were identified. Of those 72 stocks, 27 are species fished in Portuguese mainland waters.

Table 12 – Interactions between types of fishing gear and species included in stocks fished in Portuguese continental waters

		MEG	LDB	ANE	HOM	POL	NEP	SOL	SOO	HKE	MAC	PLE	MON	ANK	WHB	LIN	DGS	RIC	RJM	RJH	RJN	RJU	PIL	SBR	BSF	BYS	BXD	MAS	27	Prop.
DRB	DRB	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	1	2	7,4%
	DRH	--	--	--	--	--	--	1	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	7,4%
FPO	FPO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	1	1	1	1	--	1	1	23	85,2%
	FYK	--	--	--	--	--	--	1	--	--	--	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1	3	11,1%
DFN	GNS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	1	1	1	1	1	1	1	1	1	1	1	1	25	92,6%
	GTN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	1	1	1	1	1	1	1	1	1	1	1	1	25	92,6%
	GTR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	1	1	1	1	1	1	1	24	88,9%
HOK	LHP	--	--	--	1	--	--	1	--	1	1	1	--	1	--	--	--	1	1	--	--	1	1	--	--	--	--	1	10	37,0%
	LLD	--	--	--	1	1	--	1	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	6	22,2%
	LLS	1	1	--	1	1	1	1	--	1	1	1	1	1	1	--	1	1	1	1	1	1	1	1	1	1	1	1	23	85,2%
DTS	OTB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	1	1	1	1	1	1	1	24	88,9%
PS	PS_	--	--	1	1	1	--	1	1	1	1	1	--	1	--	--	--	1	1	1	--	1	1	--	--	--	--	1	15	55,6%
MGO	SB_	--	--	1	1	--	--	1	--	1	1	1	--	--	--	--	--	1	--	--	--	1	1	--	--	--	--	1	9	33,3%
TBB	TBB	1	--	--	1	1	--	1	--	1	1	1	--	--	--	--	--	1	1	1	--	1	1	1	--	--	--	1	13	48,1%

Each fleet segment fishes a variable share of the stocks; the segments with the fewest interactions (7.4%) are the dredger segments. The bottom otter trawl and gill and trammel net segments fish for the largest number of stocks: 88.9% to [sic] 96.2% respectively.

On average, each of the fleet segments identified fishes 54% of the stocks subject to assessment. This figure is slightly lower than that of the previous year (approx. 56%).

As in previous years, the total number of stocks fished is high: 311. This means that the proportion of scientifically assessed stocks continues to be low (8.7%), even taking into account the increase observed. This is largely because there are few stocks which are of interest to the majority of the EU Member States and therefore no human and financial resources are allocated to their research. Over the past two years, the COVID-19 pandemic has also limited scientific activity, which is why there have not been any positive developments with regard to the work carried out.

Compared to the previous year, the number of stocks fished has fallen. Dependency on stocks subject to assessment vis-à-vis the total stocks fished remains low in all segments. The number of stocks fished above the maximum sustainable yield also remains low (15% of those assessed).

In accordance with the assessment carried out by ICES in 2020, three stocks were overfished in 2021, which is to say that the fishing mortality of the stock exceeded the maximum sustainable yield. Specifically, and in descending order of the ratio value, these stocks were blue whiting (WHB), Atlantic mackerel (MAC) (1.23) and megrim (MEG) (1.18). Table 13 shows the proportion, by type of fishing gear, of the catches of stocks at risk individually and as a whole.

Table 13 – Proportion, by type of fishing gear, of the catches of overfished stocks (in relation to all catches using the type of gear)

	DRB		FPO		DFN			HOK			DTS	PS	MGO	TBB
	DRB	DRH	FPO	FYK	GNS	GTN	GTR	LHP	LLD	LLS	OTB	PS_	SB_	TBB
MAC	0,0%	0,0%	0,3%	0,0%	2,5%	1,3%	1,2%	0,0%	0,0%	0,0%	22,8%	0,2%	0,7%	0,1%
MEG	0,0%	0,0%	0,0%	0,0%	0,0%	0,1%	0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
WHB	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	5,2%	0,0%	0,0%	0,0%
<i>Capturas não sustentáveis</i>	<i>0,0%</i>	<i>0,0%</i>	<i>0,4%</i>	<i>0,0%</i>	<i>2,6%</i>	<i>1,4%</i>	<i>1,3%</i>	<i>0,0%</i>	<i>0,0%</i>	<i>0,0%</i>	<i>24,9%</i>	<i>0,2%</i>	<i>0,7%</i>	<i>0,1%</i>

MAC = Atlantic mackerel; MEG = megrim; WHB = blue whiting

<u>Portuguese</u>	<u>English</u>
Capturas não sustentáveis	Non-sustainable catches

The stocks included in Table 13 are fished mainly by the trawler fleet, which means that the bulk of the fleet is sustainable. The situation described in the previous period has been maintained.

As regards the sustainable harvest indicator (Table 14), the seiner segment (PS) is economically dependent on sardine to a notable extent (49%), plus, this year, Atlantic mackerel (0.16%). For its part, the trawler segment depends on the overfished species at a combined rate of 26.8%, which represents an increase on the previous year, in light of the change in the status of the Atlantic mackerel stock. The gillnet segments also fish for all the unsustainable stocks, but to a more limited extent (< 4%).

In view of the importance of seine fishing (PS), the situation of the relevant segments should be examined in greater detail. All the small pelagics fished by this segment depend on environmental conditions which, by their nature, cannot be controlled. These aspects must therefore be taken into account in managing this fleet component.

Table 14 – Sustainable harvest indicator

	DRB		FPO		DFN			HOK			DTS	PS	MGO	TBB
	DRB	DRH	FPO	FYK	GNS	GTN	GTR	LHP	LLD	LLS	OTB	PS	SB	TBB
MAC	0	0	20890	0	195993	85713	72280	6	49	222	14068160	296261	54459	927
MEG	0	0	221	0	298	4433	4445	0	0	276	38644	0	0	1
WHB	0	0	57	0	2101	805	813	0	0	548	4943820	0	0	0
<i>F/Fmsy>1</i>	0	0	21111	0	196291	90146	76725	6	49	498	14106804	296261	54459	929
Outras	4920690	22396297	5795695	152328	7427822	6163081	5719638	89959	4536061	7590008	42476095	167378485	7865404	796076
Capturas sustentáveis	100,00%	100,00%	99,64%	100,00%	97,43%	98,56%	98,68%	99,99%	100,00%	99,99%	75,07%	99,82%	99,31%	99,88%

MAC = Atlantic mackerel; MEG = megrim; WHB = blue whiting

Portuguese	English
Outras	Other
Capturas sustentáveis	Sustainable catches

Management measures, which have now been implemented, have reduced the fleet's dependence on endangered stocks, which have decreased in number. Notwithstanding the quite considerable importance of Atlantic mackerel and blue whiting fisheries for the trawler segment, stocks at risk were of little relevance for most segments.

Azores fleet

In the framework of the Marine Strategy Framework Directive, a reassessment of the environmental status of commercially fished species was carried out in 2020 for the Azores subdivision using the exploitation rate (ratio between catch and biomass index), spawning capacity (spawning stock biomass index) and population structure as indicators. That assessment, which was based mainly on information from the annual research surveys on demersal species in the Azores (ARQDAÇO) and the programme for the collection of fishing data (PNRD), was used exclusively as an indicator of the biological sustainability of the different groups of species.

Demersal and deep-water/very deep-water species

Despite the slight increase recorded in 2021, the analysis of the landings of demersal species in the period from 2011 to 2021 shows that the volume of landings is decreasing, with an average annual value of 3 020 tonnes (Table 15). We should point out that the region has been implementing a number 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 Order No 122/2021 of 30 November 2021 set annual maximum catch limits for a number of demersal species and also imposed catch limits per trip and per vessel for some of those species.

Table 15 – Landings of demersal and deep-water/very deep-water species in the Azores, in the period from 2011 to 2021

Year	Landings by weight (t)
2011	3 268
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
Average	3 020

Catches of demersal species in the Azores include some 70 species, with eight species making up about 70% of all landings. The main species caught during the reporting period were red seabream (*Pagellus bogaraveo*), with average annual landings of 570 tonnes, conger eel (*Conger conger*), with 383 tonnes, blackbelly rosefish (*Helicolenus dactylopterus*), with 228 tonnes, silver scabbardfish (*Lepidopus caudatus*), with 220 tonnes, forkbeard (*Phycis phycis*), with 209 tonnes, Mediterranean parrotfish (*Sparisoma cretense*), with 206 tonnes, alfonsino (*Beryx spp.*), with 159 tonnes, and wreckfish (*Polyprion americanus*), with 135 tonnes.

Morphometric and biological information is collected for all these species as part of the national data collection programme (PNRD). This information is regularly sent to and analysed in the ICES working groups, which draw up management recommendations on an annual basis. However, given the characteristics and complexity of demersal fishing in the Azores, it has not been possible to carry out an analytical assessment of the exploitation status of these species, particularly the calculation of biological reference points.

The biomass level of twenty-four demersal species was assessed over the period 2012–2017, in accordance with the analytical procedures used to assess ‘good environmental status’ under the MSFD. In the case of seven of the species it was increasing, seven it was decreasing, and three it remained stable. For the remaining seven species it was not possible to carry out an assessment. We should point out that although the aforementioned assessment indicates that the biomass level of red seabream (*Pagellus bogaraveo*), which is the main demersal/deep-water species caught in the Azores, is decreasing, the most up-to-date scientific information reveals that the stock is showing signs of recovery. This is why the fishing quota for red seabream was increased for 2021 and 2022.

In line with 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 of the Council on the Common Fisheries Policy, and given that over 60% of the catch is made up of stocks for which no F or F_{msy} values exist, we consider that the indicator cannot be obtained for this set of species.

Small pelagic species

The analysis of the landings of small pelagic species in the period from 2011 to 2021 shows that the volume of landings varies somewhat from year to year, with no clear trend, and an annual average of 1 120 tonnes (Table 16).

Table 16 – Landings of small pelagic species in the Azores, in the period from 2011 to 2021

Year	Landings by weight (t)
2011	1 395
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
Average	1 120

In the context of small pelagic fisheries in the Azores, three species are caught: blue jack mackerel (*Trachurus picturatus*), with annual landings of 796 tonnes, Atlantic chub mackerel (*Scomber colias*), with 304 tonnes, and sardine (*Sardina pilchardus*), with 21 tonnes.

Morphometric and biological information is collected for all these species as part of the national data collection programme (PNRD). This information is regularly sent to and analysed in the ICES working groups, which draw up management recommendations on an annual basis. However, given the complexity of the fisheries, it has not been possible to carry out an analytical assessment of the exploitation status of these species, particularly the calculation of biological reference points. None of the small pelagic species fished commercially in the region could be fully assessed following the analytical procedures for assessing ‘good environmental status’ under the MSFD.

In line with 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 of the Council on the Common Fisheries Policy, and given

that over 60% of the catch is made up of stocks for which no F or F_{msy} values exist, we consider that the indicator cannot be obtained for this set of species.

Tunas

These resources are fished mainly by the pole-and-line tuna fleet (included in the HOK VL2440 segment), which traditionally begins the harvest in Madeira and moves to the Azores during the season. In the period from 2011 to 2021, the average volume of tuna landed was 6 956 tonnes (Table 17), representing approximately 56% of all landings of fish by the Azores fleet.

Table 17 – Landings of tunas, in the period from 2011 to 2021

Year	Landings by weight (t)
2011	10 606
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
Average	6 956

In the Azores, the most commonly caught Atlantic tuna species are skipjack tuna (*Katsuwonus pelamis*) and bigeye tuna (*Thunnus obesus*). In the period from 2011 to 2021, these species accounted for 47% and 44% of total tuna catches in the region, respectively. The geographical location of the Azores archipelago and the migratory nature of tunas – which is linked to the quantity of food available and the ocean currents – cause significant fluctuations in annual tuna catches and mean tuna fishing is highly seasonal.

These stocks are managed by ICCAT at the level of the Atlantic. According to the assessments carried out, there is a 50% probability that bigeye tuna is being overfished, while there is no indication that skipjack tuna is being fished above safe biological limits (Table 18).

Table 18 – Overview of the ICCAT assessments of the level of exploitation of bigeye tuna and skipjack tuna stocks, carried out in 2018 and 2014 respectively

Species	MSY	Catches	Relative biomass	Fishing mortality
Bigeye tuna	86 833 t (72 210-106 440 t)	57 486 t (2020)	B2019/BMSY: 0.94 (0.71-1.37)	F2019/FMSY: 1.00 (0.63-1.35)
Skipjack tuna	-	282 427 t (2018)	B2013/BMSY: >1	F2013/FMSY: <1

Madeira fleet

In the case of the active Madeira fleet in CECAF area 34, two biological indicators were calculated: the sustainable harvest indicator (SHI) and the indicator for stocks at risk (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 is the case for tuna and tuna-like species (bigeye, albacore, skipjack, bluefin and swordfish), where reference values published by ICCAT in connection with the latest available assessments for each of the species were used.

In the case of some of the remaining species (e.g. Atlantic chub mackerel, blue jack mackerel, the limpets *Patella aspera* and *Patella candei*), whose stocks are demonstrably not influenced by significant migratory movements and which are only fished locally, quantitative and qualitative information exists on the status of the resource, even though no assessments have been carried out by international scientific bodies. This information is based on biological and statistical data collected under sampling schemes that enabled the required parameters to be obtained, with each stock being considered as a functional unit to be managed.

The results obtained for the years 2016 to 2021 are set out in the table ‘Biological indicators (Madeira)’ (Table 19).

Table 19

		Biological indicators (Madeira)																	
		SHI (value of landings)						SAR											
		2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
GEAR DCF	OVERALL LENGTH CLASS																		
HOK	VL0010	1.19	1.11	1.03	1.22	0.75	0.90	1	1	1	1	1	1						
	VL1218	1.11	1.11	1.19	1.51	0.91	0.92	1	1	1	1	1	1						
	VL1824																		
	VL2440	1.08	1.05	1.28	1.05	1.75	0.98	1	1	1	1	1	1						
MGP	VL0010	0.81	0.80	0.60	1.14	0.95	0.96	0	0	0	1	1	1						
	VL1824	4.04	3.24	3.12	3.11	3.14	3.12	2	2	2	2	2	2						

In the case of hook gears (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 calculation was carried out with $F_{0.1}$ and F_{act} based on the most recent assessments published by ICCAT.

The indicator may not be representative in certain segments where it was impossible to obtain these values for other species of considerable importance in terms of landings and economic value. This applies in particular to segments where landings of the species included in the assessment make up less than 40%. The fleet segment where this happened in 2021 is highlighted in red in the table.

In the case of the MGP segment, which mainly comprises the Madeiran fleet’s seine fisheries (small pelagics) and the harvesting of shellfish (limpets), no assessments have been carried out by international institutions on the stocks fished by these fleet segments. Therefore, the indicator (SHI) is 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} have been used (F_{max} – 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 seiners mainly fishing Atlantic chub mackerel and blue jack mackerel. The most recent assessment for 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.

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 have been used in addition to the information obtained through data collection surveys, and the new model for calculating the majority of the costs is in place.

The depreciation costs take into account the values attributed for the useful life of the various components used in the PIM method (Perpetual Inventory Method), adjusting them to values that are more in line with the reality of the national fishing fleet. Table 20 shows the values used in the PIM method.

Table 20 – Useful life according to the length class of vessels

Length class	Hull	Engine	Electronics	Other
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	Number of years	Number of years	Number of years	Number of years
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 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:

- ROFTA (return on fixed tangible assets) = net profit/value of assets
- Ratio between current revenue (CR) and break-even revenue (BER), where BER is the revenue required to cover the fixed costs without loss or profit, and the current revenue (CR) 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 *PNRD* data for vessels active in the years under analysis. As the economic data for 2021 are not yet available, the economic indicators for the year under analysis were estimated from a projection based on data from 2018 to 2020.

Mainland fleet

In the case of the mainland fleet, and as can be seen from Annexes VII, VII-a and VII-b, around 68% of the segments with vessels operating in national waters performed well in 2021. In the case of vessels operating exclusively in international waters, the estimated values give negative results.

If 2021 is compared with 2020, the estimates point to a drop in profitability in around 24.3% of the fleet segments. We must point out that the projection for 2021 is based on the trend observed in recent years and could therefore be influenced by the pandemic. However, it should be noted that overall, in 2020, the sector performed well economically, despite all the obstacles encountered. As regards 2021, it appears that the performance of the DTS, HOK, MGO, PGP and PS fleet segments has worsened slightly. Conversely, there has been an improvement in the performance of vessels less than 10 m in length in the dredger segment.

The DFN, FPO, PMP and TBB segments have continued the trend of recent years, performing positively from an economic perspective.

Despite the constraints that have affected the seiner fleet (PS) in recent years, most of the segments have continued to perform well economically. This is especially true for smaller fishing vessels, as they also use other types of fishing gear.

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

The fleet operating exclusively in international waters is also expected to continue presenting some economic weakness in 2021, particularly the HOK VL40XX segment, which has suffered a drop in income for the second year in a row. This has resulted in negative values for ROFTA and the ratio between current revenue (CR) and break-even revenue (BER).

Azores fleet

The analysis of the economic indicators shows that, in general, all segments of the Azores fleet show positive economic performance or a positive trend over the reporting period.

For 2021, the average of the last five years was used, given that the economic indicators are not yet available.

The analysis of the economic indicators shows that, in general, all segments of the Azores fleet show positive economic performance or a positive trend in this respect over the period 2016–2019. According to the information collected for that period, all segments of the Azores fleet are economically sustainable in the long term and can 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 has led to a worsening of the economic performance of almost all segments of the Azores fleet, particularly vessels operating with hooks and lines.

Table 21 – Economic indicators for the Azores fleet in the period 2016–2020

REGION	Fishing tech.	Vessel length	2016		2017		2018		2019		2020		2021	
			ROFTA	RATIO CR/BER	ROFTA	RATIO CR/BER	ROFTA	RATIO CR/BER	ROFTA	RATIO CR/BER	ROFTA	RATIO CR/BER	ROFTA	RATIO CR/BER
AZORES	DFN	VL0010	3.09	6.13	0.41	3.55	0.49	3.18	0.45	3.01	0.11	1.45	0.91	3.46
	HOK	VL0010	1.30	3.94	0.26	2.77	0.22	2.09	0.32	2.56	0.15	1.68	0.45	2.61
		VL1012	0.24	2.44	0.26	2.85	0.33	2.41	0.37	2.24	-0.17	0.76	0.21	2.14
		VL1218	0.12	1.69	0.21	2.28	0.25	1.78	0.45	2.69	0.21	1.75	0.25	2.04
		VL2440	-0.08	0.48	0.12	1.69	0.13	1.84	0.02	1.14	-0.10	0.50	0.02	1.13
	PGP	VL0010	0.71	4.01	0.15	1.91	0.10	1.76	0.41	2.85	0.08	1.33	0.29	2.37
	PS	VL0010	1.15	4.90	0.29	2.38	0.29	2.49	0.17	1.83	0.27	2.18	0.43	2.76
		VL1012	0.38	2.75	0.51	4.55	0.05	1.25	0.19	2.22	0.21	1.75	0.27	2.50
		VL1218	-	-	-	-	-	-	0.74	4.79	0.42	2.58	0.58	3.69

Madeira fleet

For 2021, the average of the last five 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 has severely impacted the fisheries sector. Fisheries production has been 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 have suffered a major downturn, as traditional European markets are also experiencing the same difficulties. This will undoubtedly be confirmed by the final economic data for 2021.

Table 22 – ROFTA

Fishing tech.	Vessel length	ROFTA					
		2016	2017	2018	2019	2020	2021
HOK	VL0010	0.19	0.28	0.39	0.71	0.38	0.39
	VL1218	1.02	0.76	1.32	1.34	0.89	1.07
	VL2440	0.18	0.45	0.08	0.13	-0.04	0.16
MGP	VL0010	1.18	0.76	0.71	1.12	1.47	1.05
	VL1824	-0.04	0.01	0.20	-0.12	-0.11	-0.01

Table 23 – RATIO

Fishing tech.	Vessel length	RATIO					
		2016	2017	2018	2019	2020	2021
HOK	VL0010	2.25	2.37	2.96	4.52	2.49	2.92
	VL1218	3.81	4.07	6.08	6.85	3.16	4.79
	VL2440	1.22	3.10	2.27	1.61	0.80	1.65

MGP	VL0010	2.50	3.71	3.79	5.64	4.65	4.06
	VL1824	1.12	1.05	2.40	0.46	0.60	1.13

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

In 2020, 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 30% in terms of volume and 26% in terms of value compared with 2019. We expect a turnaround in 2021 in the case of this indicator.

There are no other segments that have performed negatively, which is encouraging. Vessel owners are balancing the operation of their businesses, i.e. costs, with fishing yields.

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

9. ACTION PLAN

The analysis of the vessel use indicators and the economic indicators for the fishing fleet operating with hooks, as well as the fact that catch restrictions have been imposed for swordfish and also deep-water species, suggest there is a need for us to consider adjusting the fleet's capacity. Indeed, in recent years, some segments of the fleet operating with hooks have performed negatively from an economic perspective. This weakness looks set to continue, particularly in the case of larger vessels. The results observed prompted a decision to draw up an Action Plan with the aim of implementing measures for the permanent cessation of activity (Annex VIII).