



MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
NATIONAL AGENCY FOR FISHERIES AND AQUACULTURE



Romania's annual report on efforts to achieve a sustainable balance between fishing capacity and fishing opportunities for the year 2022

pursuant to Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Regulation (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC and following the Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council on the Common Fisheries Policy, COM(2014) 545 final of 2 September 2014.

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A. Description of the fishing fleet and relation to fisheries

A.1 Description of the Romanian fishing fleet

The Romanian fishing fleet is operating only in the Black Sea, in the area of competence of the Regional Fisheries Management Organisation – GFCM (General Fisheries Commission for the Mediterranean), Area 37 – Mediterranean and Black Sea, Sub-area 37.4, Division 37.4.2, GSA 29, along the Romanian coastline, and is limited to the marine water areas up to the 60-70 m isobath, exclusively within the EEZ.

As of 31 December 2022, the fishing fleet consisted of 171 vessels with a total capacity of 1 621.89 GT and 6 354.25 kW. Fishing vessels allocated to small-scale fisheries, which are up to 12 metres long, account for 68.43% of the fleet, i.e. 117 watercrafts with a capacity of 330.52 GT and 1 747.28 kW.

Fishing vessels allocated to small-scale fisheries up to 12 metres long – small craft with or without an engine – account for 85 % of the total fleet, i.e. 145 watercrafts with a capacity of 380.58 GT and 1 936.03 kW. They can be considered as the main segment of the fleet.

The structure of active vessels by length class segment and fishing technique was as follows: 2 VL2440 PMP vessels (vessels using both active and passive fishing gears), 3 VL1824 PMP vessels, 19 VL1218 PMP vessels, 105 VL0612 vessels (of which 79 were PG vessels (vessels using only passive fishing gear), and 26 were PMP vessels), and 12 VL0006 PG vessels (of which 7 PG and 5 PMP). The active vessels of up to 12 m accounted for 83% of all active vessels: 117 vessels with a capacity of 330.52 GT and 1 747.28 kW. 374 fishermen carried out marine fishing activities, and the average number of people employed per vessel was 3.

During their activities, the fishing vessels grouped by PMP fishing technique used both active and passive TBB, HMD, OTM, GNS and SB tools, as well as divers to harvest molluscs (veined rapa whelk and mussels). These activities were performed by almost all vessel categories: 24-40 PMP, 18-24 PMP, 12-18 PMP and 06-12 PMP.

* TBB – beam trawl; HMD – hydraulic dredge; OTM – midwater trawl; GNS – gillnets, SB – shore seine.

The PG fishing vessels were those in class segments 00-06 PG and 06-12 PG, and used the following as main gear: GNS, FPN, LHP and LLS.

* GNS – gillnets; FPN – fish corral; LHP – handline and pole line; LLS – set longline.

Of the 171 vessels in the Romanian fishing fleet, only 141 (83%) performed fishing activities (93% GT and kW), while 30 vessels (18%) were inactive (7% GT and kW). In 2022, as compared to 2021, the number of active vessels increased from 130 to 141 (8%), and the number of inactive vessels decreased by 9%.

The most representative segment of the Romanian fleet was VL06-12 m, which accounts for 77% of the fleet (131 vessels) and which is also the largest segment of the entire fleet, followed by the VL12-18 m segment, which accounts for 12% (21 vessels), and the VL00-06 segment, which accounts for 8% of the fleet (14 vessels). The VL18-24 m segment, accounting for only 2% of the fleet, consists of only 3 active vessels, and the VL24-40 m segment, accounting for 1% of the fleet, consists of 2 active vessels. Table 1:

Table 1. Structure of the Romanian fleet in 2022 by fleet segment, GT, kW, length, fishermen's age

Fleet segments (active and inactive vessels)		No of vessels	% No of vessels	Total GT	% GT	Total kW	% kW	Average length	Average age	Number of fishermen
Active	00-06 m PG	7	4.1	4.4	0.27	61.4	0.97	5.18	25.86	14
	00-06 m PMP	5	2.92	3.67	0.23	0	0	4.82	16.4	11
	06-12 m PG	79	46.2	158.13	9.75	883.02	13.89	7.82	22.57	200
	06-12 m PMP	26	15.21	164.32	10.13	802.86	12.64	8.92	16.42	74
	12-18 m PMP	19	11.11	636.44	39.24	2 757.97	43.4	14.84	13.21	62
	18-24 m PMP	3	1.75	318	19.61	846.25	13.32	22.13	32	9
	24-40 m PMP	2	1.17	228	14.05	555	8.73	26.1	29.5	4
Total active vessels		141	82.46	1 512.96	93.28	5 906.5	92.95	12.83	22.28	374
Inactive	00-06 m	2	1.17	1.83	0.11	13.68	0.22	5.3	17.5	0
	06-12 m	26	15.2	48.23	2.98	175.07	2.76	7.63	20.84	0
	12-18 m	2	1.17	58.87	3.63	259	4.07	14.93	6	0
Total inactive vessels		30	17.54	108.93	6.72	447.75	7.05	9.29	14.78	0
Total vessels		171		1 621.89		6 354.25				374

PG * vessels using only passive fishing gears; PMP * vessels using both active and passive fishing gears

Table 2 shows the number of fishing vessels and their activity per segment, and the total activity for 2022. The highest level of fishing activity was recorded in the VL06-12PG segment (36.43%), with 1 483 days at sea; this segment represents 56% of the active vessels in the fleet and is also the largest, being made up of 79 active vessels, followed by the VL0612PMP segment (25.08%), with 1 021 days at sea and 26 vessels (18%), and by the VL12-18PMP segment (13%), with only 19 vessels and 967 days at sea.

Table 2. Activity of fishing vessels by fleet segment in 2022

Active fleet segment	No of vessels	Total GT	Total kW	No of days at sea	Fleet activity %	Total landings (tonnes)
VL00-06PG	7	4.4	61.4	114	2.8	4.1
VL00-06PMP	5	3.67	0	191	4.69	86.5274
VL06-12PG	79	158.13	883.02	1 483	36.43	99.118
VL06-12PMP	26	164.32	802.86	1021	25.08	1 151.752
VL12-18PMP	19	636.44	2 757.97	967	23.75	1 394.233
VL18-24PMP	3	318	846.25	208	5.11	314.149
VL24-40PMP	2	228	555	87	2.14	125.744
Total	141	1 512.96	5 906.5	4 071	100	3 175.6234

A.2 Relation to fisheries

Fishing in Romania is carried out along the coastline and is supported by five main fishing ports (Sulina, Midia, Tomis, Constanța and Mangalia), 13 turbot (TUR) landing sites and 43 landing sites for other species in the Black Sea (of which 31 are landing sites and 12 are beach sectors), 16 points of first sale for turbot (TUR), and 31 points of first sale for other species in the Black Sea, located between Sulina and Vama Veche. In general, fishing depths range between 2 and 20 m, however, when specialised fishing is practised for species such as turbot, allis shad or dogfish, fishing depths go down to 60 m. The fishing activity is generally carried out in inland and territorial marine waters (up to 12 nautical miles).

Fishing techniques and methods in the Black Sea:

- passive fishing using stationary uncovered pound nets, set gillnets and pots;
- fishing without gear (with divers) for veined rapa whelk/mussels;
- fishing using towed gear such as trawl, beam trawl, dredges;
- specialised fishing for turbot, using set gillnets and for dogfish, using longlines.

In Romanian marine waters, fishing is mainly practised in the first four/seven months of the fishing season (March to October), with a peak in the summer months, when the most important commercial fish species arrive in the coastal area to spawn and feed. In recent years, sea fishing in the Romanian Black Sea area has been confined to passive fishing in the coastal zone, using fixed gears such as various types of nets, longlines, seines, pots and pound nets.

The state of fish catches per port, in tonnes landed in 2022, and the breakdown of catches by month are shown in Figures 3, 4, 5, and 6.

Over the last decade, interest in the exploitation of marine molluscs in the Black Sea has significantly grown.

Molluscs are not considered traditional food in Romania, but over the last years there has been an increase in people's preference for consumption of mussels and veined rapa whelk.

The veined rapa whelk gastropod (*Rapana venosa*) has become the basis of marine fishing activity in Romania (77.23% of the total catch), followed by mussels (*Mytilus galloprovincialis*, 14.05% of the total catch), which are fished by divers or using mechanized dredges and TBB.

The most targeted species in the Black Sea, on the Romanian coast, are:

- pelagic species: sprat, horse mackerel, golden grey mullet, anchovy, allis shad, garfish;
- demersal species: turbot, red mullet, dogfish, blonde ray and common stingray, gobies;
- molluscs: veined rapa whelk, mussels, and triped venus clams.

The total quantity landed in 2022 was 3 175 tonnes, equating to EUR 3 446 535, having increased by 1.55% in terms of landings, and by 54.10% in terms of the value in EUR, as compared to 2021. As compared to 2020, it has decreased by 28.84% in terms of landings, but has increased by 24.34% in terms of the value in EUR. This was due to the increase in the catch of other fish species.

Table 3 lists the main catches (in tonnes) landed in 2022, representing 24 different species; significant catches of major importance are: veined rapa whelk (RPW) – 77.23%, mussels (MSM) – 14.05%, turbot (TUR) – 2.36%, sprat (SPR) – 1.94%, bluefish (BLU) – 1%, anchovy (ANE) – 0.95%, red mullet (MUT) – 0.83%, horse mackerel (HMM) – 0.64%, common stingray (JDP) – 0.28%, gobies (GPA) – 0.18%, and Black Sea shad (CUI) – 0.12%; the rest of the species landed accounted for less than 0.10%. As regards their value in EUR, their share is as follows: RPW (47.68%), followed by TUR (20.07%), due to the high first sale price, MSM (18.12%), and BLU (5.17%).

Sprat (SPR) accounted for 1.94% of the total landings as it is an EU-listed species, while dogfish (DGS), which is allowed to be fished with LLS as of 2022, accounted for only 0.02% of landings.

As regards breakdown by length class, the highest landing rates and their value in EUR were recorded in the VL12-18PMP segment (43.9% in terms of quantity (tonnes) and 40.73% in terms of value (EUR)), followed by: VL06-12PMP (tonnes – 36.27%, and EUR – 30.73%), VL18-24PMP (tonnes – 9.89%, and

EUR – 9.77%), while the lowest values were recorded in the VL24-40PMP, VL06-12PG, VL00-06PMP and VL00-06PG segments.

Figure 1. Breakdown of landings and value in EUR per fleet segment in 2022

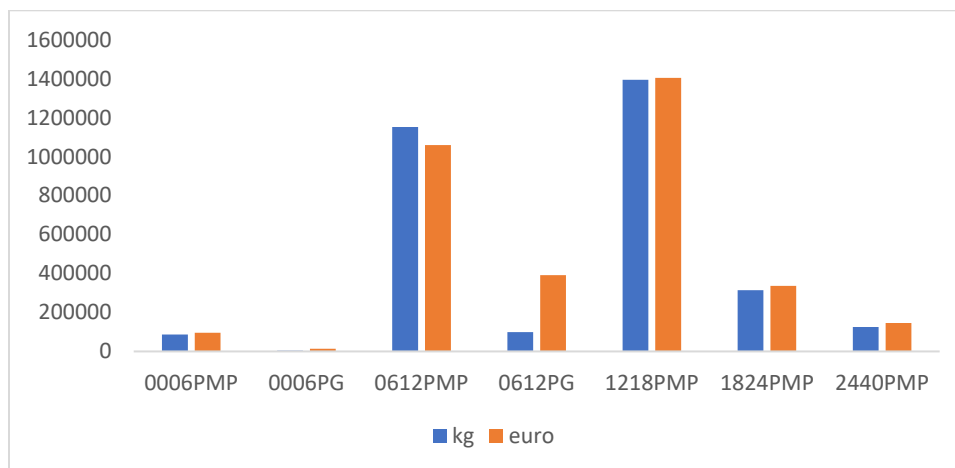


Table 3. Breakdown of total landings by species in 2022 by fleet segment in total landings (tonnes), and value (EUR)

Species / scientific name	Species COD E / tonnes / EUR	VL0006 PG	VL0006 PMP	VL0612 PG	VL0612 PMP	VL1218 PMP	VL1824 PMP	VL2440 PMP	TOTAL	Share of total landings – tonnes (%)	Share of total landings – EUR (%)
<i>Scophthalmus maximus</i>	TUR tonnes	0.609		27.495	7.485	36.281	3.228		75.098	2.36	
	TUR EUR	5 608.89		253 229	68 936.85	334 148	29 729.88		691 652.58		20.07
<i>Sprattus sprattus</i>	SPR tonnes	0.055		5.067	1.4	55.211			61.733	1.94	
	SPR EUR	58.85		5 421.69	1 498	59 075.77			66 054.31		1.92
<i>Rapana venosa</i>	RPW tonnes		34.9334	8.258	869.944	1 248.098	249.924	41.501	2 452.6584	77.23	
	RPW EUR		23 405.4	5 532.86	582 862.5	836 225.7	167 449.1	27 805.7	1 643 281.1		47.68
<i>Mytilus galloprovincialis</i>	MSM tonnes		51.594		263.563	5.35	41.305	84.243	446.055	14.05	
	MSM EUR		72 231.6		368 988.2	7 490	57 827	117 940	624 477		18.12
<i>Squalus acanthias</i>	DGS tonnes			0.309	0.265	0.083	0.005		0.662	0.02	
	DGS EUR			920.82	789.7	247.34	14.9		1 972.76		0.06
<i>Engraulis encrasicolus</i>	ANE tonnes	1.491		28.244	0.386	0.137			30.258	0.95	
	ANE EUR	1 997.94		37 847	517.24	183.58			40 545.72		1.18
<i>Mullus barbatus</i>	MUT tonnes			0.624	0.333	21.749	3.554		26.26	0.83	

	MUT EUR			1 491.36	795.87	51 980.11	8 494.06		62 761.4		1.82
<i>Trachurus mediterraneus</i>	HMM tonnes	0.67		9.9604	2.375	2.454	4.858		20.3174	0.64	
	HMM EUR	1 943		28 885.2	6 887.5	7 116.6	14 088.2		58 920.46		1.71
<i>Pomatomus salatrix</i>	BLU tonnes	0.054		2.96	4.014	14.747	9.914		31.689	1.00	
	BLU EUR	303.48		16 635.2	22 558.68	82 878.14	55 716.68		178 092.18		5.17
<i>Neogobius melanostomus</i>	GPA tonnes	0.222		4.859	0.693	0.071			5.845	0.18	
	GPA EUR	450.66		9 863.77	1 406.79	144.13			11 865.35		0.34
<i>Mesogobius batrahocephalus</i>	MBF tonnes	0.076		1.8856	0.232				2.1936	0.07	
	MBF EUR	280.44		6 957.86	856.08				8 094.38		0.23
<i>Alosa immaculata</i>	SHC tonnes	0.221		2.069	0.05	0.032	0.007		2.379	0.07	
	SHC EUR	1 003.34		9 393.26	227	145.28	31.78		10 800.66		0.31
<i>Atherina boyeri</i>	ATB tonnes			2.067					2.067	0.07	
	ATB EUR			2 087.67					2 087.67		0.06
<i>Mugil cephalus</i>	MUF tonnes	0.11		0.031					0.141	0.00	
	MUF EUR	301.4		84.94					386.34		0.01
<i>Dasyatis pastinaca</i>	JDP tonnes			1.833	0.47	5.703	0.956		8.962	0.28	
	JDP EUR			3 904.29	1 001.1	12 147.39	2 036.28		19 089.06		0.55
<i>Belone Belone</i>	GAR tonnes			0.334	0.025				0.359	0.01	
	GAR EUR			1 910.48	143				2 053.48		0.06
<i>Raja clavata</i>	RJC tonnes			0.027		1.226	0.016		1.269	0.04	
	RJC EUR			48.06		2 182.28	28.48		2 258.82		0.07
<i>Merlangius merlangus</i>	WHG tonnes			1.013	0.012	0.03	0.02		1 075	0.03	
	WHG EUR			324.16	3.84	9.6	6.4		344		0.01
<i>Liza aurata</i>	MGA tonnes	0.552		1.49	0.475				2.517	0.08	
	MGA EUR	1 838.16		4 961.7	1 581.75				8 381.61		0.24
<i>Alosa tanaica</i>	CUI tonnes	0.04		0.465	0.02	2.987	0.362		3.874	0.12	
	CUI EUR	128		1 488	64	9 558.4	1 158.4		12 396.8		0.36
<i>Chelidonichthys lucerna</i>	GUU tonnes			0.037					0.037	0.00	
	GUU EUR			318.94					318.94		0.01

<i>Solea solea</i>	SOL tonnes			0.053																0.053	0.00		
	SOL EUR			78.44																	78.44		0.00
<i>Sarda sarda</i>	BON tonnes			0.025	0.01	0.074															0.109	0.00	
	BON EUR			120.25	48.1	355.94															524.29		0.02
<i>Dicentrarchus labrax</i>	SRK tonnes			0.012																	0.012	0.00	
	SRK EUR			97.32																	97.32		0.00
Total tonnes		4.1	86.5274	99.118	1 151.752	1 394.233	314,149	125,744	3 175.6234	100													
Total in EUR		13 914.16	95 637	391 602	1 059 166	1 403 888	336 581.1	145 746	3 446 534.7														100
Share in total landings kg (%)		0.13	2.72	3.12	36.27	43.90	9.89	3.96	100														
Share in total landings in EUR value (%)		0.40	2.77	11.36	30.73	40.73	9.77	4.23	100														

Table 4. Percentage breakdown for catches landed in 2022 by species and by fishing gear

Species/ gear	TUR	SPR	RPW	MSM	DGS	ANE	MUT	HMM	BLU	GPA/ MBF	SHC/ CUI	ATB	MUF	JDP/ RJC	GAR	WHG	MGA	GUU	SOL	BON/ SRK	%	
TBB			1 977.9	0.15																		62.29
NO			466.47	317.9																		24.70
OTM		56.61			0.034	0.137	25.53	8.935	28.6	0.071	3.4			7.07		0.06					0.084	4.11
HMD			0.009	128																		4.03
GNS	75.098				0.144	0.076	0.11	0.805	2.35	0.771	2.22		0.139	2.87	0.06		1.59	0.023	0.02			2.72
FPN		5.122			0	30	0.624	9.658	0.49	1.018	471	2.07	0.002	0.3	0.3	1.01	0.88	0.01	0.04	0.025		1.64
FPO			8.258							5.693												0.44
LHP/T						0.015		0.892	0.27		0.17							0.05	0.004			0.04
LLS					0.484			0.009														0.02
LHP/V										0.465												0.01
SB						0.033		0.018		0.021							0.01				0.01	0.00
Percentage species %	2.36	1.94	77.23	14.05	0.02	0.95	0.83	0.64	1.00	0.25	0.19	0.07	0.004	0.32	0.01	0.03	0.08	0.001	0	0.003		100

The table above shows that the most common fishing gears used in Romania were TBB (beam trawl), accounting for 62.29% of the total gears used in 2022, 18.31% less than in 2021, followed by manual harvesting of molluscs by divers (24.70%), 68.60 % more than in 2021; the pelagic one-boat trawl (OTM), used to catch small pelagic species, accounted for 4.11%, 35.64% more than in 2021.

As regards the use of gillnets (GNS), an increase of 1.49% was observed compared to 2021, while the use of turbot nets slightly decreased (by 0.84%) compared to 2021.

In 2022, veined rapa whelk was fished with TBB (62.28%) and manually, with divers (14.69%), while small quantities were obtained using pots (0.26%).

Veined rapa whelk (RPW) and mussels (MSM) caught with TBB accounted for 39.31% of the VL1218PMP fleet segment, while sprat (SPR) was caught with OTM and FPN.

TBB is used in the northern part of the coastline between Mamaia Bay and Sfântu Gheorghe at depths of between 17 and 30 m, and manual harvesting by divers mainly takes place in the southern part of the Romanian coast, between Constanța and Mangalia, at depths between 5 and 25 m. Tables 4 and 5. As regards the landing sites, the largest quantities were recorded in the port of Midia (67%), followed by the ports of Mangalia (12%) and Eforie (7%). Veined rapa whelk (RPW) was landed in the port of Midia (71%), followed by the port of Mangalia (10%); turbot (TUR) was landed in the port of Midia (56%),

followed by the port of Sulina (23%); sprat (SPR) (93%) was landed in the port of Midia. Figures 2, 3, and 4.

Figure 2. Percentage breakdown for catches landed in 2022 by fishing gear

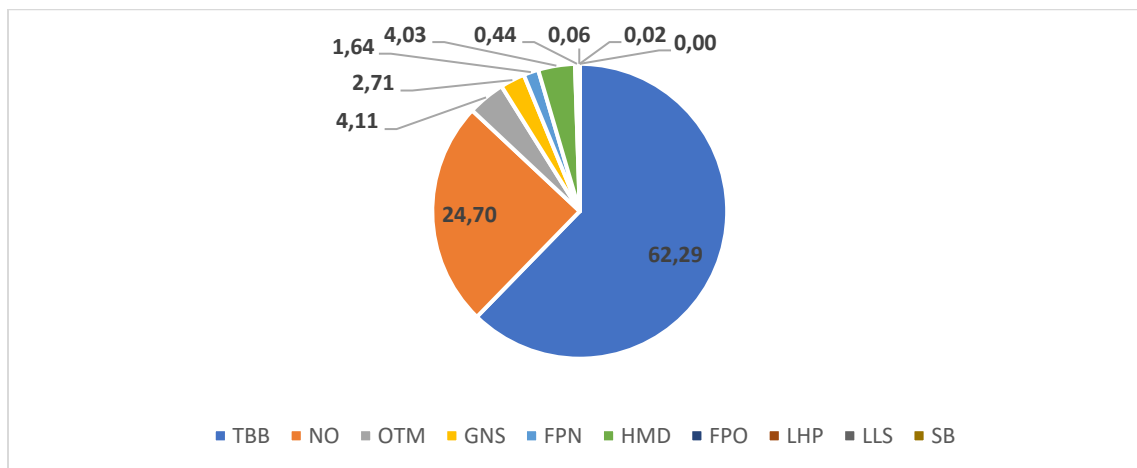


Table 5. Percentage of species landed in 2022 by fishing segment and by fishing gear

Fleet segment / gear	0006 PG	0006 PMP	0612 PG	0612 PMP	1218 PMP	1824 PMP	2440 PMP	% per gear
TBB				13.80	39.31	7.87	1.31	62.29
NO		2.72		21.89	0.09			24.70
OTM				0.24	3.25	0.62		4.11
HMD					0.08	1.30	2.65	4.03
GNS	0.04		1.10	0.28	1.19	0.10		2.71
FPN	0.08		1.55	0.01				1.64
FPO	0.01		0.40	0.03				0.44
LHP	0.00		0.05	0.01				0.06
LLS			0.01	0.01				0.01
SB				0.003				0.003
% by segment	0.13	2.72	3.11	36.27	43.92	9.89	3.96	100.00

Figure 3. Breakdown of landings by port in 2022 for RPW, SPR, TUR, DGS, MSM and other species

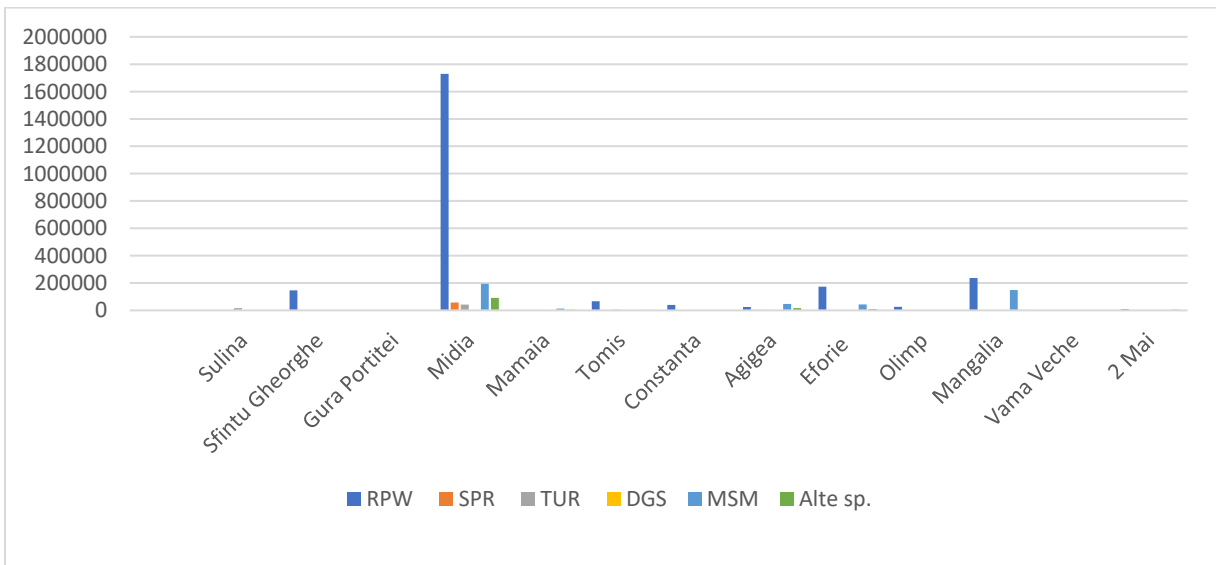


Figure 4. Breakdown of total landings by port in 2022

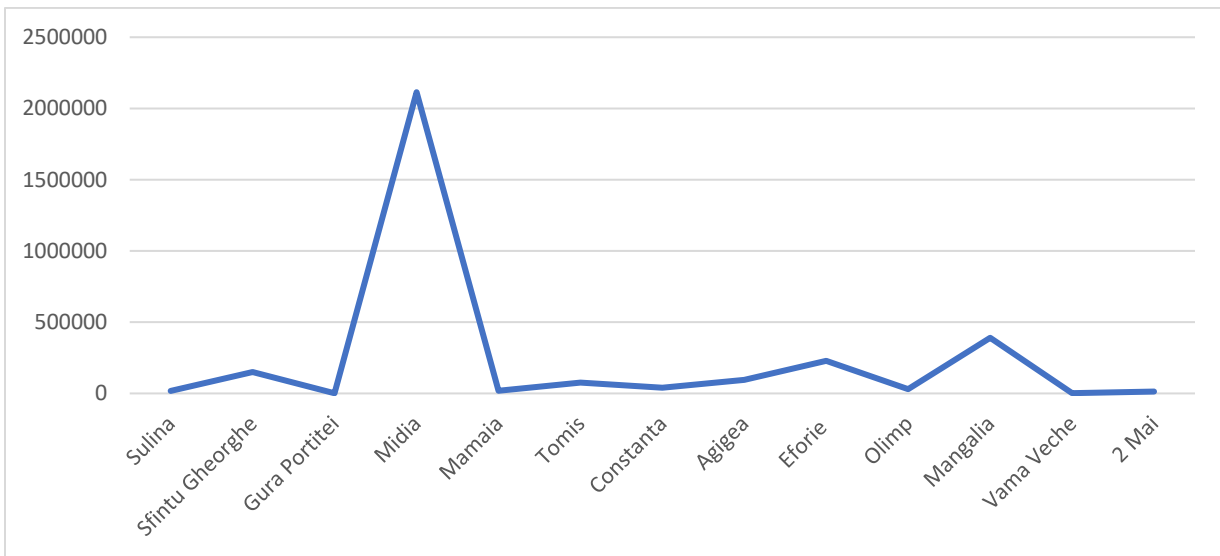


Figure 5. Breakdown of total landings by month in 2022

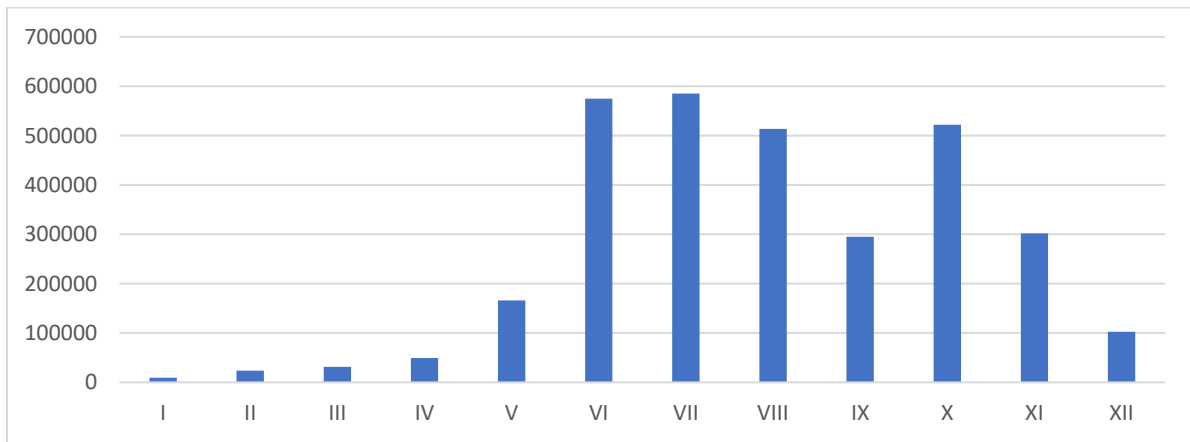
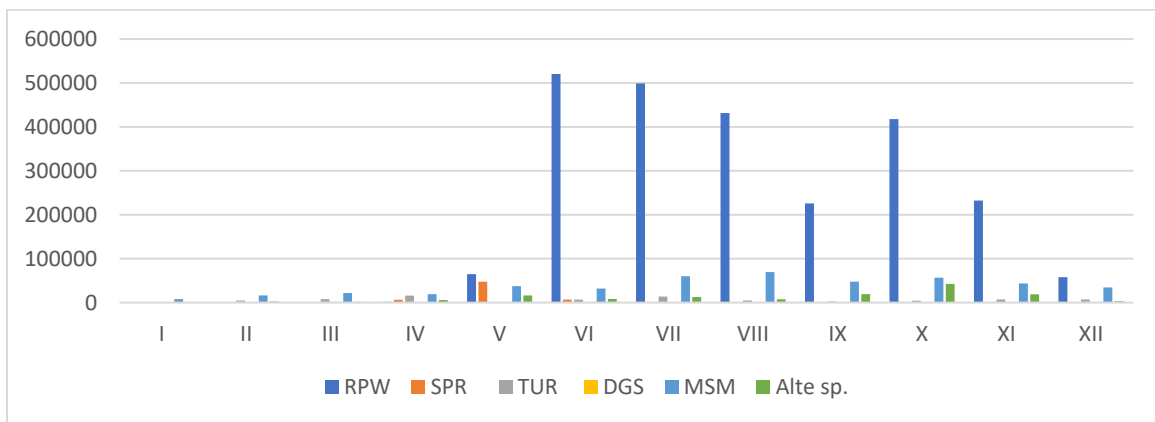


Figure 6. Breakdown of landings by month in 2022 for RPW, SPR, TUR, DGS, MSM and other species



Since 2016, catches have been significantly reduced in Romania, in terms of both volume of landings and their value in EUR. The most significant decrease in terms of fleet segment was in the VL2440PMP segment (88%), followed by the VL0006PG segment (77%). In 2022, catches fell by 54% in terms of quantity and 10% in terms of value compared to 2016, but increased by 2% in terms of quantity and 54% in terms of value compared to 2021.

The reason is that veined rapa whelk (RPW) catches started to decrease both in volume and in value in 2017, when a peak was recorded, while the catch of turbot (TUR) began to increase in value, reaching a peak in 2022. We also note that, since 2020, sprat (SPR) catches have increased both in quantity and in value, which redirects the fishing fleet towards the catching of fish species.

Table 6. Share of landings in tonnes and value in EUR per fleet segment between 2016 and 2022

Year/tonnes/ price	VL0006 PG	VL0006 PMP	VL0612 PG	VL0612 PMP	VL1218 PMP	VL1824 PMP	VL2440 PMP	Total
2016 – tonnes	17.619	0	147.681	1 458.4	3 797.154	360543	1 058.051	6 839.448
2016 – EUR	28 846	0	342 528	855 333	1 882 727	171 939	561 248	3 842 621

2017 – tonnes	31.512	0	104.08	2 582.56	4 834.798	382.405	1 617.832	9 553.187
2017 – EUR	37 872	0	334 314	1 232 934	2 082 617	153 557	679 203	4 520 497
2018 – tonnes	122.043	0	97.169	2 558.57	3 582.811	265.62	1 118.779	7 744.992
2018 – EUR	104 526	0	335 216	1 402 864	1 710 691	114 217	494 143	4 161 657
2019 – tonnes	114.893	0	116.78	2 216.43	3 427.483	188,357	1 085.441	7 149.384
2019 – EUR	118 838	0	348 829	1 321 954	1 906 468	102 422	554 835	4 353 346
2020 – tonnes	50.572	0	147.857	1 330.06	2 093.103	124.35	716.959	4 462.901
2020 – EUR	57 251	0	396 143	762 885	1 160 111	75 679	319 706	2 771 775
2021 – tonnes	58.297	0	95.7935	876.31	1 610.453	354.8826	131.4105	3 127.1466
2021 – EUR	64 514	0	291 248	581 258	1 033 549	192 371	73 544	2 236 484
2022 – tonnes	4.1	86.5274	99.118	1 151.752	1 394.233	314.149	125.744	3 175.6234
2022 – EUR	13 914	95 637	391 602	1 059 166	1 403 888	336 581	145 746	3 446 534

Figure 7. Share of landings in tonnes and value in EUR per fleet segment in 2022

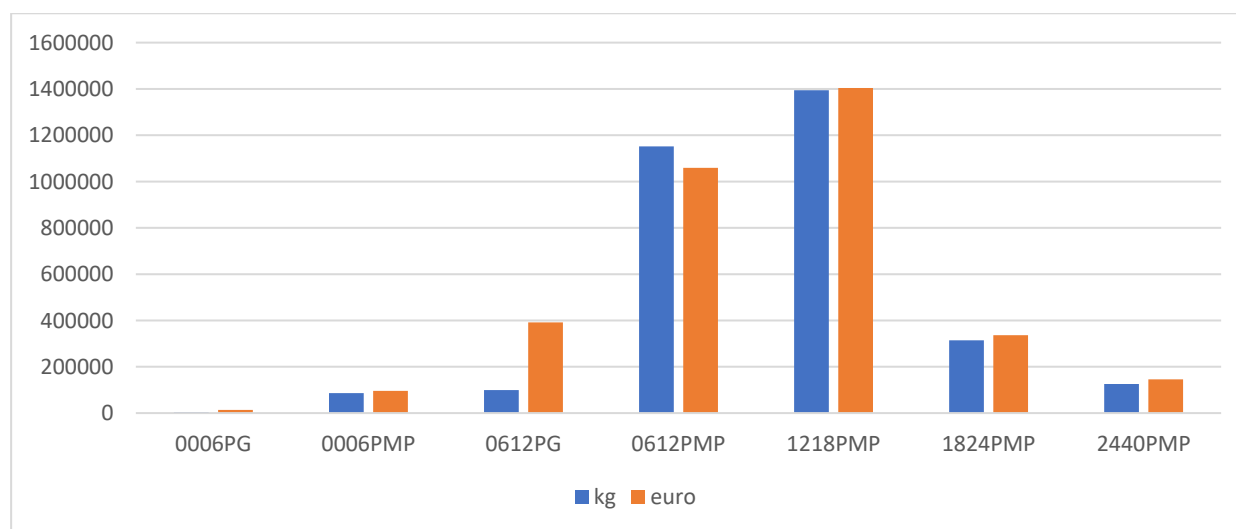


Figure 8. Share of landings in kg and their value in EUR between 2016 and 2022 (trend in 2016 as compared to 2022)

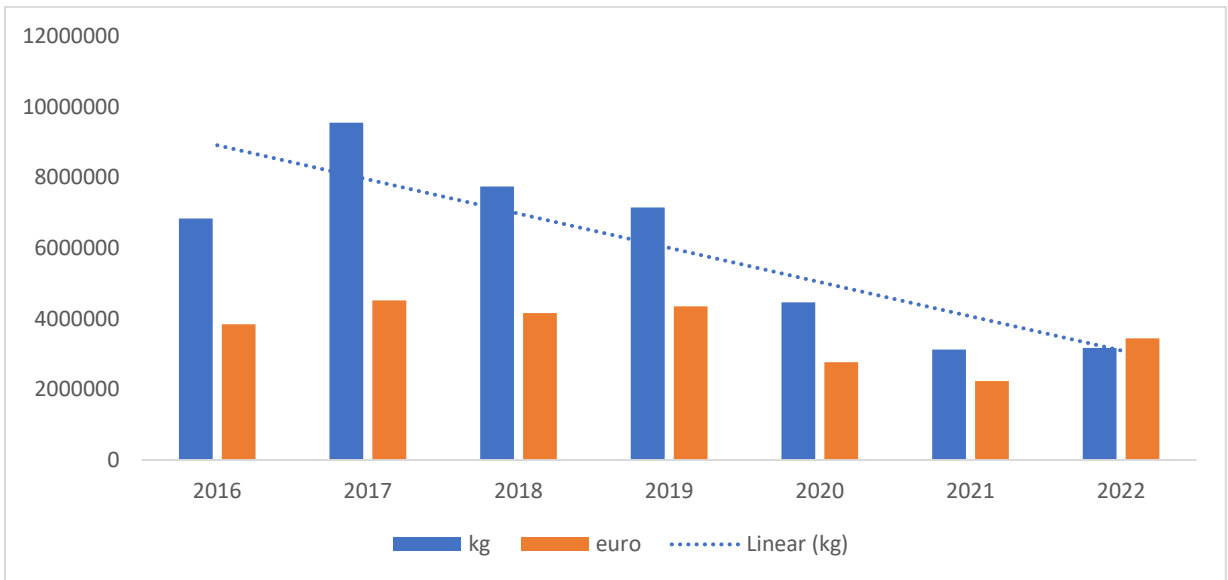


Figure 9. Trend in landed catches (tonnes) between 2016 and 2022 by fleet segment

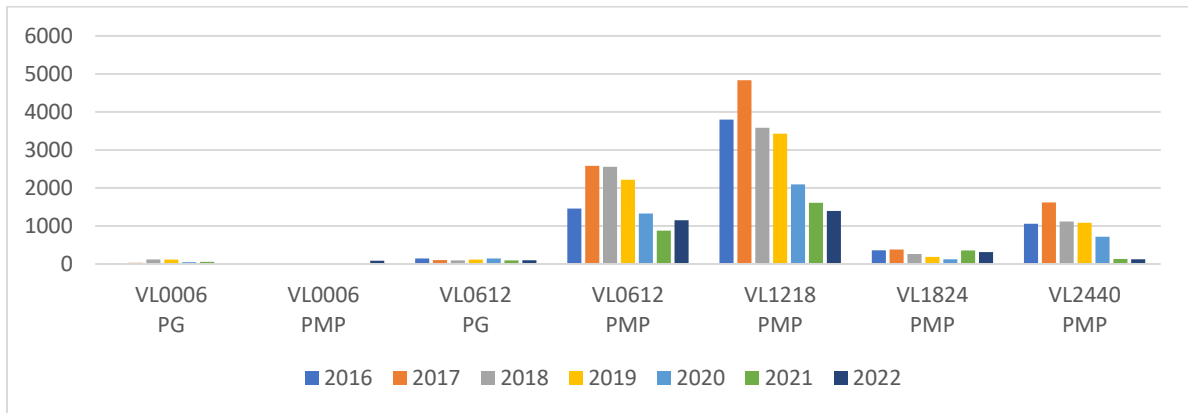


Figure 10. Trend in landings' values (EUR) between 2016 and 2022 by fleet segment

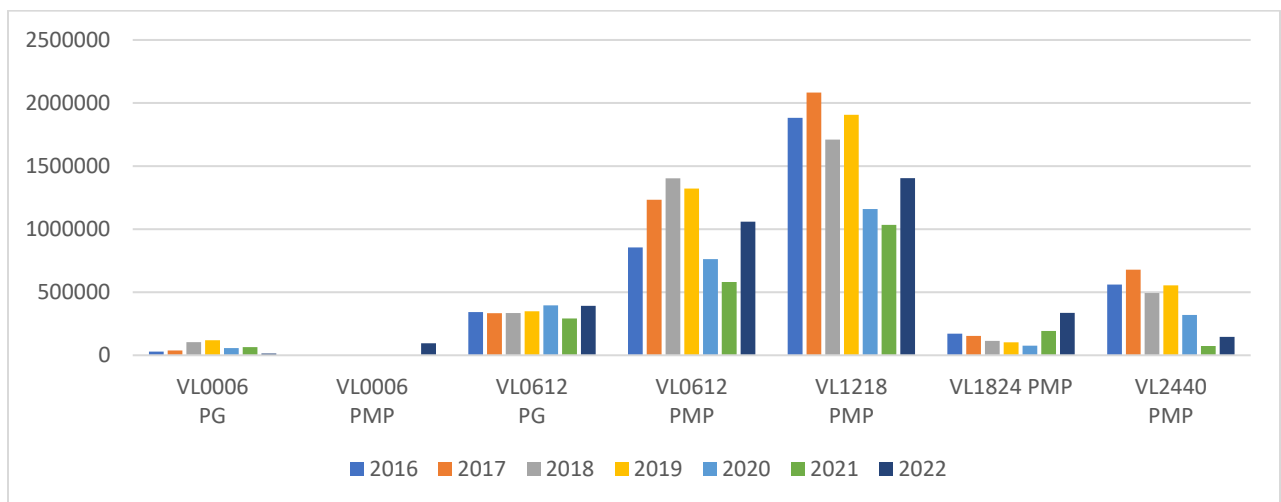


Figure 11. Trend in veined rapa whelk (RPW) in kg and EUR between 2016 and 2022

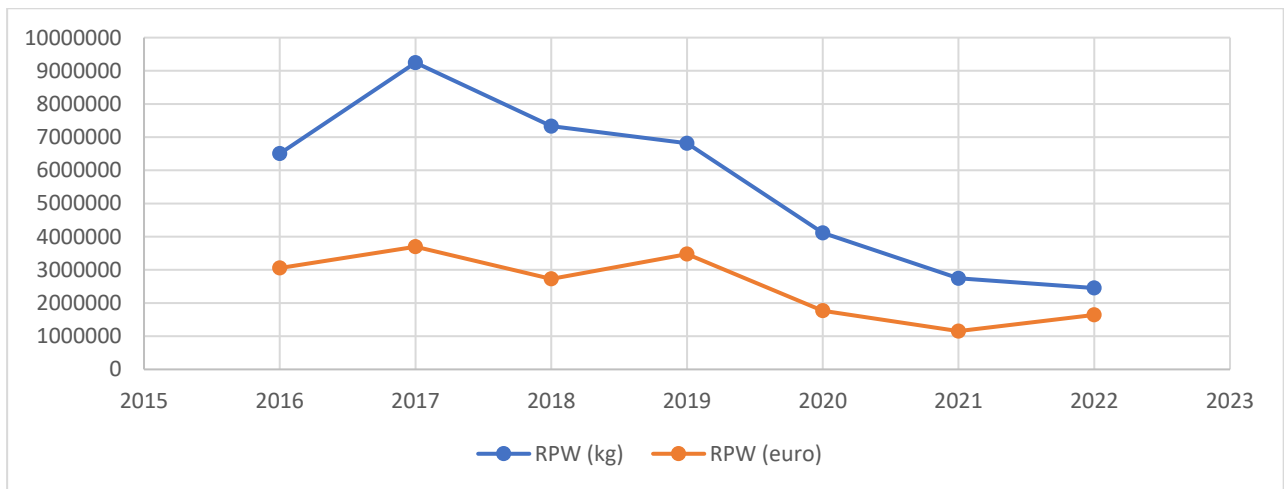


Figure 12. Trend in veined rapa whelk (RPW) by fleet segment between 2016 and 2022

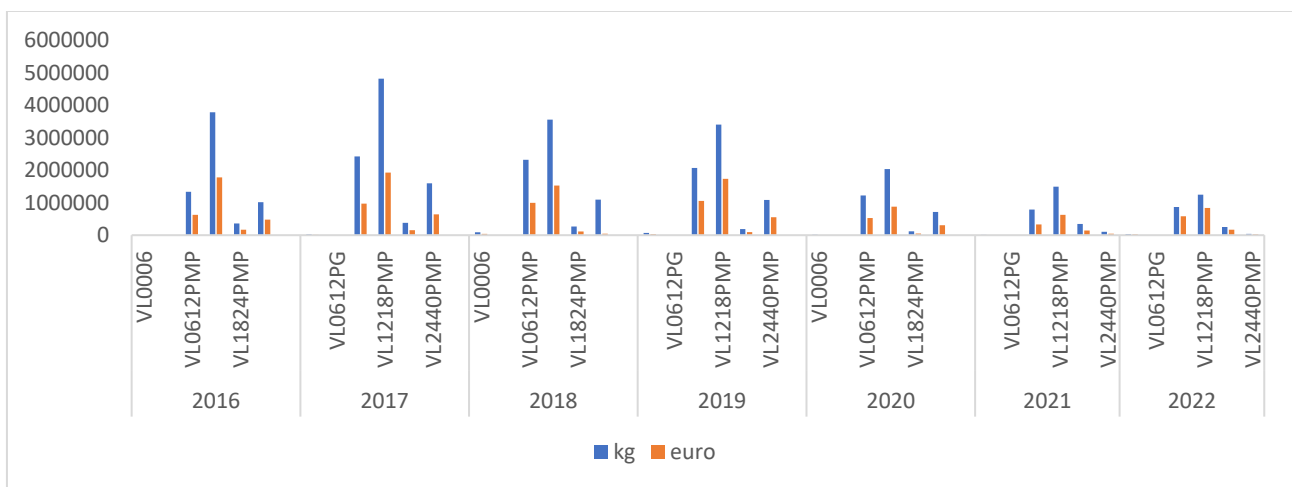


Figure 13. Trend in turbot (TUR) in kg and EUR between 2016 and 2022

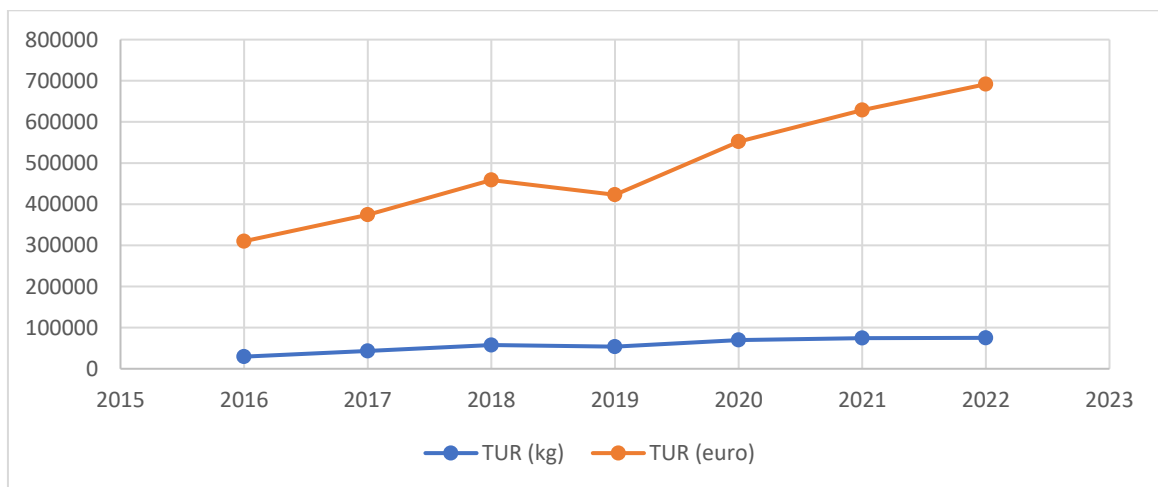


Figure 14. Trend in turbot (TUR) by fleet segment between 2016 and 2022

The Romanian fishing fleet development between 2016 and 2022 is shown in Table 7.

In 2022, as compared to 2021, a slight increase was noticed in terms of number of vessels in the fleet – by 5% – and in terms of both tonnage and engine power – by 3%; as compared to 2016, there was an increase in terms of number of vessels – by 16% –, in terms of tonnage – by 46% – and in terms of engine power – by 9%.

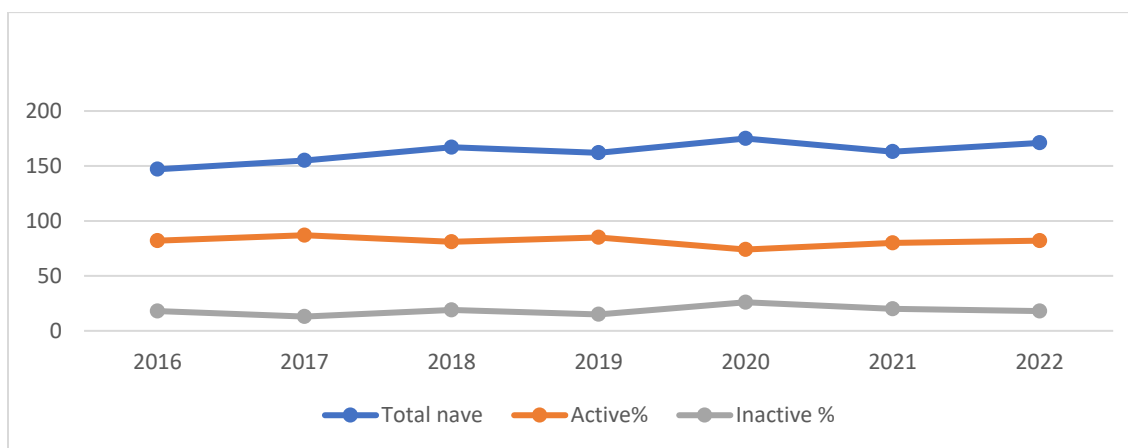
In 2022, as compared to 2021, the percentage of active vessels has increased by 8% and that of inactive vessels has decreased by 9 %, and as compared to 2020, the percentage of active vessels has increased by 8% and that of inactive vessels has decreased by 33%.

In terms of fleet segments, as compared to 2021, in 2022 there was an increase in the number of vessels in the following segments: VL0006m – by 8%, VL0612m and VL1218m – by 5%; in the VL1824m and VL2440m segments, the number of vessels remained constant.

In terms of GT and kW, there was a decrease in the VL0006m segment (-18% for GT and -52% for kW), and an increase in the VL1218m segment (+ 5% for GT and + 4% for kW). Table 7, Figures 18, 19, 20, and 21.

Between 2016 and 2022, the lowest percentage of inactive vessels (vessels that did not fish at any point in the year) was 13% in 2017, followed by 15% in 2019, and the highest percentage of inactive vessels was 26% in 2020, followed by 20% in 2021. Table 7, Figure 22

Figure 17. Development of active and inactive vessels between 2016 and 2022



Small vessels under 12 m are the largest segment of the fleet, with a share of 85% of the total vessels, consisting of 117 active vessels (83% of all active vessels) and 28 inactive vessels (93% of all inactive vessels); in terms of GT and kW, GT accounts for 22% and kW accounts for 30% of all active vessels and GT accounts for 46% and kW accounts for 42% of all inactive vessels. The highest fishing capacity rate in terms of GT and kW can be found in the VL1218m segment, with 21 vessels of the total number of vessels, 695.31 GT and 3 016.97 kW; this is followed by the 18-24 m segment, with 3 vessels, 20.19% in terms of GT and 13.65% in terms of kW.

Of the total fishing capacity achieved in 2022, only 93% was used for GT and kW, involving 82% of the vessels.

Table 7. Structure of the Romanian fleet by fleet segment between 2016 and 2022

VL0006	VL0612	VL1218	VL1824	VL2440	TOTAL
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No of vessels / year	No of vessels	GT	kW	No of vessels	GT	kW	No of vessels	GT	kW	No of vessels	GT	kW	No of vessels	GT	kW	No of vessels	GT	kW
Active 2016	10	6.76	189.78	94	185.8	1 262.4	13	388.13	2 309.3	1	70	272.1	3	359	1 332	121	1 009.67	5 36
Inactive 2016	4	3.66	4.41	21	41.88	291.59	1	53.77	184	0	0	0	0	0	0	26	99.31	
Total 2016	14	10.42	194.19	115	227.7	1 554	14	441.9	2 493.3	1	70	272.1	3	359	1 332	147	1 108.98	5 84
Active 2017	12	9.21	189.78	99	205.8	1 124.2	19	616.41	3 300.41	1	70	272.1	4	476	1 217	135	1 377.39	6 1
Inactive 2017	4	3.09	4.41	16	26.65	92.67	0	0	0	0	0	0	0	0	0	20	29.74	9
Total 2017	16	12.3	194.19	115	232.4	1 216.9	19	616.41	3 300.41	1	70	272.1	4	476	1 217	155	1 407.13	6 20
Active 2018	12	9.43	93.5	101	271.1	1 719.2	18	576.3	2 895.57	1	70	184	4	476	1 217	136	1 402.85	6 10
Inactive 2018	6	4.6	4.41	24	40.13	25.69	1	24.87	109	0	0	0	0	0	0	31	69.6	1
Total 2018	18	14.03	97.91	125	311.3	1 744.9	19	601.17	3 004.57	1	70	184	4	476	1 217	167	1 472.45	6 24
Active 2019	14	11.41	97.91	98	257.7	1 433	21	688.34	3 219.13	1	70	184	4	476	1 217	138	1 503.4	6 15
Inactive 2019	3	1.46	0	20	35.99	11.77	1	18.91	72.13	0	0	0	0	0	0	24	56.36	
Total 2019	17	12.87	97.91	118	293.6	1 444.8	22	707.25	3 291.26	1	70	184	4	476	1 217	162	1 559.76	6 23
Active 2020	11	7.32	80.53	93	292.7	1 537.7	21	695.31	3 051.13	1	70	184	4	476	1 217	130	1 541.35	6 07
Inactive 2020	7	8.83	94.55	38	69.77	112.71	0	0	0	0	0	0	0	0	0	45	78.6	20
Total 2020	18	16.15	175.08	131	362.5	1 650.4	21	695.31	3 051.13	1	70	184	4	476	1 217	175	1 619.95	6 27
Active 2021	9	8.33	145.95	99	312	1 626.3	18	596.31	2 493.57	3	318	846.3	1	117	220	130	1 351.68	5 33
Inactive 2021	4	3.78	10	26	43.01	118.25	2	65.79	403	0	0	0	1	111	335	33	223.58	86
Total 2021	13	12.11	155.95	125	355.1	1 744.5	20	662.1	2 896.57	3	318	846.3	2	228	555	163	1 575.26	6 19
Active 2022	12	8.07	61.4	105	322.5	1 685.9	19	636.44	2 757.97	3	318	846.3	2	228	555	141	1 512.96	5 9
Inactive 2022	2	1.83	13.68	26	48.23	175.07	2	58.87	259	0	0	0	0	0	0	30	108.93	44
Total 2022	14	9.9	75.08	131	370.7	1 861	21	695.31	3 016.97	3	318	846.3	2	228	555	171	1 621.89	6 35

Figure 18. Trend in the total number of vessels in the Romanian fleet between 2016 and 2022

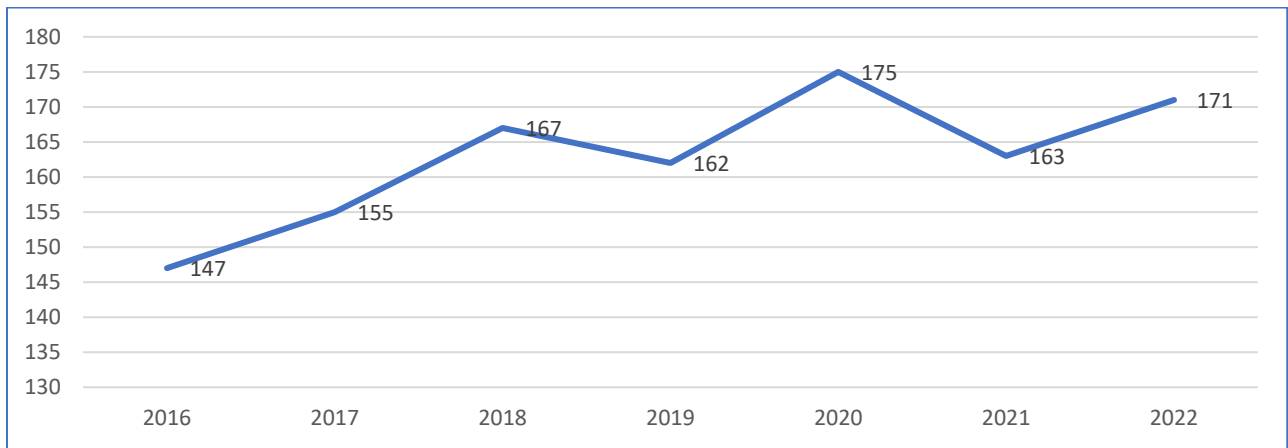


Figure 19. Trend in GT and kW fishing capacity by fleet segment between 2016 and 2022

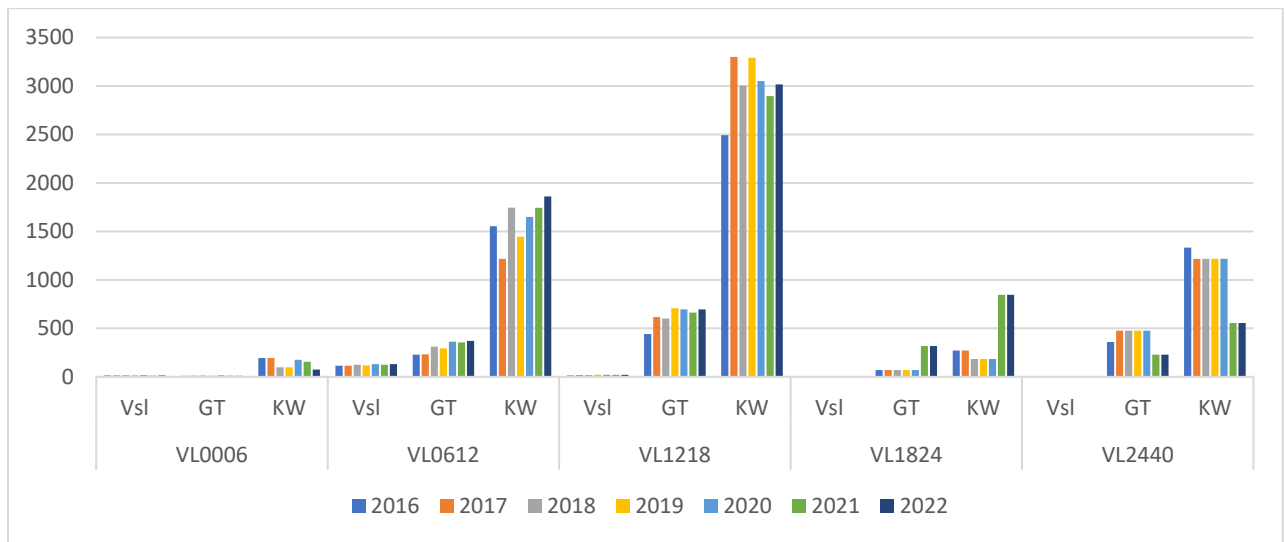


Figure 20. Trend in tonnage (GT) by fleet segment between 2016 and 2022

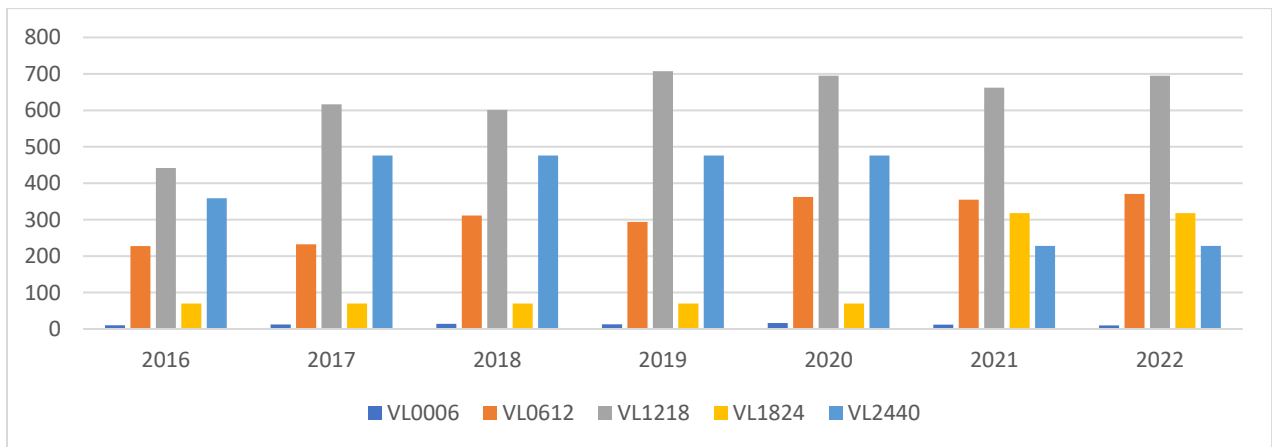
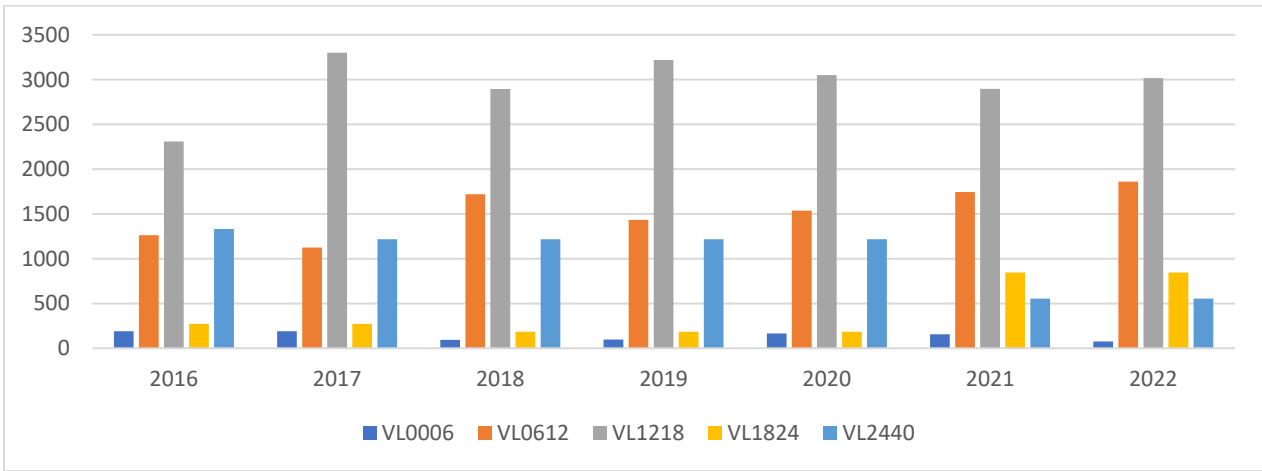


Figure 21. Trend in engine power (kW) by fleet segment between 2016 and 2022



B. Impact of fishing effort reduction schemes on fishing capacity

B.1 Report on effort reduction schemes

In 2022, following the relaxation of the restrictive measures taken during the COVID pandemic, both the number of days at sea and the number of fishing days were slightly higher compared to 2021. Tables 8 and 9.

The tables show that in all fleet segments the number of fishing days has increased, except for the VL0006PG segment, as this segment was split into VL0006PG and VL0006PMP, where veined rapa whelk was manually harvested, this type of harvesting being part of the PMP fishing technique.

Please also note that the number of fishing days and of days at sea has been affected by:

- bad weather conditions (small number of days favourable to fishing activities, hence of fishing hours);
- the old fishing fleet, which is why technical failures and malfunctions often occur in the fishing operation;
- fishing activity is seasonal and the number of trips at sea depends on the presence of migratory fish species at different times of the year, large variations being recorded from one year to the next.

Table 8. Reduction of fishing effort between 2016 and 2022 (in fishing days) and trend in 2022, compared to 2021

Fleet segment	2016	2017	2018	2019	2020	2021	2022	Trend in 2022 compared to 2021
VL0006PG	231	188	433	537	336	324	109	-66%
VL0006PMP	0	0	0	0	0	0	198	
VL0612PG	1 150	1 331	1 357	1 592	1 471	1 255	1 451	+16%
VL0612PMP	1 194	1 744	1 807	1 215	709	805	988	+23%
VL1218PMP	839	1 001	1 087	1 186	1 117	783	840	+7%
VL1824PMP	68	102	85	71	65	142	187	+32%
VL2440PMP	265	404	296	306	259	74	75	-1%
Total	3 747	4 770	5 065	4 907	3 957	3 383	3 848	+14%

Table 9. Reduction of fishing effort between 2016 and 2021 (in days at sea) and trend in 2021, compared to 2020

Fleet segment	2016	2017	2018	2019	2020	2021	2022	Trend in 2022 compared to 2021
VL0006PG	276	204	486	580	344	327	114	-65%
VL0006PMP							198	
VL0612PG	1 328	1 352	1 641	1 869	1 675	1 317	1 483	+13%
VL0612PMP	1 294	1 761	1 899	1 332	820	854	1 021	+20%
VL1218PMP	855	1 029	1 224	1 452	1 189	904	967	+7%
VL1824PMP	70	102	87	75	69	150	208	+39%
VL2440PMP	270	411	313	311	266	85	87	+2%
Total	4 093	4 859	5 650	5 619	4 363	3 637	4 078	+12

B.2 Impact of effort reduction schemes on fishing capacity

During the period of application of the previous EFF measures ‘Permanent cessation of fishing activities’, the scrapping operation financed by the EFF, which started in the second half of July 2010 and ended in the first half of December 2013, resulted in the scrapping of 16 vessels in the following segments: VL0612 = 10 vessels, VL1218 = 1 vessel, VL18-24 = 1 vessel and VL2440 = 4 vessels. These vessels had a total capacity of 596.43 GT and 1 796.85 kW, which could no longer be replaced, and were thus deducted from the Romanian ceiling on the date of accession.

In 2022, no vessels were scrapped in Romania under the Fisheries and Maritime Affairs Operational Programme.

C. Statement of compliance with entry/exit scheme and with level of reference

In accordance with the Common Fisheries Policy and the fleet capacity ceiling laid down in Annex II to Regulation (EU) No 1380/2013, Romania complies with the fishing capacity established. According to these provisions, the management measures of the entry/exit scheme used in 2022 fulfilled the commitments relating to the ceiling levels, i.e. the total GT is **1 621.89 tonnes**, which is 17.64% lower than the reference level and 2.96% higher as compared to 2021, and the engine power is **6 354.25 kW**, which is 0.03% lower than the reference level and 5.52% higher than in 2021; these levels are below the fleet capacity ceiling set by the Commission, i.e. 1 908 GT and 6 356 kW.

Each entry (or increase in GT or kW) in the fleet register was accompanied by the withdrawal of at least the same quantity of GT/kW from the fleet. Therefore, Romania does not exceed the fleet capacity expressed in tonnage and kilowatts, the reference level at the date of accession to the EU, in accordance with Article 23 of Regulation No 1380/2013. Table 10.

In 2022, 2 vessels with a total of 5.08 GT and 156.68 kW, 1 vessel with a length of 7.3 m (1.69 GT and 72.13 kW) and 1 vessel with a length of 5.72 m (3.39 GT and 84.55 kW) left the fleet.

10 vessels entered the fleet, totalling 51.71 GT and 317.2 kW, with an average length of 8.91 m, an average age of 15 years, 2 vessels in the VL0006m segment, 7 vessels in the VL0612m segment and one vessel in the VL1218m segment; half of the 10 vessels do not have an engine.

Table 10. Capacity of the Romanian fleet operating in the Black Sea as at 31 December 2022

	GT	kW
Reference level as at 1 January 2007	2 315	7 473
Fleet status as at 1 January 2007	2 504	8 153
Reference level as at 31 December 2022	1 908	6 356
Fleet status as at 31 December 2022	1 621.89	6 354.25
% of reference level, 2022	-17.64%	-0.03%
Exits in 2022	5.08	156.68
Entries in 2022	50.30	312.80

D. Strengths and weaknesses of the fleet management system together with a plan for improvements and information on the general level of compliance with fleet policy instruments

D.1. Summary of strengths and weaknesses of the fleet management system

D.1.1 Strengths

- The establishment of cooperative relations between all the institutions responsible for control and inspection in the Black Sea between Sulina and Vama Veche;
- The purchase of 20 special vehicles equipped with night vision devices, binoculars and electronic scales capable of printing the weighing report;
- The purchase of ‘Services to develop and upgrade the ICT Infrastructure of the National Agency for Fisheries and Aquaculture related to inspection and control activities – the ICT System supporting the digitisation of the operational processes of the National Agency for Fisheries and Aquaculture’. The project also provides for the purchase of equipment to monitor vessels below 12 m;
- In the framework of a project financed by the 2014-2020 Fisheries and Maritime Affairs Operational Programme (FMAOP), all engines of vessels of over 12 m and 120 KW will be physically checked;
- The implementation of a labelling system and of the procedures adopted to ensure traceability for all lots of fishery products.

D.1.2 Weaknesses

- Underdeveloped specific infrastructure (ports, landing sites, points of first sale);
- Absence of facilities at landing sites for primary processing, and of temporary storage sites for catches not taken over immediately after landing;
- Limited State support to the industry (lack of subsidies, lack of credit facilities);
- No project to replace or upgrade engines has been funded under the FMAOP and, due to scarce financial resources, fishermen preferred second-hand purchases;
- Rising fuel prices and the use of old, inefficient and fuel-intensive engines, coupled with the lack of any form of compensation for the fuel used in commercial fishing, have led to an increase in production costs;
- Reluctance on the part of fishermen and fisheries enterprises to provide data, especially of an economic nature;
- Low levels of money invested in replacing fishing gears by more selective ones and in ensuring safe conditions for fishing vessels and better working conditions;
- Low capacity of human capital involved in fisheries;
- High average age of fishermen in the industry;
- Low profitability due to high production/operating costs and environmental restrictions;

D.1.3 Possible solutions foreseen for improvement:

- Upgrading ports and landing sites used for the operation of commercial fishing vessels;
- Providing for non-repayable financial support under the Fisheries and Maritime Affairs Operational Programme;
- Creating the possibility of primary processing on board vessels;
- Availability of equipment and of vessels and equipment necessary to maintain the quality of catches up to the landing sites;
- Developing research and ensuring the large-scale implementation of research results;

D.1.4 Risks:

- Inadequate organisation of the catch distribution and marketing chain;
- Ineffective management of shared fish stocks at Black Sea basin level and the inadequate management of Black Sea fisheries is a reality in that, despite the noticeable declining stocks, fishing effort continues to increase at regional level. At regional level, there is no agreed system in place for adjusting catches in relation to the fish stock status; the regulations promoted by each country are not harmonised in terms of closed seasons, minimum catch size, etc.;
- Illegal, unreported and unregulated (IUU) fishing and its influence on the sustainable exploitation of fish stocks;
- Existence of abandoned/lost fishing gears in commercial fishing areas;
- Use of illegal/non-compliant fishing gear;
- Increase in the number of days with extreme weather conditions, unfavourable to fisheries;

D.2 Plan for improvements on the fleet management system

The electronic reporting system (ERS), as laid down by Regulation (EC) No 1224/2009, is to replace the paper logbook and landing declarations and ensure that data is recorded, transmitted and exchanged in an accurate and rapid manner. In addition, the sales notes of all registered first sale buyers are planned to be recorded electronically, ensuring more accurate and rapid recording and transmission of transaction data (points of first sale).

There has been significant progress in this process and Romania has now put in place an integrated solution that has consolidated and implemented communication mechanisms to synchronise fleet information with the Commission database. This process has involved the automated online transmission of both information on fishing activities, as required by the Commission for vessels that are more than 12 m long, and the monthly catch amounts for the other categories of fishing vessels. This allows for the transition to automation of the entire process to be planned by making it possible to check the consistency between the information to be entered in the database and the information on paper and Excel, which is a very important process in the digital transformation of fisheries management. This process is still ongoing given the high number of reporting errors due to the low level of digital competence of fishing crews.

Maintaining a fleet database which includes the management of Romania's licences, authorisations and fishing quotas lays the ground for the transition towards automated fisheries management. This process is difficult because of the cumbersome procedures involved in contracting services aiming at digitising specific operational processes and also because of the low take-up of supporting IT solutions by end-users (fishermen, economic operators), as the target people have extremely low IT skills.

During the reporting period, Romania managed to replace the ERS solution installed on board of vessels which are more than 12 m long and continued with the implementation of a new ERS back office application. This strategy was planned in order to simplify reporting procedures, based on the fact that the target users frequently complained that the previous solution was rather complicated from their perspective, which had a direct effect on the quality of the reported data. The newly implemented solution was tailored to the specific needs of Romanian fisheries management. This action is part of the strategy

to digitise the associated processes, which aimed at increasing the quality of data reported through ICT tools.

The new IT solution managed to streamline the reporting process, as its mobility component became operational in mid-September 2021, and its back office component became operational this year in March. The transition process involved changing the technology on board vessels and training the in-house and external personnel to enable the system to function in accordance with the requirements defined during the design and in line with the requirements of fisheries management, as provided for in the European Commission Regulation.

The new IT solution makes it possible to monitor fishing vessels more closely due to the fact that the new support terminals have dual communication capabilities (GSM and satellite), which was possible on account of the specificities of the Romanian fleet operating not far from the shores of the Black Sea.

By adding back office functions and aligning the implementation of the operational support flows, the conditions have been created to enter information relating to fisheries management into the European Commission's FLUX infrastructure, which was planned for the next stage of the procurement of digitisation services.

Although the implementation of the new ICT solution took into account functionalities across all domains (fleet, fisheries management, ISC), not all implemented functionalities are used due to the lack of alignment between the technological upgrade of the infrastructure, on the one hand, and the end-user uptake, on the other hand. The current situation is still a mixed one where operational flows are partially digitised, and where the system functions thanks to the coexistence of automated and paper reports.

Once the quality of the reporting process is ensured and the new services to upgrade the application infrastructure have been bought, the requirements of automated reporting to the Commission using the FLUX infrastructure will be implemented. Romania has implemented the interconnection of the flow system and closed the VMS domain, and currently exchanges VMS data both with the Commission and with EFCA, and also with one Member State (Bulgaria).

Romania implements the Commission's control and inspection plan under EFCA's guidance, as mentioned above. Romania has now implemented electronic control reports, putting in place the back office application and introducing mobility by purchasing mobile devices for each inspector, together with the application which automatically enters the inspection report into the central system. At the same time, Romania has implemented the obligations arising from the transmission of information in the field of ISC through the FLUX infrastructure, having completed the validation and transmission of inspection reports at sea. Unfortunately, the digitisation process is still cumbersome due to the complicated procurement procedures and the extremely long life cycles of the associated services, which makes it necessary to find a solution that would make it possible to speed up contracting processes.

D.3 Information on the general level of compliance with fleet policy instruments

In September 2021, a new application for electronic fishing logbook management (ERS) was installed on board of fishing vessels over 12 metres long. A lot of significant progress has been made during the last reporting period on Romania's compliance with Regulation (EU) No 1224/2009. As of March 2023, the back office application for the management of the vessels' electronic logbooks was operationalised, ensuring a better integration between the onboard application and the back office application.

As regards vessel monitoring:

- further vessel monitoring using the new VMS system that enables transmission of information both by satellite and terrestrial means (GPRS);
- maintenance and further integration of the VMS system into the FLUX infrastructure and exchange of information with the Commission (DG MARE), EFCA and other Member States in line with the developments in the industry.

As regards the fleet:

- maintenance and development of the IT solution for fleet management and its integration into the FLUX infrastructure;
- consolidation of fleet register information from various sources and data cleansing to reflect the historical and current situation;
- further integration of the fleet register into the FLUX infrastructure and implementation of the remaining scenarios pursuant to the Commission Regulation.

In the area of fisheries:

- implementation of a new ERS solution that ensures better integration with fleet management and with inspection and control management;
- digitisation of fisheries management by converting the sales notes into electronic format;
- creation of the buyer database and of the necessary mechanisms to digitise the marketing of catches;
- improvement of the management of trademarks and equipment associated with fisheries management;

In the area of inspections and controls:

- completion of the purchase of IT solutions that ensure that the inspectors' activity is digitised and that inspectors are equipped with modern technologies (tablets) to be able to report their work directly in the new database.

E. Information on changes of the administrative procedures relevant to fleet management

Compared to the previous year, there have been no changes in the administrative procedures for the fishing capacity management.

F. Estimation of indicators

The technical, biological and economic indicators are calculated using the latest version of the Commission Guidelines (COM(2014) 545 final) of 2 September 2014 – ‘Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013’. The data collected under the National Data Collection Framework (DCF) (source: INCDM) were used to calculate the indicators and are provided for each fleet segment in 2021, as set out below.

F.1 Technical indicators

Romania has calculated technical indicators or vessel use indicators for all vessels active in 2016, 2017, 2018, 2019, 2020 and 2021. Vessels were considered active if they had a fishing licence and authorisation and reported at least one day at sea. Vessels with or without a fishing licence and authorisation are considered inactive during the reference year if they did not set sail for fishing even a single day (due to pandemic, repairs, change of ownership, labour shortage, exceptional weather conditions, etc.).

The Vessel Utilisation Rate (VUR) describes how intensively vessels in a fleet segment are used. If more than 20% of the fleet segment is inactive, a technical inefficiency or unusable capacity is indicated, except in cases where there were unforeseen events. Looking at the period between 2016 and 2021 and comparing the number of inactive fishing vessels to the total number of vessels in each fleet segment, it appears that the highest percentage of inactive vessels was recorded in 2020 (26%), with 45 inactive vessels, followed

by 2021 (20%) with 33 inactive vessels. The highest number of inactive vessels were recorded in the VL0612m segment (38 vessels in 2020, 26 vessels in 2021, Table 11, Figures 22 and 23).

Table 11. Trend in inactive vessels in relation to the total number of fleet vessels between 2016 and 2021

Vessels/ Year	VL0006			VL0612			VL1218			VL1824			VL2440			TOTAL		
	No	GT	kW	No	GT	kW	No	GT	kW	No	GT	kW	No	GT	kW	No	GT	kW
<i>Inactive 2016</i>	4	3.66	4.41	21	41.88	291.59	1	53.77	184	0	0	0	0	0	0	26	99.31	480
Total 2016	14	10.42	194.19	115	227.66	1 554.02	14	441.9	2 493.3	1	70	272.06	3	359	1 332.3	147	1 108.98	5 845.82
<i>Inactive 2017</i>	4	3.09	4.41	16	26.65	92.67	0	0	0	0	0	0	0	0	0	20	29.74	97.08
Total 2017	16	12.3	194.19	115	232.42	1 216.87	19	616.41	3 300.4	1	70	272.06	4	476	1 217.3	155	1 407.13	6 200.78
<i>Inactive 2018</i>	6	4.6	4.41	24	40.13	25.69	1	24.87	109	0	0	0	0	0	0	31	69.6	139.1
Total 2018	18	14.03	97.91	125	311.25	1 744.9	19	601.17	3 004.6	1	70	184	4	476	1 217.3	167	1 472.45	6 248.63
<i>Inactive 2019</i>	3	1.46	0	20	35.99	11.77	1	18.91	72.13	0	0	0	0	0	0	24	56.36	83.9
Total 2019	17	12.87	97.91	118	293.64	1 444.81	22	707.25	3 291.3	1	70	184	4	476	1 217.3	162	1 559.76	6 235.23
<i>Inactive 2020</i>	7	8.83	94.55	38	69.77	112.71	0	0	0	0	0	0	0	0	0	45	78.6	207.26
Total vessels 2020	18	16.15	175.08	131	362.49	1 650.37	21	695.31	3 051.1	1	70	184	4	476	1 217.3	175	1 619.95	6 277.83
<i>Inactive 2021</i>	4	3.78	10	26	43	118.3	0	0	0	2	65.79	403	1	111	335	33	223.58	866.25
Total vessels 2021	13	12.11	156	125	355	1 745	18	596.3	2 494	5	383.79	1 249.25	2	228	555	163	1 575.26	6 198.29

Figure 22. Percentage of inactive vessels in total vessels between 2016 and 2021

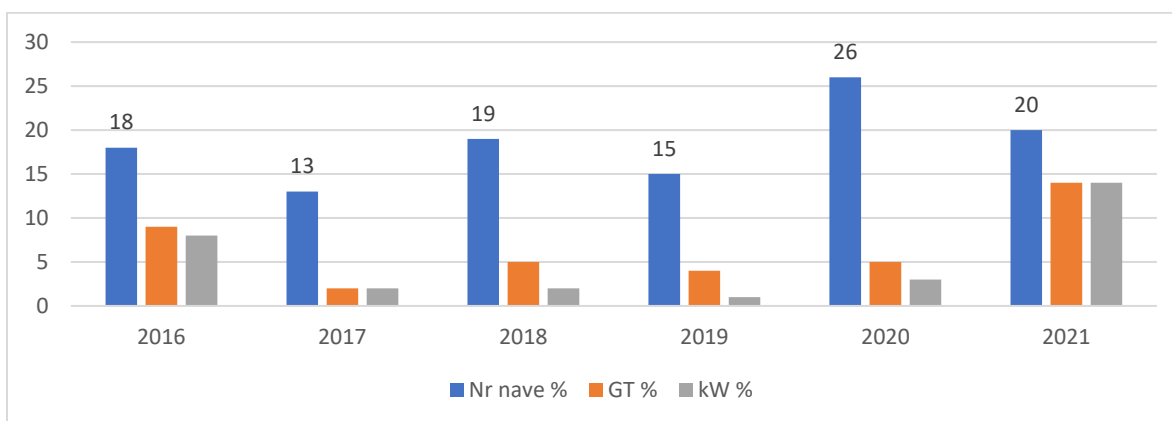
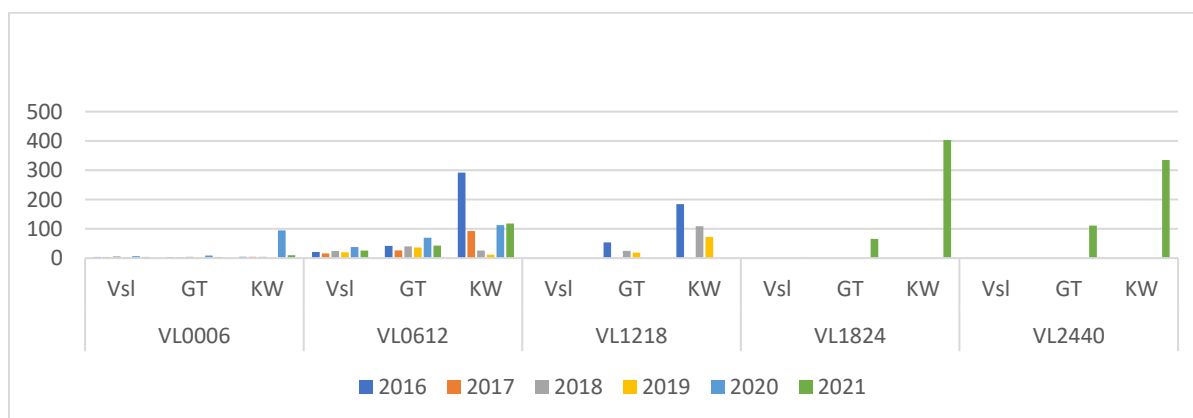


Figure 23. Trend in the number of inactive vessels by fleet segment between 2016 and 2021



The Vessel Utilisation Rate (VUR) is presented in Tables 12 and 13, which show data on the ratio between the average number of days at sea per vessel and the maximum number of days at sea observed in a fleet segment between 2016 and 2021, calculated as the ratio between the current effort and the maximum observed effort. The maximum observed effort is calculated on the basis of the maximum number of days spent by a vessel in that segment. This calculation option is preferred over the use of the theoretical number of days at sea, due to the fact that the number of days at sea is limited by external factors, in particular weather. For this reason, fishing vessels with similar characteristics may spend the same number of days at sea. Another reason for choosing the maximum number of days at sea is the possibility to compare data with previous years.

Marine fisheries in Romania are characterised by an activity that takes place during the first months of the fishing season, which normally lasts from March to November, when the most important commercial fish species arrive in the coastal area to spawn and feed. Fishing in Romania is seasonal by nature, taking place between April and November,

with activity peaks in June, July, August, and October. Most species migrate depending on hydro-climatic conditions and feed abundance, so fish stocks are strongly influenced by environmental conditions, in particular wind and current direction and intensity, and water temperature. Furthermore, in order to reduce the impact on the main species of economic interest, closed seasons are ordered annually in the months of April, May and June. These are the reasons why, according to the data in the records, there were a maximum of 115 observed days at sea for 2021.

Table 12. Ratio between the number of days at sea and the maximum number of days at sea between 2016 and 2021

Fleet segment	Capacity			Current effort			Maximum observed effort			Capacity used		
	No of vessels	GT total	kW total	Days at sea	GT days	kW days	Days at sea	GT days	kW days	Days at sea	GT days	kW days
VL2440 PMP	3	359	1 332.25	270	96 930	359 708	405	145 395	539 561	0.67	0.67	0.67
VL1824 PMP	1	70	272.06	70	4 900	19 044	135	9 450	36 728	0.52	0.52	0.52
VL1218 PMP	13	388.13	2 309.3	855	331 851	1 974 452	1 755	681 168	4 052 822	0.49	0.49	0.49
VL0612 PMP	31	85.97	426.35	1 294	111 245	551 697	4 185	359 784	1 784 275	0.31	0.31	0.31
VL0612 PG	63	99.81	836.08	1 328	132 548	1 110 314	8 505	848 884	7 110 860	0.16	0.16	0.16
VL0006 PG	10	6.76	189.78	276	1 866	52 379	1 350	9 126	256 203	0.2	0.2	0.2
Total 2016	121	1 009.67	5 365.82	4 093	6 79340	4 067 594	16 335	2 053 807	13 780 449	0.39	0.39	0.39
VL2440 PMP	4	476	1 217.25	411	195 636	500 289.75	600	285 600	730 350	0.69	0.69	0.69
VL1824 PMP	1	70	272.06	102	7 140	27 750.12	150	10 500	40 809	0.68	0.68	0.68
VL1218 PMP	19	616.41	3 300.41	1 029	634 285.89	3 396 121.89	2 850	1 756 768.5	9 406 168.5	0.36	0.36	0.36
VL0612 PMP	34	104.13	540.54	1 761	183 372.93	951 890.94	5 100	531 063	2 756 754	0.34	0.34	0.34
VL0612 PG	65	101.64	583.66	1 352	137 417.28	789 108.32	9 750	990 990	5 690 685	0.14	0.14	0.14
VL0006 PG	12	9.21	189.78	204	1 878.84	38 715.12	1 800	16 578	341 604	0.11	0.11	0.11
Total 2017	135	1 377.39	6 103.7	4 859	1 159 730.9	5 703 876.14	20 250	3 591 499.5	18 966 370.5	0.39	0.39	0.39
VL2440 PMP	4	476	1 217.25	313	148 988	380 999.25	600	285 600	730 350	0.52	0.52	0.52
VL1824 PMP	1	70	184	87	6 090	16 008	150	10 500	27 600	0.58	0.58	0.58
VL1218 PMP	18	576.3	2 895.57	1 224	705 391.2	3 544 177.68	2 700	1 556 010	7 818 039	0.45	0.45	0.45
VL0612 PMP	38	166.11	1 091.41	1 899	315 442.89	2 072 587.59	5 700	946 827	6 221 037	0.33	0.33	0.33
VL0612 PG	63	105.01	627.8	1 641	172 321.41	1 030 219.8	9 450	992 344.5	5 932 710	0.17	0.17	0.17
VL0006 PG	12	9.43	93.5	486	4 582.98	45 441	1 800	16 974	168 300	0.27	0.27	0.27
Total 2018	136	1 402.85	6 109.53	5 650	1 352 816.5	7 089 433.32	20 400	3 808 255.5	20 898 036	0.39	0.39	0.39
VL2440 PMP	4	476	1 217.25	311	148 036	378 564.75	552	262 752	671 922	0.56	0.56	0.56
VL1824 PMP	1	70	184	75	5 250	13 800	138	9 660	25 392	0.54	0.54	0.54
VL1218 PMP	21	688.34	3 219.13	1 452	999 469.68	4 674 176.76	2 898	1 994 809.32	9 329 038.74	0.50	0.50	0.50

VL0612 PMP	34	152.97	792.86	1 332	203 756.04	1 056 089.52	4 692	717 735.24	3 720 099.12	0.28	0.28	0.28
VL0612 PG	64	104.68	640.18	1 869	195 646.92	1 196 496.42	8 832	924 533.76	5 654 069.76	0.21	0.21	0.21
VL0006 PG	14	11.41	97.91	580	6 617.8	56 787.8	1 932	22 044.12	189 162.12	0.30	0.30	0.30
Total 2019	138	1 503.4	6 151.33	5 619	1 558 776.4	7 375 915.25	19 044	3 931 534.44	19 589 683.7	0.40	0.40	0.40
VL2440 PMP	4	476	1 217.25	266	126 616	323 788.5	516	245 616	628 101	0.52	0.52	0.52
VL1824 PMP	1	70	184	69	4 830	12 696	129	9 030	23 736	0.53	0.53	0.53
VL1218 PMP	21	695.31	3 051.13	1 189	826 723.59	3 627 793.57	2 709	1 883 594.79	8 265 511.17	0.44	0.44	0.44
VL0612 PMP	25	161.17	868.74	820	132 159.4	712 366.8	3 225	519 773.25	2 801 686.5	0.25	0.25	0.25
VL0612 PG	68	131.55	668.92	1 675	220 346.25	1 120 441	8 772	1 153 956.6	5 867 766.24	0.19	0.19	0.19
VL0006 PG	11	7.32	80.53	344	2 518.08	27 702.32	1 419	10 387.08	114 272.07	0.24	0.24	0.24
Total 2020	130	1 541.35	6 070.57	4 363	1 313 193.3	5 824 788.19	16 770	3 822 357.72	17 701 073	0.36	0.36	0.36
VL2440 PMP	1	117	220	85	9 945	18 700	115	13 455	25 300	0.74	0.74	0.74
VL1824 PMP	3	318	846.25	150	47 700	126 937.5	345	109 710	291 956.25	0.43	0.43	0.43
VL1218 PMP	18	596.31	2 493.57	904	539 064.24	2 254 187.28	2 070	1 234 361.7	5 161 689.9	0.44	0.44	0.44
VL0612 PMP	30	176.41	877.84	854	150 654.14	749 675.36	3 450	608 614.5	3 028 548	0.25	0.25	0.25
VL0612 PG	69	135.63	748.43	1 317	178 624.71	985 682.31	7 935	1 076 224.05	5 938 792.05	0.17	0.17	0.17
VL0006 PG	9	8.33	145.95	327	2 723.91	47 725.65	1 035	8 621.55	151 058.25	0.32	0.32	0.32
Total 2021	130	1 351.68	5 332.04	3 637	928 712	4 182 908.1	14 950	3 050 986.8	14 597 344.5	0.39	0.39	0.39

Table 13. Vessel Utilisation Rate (VUR) by fleet segment between 2016 and 2021

Fleet segment	2016	2017	2018	2019	2020	2021	Average for the period 2016-2020	Trend in 2021 compared to average of the 2016-2020 period	Trend in 2021 compared to 2020
VL2440 PMP	0.67	0.69	0.52	0.56	0.52	0.74	0.60	+19%	+42%
VL1824 PMP	0.52	0.68	0.58	0.54	0.53	0.43	0.58	-34%	-19%
VL1218 PMP	0.49	0.36	0.45	0.50	0.44	0.44	0.44	0	0
VL0612 PMP	0.31	0.34	0.33	0.28	0.25	0.25	0.31	-23%	0
VL0612 PG	0.16	0.14	0.17	0.21	0.19	0.17	0.17	0	-11%
VL0006 PG	0.20	0.11	0.27	0.30	0.24	0.32	0.21	+36%	+33%

Of the total number of 163 vessels registered in 2021, 130 were active; the vessel use indicator shows a decrease compared to 2020 for the VL1824PMP segment (-19%) and the VL0612PG segment (-11%), and an increase for the VL2440PMP segment (+ 42%) and the VL0006PG segment (+ 33%).

Between 2016 and 2021, VUR per fleet segment recorded high values in three segments; the following values were recorded in the following segments: VL2440PMP – 0.74 in 2021, VL1824PMP – 0.68 in 2017, VL1218PMP – 0.50 in 2019, VL0612PMP – 0.34 in 2017, VL0612PG – 0.21 in 2019, and VL0006PG – 0.32 in 2021.

All the values obtained were below 0.7, which shows a technical inefficiency consisting in vessels being underused, which can be explained by the unstable hydro-climatic conditions specific to the Black Sea and the Covid pandemic. An exception was the VL2440 PMP segment, where VUR was 0.74 in 2021, which may indicate a good use of the vessel: only one vessel was active in 2021 in this segment and carried out activities with 4 fishermen and 85 days at sea, whereas the other vessels had an average of 36 days at sea per vessel.

This has a negative impact on the calculated VUR levels, which resulted in the number of days at sea falling from 5 619 days in 2019 to 3 637 days in 2021, i.e. a 35% decrease. Tables 8, 9, 12, and 13.

F.2 Biological indicators

F.2 1. Ratio between estimated F and target F (F/Ft)

To calculate the necessary biological indicators, we used the ‘Guidelines for the analysis of the balance between fishing capacity and fishing opportunities in accordance with Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council on the Common Fisheries Policy’ (the version of 2 September 2014 of the Communication from the Commission to the EU Parliament and the Council, COM(2014) 545 final), and also the schemes applied and the related data in the STECF EWG assessment report on the Black Sea approaches for several common stock species in the area.

The fishing mortality indicators (F and F_{msy}) used for analysis are specified for the Black Sea because the fish species of a commercial value are shared within the exclusive economic zone (EEZ) of the Black Sea riparian countries (namely sprat (SPR), turbot (TUR), anchovy (ANE), horse mackerel (HMM), dogfish (DGS), red mullet (MUT), whiting (WHG)).

As in the Black Sea area there is only the General Fisheries Commission for the Mediterranean (GFCM) and given that its Working Group on the Black Sea (WGBS) has no sub-regional fisheries management measures, the fisheries regulatory framework promoted by each coastal country is not harmonised at regional level, even when countries share migratory species, therefore only Romania and Bulgaria apply the CFP EU Regulation to their national legal systems. Four of the stock assessments [for sprat (SPR), turbot (TUR), anchovy (ANE) and whiting (WHG)] were of sufficient quality to provide analytical estimates of recent exploitation rates and of the state of the stock against proposed biological reference points. While assessments for sprat (SPR), anchovy (ANE) and whiting (WHG) are considered sufficiently reliable to be used as a basis for short-term catch forecasts, the assessment results for turbot (TUR) and dogfish (DGS) are less reliable and only indicate relative trends. The GFCM management reference points in 2022 conclude that the following limit reference points, which are consistent with high long-term yields, are appropriate indicators for FMSY:

Sprat: FMSY = F ≤ 0.64, in line with the exploitation rate E ≤ 0.4.

Horse mackerel: FMSY = F ≤ 0.78.

Anchovy: FMSY = F ≤ 0.49, in line with the exploitation rate F ≤ 0.4.

Turbot: FMSY = F ≤ 0.19, median F for MSY being based on simulations that included the model’s uncertainty in the stock-recruitment ratio.

Dogfish: FMSY = F ≤ 0.08.

Red Mullet: FMSY = F ≤ 0.70, in line with F 0.1; GFCM considers that this value is the upper end of the expected value from a biological point of view and that it should be reviewed in the future.

Whiting: FMSY = F ≤ 0.79, in line with the exploitation rate E ≤ 0.4; GFCM considers that this value is the upper end of the expected value from a biological point of view and that it should be reviewed in the future.

Table 14.

The lack of adequate management in Black Sea fisheries is also highlighted by the fact that, despite the apparent decline in stocks, the fishing effort has continued to increase at regional level. Taking into account that most fish species are spread between the EEZ of the Black Sea riparian countries, and that the stocks are shared, Romanian catches are almost insignificant at regional level, and Romania can completely close down maritime fishing, but as long as the stocks are not managed regionally, the level of stocks will not improve the state of the stocks.

1) **SHI – sustainable harvest indicator**

This indicator is designed to be a measure of how much a fleet segment relies on stocks that are overfished and is assessed with reference to F_{msy} values over time, and reliance is calculated in economic terms. Values of the indicator above 1 indicate that a fleet segment is, on average, relying on fishing opportunities for its income, which means that these segments have raised income relying on fishing opportunities structurally set at levels which are above exploitation levels corresponding to the maximum sustainable yield (MSY). The fishing opportunities do not necessarily match the maximum sustainable yield (MSY) objective at all times, but SHI has been designed with this overall objective in mind.

Six fleet segments were analysed in 2021 (PMP <6m, PG 6-12m, PMP 6-12m, PMP 12-18m, PMP 18-24m and PMP 24-40m) that fished seven species whose stocks have been assessed by the STECF / BSWG (sprat (SPR), horse mackerel (HMM), anchovy (ANE), turbot (TUR), dogfish (DGS), and whiting (WHG)).

The SHI indicator was calculated in 2021 for all six fleet segments. All values are higher than 1, some species being considered by the STECF as overfished (except for sprat (SPR)). Only Romania and Bulgaria apply the CFP Regulation, which is transposed into national law.

- Four of the stock assessments [sprat (SPR), turbot (TUR), anchovy (ANE), and whiting (WHG)] were of sufficient quality to provide analytical estimates of recent exploitation rates and of the state of the stock against the proposed biological reference points;

- Of the seven stocks assessed, two (i.e. turbot (TUR) and sprat (SPR)) were of sufficient quality to make a short-term forecast;

- Romanian catches are almost insignificant at regional level;

- Romania's small fisheries are artisanal, multi-species and multi-gear, fishermen switching from one gear to another several times during the year;

- The 2022-2024 National Strategic Plan shows the priorities, objectives and public financial resources needed to implement the CFP in Romania;

- The general legal framework for the Romanian fisheries sector is in line with European legislation;

- Closed fishing areas and seasons: *Squalus acanthias* – Romanian territorial waters of the Black Sea, from 15 March to 30 April, 47 days, also closed from 15 October to 30 November. It shall be prohibited to retain pregnant female fish on board throughout the year; *Scophthalmus maximus* – Under EC regulations, the 2a mesh size is 400 mm and the minimum total inlet length is 45 cm, as set at European level.

- The minimum length allowed in the catches has been established for sprat, anchovy, horse mackerel, red mullet and whiting;

- Gear, minimum mesh size and fishing methods have been established;

2) SAR – stocks-at-risk indicator

The stocks-at-risk indicator measures how many stocks are affected by the activities of the fleet segment, stocks which are at low levels and at risk of not being able to replenish themselves.

If a fleet segment gets more than 10% of its catches from a stock which is at risk, this could be considered as an indication of imbalance. If a fleet segment has an impact on one or more stocks at high biological risk, this is an indicator of a potential capacity imbalance. Compared to the catches made in the Black Sea, Romanian catches in 2020 are below 10% of the biomass of the research studies of target species, most of them being below 0.5%, therefore the SAR indicator was not calculated by Romania.

These indicators are not suitable for assessing the unbalanced or balanced ratio between fishing capacity and fishing opportunities for EU countries in the area, i.e. Romania and Bulgaria. Therefore, the conclusions that the fishing fleets of those countries influence the overall state of the stocks in the area are not correct.

It should be emphasized that the catches of the Romanian fishing fleet cannot have an impact on the status of the fish stocks exploited, since Romania exploits a very small fraction of these stocks compared to the other riparian countries in the same subregion and/or whole region of the Black Sea whose fishing vessels target the same stocks. In this respect, it is important to note that Romanian catches have always been low and in recent years they have been below 0.5% of their exploitation rate in the GFCM area, while the overwhelming share of the stocks is caught by other riparian countries with which Romania shares these stocks in GSA 29.

Table 14. Catch share of the Romanian fleet for Black Sea species in 2021

		PMP <6m	PG 6-12m	PMP 6-12m	PMP 12-18m	PMP 18-24m	PMP 24-40m	TOTAL	F/Fmsy
Sprat	Ci-catch in fleet segment (t)	0	7.820	0.908	38.865	0	0	47.593	0.40/0.64
	Value of Ci (€)	0	5 787	672	28 760	0	0	35 219	
	Ti- total catch of the stock for all segments/countries (t)	28 427	28 427	28 427	28 427	28 427	28 427	28 427	
	% Ci of Ti	0	0.002	0.003	0.13	0	0	0.016	
Horse mackerel	Ci-catch in fleet segment (t)	0.038	13.445	3.742	7.807	2.6168	0	27.6488	0.857/0.78
	Value of Ci (€)	37	27 293	7 596	15 848	5 312	0	56 126	
	Ti- total catch of the stock for all segments/countries (t)	21 537.8	21 537.8	21 537.8	21 537.8	21 537.8	21 537.8	21 537.8	
	% Ci of Ti	0.000017	0.06	0.01	0.003	0.00358	0.01	0.12	
Anchovy	Ci-catch in fleet segment (t)	0.691	38.088	0.067	0.150	0	0	38.996	1.39/0.49
	Value of Ci (€)	898	49 514	87	195	0	0	50 694	
	Ti- total catch of the stock for all segments/countries (t)	196 066	196 066	196 066	196 066	196 066	196 066	196 066	
	% Ci of Ti	0.000001	0.01	0.000001	0.00001	0	0	0.011	
Turbot	Ci-catch in fleet segment (t)	0.203	19.9545	18.020	32.843	3.558	0	74.5785	1.39/0.19
	Value of Ci (€)	1 711	168 216	151 909	276 866	29 994	0	628 696	
	Ti- total catch of the stock for all segments/countries (t)	2 003.95	2 003.95	2 003.95	2 003.95	2 003.95	2 003.95	2 003.95	
	% Ci of Ti	0.01	0.99	0.89	1.63	0.17	0	3.72	
Dogfish	Ci-catch in fleet segment (t)	0	0.373	0.100	0.214	0	0	0.687	0.21/0.08
	Value of Ci (€)	0	985	264	565	0	0	1 814	
	Ti- total catch of the stock for all segments/countries (t)	21.15	21.15	21.15	21.15	21.15	21.15	21.15	
	% Ci of Ti	0	1.76	0.47	1.01	0	0	3.24	
Red mullet	Ci-catch in fleet segment (t)	0	1.741	0.505	32.215	0.034	0	34.495	1.20/0.70
	Value of Ci (€)	0	3 482	1 010	64 430	68	0	68 990	

	Ti- total catch of the stock for all segments/countries (t)	3 151	3 151	3 151	3 151	3 151	3 151	3 151	
	% Ci of Ti	0	0.05	0.01	1.02	0.0001	0	1.09	
Whiting	Ci-catch in fleet segment (t)	0	2.940	0.030	0	0	0	2.970	1.24/0.79
	Value of Ci (€)	0	1 235	13	0	0	0	1 248	
	Ti- total catch of the stock for all segments/countries (t)	10 038.8	10 038.8	10 038.8	10 038.8	10 038.8	10 038.8	10 038.8	
	% Ci of Ti	0	0.002	0.000001	0	0	0	0.002	

Table 15. Biological indicators from 2014 to 2021

Fleet segment	Biological indicators	2014	2015	2016	2017	2018	2019	2020	2021
		< 6m	SHI	3.54817	7.25836	0.71504	0.70321	0.68532	0.67859
	SAR	0	0	0	0	0	0	0	0
PG 6-12m	SHI	4.11095	2.52699	1.82199	1.80256	1.75217	1.73103	2.22331	2.54000
	SAR	0	0	0	0	0	0	0	0
PMP 6-12m	SHI	4.82831	3.24105	0.97554	0.95686	0.93274	0.92976	2.36391	2.54000
	SAR	0	0	0	0	0	0	0	0
PMP 12-18m	SHI	4.78401	4.83388	0.81026	0.81025	0.80526	0.80330	2.57947	2.70333
	SAR	0	0	0	0	0	0	0	0
PMP 18-24m	SHI	0	0	0.64087	0.64121	0.62322	0.62157	2.96421	3.37000
	SAR	0	0	0	0	0	0	0	0
PMP 24-40m	SHI	2.76667	2.38845	1.01521	0.99845	0.97653	0.97559	5.34615	0.00000
	SAR	0	0	0	0	0	0	0	0

Tables 14 and 15 show the results of the estimated values for the sustainable harvest indicator (SHI) for the Romanian fleet in 2021; the total catches of fish species reported for the Black Sea are listed in the table based on the countries' reporting during the WGBS-GFCM meetings in 2021. Taking into account that fish species such as sprat (SPR) and turbot (TUR) are below quota, the share harvested in the Black Sea area in Romania for other species is very small, i.e. below 0.5%; the fleet exploits mainly veined rapa whelk. This trend in total fish catches has been recorded every year and is decreasing.

F.3 Economic indicators

The economic indicators are calculated using the latest version of Commission Guidelines COM(2014) 545 final of 2 September 2014. The data used to calculate the economic indicators come from the economic statistics questionnaires collected under the National Data Collection Framework (DCF). (source: INCDM).

Two indicators are used to evaluate whether fleet segments are economically sustainable in the long term, allowing capital investment (ROI), and whether they are able to cover their costs in the short term (CR/BER). The economic indicators may show the extent of economic over- or under-capitalisation in a fleet, both in the short and in the long term. Both indicators involve, for comparison purposes, the use of the long-term interest rate calculated by the European Central Bank (ECB). For the purposes of the 2021 assessment of balance, the arithmetic average interest rate for the previous five years was used, corresponding to the 2016-2020 period.

The long-term interest rate was 3.63 in 2021, 3.89 in 2020, 4.54 in 2019, 4.69 in 2018, 3.96 in 2017 and 3.32 in 2016, and the average for the 2016-2020 period was 4.08, i.e. 4.6% higher than the average for the 2015-2019 period.

The calculation methods proposed for ROI and for CR/BER are as follows:

1) **ROI = Net profit / Capital asset value**, where:

Net profit = (Income from landings + other income) – (crew costs + unpaid labour costs + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation), and where:

Capital asset value = Vessel replacement value + estimated value of fishing rights

2. **Ratio between current revenue and break-even revenue (CR/BER)**

The formula for calculating the BER is as follows:

$$\text{BER} = (\text{Fixed Costs}) / (1 - [\text{Variable costs} / \text{Current Revenue}])$$

Fixed costs = Non variable costs + depreciation

Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair and maintenance costs + Other variable costs

Current revenue = income from landings + other income from other activities

The CR/BER ratio is calculated by dividing the current revenue (CR) by the BER

Table 16. Economic data and calculation of economic indicators in 2021

Indicators	VL2440PMP	VL1824PMP	VL1218PMP	VL0612PG	VL0612PMP	VL0006PG
Source of income	73 544	192 371	1 033 550	298 385	581 260	57 374
Other income	44 601	103 522	515 016	207 279	97 238	0
Current revenue	118 145	295 893	1 548 566	505 664	678 498	57 374
Crew costs	24 384	46 298	268 733	143 594	154 956	16 748
Unpaid labour	0	0	0	0	0	0
Costs for energy	30 409	54 408	253 593	48 431	117 000	5 010
Repair and maintenance costs	4 400	10 614	62 502	21 818	34 403	2 526
Other variable costs	7 472	17 058	9 926	16 643	21 372	2 141
Non variable costs	14 552	15 823	104 484	45 301	68 991	4 137
Depreciation	0	0	125 282	14 078	30 445	100
Fixed costs	14 552	15 823	229 766	59 379	99 436	4 237

Variable costs	66 665	128 378	594 754	230 486	327 731	26 425
Total Costs	81 217	144 201	824 520	289 865	427 167	30 662
Net profit	36 928	151 692	724 046	215 799	251 331	26 712
Vessel replacement value	770 000	1 900 000	3 970 000	642 663	835 304	70 778
Estimated value of fishing rights	1 324	3 078	21 705	8 355	10 463	430
Capital asset value	771 324	1 903 078	3 991 705	651 018	845 767	71 208
ROI	4.79%	7.97%	18.14%	33.15%	29.72%	37.51%
ROI – risk free, long-term interest rate	1.16%	4.34%	14.51%	29.52%	26.09%	38.88%
BER	33 396	27 949	373 038	109 114	192 342	7 855
CR/BER	3.54	10.59	4.15	4.63	3.53	7.30

ECB – the interest rate in 2021 was 3.63.

F.3.1 Return on Investment (ROI)

The ROI indicator compares the long-term profitability of the fleet segment to other available investment and is the return on investment divided by the cost of investment; it measures the profits in relation to the capital invested (in percentages), and indicates how profitable a sector is; the higher the return, the more efficient the sector.

The return on investment values in 2021 were positive and higher than the low-risk, long-term interest rate, which suggests that extraordinary profits were generated.

The ROI values exceed the long-term interest rate at no risk of 3.63 and indicate that all fleet segments are in balance and economically effective in the long term. The return on investment values where high profits were generated show that the most profitable segments were the following: VL0006PG (37.51%), VL0612PG (33.15%), and VL0612PMP (29.72%); the lowest indicator value was recorded in the VL2440PMP segment (4.79%).

Compared to 2020, in 2021, ROI had high values in five fleet segments and low values in one segment, VL1824PMP (-29%). The trend in 2021 compared to the average data in the 2016-2020 period shows an increase in two segments: 166% in the VL0612PG segment, which also had the highest profit, due to the fact that it is the largest segment, consisting of 69 vessels, with a total number of 1 317 days at sea; this was followed by the VL0006PG segment (+ 75%); the trend also shows a decrease in four fleet segments; the lowest percentage being 15% in the VL1218PMP segment (3 vessels, 150 days). Tables 16 and 17.

In 2021, fishing activities were mainly focused on RPW fishing, with 87.82% of the total landings, followed by MSM, with 4%, and by TUR, with 2.38%. Since 2016, total landings and their value in EUR have decreased sharply, leading to low profitability of the fleet segments and to decreasing profits in these segments.

Table 17. Return on investment (ROI) between 2016 and 2021

Fleet segment	2016	2017	2018	2019	2020	2021	2016-2020 average	Trend in 2021 compared to 2016-	Trend in 2021 compared to 2020

	2020 average								
VL2440 PMP	9.00	8.55	4.23	7.52	1.70	4.79	6.20	-23%	+182%
VL1824 PMP	34.80	25.90	19.66	18.61	11.30	7.97	22.05	-64%	-29%
VL1218 PMP	34.04	27.40	19.72	19.13	6.73	18.14	21.40	-15%	+170%
VL0612 PMP	83.10	109.14	69.10	95.10	26.90	29.72	76.67	-61%	+10%
VL0612 PG	11.02	13.53	3.78	11.31	22.65	33.15	12.46	+166%	+46%
VL0006 PG	5.33	9.10	40.21	39.40	13.16	37.51	21.44	+75%	+185%

F.3.2. Ratio between current revenue and break-even revenue (CR/BER).

This indicator measures the economic ability of the fleet segment to keep fishing on a day-by-day basis, whether income covers the crew's wages, and the fuel and running costs for the vessel, and shows short-term financial viability.

In 2021, the fleet segments recorded a good level for CR/BER, and the value of the indicator in all segments was higher than 1. In these segments, sufficient revenue was generated to cover variable, fixed and capital costs, and in the short term all segments are profitable and able to cover their costs. If the value had been below 1, this would have been an indication of economic inefficiency. As compared to 2020, the CR/BER values in 2021 increased for all fleet segments; as compared to the average data in the 2016-2020 period, they only increased in the VL1824PMP, VL0612PG and VL0006PG segments.

The values of the CR/BER indicator were positive and above the low-risk, long-term interest rate (3.63) for 4 segments, less so for the VL0612PMP (3.53) and the VL2440PMP (3.54) segments; in these two segments, the income did not cover the crew's wages and the fuel and running costs for the vessel. These segments became unprofitable in the short term because of the drop in RPW catches, of catches in general and of their value in euro. Tables 16 and 18.

Table 18. Ratio between current revenue and break-even revenue (CR/BER)

Fleet segment	2016	2017	2018	2019	2020	2021	2016-2020 average	Trend in 2021 compared to 2016-2020 average	Trend in 2021 compared to 2020
VL2440PMP	4.82	5.06	2.59	3.95	1.57	3.54	3.60	-2%	+125%
VL1824 PMP	10.44	11.65	9.73	9.14	3.93	10.59	8.98	+18%	+169%

VL1218 PMP	12.27	5.95	3.77	4.89	2.40	4.15	5.86	-29%	+73%
VL0612 PMP	6.40	7.16	4.21	8.25	2.55	3.53	5.71	-38%	+38%
VL0612 PG	2.00	2.69	7.16	2.78	4.32	4.63	3.79	+22%	+7%
VL0006 PG	1.71	2.71	8.92	4.23	1.62	7.30	3.84	+90%	+351

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Annex

Action plan for Romanian fleet segments

This plan is prepared in accordance with Article 22(4) of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy and sets out the action that the Romanian administration intends to take in order to implement measures to adjust the fishing capacity to the fishing opportunities with a view to achieving a stable and sustainable balance between them.

The implementation period of the action plan extends to 2027 and is consistent with the implementation period of the 2021-2027 European Maritime, Fisheries and Aquaculture Fund (EMFAF).

The analysis is based on the general assessment and comparison of technical and economic indicators for 2016, 2017, 2018, 2019, 2020 and 2021 and on the annual reports on Romania's efforts to achieve an sustainable balance between fishing capacity and fishing opportunities.

The VL0006 PG segment – in 2021, there were 9 active vessels in this segment (2 vessels less than in 2020), and 327 days at sea. The data of the (VUR) technical indicator show a utilisation capacity of 0.32, which is higher than in 2020 (0.24); as compared to 2020, the trend is an increase of 33% and as compared to the average of the 2016-2020 period, an increase of 36%. Out of the total landings in this segment, 1.86% were catches done with the GNS, FPN FPO, and LHP gears, and 1.63% were veined rapa whelk and mussels manually harvested.

In terms of economic indicators, the return on investment indicator has increased by 185%, from 13.16% in 2020 to 37.51% in 2021, and by 75% as compared to the average for the 2016-2020 period.

The ratio between current revenue and break-even revenue is positive and higher than in 2020, rising from 1.62 to 7.30, an increase of 351% compared to 2020, indicating that the segment is profitable; compared with the average of the 2016-2020 period, the trend is a 90% increase. The segment is balanced in terms of fishing opportunities, has generated profits and is economically efficient in the long term.

The VL0612PG segment – in 2021, 69 active vessels were registered in this segment; it is the largest segment in the fleet, with one vessel more than in 2020. The following gears were used to land 3.06% of the total catches: FPN accounted for 2.07%, and GNS, FPO, LHP and LLS for the rest.

The vessel utilisation rate was 0.17, lower than in 2020 (0.19), -11% as compared to 2020, and the value is kept constant compared to the average of the 2016-2020 period.

Of all the fleet segments, this segment had the lowest vessel utilisation rate; the activity at sea was 1 317 days. The return on investment (ROI) has had the highest value from 2016 to date; the value increased from 22.65% in 2020 to 33.15% in 2021, an increase of 46%, and by 166% as compared to the 2016-2020 average, which indicates that this segment was profitable. This may also be due to the large number of vessels in this segment.

The ratio between current revenue and break-even revenue (CR/BER) was 4.63, which is higher than the long-term interest rate (3.63). This means that operators had sufficient revenues to cover costs, and that the segment is profitable in the long and short term, and economically efficient. The 2021 trend shows a 22% increase compared to the 2016-2019 period and a 7% increase compared to 2020.

The VL0612 PMP segment – In this segment, 30 vessels were active, which is 5 vessels more than in 2020; their activity was of 854 days at sea. The value of the technical indicator is 0.25, the same as in 2020, and shows vessel under-use and technical overcapacity, the cause being the Covid pandemic; compared to the average of the 2016-2020 period, there is a 23% decrease.

The return on investment was 29.72%, which is 10% higher than in 2020, but 61% lower than the average of the 2016-2020 period; this segment generated profits and is profitable in the long term.

The ratio between current revenue and break-even revenue (CR/BER) is 3.53, which is 38% higher than in 2020, and 38% lower than the average of the 2016-2020 period; however, this value is below the low-risk, long-term interest rate (3.63), which suggests that this segment is overcapitalised and economically inefficient in the long term, which may indicate an imbalance: the income does not cover the crew's wages or the fuel and running costs for the vessel, therefore the segment is not profitable in the short term. In 2021, this segment recorded 28.04% of the total landings, 14.09% being RPW fished with TBB, and 13.02% being MSM harvested manually; other fishing gears were also used: GNS, OTM, FPN, FPO and SB.

The VL1218 PMP segment – In 2021, there were 18 active vessels in this segment, i.e. 3 vessels less than in 2020; the activity at sea was 904 days, i.e. 285 days less than in 2020. The technical indicator has a value of 0.44, the same as in 2020; the trend compared to 2020 and to the average figure is thus constant. The values of the economic indicators in 2021 show a substantial increase in the value of ROI (18.14%) and of CR/BER (4.15), i.e. a 170% increase and a 73% increase, respectively, as compared to 2020; this shows that operators covered their costs, that the segment is profitable and viable in the long and short

term, and that the revenues cover the operating costs. The largest quantity of species that was landed in this segment accounted for 51.50%, out of which 47.76% was fished with TBB (RPW), and 2.65% with OTM (1.27% – SPR, and 1.04% – MUT and other species).

The VL1824PMP segment – Since 2021, 3 vessels were active in this fleet segment, i.e. 2 vessels more than in 2020, for a number of 150 days at sea, which is 81 days more than in 2020.

The vessel use indicator shows a decrease (0.43) compared to 2020 (0.53), which is a 19% decrease compared to 2020 and a 34% decrease compared to the average of the 2016-2020 period.

The ROI had values of 7.97%, which is 29% less than in 2020 and 64% less than the average of the period; the CR/BER was 10.59, the highest value of all segments; it represents a 169% increase compared to 2020 and a 18% increase compared to the average of the 2016-2020 period; this was due to an increase in the number of vessels and days of sea.

The value was higher than the long-term interest rate, which means that operators had sufficient revenues to cover their costs; the segment is cost-effective and profitable. 11.34% of the total catches were landed in this segment: TBB accounted for 10.99%, and RPW accounted for 76.25%.

The VL2440 PMP segment – This segment was constant between 2017 and 2021 as regards the number of vessels, with only 4 vessels. Since 2021 only one single active vessel remained, as 2 vessels migrated to the VL1824m segment. The vessel use indicator is 0.74, which is 42% higher than in 2020 and 19% higher than the average figure of the period. The return on investment (ROI) was 4.79%, which is 182% higher than in 2020.

The CR/BER value increases by 125% – from 1.57 in 2020 to 3.54 in 2021, but for 2021 the value is lower than the low-risk, long-term interest rate (3.63), which suggests that this segment is economically inefficient in the long term and may indicate an imbalance. Fishing vessel operators in this segment managed to generate sufficient revenues to cover their costs in 2021. Maintaining these results shows that it would be profitable to invest in the segment in the long term. The landed catches accounted for 4.20% of the total catches of RPW caught with TBB (3.42%) and MSM caught with HMD.

Measures to adapt the fishing fleet

- Issuing fishing licences/authorisations to catch other living marine resources and reduce pressure on veined rapa whelk and mussel fishing by catching other species of high economic value;
- Speeding up the implementation of the ‘Fishing facilities for the Port of Midia’ project, which will lead to the creation of facilities for the conditioning/storage/processing of fish catches;
- Stepping up inspections at sea, in particular during closed seasons (TUR, DGS, GPA) and in protected areas, since vessels under 12 m are not equipped with VMS and ERS;
- Further organising professional meetings between scientists and fishermen;
- Protecting and restoring aquatic biodiversity and aquatic ecosystems, by issuing an annual prohibition order;
- Fostering the creation of forms of association (organisations, fishermen’s associations);
- Supporting the development of marketing initiatives or providing assistance to improve competitiveness;
- Promoting and developing sustainable fisheries and economically competitive marine aquaculture, while respecting environmental principles;

- Drafting the 2023-2030 National Strategy for Fisheries and Aquaculture, which provides for the pressure on fishing in the natural environment to be lifted by developing marine aquaculture activities.

Technical and administrative measures in the applicable national legislation

As regards inactive fishing vessels, ANPA continues to apply national legislation, in particular Article 7(7) of Order No 807 of 13 May 2016, pursuant to which there is a possibility that the validity of the commercial fishing licence expires when the fishing vessel has not been active for more than one calendar year after the issue/endorsement of the commercial fishing licence; vessels whose licences have been suspended on this basis will be officially removed from the fishing vessel register while the vacant capacity will be managed by the State and subsequently distributed to fishing vessels that intend to enter the fishing fleet register. The National Agency for Fisheries and Aquaculture continues to apply national legislation in this respect in order to achieve a balance between fishing capacity and fishing opportunities. This measure will be implemented annually.

- Order No 67 of 18 March 2022 – Order of the Minister of Agriculture and Rural Development amending and supplementing Order No 310/2019 of the Minister of Agriculture and Rural Development on the nomination and authorisation of landing sites and points of first sale for landing and marketing fish catches obtained from commercial fishing in natural fish habitats;
- Joint Order No 42 of 23 February 2022 of the MARD and No 558 of 7 March 2022 of the MEWRF – Order of the Minister of Agriculture and Rural Development and of the Minister of the Environment, Water Resources and Forestry approving measures regulating fishing effort and fishing quotas allocated for 2022, by species and areas.
- Order No 38 of 22 February 2022 – Order of the Minister of Agriculture and Rural Development supplementing the Annex to Order No 1.369/2018 of the Minister of Agriculture and Rural Development on the technical characteristics, conditions for the use of gear admitted to commercial fishing and methods of commercial fishing in marine and inland waters.

Measures to support fishing vessel owners and fishermen, which can be implemented with support from the EMFAF:

In 2022, as in the entire 2014-2020 programming period, measures from the FMAOP could have been applied on the basis of Regulation (EU) No 508/2014, but unfortunately the financing conditions, in particular as regards the intensity of public support, were prohibitive for fishermen/vessel owners. We estimate that the situation will change for the 2021-2027 Maritime Affairs and Fisheries Programme, especially for small-scale coastal fishing, which has a maximum aid intensity of 100%. However, calls for projects for fishermen will only be launched after the end of 2023, as we are currently working on the programme's implementation framework (legislation, procedures, and guides).

- **Fishing ports, landing sites, auction halls and shelters – investment improving the infrastructure of fishing ports and auction halls or that of landing sites and shelters.**

The objectives of these administrative measures are to improve fishing fleet management and to achieve better control over the exploitation of fishing capacity. The implementation of the measure will contribute to the achievement of the specific objective of 'Improving the competitiveness and viability of fisheries enterprises, including the small-scale coastal fleet, and improving safety or working conditions' under EU Priority 1 – 'Promoting environmentally sustainable, resource efficient, innovative, competitive and knowledge based fisheries'. The upgrade of infrastructure in existing ports will increase their energy efficiency, will contribute to environmental protection, will increase the quality of landed products, and will improve the fishermen's safety and working conditions. In 2020, the procedure for the design and approval of the 'Fishing facilities for the Port of Midia' project was launched. Every effort has been made

to submit the technical documentation at the feasibility study stage – documents for the approval of the intervention works – at the Năvodari Mayor’s Office, in Constanța County. All the permits required for the urban planning certificate have been obtained, and the technical and economic documentation is now subject to a public consultation, following which the construction permit will be issued. Given the risk of extending this implementation period, the project can be completed after 2023 with the support of the 2021-2027 Maritime Affairs and Fisheries Programme. There are grounds for accessing EU financial support for fishing vessels between 2021 and 2027, which can help increase the profitability of the fleet and reduce the environmental impact of fishing activities.

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