

**Republic of Bulgaria
Executive Agency for Fisheries and Aquacultures**



Bulgarian Annual Report on the efforts in 2019 to achieve a sustainable balance between fishing capacity and fishing opportunities

In accordance with Article 22 of the Regulation (EU) 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 of the Council 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 the Council on the Common Fisheries Policy (COM/2014/545)

Burgas, May 2020



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Summary of the report

During the period 2007 – 2019, the Bulgarian fishing fleet has decreased in number of vessels, as well as GT and kW in all segments, with exception for 12-18 m, where a minor increase takes place. The fleet development is shown on **Table 9** and **Figures 5** and **6**. Each entry (or increase the tonnage or the engine power) in the fishing fleet register has been covered by the withdrawal of at least same quantity from the fleet.

The economic status of the fishing fleet is under the influence of number of factors, the main of them are: the relatively high average age of the fishing fleet, which is approximately 23 years; unbalance between the variable expenses and current earnings; low purchasing abilities of the population, annual migrations of part of the valuable species; lack of a market regulator guaranteeing the same purchase price levels to set maximum and minimum values, the lack of sufficient number of fish markets and first sale centers near the ports.

During 2019, a procedure for the recognition of organizations of producers of fishery and / or aquaculture products completed. Two such organizations have been officially recognized - one producer organization and one interbranch organization.

In 2019, there is an increase in the number of active vessels in the segments TBB, PMP and HOK, while other segments faced a decline. Inactivity of fishing vessels is mainly due to repairs activities, upgrades or upcoming sales and transfers of ownership and, to a lesser extent, the supply of new fishing gear. Inactive fishing vessels in 2019 conditionally divided by total length are as follows: LOA 0006 - 268 pcs.; LOA 0612 – 444 pcs.; LOA 1218 – 9 pcs.; LOA 1824 – 1 pc; LOA over 24 m – nil.

With regard to inactive vessels, the measures described in the national legislation are envisaged in stages during the current year (Article 18c of the LFA Act).

SECTION A

A.1. Description of the Bulgarian fishing fleet

Bulgaria has a coastline of 378 km, a continental shelf of 10,886 km² and an Exclusive Economic Zone in the Black Sea of about 25,699 km². Most of fishing activities are carried out within the territorial waters (up to 12 nautical miles area). At 31 December, 2019, the Bulgarian fishing fleet consists of 1,841 vessels, operating only in Black Sea, with total capacity of GT 6,027.43 and 53,590.17 kW. The fishing vessels assigned to small-scale fishing with LOA of up to 12 meters, represent 95% or 1,747 vessels. The most of them are using as a preferred gear gillnets (anchored). The average age of the Bulgarian fishing fleet is 23 years. As it is shown in **Table 4** and **Figure 1**(presented below), the number of registered vessels is reduced by 27% from the date of accession of Bulgaria to the EU (01 January 2007). There is a slight decrease in the number of active vessels as compared to 2018, as well as in sea days compared to the 2018 reference values (**Figure 1**).



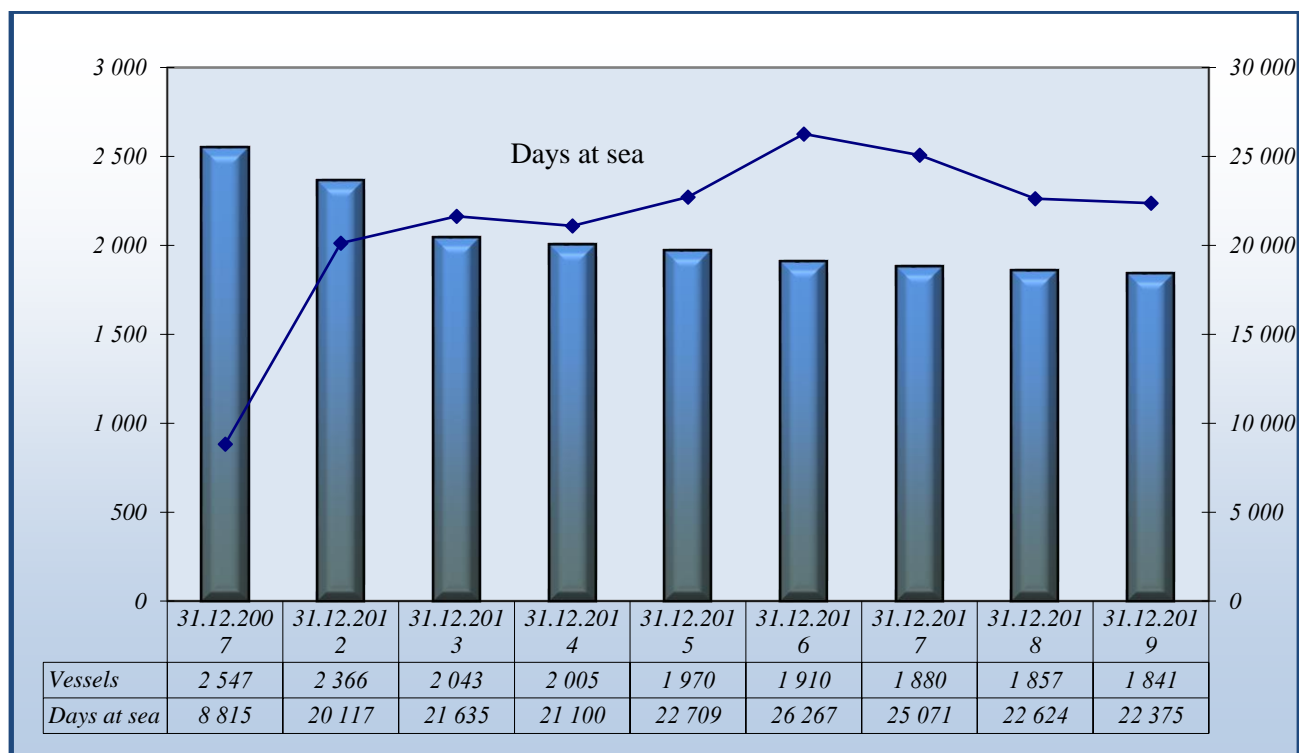


Figure 1. Number of vessels and days at sea for the period 2007-2019

The active fishing vessels in 2019 are 1,123 and the vast majority of them, a total of 1,039, are within the scope of a small-scale (mainly coastal) fishing. The percentage of active fishing vessels is 93 % for vessels up to 12 m and at 7% for vessels of over 12 m. The fishing activity of the fleet in 2019, expressed in days at sea, is a total of 22,375 days, with 59 % of fishing vessels with a total length of up to 12 meters.

Table 1: Fishing activity of the vessels during 2019

LOA	Number of vessels	GT	kW	Days at sea	Vessels' ratio	Days at sea ratio
LOA 0012	1,039	1679.27	21,778.6	13,282	92.52%	59.36%
LOA 1240	84	3036.15	15,902.8	9,093	7.48%	40.64%
Общо:	1,123	4715.42	37,681.4	22,375		

“Days at sea”, Decision 2010/93/EU.

Segmentation of vessels, doing commercial fishing, by fishing gear in the Black Sea waters, shall be carried out in accordance with Decision 2010/93 / EU. The groups of similar fishing activities and fishing gear, typical for each group, are listed in **Table 2**.

Table 2: Groups similar fishing activities and gear



Fishing Technique	DFN - Drift and/or fixed nets		TM - Pelagic trawlers		HOK-using hooks			FPO- pots and/or traps		PS- Purse seiners		PGP- passive gears	PMP	
Fishing Gear	GNS Gillnets (set)	GND Gillnets (drift)	TBB beam trawlers	OTM pelagic trawlers	LLD Longlines drifting	LLS Longlines (set)	LHP Hand lines	FPO Pots	FPN stat. pound trap nets	PS Purse seine	SB Beach seine	Only passive gears	No prevailing gear	NO-no gear

Table 3: Days at sea by segments for 2015, 2016, 2017, 2018 and 2019.

	2015		2016		2017		2018		2019					
Segment	LOA	Days at Sea	Segment	LOA	Days at Sea	Segment	LOA	Days at Sea	Segment	LOA	Days at Sea	Segment	LOA	Days at Sea
DFN	VL0006	2869	DFN	VL0006	2924	DFN	VL0006	2102	DFN	VL0006	2351	DFN	VL0006	2239
	VL0612	4134		VL0612	4845		VL0612	3574		VL0612	3491		VL0612	3116
	VL1218	291		VL1218	309		VL1218	353		VL1218	200		VL1218	420
	VL1824	11		VL1824	33		VL1824	280	Total:		6042		VL2440	72
Total:		7305	Total:		8111	Total:		6309	PS	VL0006	202	Total:		5847
PS	VL0006	303	PS	VL0006	251	PS	VL0006	154		VL0612	31	PS	VL0006	127
	VL0612	62		VL0612	51		VL0612	28	Total:		233		VL0612	35
Total:		365	Total:		302		VL1218	77	FPO	VL0006	2		VL1218	64
FPO	VL0006	47	FPO	VL0006	167	Total:		259		VL0612	533	Total:		226
	VL0612	526		VL0612	764	FPO	VL0006	14	Total:		535	FPO	VL0006	28
Total:		573	Total:		931		VL0612	533	HOK	VL0006	42		VL0612	499
HOK	VL0006	311	HOK	VL0006	196	Total:		547		VL0612	139	Total:		527
	VL0612	648		VL0612	765	HOK	VL0006	293	Total:		181	HOK	VL0006	85
Total:		959		VL1218	26		VL0612	785	PGP	VL0006	68		VL0612	249
PGP	VL0006	118	Total:		987		VL1218	28		VL0612	150	Total:		334
	VL0612	52	PGP	VL0006	28	Total:		1106		VL1218	34	PGP	VL0006	28
Total:		170		VL0612	88	PGP	VL0006	80	Total:		252		VL0612	68
PMP	VL0006	1314		VL1218	96		VL0612	158	PMP	VL0006	2427	Total:		96
	VL0612	3753	Total:		212	Total:		238		VL0612	4710	PMP	VL0006	2021
	VL1218	2189	PMP	VL0006	1895	PMP	VL0006	2584		VL1218	1517		VL0612	4503
	VL1824	511		VL0612	4852		VL0612	6868		VL1824	534		VL1218	2408
Total:		7767		VL1218	1367		VL1218	1978		VL2440	99		VL1824	1203
TBB	VL0612	350		VL1824	456		VL1824	360	Total:		9287	Total:		10135
	VL1218	136	Total:		8570	Total:		11790	TBB	VL0612	177	TBB	VL0612	179
	VL1824	277	TBB	VL0612	201	TBB	VL0612	182		VL1218	464		VL1218	652
Total:		763		VL1218	301		VL1218	396		VL1824	199		VL1824	150
TM	VL0612	238		VL1824	32		VL1824	27	Total:		840	Total:		981
	VL1218	1946	Total:		534	Total:		605	TM	VL0612	79	TM	VL0612	105
	VL1824	727	TM	VL0612	168	TM	VL0612	102		VL1218	2378		VL1218	1783
	VL2440	1896		VL1218	3319		VL1218	1597		VL1824	1084		VL1824	631
Total:		4807		VL1824	1122		VL1824	900		VL2440	1713		VL2440	1710
SUM:		22709		VL2440	1615		VL2440	1618	Total:		5254	Total:		4229
			Total:		6224	Total:		4217	SUM:		22624	SUM:		22375
			SUM:		25871	SUM:		25071						



Table 3 shows the fishing activity data for fishing vessels for 2015, 2016, 2017, 2018 and 2019, showing that the data from the reference 2018 is declined by 1%. The largest decrease was observed in PGP nad TM segments by 62 % and 20 %, respectively, while in the other segments there is an increase of the activity respectively in HOK - by 62 %, TBB – 14 %.

Table 4: Activity of the fishing vessels by segments for 2019.

Segment		Number of vessels	GT	kW	Days at sea	Activity for the segment	Activity for the fleet
DFN	VL0006	298	228.97	2862.62	2239	38.29%	10.01%
	VL0612	403	755.62	10623.17	3116	53.29%	13.93%
	VL1218	9	141.97	941.77	420	7.18%	1.88%
	VL2440	1	78.61	574.00	72	1.23%	0.32%
	Total:	711	1205.17	15001.56	5847		26.13%
PS	VL0006	13	8.00	59.54	127	56.19%	0.57%
	VL0612	4	3.38	13.61	35	15.49%	0.16%
	VL1218	1	39.61	308.91	64	28.32%	0.29%
	Total:	18	50.99	382.06	226		1.01%
FPO	VL0006	3	2.12	4.41	28	5.31%	0.13%
	VL0612	32	109.43	942.93	499	94.69%	2.23%
	Total:	35	111.55	947.34	527		2.36%
HOK	VL0006	17	12.94	205.21	85	25.45%	0.38%
	VL0612	25	59.66	873.80	249	74.55%	1.11%
	Total:	42	72.60	1079.01	334		1.49%
PGP	VL0006	7	4.34	57.82	28	29.17%	0.13%
	VL0612	14	31.87	478.07	68	70.83%	0.30%
	Total:	21	36.21	535.89	96		0.43%
PMP	VL0006	70	52.75	548.00	2021	19.94%	9.03%
	VL0612	148	346.11	4666.69	4503	44.43%	20.13%
	VL1218	21	384.82	2972.01	2408	23.76%	10.76%
	VL1824	9	370.00	2242.53	1203	11.87%	5.38%
	Total:	248	1153.68	10429.23	10135		45.30%
TBB	VL0612	3	35.27	147.08	179	18.25%	0.80%
	VL1218	7	121.72	1127.05	652	66.46%	2.91%
	VL1824	2	90.70	478.00	150	15.29%	0.67%
	Total:	12	247.69	1752.13	981		4.38%
TM	VL0612	2	29.23	295.67	105	2.48%	0.47%
	VL1218	19	413.00	3282.25	1783	42.16%	7.97%
	VL1824	5	281.65	1261.38	631	14.92%	2.82%
	VL2440	10	1114.07	2714.90	1710	40.44%	7.64%
Total		36	1837.95	7554.20	4229		18.90%
SUM		1123	4715.84	37681.42	22375		



Table 4 shows the number of fishing vessels for each segment, as well as data on their activity against the segment and on the total activity for the year. For the year 2019, activity in PMP segments was 45.30 % - the highest one observed, DFN – 26.13% and TM – 18.19 %. The two largest segments are DFN - 711 fishing vessels and PMP - 248 fishing vessels, as these two segments are representing 85 % of the entire fleet.

Coastal fishing vessels segment with a total length of up to 12 meters (VL 0012) is most representative into the DFN and PMP segments, as the most active are PMP VL 0612 with 33.9 % and DFN VL 0612 with 23.46 % to the total small-scale fishing activity for 2019 - **Table 5** and **Figure 2**.

Table 5: Segment VL 0012 for 2019

Segment		LOA	Number of vessels	GT	kW	Days at sea	
LOA 0012	DFN	VL0006	298	228.97	2862.62	2239	16.86%
		VL0612	403	755.62	10623.17	3116	23.46%
	PS	VL0006	13	8	59.54	127	0.96%
		VL0612	4	3.38	13.61	35	0.26%
	FPO	VL0006	3	2.12	4.41	28	0.21%
		VL0612	32	109.43	942.93	499	3.76%
	HOK	VL0006	17	12.94	205.21	85	0.64%
		VL0612	25	59.66	873.8	249	1.87%
	PGP	VL0006	7	4.34	57.82	28	0.21%
		VL0612	14	31.87	478.07	68	0.51%
	PMP	VL0006	70	52.75	548	2021	15.22%
		VL0612	148	346.11	4666.69	4503	33.90%
	TBB	VL0612	3	35.27	147.08	179	1.35%
	TM	VL0612	2	29.23	295.67	105	0.79%
Total			1039	1679.69	21778.62	13282	



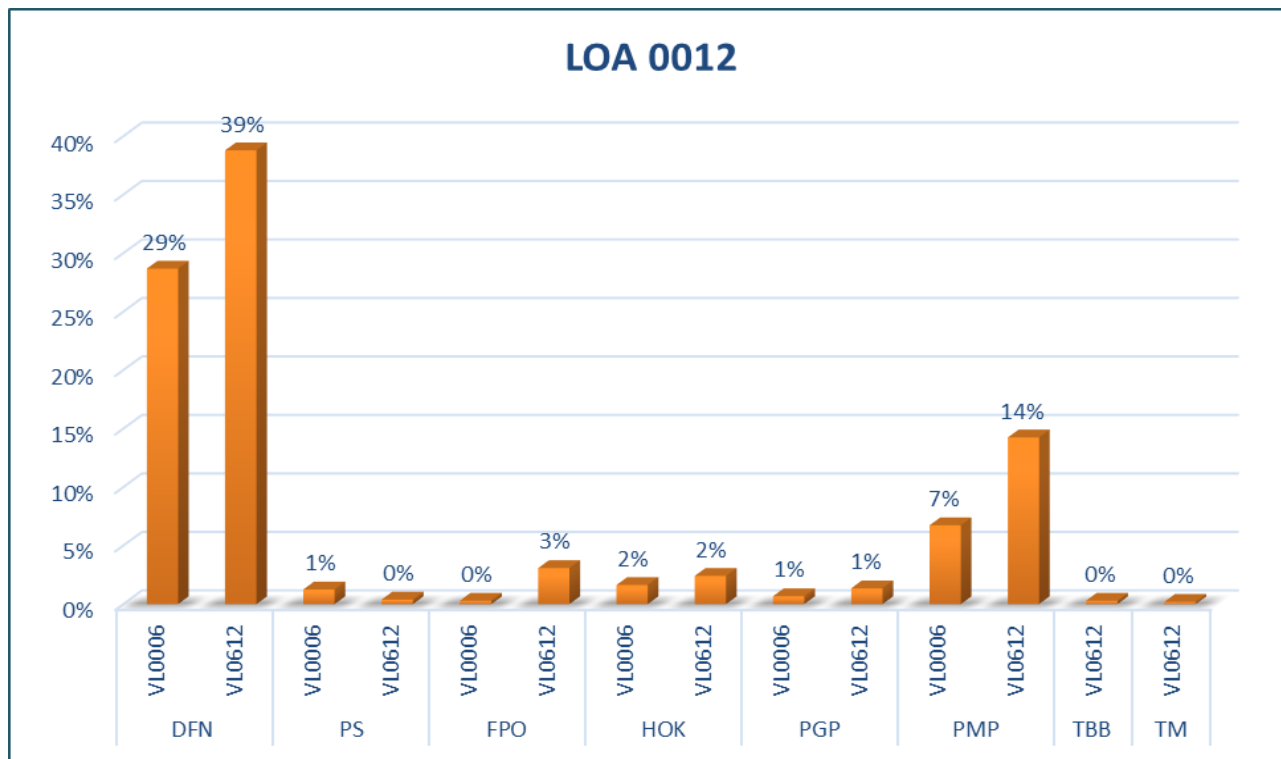


Figure 2: Percentage distribution of the fishing vessels VL 0012

Regarding the case of VL 1240 fishing vessels, the TM - 34 fishing vessels and PMP - 30 fishing vessels are the most numerous. The most active are PMP VL 1218 with 26.48 %, TM VL 1218 with 19.61 % and TM VL 2440 with 18.81 % (**Table 6** and **Figure 3**)

Table 6: Fishing vessels having LOA VL 1240

Segment		LOA	Number of vessels	GT	kW	Days at sea	
LOA 1240	DFN	VL1218	9	141.97	941.77	420	4.62%
		VL2440	1	78.61	574	72	0.79%
	PS	VL1218	1	39.61	308.91	64	0.70%
		VL1824	0	0	0	0	0%
	PMP	VL1218	21	384.82	2972.01	2408	26.48%
		VL1824	9	370	2242.53	1203	13.23%
	TBB	VL1218	7	121.72	1127.05	652	7.17%
		VL1824	2	90.7	478	150	1.65%
	TM	VL1218	19	413	3282.25	1783	19.61%
		VL1824	5	281.65	1261.38	631	6.94%
VL2440		10	1114.07	2714.9	1710	18.81%	
Общо:			84	3036.15	15902.8	9093	



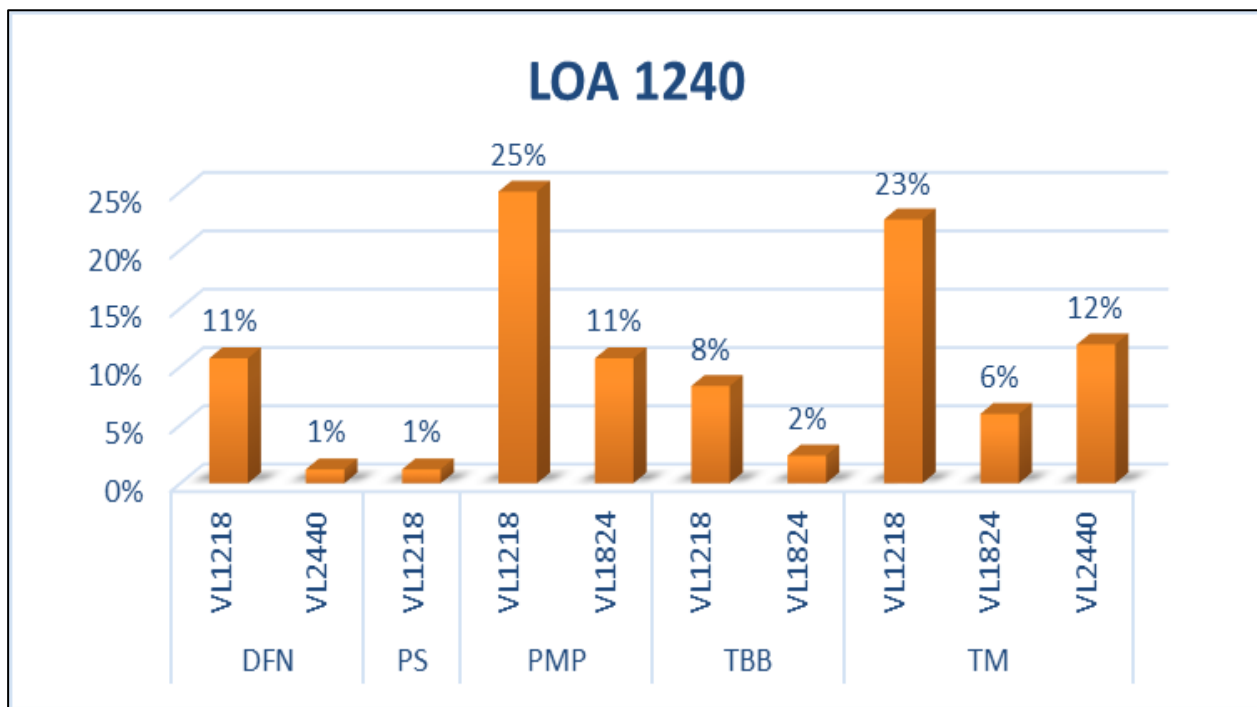


Figure 3: Percentage distribution of the fishing vessels VL 1240

A. 2. Relation to fisheries

In the analysis of the fishing activities of the Bulgarian fishing fleet, it has to be taken into account the ecological characteristics of the Black Sea as a closed sea basin, other than other marine basins in terms of natural environment, with less salinity and over 90% of its deeper water volume, consisting of anoxic water affecting biodiversity in the Black Sea. The Black Sea is a relatively closed water basin, connected to the Mediterranean Sea through the Turkish Straits. For this reason, and due to the presence of some of the great rivers in Europe, flowing into its waters, the salinity of the Black Sea is much lower than that of the World Ocean, which affects the distribution of a number of species that do not tolerate low salinity. It should also be borne in mind that, due to the high concentration of hydrogen sulphide at depths exceeding 200 meters, which in addition to biodiversity also has a significant impact on fishing activities, as in practice it severely restricts fishing fleets' hunting grounds.

The most targeted species in Black Sea are:

- Pelagic species: European sprat (*Sprattus sprattus sulinus*), Mediterranean Horse Mackerel (*Trachurus mediterraneus ponticus*), Flathead Grey Mullet (*Mugil cephalus*), Bonito (*Sarda sarda*), Bluefish (*Pomatomus saltatrix*);
- Demersal species: Red Mullet (*Mullus barbatus*), Piked Dogfish (*Squalus acanthias*), Thornback ray (*Raja clavata*), Turbot (*Scophthalmus maximus*), Gobies (*Gobiidae*).
- Molluscs: Rapa wealk (*Rapana venosa*) and White sand clam (*Mya arenaria*).

For 2019 the total amount of landings in Black Sea from Bulgarian fishing fleet is 10,269 tons.



Most of the vessels of less than 12 meters in length are mainly engaged in small-scale fisheries deploying gill-nets (anchored). Vessels of over 12 m in length use mainly pelagic trawls to fish as a preferred gear.

From all species in the Black Sea, for our country there are introduced quotas only for turbot and sprat, applicable since 2007. For 2019 the fishing opportunities for Black Sea were laid down in Council Regulation 2018/2058 (17 Dec, 2018), as follows:

- For turbot – 57.0 tons;
- For sprat – 8,032.5 tons.

- For Picked Dogfish (DGS) - there is no total allowable catch or quota for catches of the Picked Dogfish(*Squalus acanthias*) in Black Sea. In 2015, when defining the fishing opportunities for certain fish stocks in the Black Sea for 2016, the Republic of Bulgaria has made a political commitment for 2016 not to exceed the landings of Picked Dogfish, discharged in 2015, up to 133 tons ceiling. This commitment is taken as a precautionary measure aimed at protecting the Picked Dogfish in Black Sea and is renewed annually when determining the annual fishing opportunities for certain fish stocks in the Black Sea waters. Since then, the catch of the Black Sea Picked Dogfish has fallen more than tenfold average.

For 2019, the catches of turbot are 54.857 tons, sprat – 4,585 tons, picked dogfish – 16.8 tons.

Detailed information on the catches of the main species of fish and other aquatic organisms in the Black Sea is presented in the tables below.

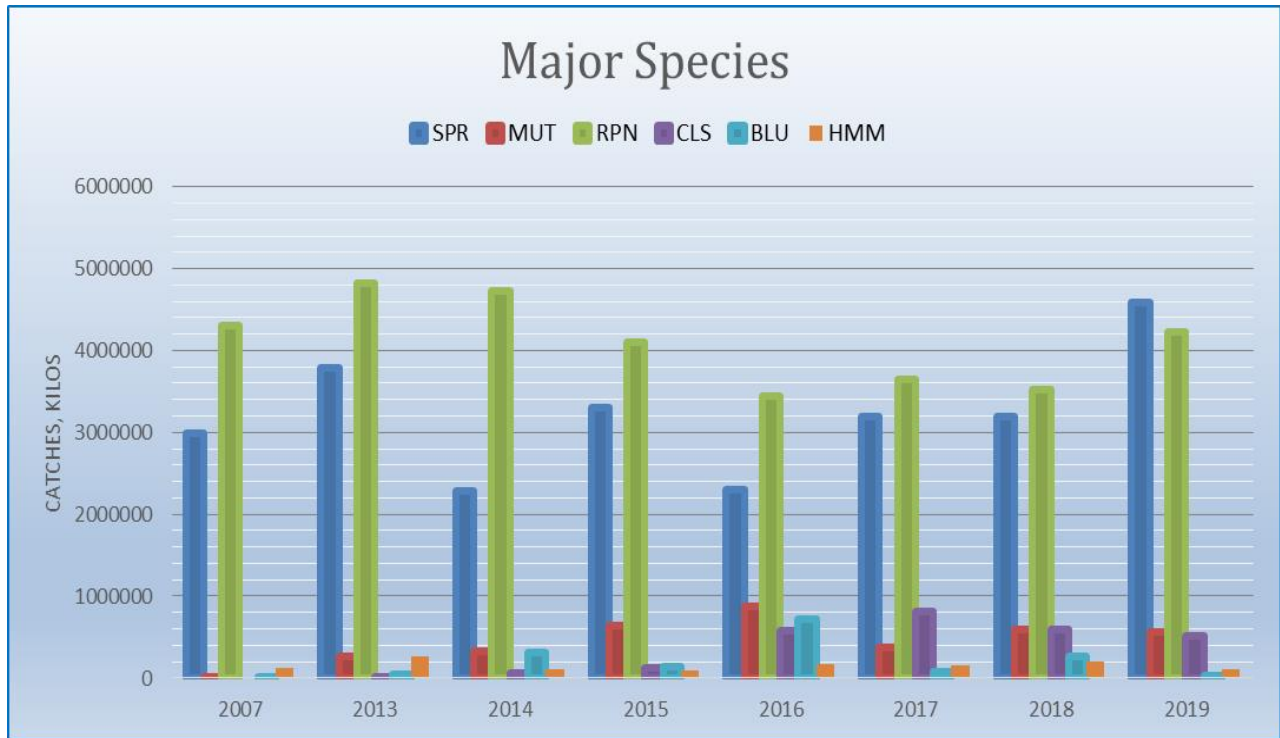
Table 7: Catches of the main species of fish in Black Sea in kilos 2007 – 2019

Main targeted species	FAO code	Landings 2007	Landings 2013	Landings 2014	Landings 2015	Landings 2016	Landings 2017	Landings 2018	Landings 2019
<i>European sprat</i>	SPR	2 984 585.0	3 784 192.1	2 279 108.4	3 296 994.3	2 295 494.2	3 188 949.8	3 187 791.5	4 584 619.8
<i>Med. horse mackerel</i>	HMM	115 885.7	271 376.9	113 073.7	87 178.2	166 190.4	153 481.65	196 686.5	101 568.0
<i>Atlantic bonito</i>	BON	895.0	6 131.0	5 511.3	7 731.8	68 223.3	13 038.3	22 906.4	3 650.2
<i>Bluefish</i>	BLU	8 218.9	49 024.3	304 738.2	138 447.3	712 157.4	71 014.9	260 650.4	23 954.5
<i>Flathead grey mullet</i>	MUF	5 844.9	9 029.7	16 316.4	10 216.1	8 651.5	3 068.4	4 403.7	2 913.5
<i>Red mullet</i>	MUT	12 595.0	256 775.0	328 815.8	632 568.6	877 449.1	374 620.8	595 211.9	554 283.0
<i>Picked dogfish</i>	DGS	23 978.0	30 947.7	34 009.7	133 041.7	83 478.9	50 451.4	10 082.0	16 765.0
¹ <i>Turbot</i>	TUR	66 885.0	39 577.0	39 449.7	43 005.7	42 432.3	41 770.9	55 445.0	54 856.5
<i>Rapana snail</i>	RPN	4 309 989.0	4 819 061.5	4 732 410.8	4 100 585.2	3 436 285.1	3 653 148.7	3 515 392.0	4 222 050.2
<i>Gobies nei</i>	GPA	73 894.7	74 001.0	63 698.1	47 946.1	64 226.5	39 667.02	25 137.6	31 240.5
<i>Thornback ray</i>	RJC	3 562.0	56 114.7	70 321.8	43 236.6	35 718.1	48 876.4	13 121.6	9 145.1
<i>Silversides nei</i>	SIL	9 437.0	9 795.4	57 603.3	9 166.9	50 452.4	10 017.1	15 734.4	8 986.2
<i>Anchovy</i>	ANE	60 440.0	9 932.2	369 646.1	12 465.6	54 472.4	3 583.1	4 757.3	70 591.8
<i>Soft-shelled clam</i>	CLS	0.0	10 296.0	61 040.3	124 339.3	583 401.2	818 927.8	600 509.8	507 811.9

¹The landings of turbot do not include IUU-fishing (Illegal, unreported and unregulated), which is 307.5 kilos for 2019. The total yearly amount of IUU-fishing is 554 kilos.

Table 7.1. Catches of bulky species trends.





As can be seen from **Table 7** content, there is a significant increase in the catch of anchovy, rapana and sprat, as the catch of bluefish is declining significantly compared to 2018 levels. The following segments have the largest percentage of the landings in 2018 - TM 2440 – 29.3 %, PMP 0612 – 14.4 % and TM 1218 – 13.4 % - **Figure 4**.

SEGMENT SHARE AGAINST TOTAL CATCHES FOR 2019



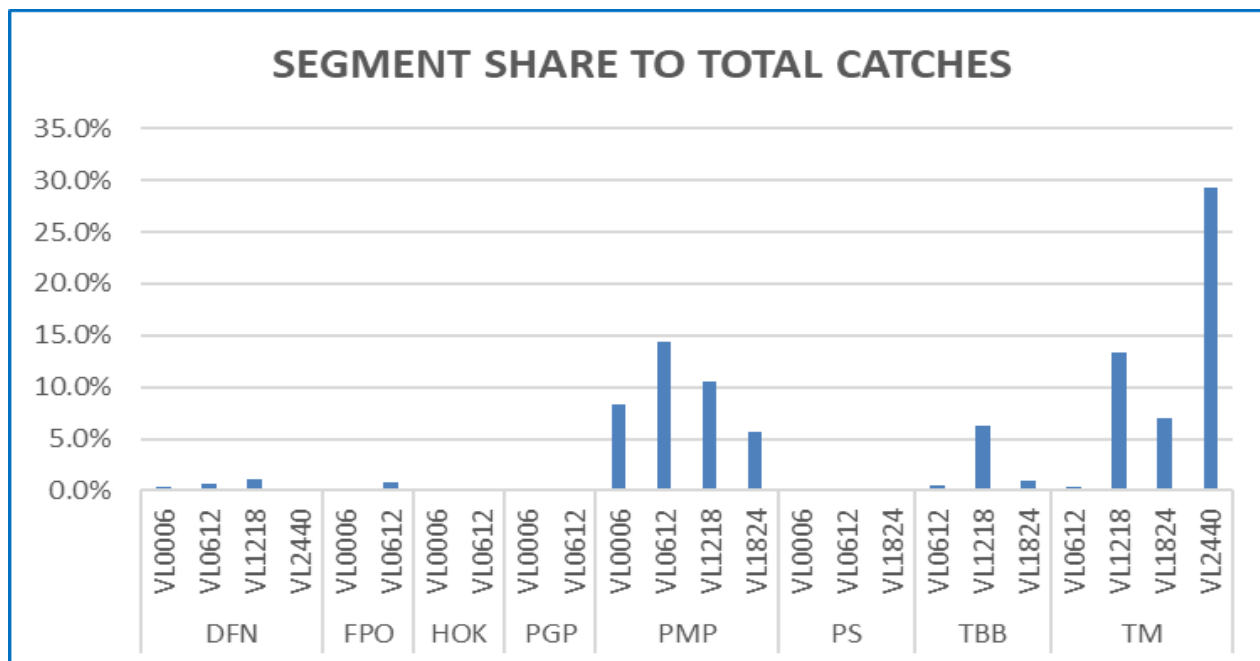


Figure 4: Percentage ratio of catches by the fleet segments to total catches for 2019.

Table 8: The value of the landings of the top of the species (first sale) for each of the segments-2019.

Segment	Species	Code	Landings, kilos	Price, EUR
DFN 0-6	Silverside	SIL	72	43.44
	Garpike	GAR	718.2	1839.72
	Leaping mullet	LZS	872.8	758.63
	Turbot	TUR	248.7	1635.26
	Shad	SHC	5864.3	11843.56
	Bluefish	BLU	2658.5	9011.96
	Flathead mullet	MUF	1031.2	1223.21
	Atlantic bonito	BON	453	1081.64
	Flounder	FLE	14	11.95
	Golden grey mullet	MGA	398.7	509.63
	Gobies	GPA	12150.1	13169.96
	Common shrimp	CSH	21	41.45
	Rapana	RPN	9941.5	4625.54
	Mediterranean horse mackerel	HMM	2141.05	3919.03
	Anchovy	ANE	152	77.72
European sprat	SPR	112	40.66	



	Black mussel	MSM	139.5	59.91
	Red mullet	MUT	217	171.97
	Piked dogfish	DGS	166.8	333.46
	Whiting	WHG	78	61.42
DFN 06-12	Soft-shelled clam	CLS	2452	7484.52
	Garpike	GAR	1926.7	4935.38
	Leaping mullet	LZS	938.6	815.83
	Turbot	TUR	7037.01	46269.84
	Shad	SHC	7293.3	14729.57
	Bluefish	BLU	3961.6	13429.29
	Common stingray	JDP	31.4	24.40
	Thornback ray	RJC	989.22	834.54
	Flathead mullet	MUF	584.6	693.45
	Deepwater prawn	(blank)	41.4	101.18
	Eryphia spinifrons	EIK	7	35.79
	Atlantic bonito	BON	2617	6248.70
	Flounder	FLE	28.5	24.33
	Golden grey mullet	MGA	112.6	143.93
	Gobies	GPA	9850.85	10677.72
	Common shrimp	CSH	27.4	54.08
	Rapana	RPN	15702	7305.76
	Mediterranean horse mackerel	HMM	4479.2	8198.84
	Anchovy	ANE	73.5	37.58
	European sprat	SPR	1746.5	634.01
	Black mussel	MSM	240	103.08
	Red mullet	MUT	859.4	681.08
Piked dogfish	DGS	401	801.66	
Whiting	WHG	486.7	383.22	
DFN 12-18	Turbot	TUR	5194.6	34155.60
	Bluefish	BLU	113	383.05
	Thornback ray	RJC	728	614.16
	Rapana	RPN	87530.4	40725.76
	Mediterranean horse mackerel	HMM	629	1151.34
	European sprat	SPR	125	45.38
	Red mullet	MUT	10713.5	8490.47
	Piked dogfish	DGS	3209.2	6415.68
DFN 24-40	Turbot	TUR	1336.8	8789.75
	Common stingray	JDP	142	110.36
	Thornback ray	RJC	224	188.97
	Rapana	RPN	15505	7214.10
	Mediterranean horse mackerel	HMM	1273	2330.13



	European sprat	SPR	3150	1143.50
	Piked dogfish	DGS	544	1087.54
FPO 0-6	Silverside	SIL	318.9	192.40
	Eryphia spinifrons	EIK	36	184.07
	Gobies	GPA	151	163.67
	Common shrimp	CSH	35.2	69.47
	Mediterranean horse mackerel	HMM	193	353.27
FPO 06-12	Silverside	SIL	19	11.46
	Garpike	GAR	1130.9	2896.88
	Leaping mullet	LZS	141	122.56
	Shad	SHC	9090.5	18359.20
	Bluefish	BLU	313.3	1062.04
	Common stingray	JDP	102	79.27
	Flathead mullet	MUF	25	29.65
	Eryphia spinifrons	EIK	55	281.21
	Atlantic bonito	BON	118	281.75
	Golden grey mullet	MGA	20	25.56
	Gobies	GPA	554	600.50
	Sardine	PIL	60	30.68
	Mediterranean horse mackerel	HMM	8775.7	16063.26
	Anchovy	ANE	2858.7	1461.63
	European sprat	SPR	54785.2	19887.97
	Red mullet	MUT	431.4	341.89
Whiting	WHG	912	718.10	
HOK 0-6	Shad	SHC	25.5	51.50
	Gobies	GPA	88.8	96.25
	Mediterranean horse mackerel	HMM	222.5	407.27
	Piked dogfish	DGS	236	471.80
HOK 06-12	Garpike	GAR	8.5	21.77
	Turbot	TUR	248.88	1636.44
	Shad	SHC	25.9	52.31
	Bluefish	BLU	120.3	407.80
	Flathead mullet	MUF	20.2	23.96
	Atlantic bonito	BON	53	126.55
	Gobies	GPA	375.6	407.13
	Mediterranean horse mackerel	HMM	614.5	1124.80
	Piked dogfish	DGS	607	1213.48
PGP 0-6	Soft-shelled clam	CLS	1285	3922.35
	Leaping mullet	LZS	12.6	10.95
	Shad	SHC	9	18.18
	Flathead mullet	MUF	10	11.86



	Gobies	GPA	63.5	68.83
	Mediterranean horse mackerel	HMM	21.1	38.62
	European sprat	SPR	30	10.89
PGP 06-12	Silverside	SIL	18.1	10.92
	Soft-shelled clam	CLS	185	564.70
	Leaping mullet	LZS	30	26.08
	Shad	SHC	396.3	800.37
	Bluefish	BLU	48.5	164.41
	Flathead mullet	MUF	42	49.82
	Atlantic bonito	BON	40	95.51
	Golden grey mullet	MGA	20	25.56
	Gobies	GPA	164.2	177.98
	Common shrimp	CSH	26	51.31
	Rapana	RPN	66	30.71
	Mediterranean horse mackerel	HMM	434.5	795.32
	Piked dogfish	DGS	30	59.97
	PMP 0-6	Silverside	SIL	10.2
Soft-shelled clam		CLS	204549.5	624369.46
Garpike		GAR	87.8	224.91
Leaping mullet		LZS	34	29.55
Turbot		TUR	248.3	1632.63
Shad		SHC	906.8	1831.38
Bluefish		BLU	242.4	821.70
Flathead mullet		MUF	171.7	203.67
Deepwater prawn		(blank)	93	227.29
Golden grey mullet		MGA	29	37.07
Gobies		GPA	2472.7	2680.26
Common shrimp		CSH	178	351.30
Rapana		RPN	621052.3	288960.49
Mediterranean horse mackerel		HMM	758.9	1389.11
European sprat		SPR	199	72.24
Black mussel		MSM	19175.4	8235.55
Red mullet		MUT	249.5	197.73
Whiting		WHG	30	23.62
PMP 06-12	Silverside	SIL	5	3.02
	Soft-shelled clam	CLS	299176.4	913209.79
	Garpike	GAR	56.5	144.73
	Leaping mullet	LZS	35	30.42
	Turbot	TUR	2699.32	17748.61
	Shad	SHC	1283.45	2592.06
	Bluefish	BLU	745.4	2526.81



	Flathead mullet	MUF	247.8	293.94
	Deepwater prawn	(blank)	222.9	544.76
	Atlantic bonito	BON	367.2	876.78
	Golden grey mullet	MGA	37.2	47.55
	Gobies	GPA	3720.7	4033.01
	Common shrimp	CSH	146	288.14
	Rapana	RPN	1152401.7	536184.41
	Mediterranean horse mackerel	HMM	1823	3336.86
	Anchovy	ANE	35	17.90
	European sprat	SPR	740	268.63
	Black mussel	MSM	5748.4	2468.85
	Red mullet	MUT	3990	3162.08
	Piked dogfish	DGS	1096.8	2192.67
PMP 12-18	Soft-shelled clam	CLS	160	488.39
	Turbot	TUR	10168.7	66861.37
	Shad	SHC	79	159.55
	Bluefish	BLU	1827.6	6195.32
	Common stingray	JDP	167.2	129.94
	Thornback ray	RJC	2463.6	2078.37
	Flathead mullet	MUF	165	195.72
	Gobies	GPA	299	324.10
	Rapana	RPN	879355.5	409142.67
	Mediterranean horse mackerel	HMM	5242.2	9595.45
	European sprat	SPR	4155.5	1508.52
	Red mullet	MUT	179482.2	142240.08
	Piked dogfish	DGS	3205.1	6407.48
	Whiting	WHG	1053	829.12
PMP 18-24	Garpike	GAR	25	64.04
	Turbot	TUR	8241.3	54188.31
	Shad	SHC	53	107.04
	Bluefish	BLU	1654.4	5608.19
	Common stingray	JDP	564.4	438.63
	Thornback ray	RJC	3152.3	2659.38
	Gobies	GPA	187.5	203.24
	Rapana	RPN	379542	176591.64
	Mediterranean horse mackerel	HMM	10820	19805.20
	Anchovy	ANE	38	19.43
	European sprat	SPR	72032	26148.86
	Black mussel	MSM	345	148.17
	Red mullet	MUT	94998	75286.14
	Piked dogfish	DGS	6055.6	12106.06



	Whiting	WHG	248	195.27
PS 0-6	Silverside	SIL	954	575.57
	Garpike	GAR	18.5	47.39
	Leaping mullet	LZS	166.5	144.72
	Shad	SHC	260.8	526.71
	Bluefish	BLU	70.8	240.00
	Common stingray	JDP	30	23.31
	Flathead mullet	MUF	275	326.20
	Deepwater prawn	(blank)	47.4	115.84
	Gobies	GPA	434.6	471.08
	Common shrimp	CSH	7	13.82
	Sardine	PIL	6	3.07
	Mediterranean horse mackerel	HMM	1229	2249.59
	Anchovy	ANE	364	186.11
	European sprat	SPR	4286	1555.89
	Black mussel	MSM	89	38.22
	Red mullet	MUT	224	177.52
PS 06-12	Silverside	SIL	219	132.13
	Leaping mullet	LZS	44.7	38.85
	Shad	SHC	29	58.57
	Bluefish	BLU	45	152.54
	Flathead mullet	MUF	41	48.63
	Deepwater prawn	(blank)	35.3	86.27
	Gobies	GPA	55.4	60.05
	Mediterranean horse mackerel	HMM	72	131.79
	Anchovy	ANE	33.6	17.18
	European sprat	SPR	75	27.23
	Red mullet	MUT	239	189.41
PS 18-24	Turbot	TUR	740	4865.66
	Shad	SHC	50	100.98
	Bluefish	BLU	840	2847.49
	Mediterranean horse mackerel	HMM	9989	18284.11
	Anchovy	ANE	11083	5666.65
	European sprat	SPR	200	72.60
TBB 06-12	Turbot	TUR	591.5	3889.24
	Rapana	RPN	49467	23015.79
TBB 12-18	Soft-shelled clam	RPN	6000	2791.65
	Turbot	TUR	4347.25	28584.10
	Common stingray	JDP	20.6	16.01
	Thornback ray	RJC	98.6	83.18
	Gobies	GPA	20	21.68



	Rapana	RPN	621733.8	289277.57
	Mediterranean horse mackerel	HMM	337	616.85
	Red mullet	MUT	13910	11023.71
	Piked dogfish	DGS	13.5	26.99
TBB 18-24	Turbot	TUR	1333.2	8766.07
	Common stingray	JDP	190	147.66
	Thornback ray	RJC	114	96.17
	Rapana	RPN	96672	44979.12
	Mediterranean horse mackerel	HMM	3840	7028.83
	European sprat	SPR	1050	381.17
	Piked dogfish	DGS	278	555.76
TM 06-12	Turbot	TUR	558.88	3674.76
	Bluefish	BLU	15	50.85
	Mediterranean horse mackerel	HMM	15	27.46
	European sprat	SPR	7072	2567.26
	Red mullet	MUT	21352	16921.51
	Whiting	WHG	2037.3	1604.15
TM 12-18	Silverside	SIL	7370	4446.50
	Turbot	TUR	8202.75	53934.83
	Shad	SHC	60	121.18
	Bluefish	BLU	2716.2	9207.55
	Common stingray	JDP	567	440.65
	Thornback ray	RJC	221.4	186.78
	Flathead mullet	MUF	300	355.86
	Gobies	GPA	425.5	461.22
	Rapana	RPN	152715	71054.57
	Mediterranean horse mackerel	HMM	18789.8	34393.32
	Anchovy	ANE	16875	8628.05
	European sprat	SPR	987564	358502.75
	Black mussel	MSM	10.9	4.68
	Red mullet	MUT	165839.9	131428.52
	Piked dogfish	DGS	917	1833.22
Whiting	WHG	8471	6669.98	
TM 18-24	Turbot	TUR	1039.1	6832.30
	Shad	SHC	64	129.25
	Bluefish	BLU	668	2264.43
	Gobies	GPA	108	117.07
	Rapana	RPN	43696	20330.68
	Mediterranean horse mackerel	HMM	13071.5	23926.40
	Anchovy	ANE	3125	1597.79
	European sprat	SPR	643352.58	233548.08



TM 24-40	Red mullet	MUT	12651.1	10026.03
	Whiting	WHG	680	535.42
	Turbot	TUR	2620.18	17228.24
	Shad	SHC	89	179.74
	Bluefish	BLU	7913.5	26825.70
	Common stingray	JDP	768	596.86
	Thornback ray	RJC	1154	973.55
	Gobies	GPA	119	128.99
	Rapana	RPN	90670	42186.54
	Mediterranean horse mackerel	HMM	16797	30745.65
	Anchovy	ANE	35953	18382.48
	European sprat	SPR	2803945	1017880.36
	Red mullet	MUT	49126	38932.47
	Whiting	WHG	230	181.10

A.3. Development of the fleet

The development of the Bulgarian fishing fleet from 1 January 2007 to 31 December 2018 is presented in **Table 9**, **Fig. 5** and **Fig. 6**. As evidenced, the number of registered vessels has decreased by 27% according to data from the end of 2019, compared to the data of 31 Dec, 2007. Overall, the Bulgarian fishing fleet has decreased both in terms of tonnage and power, as a substantial decrease is recorded in the segment of 18 - 24 meters (both for vessels and tonnage). A significant drop is also seen in the segments of 6 to 12 meters, as well as 0 to 6 meters.

Table 9. Development of the Bulgarian Fishing Fleet.

Year	31.12.2007			31.12.2015			31.12.2016			31.12.2017			31.12.2018			31.12.2019			Decrease to 2007		
	Vsl.	GT	kW	Vsl.	GT	kW	Vsl.	GT	kW	Vsl.	GT	kW	Vsl.	GT	kW	Vsl.	GT	kW	Vsl.	GT	kW
up to 6 m.	845	601	6594	691	509	6098	655	488	6020	660	495	6131	663	496	6086	674	508	6282	-20%	-15%	-5%
6 - 12 m.	1595	3464	42173	1184	2500	32168	1160	2466	32107	1128	2408	31057	1099	2317	30484	1074	2263	29712	-33%	-35%	-30%
12 - 18 m.	66	1273	8625	64	1230	9871	67	1291	10377	64	1241	9900	66	1270	10129	65	1244	9809	-2%	-2%	14%
18 - 24 m.	29	1309	4819	19	817	4005	17	738	3839	17	744	4149	18	813	4535	18	822	4535	-38%	-37%	-6%
24 - 40 m.	12	1586	3304	12	1310	3510	11	1193	3289	11	1193	3289	11	1193	3289	11	1193	3289	-8%	-25%	0
Total	2547	8233	65515	1970	6367	55651	1910	6176	55632	1880	6081	54525	1857	6088	54523	1842	6030	53627	-28%	-27%	-18%

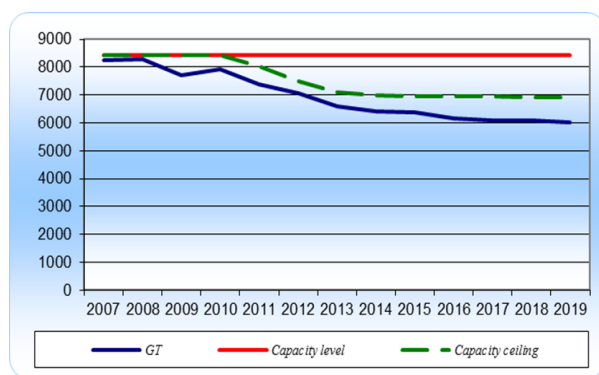


Figure 5. Gross Tonnage capacity for 2007-2019

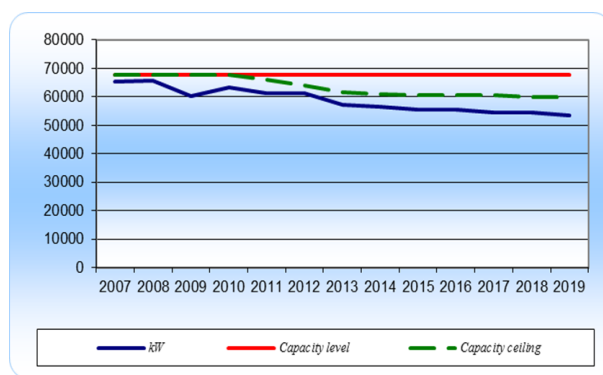


Figure 6. Capacity in kW for 2007-2019



SECTION B.

B.1. Report on effort reduction schemes

In compliance with the Operational Program “Fisheries sector development” for Programming period 2007-2013, Priority axis 1 “Measures for adaptation of the fishing fleet”, Measure 1.1. “Public aid for permanent cessation of fishing activities”, as well as under the Maritime Affairs and Fisheries Program for the 2014-2020 programming period, Union Priority 1 "Promoting environmentally sustainable, innovative, competitive and knowledge-based fisheries characterized by resource efficiency", Measure 1.3 "Permanent cessation of fishing activities", the decrease of the capacity will be achieved, based on the national plans for adjustment of the fishing effort in direction of restructuring of the fishing fleet and conservation of its sustainable management, in compliance with the principles of the Common Fisheries Policy.

From the applied table for the implementation of the scheme for withdrawing from exploitation of vessels from the Bulgarian fishing fleet, it is obvious, that Bulgaria makes the greatest effort for withdrawing from exploitation of vessels in the segments LOA 12-18, LOA 18-24, LOA 24-40, as well as in the segment LOA 6-12. The implementation of the fishing effort adjustment plan is resumed in **Table 10**. The final effect of the implementation of the measure is shown on **Table 10.1** below.

Table 10: Implementation of the fishing fleet efforts adjustment plan (FEAP) until 31 Dec, 2018.

Bulgarian fishing fleet by 31 Dec, 2009								Implementation by 31 Dec, 2018				
Fleet segment	Vessels	kW	GT	kW	GT	kW %	GT %	Vessels	kW	GT	kW %	GT %
LOA <6	708	5,462.35	507.20	4,369.88	405.76	-20%	-20%	14	70.22	10.50	-1.29%	-2.07%
LOA 6<12	1,392	37,160	2,985.48	26,012	2,089.84	-30%	-30%	55	2,858.93	345.22	-7.69%	-11.56%
LOA 12<18	65	9,106.23	1,290	6,374.36	903.00	-30%	-30%	23	2,390.1	407.13	-26.25%	-31.56%
LOA 18<24	28	4,773.66	1,253.4	2,864.2	752.04	-40%	-40%	9	1,201.92	400.56	-25.18%	-31.96%
LOA >24	13	3,877.5	1,665	2,326.5	999.00	-40%	-40%	2	1,029.65	431.36	-26.55%	-25.91%
Total	2,206	60,379.7	7,701.08	41,946.9	5,149.64			103	70.22	1594.77	-12.51%	-20.71%

Table 10.1. Scrapped vessels during 2018, DCF segmentation

Scrapped vessels during 2018			
DCF Segmentation	Брой кораби	GT	kW
DFN 6-12	6	40	349.37
PMP 6-12	2	9.72	71.98
Total	8	49.72	421.35

B.2. Impact of effort reduction schemes on fishing capacity

During 2018, as a result of the implementation of FEAP, 8 fishing vessels were scrapped, as all of them fall within LOA 6-12 segment (6 in DFN 6-12 and 2 in PMP 6-12, according to the DCF segmentation), as the total vessels number increases to 103 vessels, with total fishing capacity of 1,594.77 GT and 7,550.82 kW.



In 2019, there are no scrapped fishing vessels due to the end of the measure.

In conclusion from the data presented, it can be considered that after the adoption of the FEAP, the Republic of Bulgaria has made the necessary efforts to reduce the pressure on fish stocks and the restructuring of its fishing fleet. The result of the permanent cessation of fishing activities of vessels has reduced the pressure on stocks, which is a key factor in improving the condition of the entire population and in achieving a balance between fishing capacity and fishing opportunities.

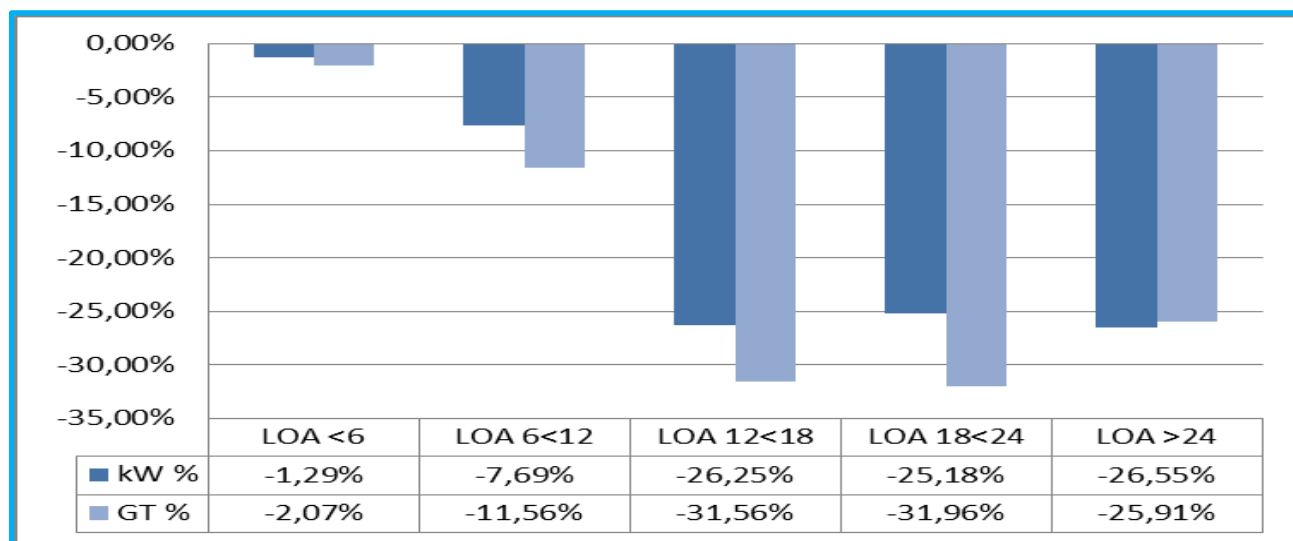


Figure 7. Reduction of Bulgarian fishing fleet in kW and GT

SECTION C

C.1. Statement on the compliance with the entry/exit scheme and the referent level

The capacity of the Bulgarian fishing fleet on 1 January, 2007 is as follows: $GT_{07} = 8,448$ GT and $kW_{07} = 67,607$ kW.

Table 11: Calculation of the baseline: (GT_{07} and kW_{07}) at 01 January, 2007

GT_{FR}	GT_1	GT_2	GT_3	GT_4	GT_{07}	kW_{FR}	kW_1	kW_2	kW_3	kW_4	kW_{07}
8,147	301	0	0	0	8,448	64,924	2,683	0	0	0	67,607

Each entry (or increase in tonnage or engine power) in the fleet register has been accompanied by the at least the same quantity withdrawal from the fleet. So Bulgaria can guarantee that the national fleet capacity in tonnage (GT) and (kW) is equal or less than the referent level at the date of the accession in EU, in line with article 8 of Regulation 1013/2010 and article 23 of Regulation 1380/2013

Table 12: Information on the vessel capacity, entered or withdrawn from the fleet register in the period 2007-2019.



Entry/Exit regime		GT																	kW																
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019								
ENTRY	Vessels entered the FR after withdrawal	3	3	86	328	217	338	583	159	77	208	44	202	97	55	50	420	3 894	1 412	3 099	6 284	3 564	787	2 720	766	2 160	950								
	Vessels entered the FR after the accession date,	86	44	171	-	-	-	-	-	-	-	-	-	-	700	401	1 582	-	-	-	-	-	-	-	-	-	-								
	Total	89	48	257	328	217	338	583	159	77	208	44	202	97	756	451	2 002	3 894	1 412	3 099	6 284	3 564	787	2 720	766	2 160	950								
EXIT	Financed with public aid	-	-	-	442	537	419	124	24	-	-	50	-	-	-	-	-	1 514	2 176	2 413	778	249	-	-	421	-									
	Without public aid	2	5	830	97	344	116	640	207	109	403	148	146	167	164	85	7 449	883	1 932	868	7 843	1 504	1 365	3 006	2 049	1 741	1 708								
	Total	2	5	830	97	785	653	1 059	331	133	403	148	196	167	164	85	7 449	883	3 446	3 044	10 256	2 282	1 614	3 006	2 049	2 162	1 708								

Table 13: Management of the entry/exit regime on 31 December, 2019.

		GT		kW	
1	Капацитет на флота на 01/01/2007	GT _{FR}	8 147	kW _{FR}	64 924
2	Равнище на капацитета за прилагане на режима на вписване/отписване	GT ₀₇	8 448	kW ₀₇	67 607
3	Вписвания на кораби над 100 GT, финансирани с публична помощ	GT ₁₀₀	0	kW ₁₀₀	0
4	Други вписвания или увеличавания на капацитета (невключени в 3 & 5)		2 701		27 910
5	Увеличения в тонаж GT от съображения за сигурност	GT _S	0		0
6	Общо вписвания (3 + 4 + 5)		2 696		27 693
7	Отписвания преди 1/1/2007, финансирани с публична помощ	GT _{a1}	0	kW _a	0
8	Отписвания след 1/1/2007, финансирана с публична помощ	GT _{a2}	1 595		7 551
9	Други отписвания (невключени в 7 и 8)		3 221		31 476
10	Общо отписвания (7 + 8 + 9)		4 815		39 027
11	Мощност на двигателите, заменени с публична помощ, подлежащи на намаляване на мощността		0	kW _r	0
12	Капацитет на флота на 31/12/2019 (1 + 6 - 10)	GT _t	6 027	kW _t	53 590
13	Таван на флота на 31/12/2019		6 917		60 056

Clarifications:

-Lines 1, 3, 5, 7, 8, 9, 11 and 12 present figures, registered in the Community Fleet Register on 31 Dec, 2019;

-Line 4 is calculated as follows: $4 = (12 - 1) + 10 - (3 + 5)$;

-Line 13: Ceiling $GT = 2 - 35\% 3 - 98.5\% 7 - 96\% 8$ and $kW = 2 - 35\% 3 - 7 - 8 - 20\% 11$

SECTION D SWOT

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



Under the national law, all fishing vessels used for commercial fishing, must be registered first in the register of vessels, kept by the Executive Agency Maritime Administration (the Bulgarian institution responsible for the technical characteristics and condition of the vessels), as well as in the register of the fishing vessels, kept by the Executive Agency for Fisheries and Aquaculture (the Bulgarian institution responsible for fisheries control).

In the management of the Bulgarian fleet, the basic principle is that the fishing capacity, representing an aggregate of the gross tonnage and the power of the vessel, can never be increased without firstly at least the same or greater fishing capacity to be withdrawn from the Bulgarian fishing fleet.

The implementation of fisheries management measures adopted in recent years at European and regional level has led to improved management of marine resources and their sustainable exploitation. In 2012, amendments to the national legislation, which allow the suspension of the license of vessels, which have been inactive during two consecutive years, were adopted. The released capacity of these vessels can be allocated to fishing vessels that intend to carry out commercial fisheries.

Regarding the management of the fishing effort regime, Bulgaria applies the provisions of Recommendation GFCM / 41/2017/4, according to which fishing vessels catching turbot must not exceed 180 days at sea per year.

D.1.1. Weaknesses

- Lack of conditions for direct sale between owners of fishing vessels and „end user” (customer), due to insufficiency of fish auctions - so far 5 have been identified;
- High percentage of depreciation of fishing vessels obstructing the good economic efficiency;
- Low degree of investment in the replacement of fishing gears with more selective ones, and also in the safety conditions of the fishing vessels and ensuring better working conditions;
- High age of the fishing fleet;
- High average age of the employees in the sector;
- Dependence of fisheries on the seasonal catches of some valuable species;
- Restricted navigation area of significant part of the fleet. As it was mentioned above, Bulgarian fishing fleet consists mainly of small boats, larger part of them are permitted to navigate within the area of 2 miles from the coast;
- The existence of provision in the Fisheries and Aquaculture Act, which does not allow the fishing capacity of inactive fishing vessels to be withdrawn, if they have applied for repair. This requirement does not oblige the demonstration of repairs and does not specify a period within which they can be carried out, which allows the "retaining" of fishing capacity. This way it is impossible of providing it to another fishing vessel that actually wish to carry out fishing activities;
- Low price of the first sale of some species;
- Number of patrol boats equipped with modern means of control.

D.1.2. Strengths

- Existence of Informational-Statistical system, where data from fishing fleet and catch reporting are recorded;
- Permanent presence of EAFA officials in most important ports and landing places, that, except power for efficient control, grants possibility for provision of important information, related to management of the fisheries, to the parties concerned;



- Raising the awareness of the persons concerned in the branch, through informational campaigns, regular meetings and publishing of information of EAFA's website;
- Permanent monitoring of fishing vessels targeting turbot. According to the rules established at national level, each vessel that intends to target turbot, shall be equipped with device, allowing monitoring its track, linked to the Fisheries Monitoring Center. In 2019, a large-scale project to modernize the center was completed, making it the most multifunctional in the region. It provided automated real and complete control over the movement and activities of fishing vessels and boats engaged in commercial fishing. Tracking devices have been replaced by new ones allowing the use of an electronic fishing logbook;
- Cooperation with other national authorities regarding the technical parameters of fishing vessels (with Executive Agency Maritime Administration-EAMA) and fight against IUU (Border Police, Bulgarian Food Safety Agency);
- Enhanced cooperative inspection of EAFA and EAMA in terms of controls and measurement of the engine power of fishing vessels;
- Training of EAFA staff;
- Increased monitoring and control activities, that improves the due management of fisheries through improved communication and coordination between regional offices and HQs;
- Improved legislative framework through adapting Fisheries and Aquacultures Act in order to undertake effective measures against inactive fishing vessels and non-submission of economic statistics form. These measures allow collecting of more reliable information of the state of fishing fleet of Bulgaria;
- The presence of administrative measures against IUU fisheries, through the implementation point system for serious infringements, allowing a withdrawal of fishing license;
- Measures being adopted during 2019 to improve the national legal framework in regard to the management of the fleet;
- Given that a major part of the Bulgarian fishing fleet can be classified as small-scale and coastal fishing, it can be concluded that fishing is carried out in an environmentally friendly manner.

D.2. Plan for improving the fleet management system

The dedicated fish markets, specialized in the recent years in the newly built fishing ports, do not work with its full capacity. Meetings with representatives of the fish industry and interested parties are planned in order to promote their use.

The Fisheries and Aquaculture Act provides a legal opportunity to withdraw fishing vessels that have not engaged in fishing activities for two consecutive years. The released capacity will be allocated to fishing vessels whose entering in the register will ensure renewal and modernization of the fleet as well as a more efficient use of fishing capacity.

Not a minor part of the valuable fish species and other aquatic organisms are migratory and their catches in the annual aspect are influenced by the number of passages, passing along the Bulgarian coast. The Fleet Management System through commercial fishing licenses is not aimed at issuing a license for a target species (except for the turbot) and thus enables fishermen to catch all allowable species, which would compensate for annual fluctuations in catches of migratory fish and other aquatic organisms.

The system for certification and engine power inspection system allows monitoring and control of the actual power of the propulsion engine and not exceeding the recorded power in the fishing license.



The Executive Agency for Fisheries and Aquaculture and the Executive Agency Maritime Administration will continue their joint actions on the implementation of the Sample Plan for the Measurement of Engine Power of Fishing Vessels, approved in 2014 and revised in 2016.

At national level the using of trawling gears is prohibited within 3 nautical miles from the coast, with the exception of some fishing vessels using derogation in the area between 1 and 3 nautical miles. That allows to the small fishing vessels, which have restricted navigation area, to deploy their fishing gears in the closer coastal area and this way to avoid point of contact with the bigger fishing vessels using active fishing gears.

D.3. Information about the general level of respecting the fleet policy tools

The fleet is managed through a system of commercial fishing licenses and authorizations, as it is laid down in the Fisheries and Aquacultures Act. The order and conditions for issuance of the commercial fishing licenses and authorizations are determined in line with the legislation of the European Union, according to the provision of article 17, paragraph 7 of the Fisheries and Aquacultures Act.

The approach of implementation of the point system for serious infringements is applied into the national legislation through Ordinance 3 from 19 February 2013 for the implementation of point system for serious infringements according to Regulation (EC) 1005/2008 of the Council dated 29 Sept 2008 for creation of Community system for preventing, deterring and eliminating of the illegal, undeclared and unregulated fishing, for amendment of regulations (EIC) 2847/93, (EC) 1936/2001 and (EC) 601/2004 and for repealing of regulations (EC) 1093/94 and (EC) 1447/1999.

In 2019 the work on improvement of electronic reporting system (ERS) continued.

SECTION E

E.1. Information about the changes in the administrative procedures for the fleet management

Two new by-laws regulating the management of the fishing fleet, the allocation of the fishing capacity and keeping the required registers have been prepared and are in force since Nov. 21, 2019.

SECTION F

Indicators

Referring to the Guidelines for Improved Analysis of the Balance of Fishing Capacity and Fishing Opportunities, Bulgaria calculates the technical and economic indicators for 2014, 2015, 2016, 2017, 2018 and 2019, as shown below. For the calculation of the indicators, the data collected under the Data Collection Framework (DCF) for 2014, 2015, 2016, 2017, 2018 and 2019, and the EAFA information and statistical system were used.

F.1. Technical Indicator

The technical indicator assessment was made according to the Guidelines and it is relevant for all active vessels during 2015, 2016, 2017, 2018 and 2019. The vessels are considered as active ones if they have fishing licenses and have reported at least one day at sea during the reference year. Vessels



with or without a fishing license that did not report at least one day at sea and landings during the reference year are inactive (due to vessel repairs, sale, etc.)

Table 14: Proportion of inactive vessels in the whole fleet for 2015, 2016, 2017, 2018 and 2019.

LOA	<6					6-12 m					12-18 m					18-24 m					24-40 m				
Representative year	2015	2016	2017	2018	2019	2014	2015	2016	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Inactive vessels	278	241	226	249	268	487	463	349	400	444	7	6	9	9	9	3	2	1	2	1	0	0	0	0	0
Total number	691	655	660	662	674	1184	1160	1128	1100	1073	64	67	64	66	65	19	17	17	18	18	12	12	11	11	11

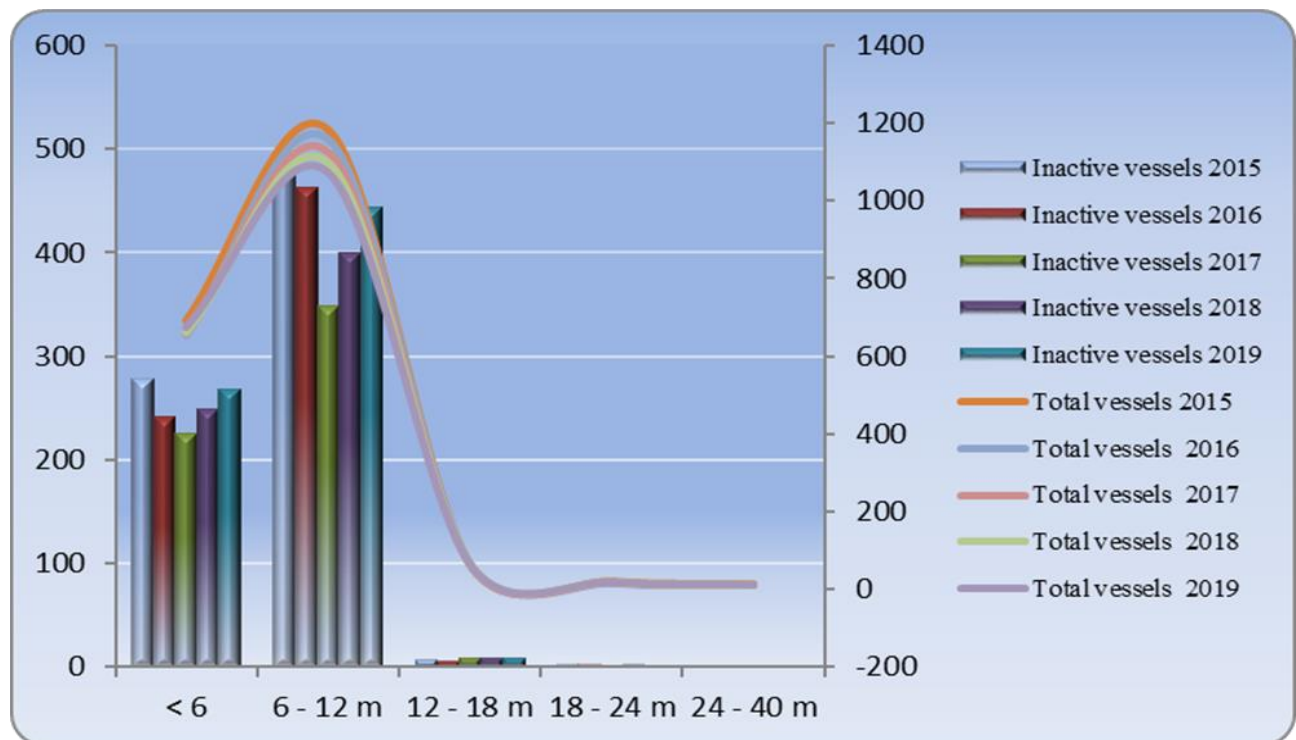


Figure 8. Chart of the inactive vessels throughout the years.

Figure 8 shows the ratio between inactive fishing vessels and total number of fishing vessels in each fishing segment. As it is visible from the above shown chart, the percentage of inactive vessels, which represents the unused capacity, in the segments under 12 m (95.0 % from the Bulgarian fishing fleet), in 2019, is still high. The main reasons for this figures are seasonable nature of fisheries, low return on funds, repair activities etc.

Table 15 summarizes the technical indicator information for the 2014-2019 periods, calculated as the ratio of the current effort to the observed maximum effort. The observed maximum effort is calculated on the basis of the maximum days spent by a vessel in the relevant segment. This calculation option is preferred over the use of the theoretical number of days at sea, due to the fact, that no fixed areas



exist in the Black Sea, where a total number of days at sea is fixed that a particular vessel may be present in, using a define gear or targeting a stock. For this reason, we believe that, in the absence of such restrictions, 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 of comparability of data from previous years.

Considering biodiversity as target species related to the economic activity in all segments of the Bulgarian fishing fleet, it should be taken into account that this also reflects on the variations of the fishing gear used for the catches. This gives its reflection in the smaller number of vessels in the segmentation so represented. There is also a policy to promote the use of gentle passive fishing gear, with imposed restrictions on the mesh size of the nets, as well as the setting of minimum size ranges, for the purpose of conservation the fish stocks and biodiversity. This, in turn, should be taken into account for the segments, in which imbalance is observed.

A large number of the fishing vessels during the summer season are directed to the performing of tourist services.

Table 15. Technical indicator.

Métier	Vessel length	No of vessels 2015	No of vessels 2016	No of vessels 2017	No of vessels 2018	No of vessels 2019	Technical indicator 1 – Current/Maximum effort ratio									
							GT/Days 2015	GT/Days 2016	GT/Days 2017	GT/Days 2018	GT/Days 2019	kW/Days 2015	kW/Days 2016	kW/Days 2017	kW/Days 2018	kW/Days 2019
DFN	VL0006	297	304	260	304	298	0.11	0.10	0.08	0.10	0.12	0.09	0.08	0.07	0.10	0.09
PS	VL0006	18	19	12	12	13	0.19	0.20	0.31	0.29	0.59	0.05	0.01	0.14	0.15	0.23
PMP	VL0006	51	53	82	80	70	0.21	0.24	0.27	0.21	0.16	0.14	0.09	0.22	0.16	0.11
FPO	VL0006	7	6	4	2	3	0.31	0.41	*	*	*	0.13	0.05	*	*	*
HOK	VL0006	33	26	50	12	17	0.22	0.38	0.24	0.50	0.42	0.20	0.33	0.23	0.40	0.39
PGP	VL0006	8	7	26	7	7	0.34	0.29	0.19	0.20	0.40	0.24	0.27	0.17	0.06	0.20
Total number		414	415	434	417	408	0.23	0.27	0.22	0.26	0.34	0.14	0.14	0.16	0.17	0.20
DFN	VL0612	442	430	400	457	403	0.10	0.07	0.08	0.07	0.08	0.10	0.07	0.08	0.07	0.08
PS	VL0612	10	6	3	4	4	0.18	0.39	*	*	*	0.14	0.05	*	*	*
FPO	VL0612	39	42	38	34	32	0.20	0.28	0.19	0.25	0.18	0.19	0.35	0.18	0.22	0.16
HOK	VL0612	57	49	97	26	25	0.13	0.08	0.09	0.36	0.10	0.13	0.08	0.09	0.36	0.10
PGP	VL0612	11	13	38	12	14	0.30	0.34	0.21	0.23	0.40	0.30	0.32	0.21	0.23	0.40
PMP	VL0612	135	154	195	164	148	0.15	0.24	0.20	0.21	0.15	0.15	0.23	0.19	0.21	0.15
TM	VL0612	5	6	6	4	2	*	0.74	0.55	*	*	*	0.74	0.55	*	*
TBB	VL0612	6	3	2	3	3	0.53	*	*	*	*	0.53	*	*	*	*
Total number		705	703	779	704	631	0.23	0.29	0.22	0.22	0.18	0.22	0.20	0.22	0.22	0.18
DFN	VL1218	10	7	10	7	9	0.35	0.49	0.41	0.34	0.54	0.35	0.49	0.41	0.34	0.54
PGP	VL1218	-	2	-	2	-	-	*	-	*	-	-	*	-	*	-
PMP	VL1218	22	14	21	16	21	0.60	0.76	0.62	0.61	0.57	0.60	0.76	0.62	0.61	0.57
TBB	VL1218	3	4	6	6	7	*	*	0.67	0.70	0.53	*	*	0.67	0.70	0.53
HOK	VL1218	-	1	1	-	-	-	*	*	-	-	-	*	*	-	-
TM	VL1218	22	33	17	26	19	0.40	0.57	0.62	0.44	0.42	0.40	0.57	0.62	0.44	0.42
Total number		57	61	55	57	56	0.45	0.61	0.58	0.52	0.52	0.45	0.61	0.58	0.52	0.52
DFN	VL1824	2	1	2	-	-	*	*	*	-	-	*	*	*	-	-
PS	VL1824	-	-	1	-	1	-	-	*	-	*	-	-	*	-	*
PMP	VL1824	5	4	4	3	9	*	*	*	*	0.55	*	*	*	*	0.55
TBB	VL1824	2	1	1	2	2	*	*	*	*	*	*	*	*	*	*
TM	VL1824	7	9	8	11	5	0.65	0.63	0.62	0.54	*	0.65	0.63	0.62	0.54	*
Total number		16	15	16	16	17	0.65	0.63	0.62	0.54	0.55	0.65	0.63	0.62	0.54	0.55
TM	VL2440	12	12	11	10	10	0.71	0.68	0.72	0.74	0.72	0.71	0.68	0.72	0.74	0.72
DFN	VL2440	-	-	-	-	1	-	-	-	-	*	-	-	-	-	*
PMP	VL2440	-	-	-	1	-	-	-	-	*	-	-	-	-	*	-
Total number		12	12	11	11	11	0.71	0.68	0.72	0.74	0.72	0.71	0.68	0.72	0.74	0.72

* The segments with * are with less than 5 vessels and their data are not included due to the unrepresentativeness of the sample



F.2. Economic indicators

The data used for the calculation of economic indicators is from questionnaires for economic statistics in 2018 and 2019 collected for the National Programme for the collection, management and use of fisheries data under the Data Collection Framework (DCF) pursuant to Art. 18f. (9) of the Fisheries and Aquaculture Act. Economic variables are calculated for each segment.

F.2.1. Return on investment (ROI)

ROI is an indicator, which shows the return rate of the investments, made during the year. In 2018, the highest values of the indicator were in PMP 0006, PMP 0612 and TM 2440 segments. Values of ROI for 2019 show that the most profitable was the PMP 0006 segment, followed by segment TM 2440 and TM 1824.

Table 16. Return on investment (ROI)

Fleet segment	Income from landings + other income	Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	Net profit	Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	ROI	ROI- risk free long term interest rate ¹
Values for 2018 (€'000)						
DFN 0006	55.87	99.88	-55.81	679.81	-8.21%	-11.16%
PS 0006	4.14	3.16	0.54	12.46	4.35%	1.40%
FPO 0006*	0.00	0.00	0.00	0.00		
HOK 0006	1.34	2.96	-1.94	29.94	-6.49%	-9.44%
PGP 0006	7.32	2.07	4.95	23.56	21.02%	18.07%
PMP 0006	380.05	185.26	182.98	231.48	79.05%	76.10%
DFN 0612	212.31	270.63	-96.96	2256.38	-4.30%	-7.25%
PS 0612*	0.00	0.00	0.00	0.00		
FPO 0612	61.24	86.59	-27.18	312.26	-8.71%	-11.66%
HOK 0612	4.33	6.93	-3.36	160.62	-2.09%	-5.04%
PGP 0612	13.93	16.27	-2.42	122.03	-1.98%	-4.93%
PMP 0612	914.33	303.79	602.95	792.64	76.07%	73.12%
TBB 0612*	0.00	0.00	0.00	0.00		
TM 0612*	0.00	0.00	0.00	0.00		
DFN 1218	22.44	49.70	-28.33	434.94	-6.51%	-9.46%
PGP 1218*	0.00	0.00	0.00	0.00		
PMP 1218	421.08	357.72	38.39	842.38	4.56%	1.61%
TBB 1218	172.52	114.60	50.77	572.94	8.86%	5.91%
TM 1218	736.45	592.48	90.72	1941.90	4.67%	1.72%
PMP 1824*	0.00	0.00	0.00	0.00		
TBB 1824*	0.00	0.00	0.00	0.00		
TM 1824	503.50	351.08	132.65	1379.24	9.62%	6.67%
PMP 2440*	0.00	0.00	0.00	0.00		
TM 2440	1158.50	646.88	484.32	1759.34	27.53%	24.58%
Fleet segment	Income from	Crew costs + unpaid labour costs + fuel costs + repair &	Net profit	Fleet capital asset value (vessel replacement value +	ROI	ROI- risk free long



	landings + other income	maintenance costs + other variable costs + non variable costs		estimated value of fishing rights)		term interest rate ²
Values for 2019 (€'000)						
DFN 0006	44.28	83.17	-41.22	732.38	-5.63%	-7.98%
PS 0006	3.30	3.12	0.10	10.89	0.91%	-1.44%
FPO 0006*	0.00	0.00	0.00	0.00		
HOK 0006	3.82	3.50	-0.09	47.20	-0.20%	-2.55%
PGP 0006	4.46	2.14	2.32	15.43	15.05%	12.70%
PMP 0006	659.17	172.15	484.02	231.90	208.72%	206.37%
DFN 0612	225.58	237.50	-22.01	2135.04	-1.03%	-3.38%
PS 0612*	0.00	0.00	0.00	0.00		
FPO 0612	105.32	106.81	-5.17	218.46	-2.37%	-4.72%
HOK 0612	8.37	11.58	-3.21	177.63	-1.80%	-4.15%
PGP 0612	1.63	3.81	-2.18	127.03	-1.72%	-4.07%
PMP 0612	494.27	381.12	107.50	981.80	10.95%	8.60%
TBB 0612*	0.00	0.00	0.00	0.00		
TM 0612*	0.00	0.00	0.00	0.00		
DFN 1218	117.75	84.15	23.04	634.45	3.63%	1.28%
PMP 1218	503.73	372.36	91.73	1519.79	6.04%	3.69%
TBB 1218	267.54	139.59	110.61	501.41	22.06%	19.71%
TM 1218	682.52	466.90	171.28	1916.00	8.94%	6.59%
PMP 1824	386.15	261.92	99.88	1290.67	7.74%	5.39%
PS 1824*	0.00	0.00	0.00	0.00		
TBB 1824*	0.00	0.00	0.00	0.00		
TM 1824	444.75	196.21	244.96	939.49	26.07%	23.72%
DFN 2440*	0.00	0.00	0.00	0.00		
TM 2440	1194.08	475.18	709.94	1747.07	40.64%	38.29%

* Segments with * are with less than 5 vessels and the data is excluded because of confidentiality.

Data on direct subsidies are excluded from the calculation.

¹ average risk-free long-term interest rate for Bulgaria for the period 2012-2017 (source: European Central Bank) – 2.95% is used for the calculation of the indicator for 2018.

² average risk-free long-term interest rate for Bulgaria for the period 2013-2018 (source: European Central Bank) – 2.35% is used for the calculation of the indicator for 2019.



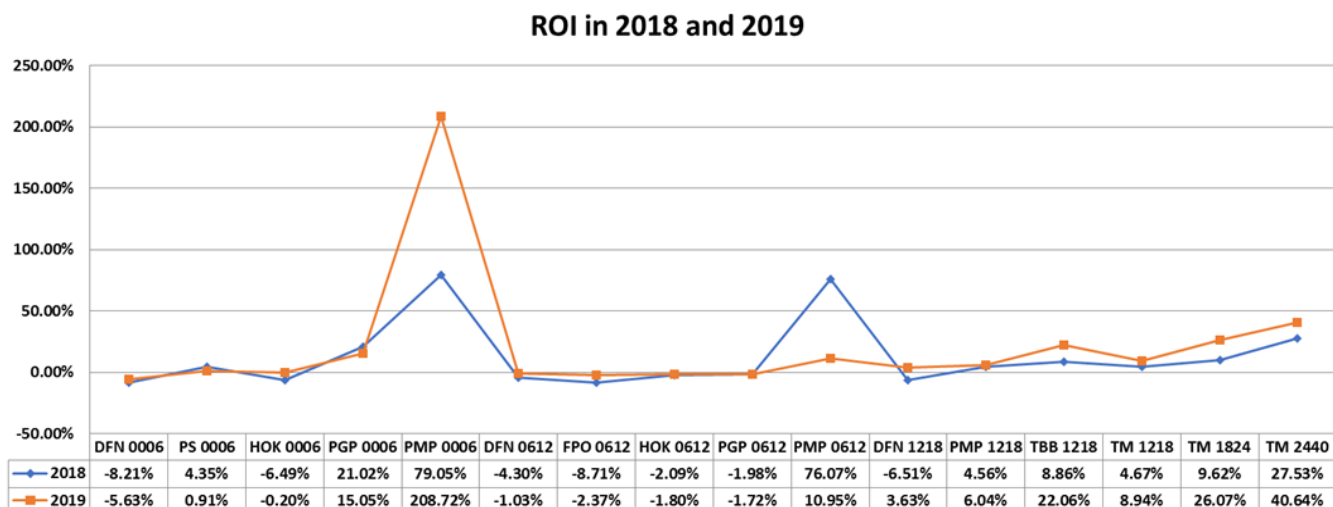


Figure 9. Return on investment (ROI) for 2018 and 2019.

Figure 9 shows the ROI values for 2018 and 2019. All the values are calculated in accordance with 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 the Council on the Common Fisheries (COM (2014) 545 final). Data on subsidies were excluded from the calculation.

There is significant increase of the ROI indicator for the segments PMP 0006, TBB 1218, TM 1824 and TM 2440.

In both segments with the largest number of fishing vessels (DFN 0006 and DFN 0612), the rate of return on investment increased a bit, but remains a negative value. The ROI values for the other segments show overcapitalisation, which in the long run also makes them economically ineffective.

F.2.2. Ratio between current revenue and break-even revenue (CR/BER).

For 2018-2019 the indicator CR/BER(current revenues/break-even revenue) is calculated in the short and long term (**Table 17**).

The 2018 results show that 9 of the segments are profitable and able to cover their costs. The value of the CR/BER indicator for these segments is higher than 1. The highest indicator value is observed for segment PMP 0612. Calculations are also made for the CR/BER ratio for 2018, with loss of benefits included which is calculated as a product of the value of the capital assets and the average interest rate on long-term low risk investments for Bulgaria for the period 2012-2017. In long-term, the indicator has a positive value of over 1 in 9 of the segments, including 27% (332 vessels) of the fleet and with a negative value for the other 7 segments, which are unprofitable in short-term and in long-term.

In the short term, in 2019 the value of the indicator in 11 of the segments representing 28% of the active fleet of the Republic of Bulgaria has a indicator value greater than 1. In these segments, sufficient income is generated to cover variable, fixed and capital costs and are considered profitable, with potential undercapitalisation. For 3 segments (HOK 0006, DFN 0612 and FPO 0612), this ratio is positive but below 1. In these segments, insufficient income is generated to cover all costs and categorized as non-profitable with a potential overcapitalisation. In view of the long-term profitability of the segments, the calculation also includes the potential loss of benefits - calculated as a product of the value of the capital assets and the average interest rate on long-term low risk investments for



Bulgaria for the period 2013-2018. They are added to the fixed costs. The lowest value of the CR/BER¹ ratio in 2019 is the DFN 0006 segment, followed by PGP 0612. These results show that investing in these segments is with high risk in the long-term.

Table 17. Ratio between current revenue and break-even revenue for 2018 and 2019 (€'000)

2018 Fleet segment	Current revenue (CR) = Income from landings + other income	Fixed costs = Non variable costs + depreciati on	Fixed costs¹ = Non variable costs + depreciation + opportunity cost of capital	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	BER = (Fixed Costs) / (1- [Variable costs / Current Revenue])	CR / BER	CR / BER¹
DFN 0006	55.87	32.04	52.09	79.63	-75.30	-0.74	-0.46
PS 0006	4.14	0.85	1.22	2.75	2.53	1.64	1.14
FPO 0006*	0.00	0.00	0.00	0.00	0.00		
HOK 0006	1.34	1.35	2.24	1.94	-3.08	-0.44	0.00
PGP 0006	7.32	0.76	1.45	1.61	0.97	7.56	3.94
PMP 0006	380.05	24.62	31.45	172.45	45.08	8.43	6.60
DFN 0612	212.31	88.07	154.63	221.20	-2103.54	-0.10	-0.06
PS 0612*	0.00	0.00	0.00	0.00	0.00		
FPO 0612	61.24	11.49	20.70	76.94	-44.84	-1.37	0.00
HOK 0612	4.33	2.66	7.40	5.03	-16.39	-0.26	-0.09
PGP 0612	13.93	1.44	5.04	14.91	-20.38	-0.68	-0.20
PMP 0612	914.33	27.47	50.85	283.91	39.84	22.95	12.40
TBB 0612*	0.00	0.00	0.00	0.00	0.00		
TM 0612*	0.00	0.00	0.00	0.00	0.00		
DFN 1218	22.44	8.58	21.41	42.19	-9.75	-2.30	-0.92
PGP 1218*	0.00	0.00	0.00	0.00	0.00		
PMP 1218	421.08	31.01	55.86	351.69	188.14	2.24	1.24
TBB 1218	172.52	7.51	24.41	114.24	22.23	7.76	2.39
TM 1218	736.45	69.46	126.75	576.27	319.37	2.31	1.26
PMP 1824*	0.00	0.00	0.00	0.00	0.00		
TBB 1824*	0.00	0.00	0.00	0.00	0.00		
TM 1824	503.50	33.23	73.92	337.62	100.87	4.99	2.24
PMP 2440*	0.00	0.00	0.00	0.00	0.00		
TM 2440	1158.50	33.77	85.67	640.42	75.51	15.34	6.05



2019 Fleet segment	Current revenue (CR) = Income from landings + other income	Fixed costs = Non variable costs + depreciati on	Fixed costs ¹ = Non variable costs + depreciation + opportunity cost of capital	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	BER = (Fixed Costs) / (1- [Variable costs / Current Revenue])	CR / BER	CR / BER ¹
DFN 0006	44.28	21.81	39.02	83.17	-49.75	-0.89	-0.50
PS 0006	3.30	0.16	0.42	3.12	2.06	1.60	0.63
FPO 0006*	0.00	0.00	0.00	0.00	0.00		
HOK 0006	3.82	1.65	2.76	3.50	4.05	0.94	0.56
PGP 0006	4.46	0.14	0.50	2.14	0.25	17.82	4.91
PMP 0006	659.17	14.32	19.77	172.15	18.95	34.79	25.20
DFN 0612	225.58	60.83	111.00	237.50	353.53	0.64	0.35
PS 0612*	0.00	0.00	0.00	0.00	0.00		
FPO 0612	105.32	11.16	16.30	106.81	196.25	0.54	0.37
HOK 0612	8.37	2.65	6.83	11.58	-40.20	-0.21	-0.08
PGP 0612	1.63	1.19	4.18	3.81	-1.95	-0.83	-0.24
PMP 0612	494.27	28.60	51.67	381.12	103.86	4.76	2.63
TBB 0612*	0.00	0.00	0.00	0.00	0.00		
TM 0612*	0.00	0.00	0.00	0.00	0.00		
DFN 1218	117.75	17.94	32.85	84.15	51.54	2.28	1.25
PMP 1218	503.73	51.28	87.00	372.36	180.63	2.79	1.64
TBB 1218	267.54	21.58	33.37	139.59	43.68	6.12	3.96
TM 1218	682.52	61.28	106.31	466.90	179.85	3.79	2.19
PMP 1824	386.15	27.58	57.91	261.92	83.56	4.62	2.20
PS 1824*	0.00	0.00	0.00	0.00	0.00		
TBB 1824*	0.00	0.00	0.00	0.00	0.00		
TM 1824	444.75	10.31	32.38	196.21	17.96	24.77	7.88
DFN 2440*	0.00	0.00	0.00	0.00	0.00		
TM 2440	1194.08	21.48	62.53	475.18	35.06	34.06	11.70

Data on direct subsidies are excluded from the calculation.

¹ adding opportunity costs to fixed costs.

* Segments with * are with less than 5 vessels and the data is excluded because of confidentiality.

Indicator values for CR / BER for the period 2018-2019 are presented in **Table 18**.

Table 18. Ratio between current revenue and break-even revenue (CR/BER and CR/BER¹) for 2018 and 2019.



Ratio between current revenue and break-even revenue (CR/BER) for 2018																
Segment	DFN 0006	PS 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	DFN 1218	PMP 1218	TBB 1218	TM1218	TM1824	TM2440
CR/BER	-0.74	1.64	-0.44	7.56	8.43	-0.10	-1.37	-0.26	-0.68	22.95	-2.30	2.24	7.76	2.31	4.99	15.34
CR/BER ¹	-0.46	1.14	0.00	3.94	6.60	-0.06	0.00	-0.09	-0.20	12.40	-0.92	1.24	2.39	1.26	2.24	6.05
Ratio between current revenue and break-even revenue (CR/BER) for 2019																
Segment	DFN 0006	PS 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	DFN 1218	PMP 1218	TBB 1218	TM1218	TM1824	TM2440
CR/BER	-0.89	1.60	0.94	17.82	34.79	0.64	0.54	-0.21	-0.83	4.76	2.28	2.79	6.12	3.79	24.77	34.06
CR/BER ¹	-0.50	0.63	0.56	4.91	25.20	0.35	0.37	-0.08	-0.24	2.63	1.25	1.64	3.96	2.19	7.88	11.70

Table 19. Direct subsidies for 2014, 2015, 2016, 2017, 2018 and 2019(€'000)

Direct subsidies for 2014, 2015, 2016, 2017, 2018 и 2019 (€'000).						
Fleet segment	2014	2015	2016	2017	2018	2019
DFN 0006	0.1	0	0	0	0	0
PGP 0006	0.26	0	0	0	0	0
DFN 0612	0	0	0	0	18.28	0
PMP 0612	0.26	0	0	0	0	0
PGP 1218	13	0	0	0	0	0

F.3. Biological indicators

F.3.1. Sustainable harvest indicator

Bulgarian sea catches are made in the Black Sea. From the catches of fish, only the turbot (*Psetta maxima*) and sprat (*Sprattus sprattus*) are species under quotas and are included in the National Programme for the collection, management and use of fisheries data under the Data Collection Framework (DCF). The applied quotas are precautionary because it is not possible to calculate the biomass for the whole basin of the Black Sea. During 2019 the allocated national quota was 57 t for turbot and sprat – 8 032.5 t (Council Regulation (EU) 2018/2058 of 17 December, 2018 fixing for 2019 the fishing opportunities for certain fish stocks and groups of fish stocks in the Black Sea). Four research surveys were conducted in the Bulgarian aquatory in Black sea – two demersal and two pelagic during 2019.

The biological Sustainable harvest indicator reflects the magnitude, which a fleet segment depends on reserves object to overfishing. In the current context “overfished catch” means that fishing of reserve exceeds the value F_{msy} , i.e. percentage of death from fishing corresponds to maximum sustainable catch. The calculation of the Sustainable indicator is done according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries (COM (2014) 545 final) and landings data reported under DCF. F and F_{msy} data was taken from the report for Black Sea assessments (STECF 17-11) for 2016 and 2017. The results for the estimated value of the Sustainable harvest indicator are shown in Table 16. For 17 of the segments, the value of the indicator for two consecutive years is above 1, which may be a sign of imbalance. These segments realized income, relying on fishing opportunities which are structurally set at higher levels than the levels of exploitation corresponding to the maximum sustainable catch. In 8 of these 17 segments there is an increase in the value of the indicator for 2018, in 8 segments, there is a decrease and in 1 segment the value of the indicator is absolutely the same in 2017 and 2018 (this is possible because



the segment had catches of only 1 species and for the propose of this calculation the same F and F_{msy} were used for both years). Only for 1 of the segments - TM 2440 the value of the indicator is below 1 for both years, indicating that currently, the segment is balanced. There is 1 segment for which the indicator was over 1 in 2017, but below 1 in 2018 (FPO 0006).

Table 20. Indicator for sustainable harvest for 2017 and 2018.

Segment	Indicator for sustainable harvest for 2017	Indicator for sustainable harvest for 2018
DFN 0006	1.651	2.311
DFN 0612	2.664	3.099
DFN 1218	2.738	3.119
FPO 0006	1.520	0.844
FPO 0612	0.963	1.063
HOK 0006	5.934	10.088
HOK 0612	8.883	8.876
PGP 0006	1.601	1.775
PGP 0612	7.983	2.678
PMP 0006	1.569	1.838
PMP 0612	1.829	1.314
PMP 1218	3.084	1.955
PMP 1824	2.019	1.531
PS 0006	0.915	1.154
PS 0612	1.282	1.628
TBB 0612	3.731	3.731
TBB 1218	3.513	2.329
TBB 1824	1.565	2.178
TM 0612	2.007	1.518
TM 1218	1.294	1.074
TM 1824	0.916	1.081
TM 2440	0.869	0.894

F.3.2. Stocks-at-risk indicator



The indicator is not calculated because the catches in 2019 did not exceed 10% of the biomass from the research surveys of target species.

The landings of turbot in 2019 were 54.857 tonnes (reported data to DCF) and the established biomass was 1,124 tonnes. The landings of sprat in 2019 were 4,585 tonnes and based on the scientific conclusions from working groups responsible for the Black sea stock assessments the European sprat (*Sprattus sprattus*) was the only stock sustainably exploited.

SECTION G.

Balance sheet analysis between fishing capacity and fishing opportunities

The analysis is prepared on a basis of aggregate assessment and comparison of the technical, economical and biological indicators for 2014, 2015, 2016, 2017 and 2018. Should be considered that the data for biological indicator for 2019 will be available in 2021 year, because of which in determining a trend in the development of segments are taken only available indicators for 2018. This is a possible change in some segments in the next periods.

Tables(batch) 21

Indicator	Definition	Level 1 “Green“	“Level 2 „Yellow“	Level 3 “Red“
Technical	The partition between the average and the maximum effort per vessel	>0.9	0.7-0.9	<0.7
Biological 1	$F_{estimated}/F_{target}$	<1	>1	>>1
Biological 2	Catch/Biomass	As defined By species / stocks	As defined By species / stocks	As defined By species / stocks
Economical 1	ROI (Return on investment)	ROI>target point	0 < ROI < Target point	ROI<0
Economical 2	CR/BER Current earnings/Break-even revenues	CR/BER >1	CR/BER Approximately =1	CR/BER <1

	Métier	Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI1	CR/BER 2	
2014	DFN	VL0006					Level 3
	PS	VL0006					Level 3
	PMP	VL0006					Level 3
	FPO	VL0006					Level 3
	HOK	VL0006					Level 3
	PGP	VL0006					Level 3
	DFN	VL0612					Level 3
	PS	VL0612					Level 3
	FPO	VL0612					Level 3
	HOK	VL0612					Level 3
	PGP	VL0612					Level 3
	PMP	VL0612					Level 3
	DFN	VL1218					Level 3
	PMP	VL1218					Level 3
	TM	VL1218					Level 3
	PMP	VL1824					Level 3
	TM	VL2440					Level 2

	Métier	Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI1	CR/BER 2	
2015	DFN	VL0006					Level 3
	PS	VL0006					Level 3
	PMP	VL0006					Level 3
	FPO	VL0006					Level 3
	HOK	VL0006					Level 3
	PGP	VL0006					Level 3
	DFN	VL0612					Level 3
	PS	VL0612					Level 3
	FPO	VL0612					Level 3
	HOK	VL0612					Level 3
	PGP	VL0612					Level 3
	PMP	VL0612					Level 3
	TBB	VL0612					Level 3
	DFN	VL1218					Level 3
	PMP	VL1218					Level 3
	TM	VL1218					Level 2
	TM	VL1824					Level 1
TM	VL2440					Level 1	



	Métier	Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI 1	CR/BER 2	
2016	DFN	VL0006					Level 2
	PS	VL0006					Level 2
	PMP	VL0006					Level 3
	FPO	VL0006					Level 3
	HOK	VL0006					Level 2
	PGP	VL0006					Level 2
	DFN	VL0612					Level 3
	PS	VL0612					Level 2
	FPO	VL0612					Level 2
	HOK	VL0612					Level 2
	PGP	VL0612					Level 3
	PMP	VL0612					Level 2
	TM	VL0612					Level 2
	DFN	VL1218					Level 2
	PMP	VL1218					Level 2
	TM	VL1218					Level 2
	TM	VL1824					Level 2
	TM	VL2440					Level 1

	Métier	Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI 1	CR/BER 2	
2017	DFN	VL0006					
	PS	VL0006					
	PMP	VL0006					
	HOK	VL0006					
	PGP	VL0006					
	DFN	VL0612					
	FPO	VL0612					
	HOK	VL0612					
	PGP	VL0612					
	PMP	VL0612					
	TM	VL0612					
	DFN	VL1218					
	PMP	VL1218					
	TBB	VL1218					
	TM	VL1218					
	TM	VL1824					
	TM	VL2440					

	Métier	Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI 1	CR/BER 2	
2018	DFN	VL0006					
	PS	VL0006					
	PMP	VL0006					
	HOK	VL0006					
	PGP	VL0006					
	DFN	VL0612					
	FPO	VL0612					
	HOK	VL0612					
	PGP	VL0612					
	PMP	VL0612					
	DFN	VL1218					
	PMP	VL1218					
	TBB	VL1218					
	TM	VL1218					
	TM	VL1824					
TM	VL2440						

	Métier	Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI 1	CR/BER 2	
2019	DFN	VL0006					
	PS	VL0006					
	PMP	VL0006					
	HOK	VL0006					
	PGP	VL0006					
	DFN	VL0612					
	FPO	VL0612					
	HOK	VL0612					
	PGP	VL0612					
	PMP	VL0612					
	DFN	VL1218					
	PMP	VL1218					
	TBB	VL1218					
	TM	VL1218					
	PMP	VL1824					
TM	VL2440						

G.1. Segment from 0 to 6 meters

In 2019 the total number of fishing vessels in this segment is 674, which is 12 pcs more than the previous 2018. In 2019 it is visible the increase of the number of the inactive vessels.

According to the segmentation used in the data collection framework (DCF) for active vessels with a length of 0 to 6 m and in 2019 the following segments are retained: DFN, PS, PMP, FPO, HOK and PGP. There is a slight decrease in the number of vessels in the PMP polyvalent segment (vessels which have fished with several fishing gear and none of them has used more than 50% of fishing time). Also, there is a keeping of the fishing vessels number in the DFN segment(nets) compared to the previous year. Overall, the tendency for the selective use of passive fishing techniques is preserved.

G.1.1. Segment DFN/VL 0006

Approximately 73% of active vessels with a length of 0 to 6 meters are in this segment, indicating that gillnets are the most usable fishing gear in the case of small-scale fishing, as the previous year levels are preserved.

The technical indicator figures calculated for the period 2015-2019, indicate that the use of fishing vessels in this segment is extremely low or respectively, there is a technical overcapacity here. From



the point of view of the economic indicators as a whole in the segment there is a decrease in the values of the indicators. Based on this, it can be judged that the segment is unprofitable in the short and long term. The values calculated for the biological indicator for sustainable catch made by the segment are high in the period 2016 - 2018, respectively the segment has an impact on the stock. The indicator for endangered stocks has not been calculated, as catches do not exceed 10% of the biomass found by research for the target species (turbot and sprat).

The overall analysis shows that the segment DFN / VL 0006 remains unbalanced in 2019.

G.1.2. Segment PS/VL 0006

The number of fishing vessels in this segment varies between 12 and 19 for the period 2015-2019 as the smallest (12 vessels in total) preserves during 2017 and 2018. The calculations of the technical indicator indicate that there is no good use of fishing vessels in this segment as well. In terms of the economic indicators, in 2018, there is an increase over previous years, as levels reaching their highest levels, but in 2019 there is a new drop. In the biological indicator as well as in the economic one, there is a decrease in the values compared to the previous years. Taking into account the values of the indicators, it can be concluded that the segment is unbalanced.

G.1.3. Segment PMP/VL 0006

In 2019, the number of vessels in the segment decreased from 80 to 70. The indicators of the technical indicator remain low and indicate the presence of overcapacity. The return on investment in the segment remains positive in 2019. The high levels achieved in the ratio between current revenues for the segment and BER in 2018 of 6.60 mark a significant increase in 2019, with the value of the indicator being 25.20. With regard to the biological indicator, there is an increase in the impact of the segment compared to 2017. Indicators of the three indicators show that the PMP / VL 0006 segment is unbalanced in terms of fishing capacity and fishing opportunities.

G.1.4. Segment FPO/VL 0006

In 2019, as in the previous years, a small number of vessels operated in the segment. Given this, no figures for 2017, 2018 and 2019 were provided for the calculated indicators due to the non-representativeness of the sample.

G.1.5. Segment HOK/VL 0006

The number of fishing vessels in this segment remains approximately the same as in the previous 2018. From the calculations of the technical indicator, it is observed that the use of vessels in the segment is increasing. In terms of return on investment in 2019, it is still negative, but has a positive trend of growth and reaching the levels of previous years. The high values of the biological indicator are maintained in 2018. The overall assessment of the indicators shows that the segment is unbalanced.

G.1.6. Segment PGP/VL 0006

As in the HOK / VL 0006 segment, the same number of fishing vessels remains the same as in the previous 2018. According to the data from the technical indicator, there is no increase in the use of vessels in 2019. The high values of the return on investment indicator reached in 2018 marked a significant decline but is still positive. Growth is observed in the other economic indicator. The values



of the biological indicator for 2019 show a slight increase, but are still close to 1. Given the presented data, the segment remains unbalanced in terms of fishing capacity and fishing opportunities.

G.2. Segment from 6 to 12 meters

This segment accounts for approximately 58% of fishing vessels. In 2019, their number was 1,073 vessels, of which 631 are active. The percentage of inactive vessels compared to the total number in the segment remains high in 2019. According to the DCF segmentation for 6 to 12 m active vessels in 2019, the following segments are observed: DFN, PS, FPO, HOK, PGP, PMP, TM and TBB. The PS, TM and TBB segments are not included in the analysis, given the small number of vessels in.

G.2.1. Segment DFN/VL 0612

In the segment DFN/VL 0612, 64% of the active fishing vessels fall, featuring a length between 6 and 12 m. The values of the technical indicator indicate the existence of technical overcapacity and the substantial unuse of the fishing vessels in the segment. In 2019 there was a slight increase in economic indicators compared to 2018, reaching levels near to the positive ones. Return on investment rose from -4.30 in 2018 to -1.03 % in 2019. Growth is also seen in the ratio between current segment revenue and BER, as the values are now positive.

The low values for the economic and technical indicators, as well as the high values in the biological indicator, indicate that the segment DFN/VL 0612 is unbalanced.

G.2.2. Segment PMP/VL 0612

Approximately 23% of the active fishing vessels with a length of 6-12 m operate in this segment. Here again the values of the technical indicator are low and indicate insufficient use of the fleet. The significant growth in 2018 in terms of return on investment marked a significant decline in 2019, but remains positive. According to the calculated data on the ratio between current revenues for the segment and BER, there is again a significant decline in values in 2019 compared to 2018. The values of the biological indicator decline compared to 2018, but still above the thresholds. In general, the segment is in imbalance.

G.2.3. Segment FPO/VL 0612

Regarding the data from the technical indicator, the segment is in imbalance. The values of the indicator are low, indicating the poor use of fishing vessels. The economic indicators have negative values for the period 2017 - 2019. The segment remains economically inefficient in the short and long term. The values of the indicator for sustainable catch in this segment remain close to the levels of the previous 2018. At present, the segment is unbalanced.

G.2.4. Segment HOK/VL 0612

The calculations of the technical indicator show the inefficient use of fishing vessels. The data on the economic indicators are heterogeneous for the observed period. For 2019, the values of the indicator are higher than those of the previous 2018, but still remain with a negative sign. The level of the ratio between the current revenues for the segment and BER is observed. In 2019, high values of the biological indicator are observed. The segment is unstable and unbalanced in the short and long term.



G.2.5. Segment PGP/VL 0612

The use of the vessels in this segment is low according to the calculations made. For economic indicators - return on investment and the ratio between current segment revenue and the BER, the negative trend for values over the entire period of 2014-2019 remains. Sustainable Harvest Indicator values show a significant decline from 7.983 in 2017 to 2.678 in 2018, but still remains above the permissible thresholds. The segment is unbalanced and economically ineffective.

G.3. Segment from 12 to 18 meters

In 2019, this segment includes a total of 65 fishing vessels, of which 56 are active. Thus, the percentage of inactive vessels is approximately 14%, meaning preserving the ratio from the previous 2018. According to the DCF segmentation of the active vessels with a length of 12 to 18 m in 2019, the following segments are observed: DFN, PMP, TM and TBB.

G.3.1. Segment DFN/VL 1218

Despite the slight increase in the values of the technical indicator, there is still poor use of fishing vessels in the segment. The positive values of the return on investment indicator for the period 2015 - 2017 are observed also in 2019. The same trend is observed in the ratio between current revenues for the segment and BER, as in 2015, 2016, 2017 and 2019 the operators were able to cover their costs ($CR / BER > 1$). The negative trend of increasing the values of the biological indicator continues in 2019. Given this, as well as the low values of the use of the fleet in this segment, it can be concluded that there is an imbalance between fishing capacity and fishing opportunities.

G.3.2. Segment PMP/VL 1218

The values of the technical indicator in this segment for 2019 show the preservation of the use of fishing capacity compared to previous years. The values of the economic indicators show an increase compared to 2018. The return on investment has increased from 4.56% to 6.04%. The percentage of the indicator reduced by the interest rate on long-term low-risk investments remains positive in 2019. The values of the ratio between current revenues for the segment and BER also remain positive in 2019. Fishing operators in this segment were able to generate enough income to cover their costs in 2019. While maintaining these results in future periods, it would be profitable to invest in the segment in the long run. The results of the calculations of the sustainable catch indicator show a decrease in values - from 3.084 in 2018 to 1.955 in 2019, but it is still above the permissible thresholds. The data show that the segment is currently cost-effective in the long run. Despite the positive economic indicators, as well as the observed decline in the values of the biological indicator, the segment is unbalanced.

G.3.3. Segment TM/VL 1218

This segment also has a low technical indicator values. Return on investment as well as indicators of the ratio between current revenues remained positive in 2019, but there was a slight decrease compared to 2018. The values of the biological indicator for 2018 show that it retains relatively low values with a decrease from 1.294 to 1.074. However, it can be reasonably assumed that there is an



imbalance between fishing capacity and fishing opportunities for the segment.

G.3.4. Segment TBB/VL 1218

When reading the results of the indicators for this segment, only available data - those for 2017, 2018 and 2019 are taken into consideration. In the technical indicator there is a decrease in the use of fishing vessels. The return on investment indicator is positive for all three years and in 2019 there is a significant increase from 8.86% to 22.06%. The indicator for the ratio between current revenues and BER shows also a positive trend. The values of the biological indicator are lower in 2018 compared to those in 2017, but remain above the permissible thresholds. In the short term, the segment is balanced.

G.4. Segment from 18 to 24 meters

The number of fishing vessels in the segment in 2019 remains the same as in 2018. According to the DCF segmentation, the following segments are registered for active vessels with a length of 18 to 24 meters: PS, PMP, TBB and TM. Due to the small number of vessels in segments and the variations in fishing gear used, analysis can only be made for the PMP segment.

G.4.1. Segment PMP/VL 1824 meters

According to the calculations of the technical indicator, the use of fishing vessels is low. In general, this is due to frequent repairs due to the significantly high average age of the vessels. The economic indicators are positive. In 2019, the return on investment is 7.74%. The ratio between the current revenues for the segment and BER is over 1. Therefore, the owners have generated enough income to cover their costs. In the biological indicator, the values are declining, but still do not fall within the allowable limits for sustainable catches. Based on the data presented, it can be argued that the segment is unbalanced.

G.5. Segment over 24 meters

For the period 2017, 2018 and 2019 the number of fishing vessels in this segment is constant. There are also no vessels that have been inactive throughout the year. According to the DCF segmentation, two segments - TM and DFN are considered. The DFN segment will not be taken into account as it has a single fishing vessel and in the period 2015-2018 the segment does not exist.

G.5.1. Segment TM/VL 2440

In 2019, it is noticeable that the values of the technical indicator are preserved, which is calculated on the basis of the observed maximum effort. Economic indicators maintain positive values as well as the sustainable catch indicator. Based on this, it can be concluded that the segment is balanced. The segment will continue to be monitored with a view to achieving a long-lasting balance between fishing capacity and fishing opportunities.

SECTION H.



Adaptation measures for fleet segments, where structural excess capacity is identified

H.1. Administrative measures in the applicable national legislation

With respect to inactive fishing vessels, EAFSA continues to apply national legislation and, in particular, Art. 18c of the FAA, according to which there is a possibility of termination of the operation of the fishing license and of the certificates of fishing authorization, issued on the basis thereof, if for two consecutive years the vessel has not engaged in any fishing activity. Vessels which have been suspended on this ground are administratively withdrawn from the fishing vessel register and the released capacity remains in favor of the State and subsequently allocated to fishing vessels wishing to entry in the Fleet Register. EAFSA plans to continue implementing the national legislation in this direction in order to achieve a balance between fishing capacity and fishing opportunities. The implementation of this measure will be carried out annually.

As of 21.11.2019, 2 new by-laws are in force, regulating the management of the fishing fleet, the allocation of fishing capacity and keeping the required registers. The objectives of these administrative measures are to improve the management of the fishing fleet as well as to achieve better control over the exploitation of fishing capacity.

H.2. Added value, product quality and use of unwanted catches

On 13 April, 2018, the admission of project proposals under Union Priority 1 "Promotion of Environmentally Sustainable, Innovative, Competitive and Knowledge-Based Fisheries with Resource Efficiency" was launched by announcing a procedure through project selection BG14MFOP001-1.007 "Added value, product quality and use of unwanted catches".

The measure promotes investments that add value to fisheries products, in particular by allowing fishermen to process, market and direct sale of their own catches and innovative investments on board vessels, which increase the quality of fishery products.

H.3. Diversification and new forms of income.

On May 18, 2018, the admission of projects under Union Priority 1 "Promoting Environmentally Sustainable, Innovative, Competitive and Knowledge-Based Fishing, characterized by Resource Efficiency" was launched, Measure 1.1 "Diversification and New Forms of Income", with a call for proposals through project selection BG14MFOP001-1.001 "Diversification and New Forms of Income".

Through the implementation of the activities, foreseen in the measure, will allow the conservation and restoration of aquatic biodiversity and aquatic ecosystems; ensuring a balance between fishing capacity and available fishing opportunities for all unbalanced segments; improving the competitiveness and viability of enterprises in the fisheries sector, including the small-scale coastal fleet, and improving safety and working conditions.

H.4. Fishing ports, landing quays, fish markets and covered boatshelters.

On June 27, 2018, an admission procedure was launched through project selection BG14MFOP001-1.009 "Fishing ports, landing quays, fish markets and covered boatshelters". The implementation of the measure will contribute to the specific objective of "Improving the competitiveness and viability of enterprises in the fisheries sector, including the small-scale coastal fleet, and improving safety and



working conditions".

H.5. Marketing measures, sector "Establishing of Producer Organizations"

On November 6, 2018, an admission procedure was launched for projects under Measure 5.3 "Marketing Measures", "Establishing of Producer Organizations"

Through the implementation of the procedures through projects selection BG14MFOP001-5.006 "Marketing Measures", Sector "Establishing of Producer Organizations", Measure 5.3 "Marketing Measures" will contribute to the improvement of the market organization of the products from fishing and aquaculture.

H.6. Plans for production and marketing.

On November 9, 2018, an admission procedure was launched for project selection through Project Selection Procedure BG14MFOP001-5.001 "Production and Marketing Plans", Measure 5.1 aims to achieve the specific objective 1 "Improvement of Market Organization for Fishery Products and Aquaculture" to Union Priority 5 "Promotion of marketing and processing". See "Summary of the report" above.

Assistance under this procedure is aimed at supporting the preparation and implementation of the production and marketing plans of producer organizations and associations of producer organizations in accordance with the provisions and in particular:

- improving the conditions for the marketing of fishery and aquaculture products of their members;
- improving the economic returns;
- stabilizing markets;
- contributing to food supply and promoting the high quality food and safety standards, while contributing to employment in coastal and vilage areas;
- reducing the environmental impact of the fishing.

H.7. Conservation and restoration of marine biodiversity and ecosystems and compensation regimes within sustainable fisheries.

On 13 December, 2018, a project admission procedure was launched through project selection BG14MFOP001-1.006 "Conservation and Restoration of Marine Biodiversity and Ecosystems and Compensation Regimes within Sustainable Fisheries" under Priority 1 of the Union "Promoting environmental sustainability, innovative, competitive and knowledge-based fisheries characterized by resource efficiency "

The implementation of the actions of the procedure aims to promote environmentally sustainable, innovative, competitive and knowledge-based fisheries, characterized by resource efficiency.

