

Republic of Bulgaria
Executive Agency for Fisheries and Aquacultures



Bulgarian Annual Report on the efforts in 2020 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 2021

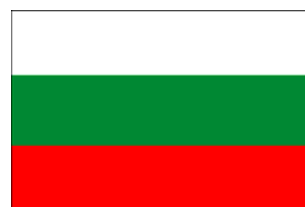


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Summary of the report

During the period 2007 – 2020, 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 condition of the fleet was significantly affected by the COVID-19 pandemic. Anti-epidemiological measures taken, such as the restriction or complete closure of commercial and restaurant networks and the decreasing of the consumption, have led to a significant reduction in demand for fish and fishery products. On the other hand, the closure of cross-border borders and the restrictions imposed on their crossing have led to a drastic drop in exports. The sector has been significantly affected, leading to staff reductions and pay cuts.

Other factors influencing the fleet are: the relatively high average age of fishing vessels, which is about 24 years; imbalance between variable costs and current revenues; low purchasing power of the population; the annual migrations of some of the species of economic importance; lack of a market regulator guaranteeing equal levels of purchase prices to set maximum and minimum values, lack of a sufficient number of fish auctions and first-sale centers near ports.

In 2020, there is an considerable increase in the number of active vessels in the segments DFN and TM, while in the other segments are observed the preservation of last year's levels. The inactivity of fishing vessels is mainly due to COVID-19 crisis and the subsequent shortage of markets, also 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 2020 conditionally divided by total length are as follows: LOA 0006 - 255 pcs.; LOA 0612 – 333 pcs.; LOA 1218 – 8 pcs.; LOA 1824 – 1 pc; LOA over 24 m – nil.

With regard to inactive vessels, a step-by-step withdrawal started in the past year, in accordance with the measures described in national legislation (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, 2020, the Bulgarian fishing fleet consists of 1,826 vessels, operating only in Black Sea, with total capacity of GT 5,996.71 and 53,109.95 kW. The fishing vessels assigned to small-scale fishing with LOA of up to 12 meters, represent 95% or 1,732 vessels. The most of them are using as a preferred gear gillnets (anchored). The average age of the Bulgarian fishing fleet is 24 years. As it is shown in **Table 9** and **Figure 1**(presented below), the number of registered vessels is reduced by 28% from the date of accession of Bulgaria to the EU (01 January 2007). There is a slight increase in the number of active vessels as compared to 2019, as well as in sea days compared to the 2019 reference values (**Figure 1**).



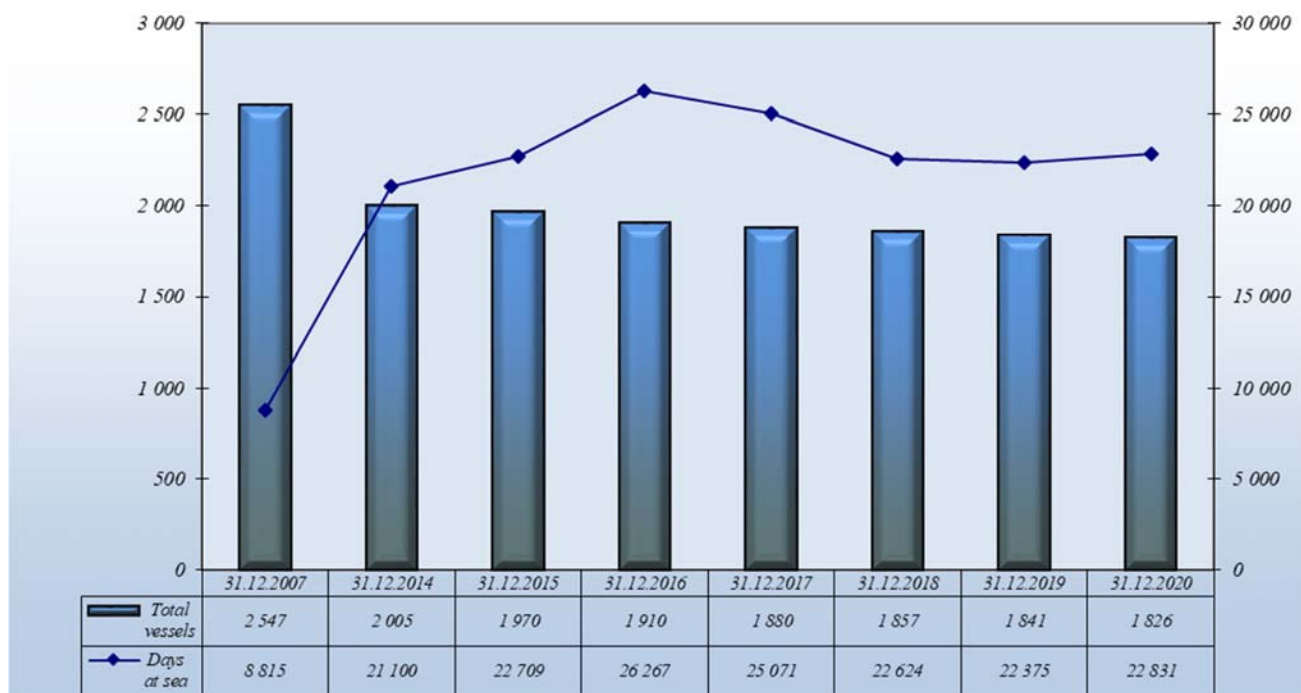


Figure 1. Number of the vessels and days at sea for the period 2007-2020

The active fishing vessels in 2020 are 1,233 and the vast majority of them, a total of 1,148, 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 2020, expressed in days at sea, is a total of 22,831 days, as 63 % belong to the fishing vessels with a total length of up to 12 meters. This fact makes the segment up to 12 meters 4% more active compared to 2019.

Table 1: Fishing activity of the vessels during 2020.

LOA	Number of Vls	GT	kW	Days at Sea	Vessel's Ratio	Dyas at sea Ratio
LOA 0012	1148	1829.28	24240.77	14304	93.11%	62.65%
LOA 1240	85	3066.15	16162.8	8527	6.89%	37.35%
Total	1233	4895.43	40403.57	22831		

“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, 2019 and 2020.

Segment	2015			2016			2017			2018			2019			2020		
	LOA	Days at Sea	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	DFN	VL0006	2650	
	VL0612	4134		VL0612	4845		VL0612	3574		VL0612	3491		VL0612	3116		VL0612	4551	
	VL1218	291		VL1218	309		VL1218	353		VL1218	200		VL1218	420		VL1218	1543	
	VL1824	11		VL1824	33		VL1824	280	Total:		6042		VL2440	72		VL1824	458	
Total:		7305	Total:		8111	Total:		6309	PS	VL0006	202	Total:		5847		VL2440	98	
PS	VL0006	303	PS	VL0006	251	PS	VL0006	154		VL0612	31	PS	VL0006	127	Total:		9300	
	VL0612	62		VL0612	51		VL0612	28	Total:		233		VL0612	35	PS	VL0006	74	
Total:		365	Total:		302		VL1218	77	FPO	VL0006	2		VL1218	64		VL0612	47	
FPO	VL0006	47	FPO	VL0006	167	Total:		259		VL0612	533	Total:		226	Total:		121	
	VL0612	526		VL0612	764	FPO	VL0006	14	Total:		535	FPO	VL0006	28	FPO	VL0006	28	
Total:		573	Total:		931		VL0612	533	HOK	VL0006	42		VL0612	499		VL0612	690	
HOK	VL0006	311	HOK	VL0006	196	Total:		547		VL0612	139	Total:		527	Total:		718	
	VL0612	648		VL0612	765	HOK	VL0006	293	Total:		181	HOK	VL0006	85	HOK	VL0006	80	
Total:		959		VL1218	26		VL0612	785	PGP	VL0006	68		VL0612	249		VL0612	123	
PGP	VL0006	118	Total:		987		VL1218	28		VL0612	150	Total:		334		VL1218	102	
	VL0612	52	PGP	VL0006	28	Total:		1106		VL1218	34	PGP	VL0006	28	Total:		305	
Total:		170		VL0612	88	PGP	VL0006	80	Total:		252		VL0612	68	PGP	VL0006	30	
PMP	VL0006	1314		VL1218	96		VL0612	158	PMP	VL0006	2427	Total:		96		VL0612	38	
	VL0612	3753	Total:		212	Total:		238		VL0612	4710	PMP	VL0006	2021		VL1218	88	
	VL1218	2189	PMP	VL0006	1895	PMP	VL0006	2584		VL1218	1517		VL0612	4503	Total:		156	
	VL1824	511		VL0612	4852		VL0612	6868		VL1824	534		VL1218	2408	PMP	VL0006	1383	
Total:		7767		VL1218	1367		VL1218	1978		VL2440	99		VL1824	1203		VL0612	4409	
TBB	VL0612	350		VL1824	456		VL1824	360	Total:		9287	Total:		10135		VL1218	1484	
	VL1218	136	Total:		8570	Total:		11790	TBB	VL0612	177	TBB	VL0612	179		VL1824	392	
	VL1824	277	TBB	VL0612	201	TBB	VL0612	182		VL1218	464		VL1218	652	Total:		7668	
Total:		763		VL1218	301		VL1218	396		VL1824	199		VL1824	150	TBB	VL1218	98	
TM	VL0612	238		VL1824	32		VL1824	27	Total:		840	Total:		981	Total:		98	
	VL1218	1946	Total:		534	Total:		605	TM	VL0612	79	TM	VL0612	105	TM	VL0612	201	
	VL1824	727	TM	VL0612	168	TM	VL0612	102		VL1218	2378		VL1218	1783		VL1218	1768	
	VL2440	1896		VL1218	3319		VL1218	1597		VL1824	1084		VL1824	631		VL1824	901	
Total:		4807		VL1824	1122		VL1824	900		VL2440	1713		VL2440	1710		VL2440	1595	
SUM:		22709		VL2440	1615		VL2440	1618	Total:		5254	Total:		4229	Total:		4465	
			Total:		6224	Total:		4217	SUM:		22624	SUM:		22375	SUM:		22831	
			SUM:		25871	SUM:		25071										

Table 3 shows the fishing activity data for fishing vessels for 2015, 2016, 2017, 2018, 2019 and 2020, showing that the data from the reference 2019 is increased by 2 %. The largest drop was observed in TBB, PS and PMP segments by 90 %, 46 % and 24 % respectively, while in few other segments there is an increase of the activity respectively in DFN - by 37 % and FPO - 27%.

Table 4: Activity of the fishing vessels by segments for 2020.



Segment Code	Segment	Number of Vls	GT	kW	Days at Sea	Activity for the Segment	Activity to the Fleet
DFN	VL0006	326	254.93	3218.72	2650	28.49%	11.61%
	VL0612	515	983.68	13651.84	4551	48.94%	19.93%
	VL1218	19	316.08	2623.25	1543	16.59%	6.76%
	VL1824	3	103	919.38	458	4.92%	2.01%
	VL2440	1	78.61	574	98	1.05%	0.43%
	Тотал:	864	1736.3	20987.19	9300		40.73%
FPO	VL0006	3	0.98	8.09	28	3.90%	0.12%
	VL0612	34	108.4	1012.03	690	96.10%	3.02%
	Тотал:	37	109.38	1020.12	718		3.14%
HOK	VL0006	15	10.05	193.75	80	26.23%	0.35%
	VL0612	24	53.2	679.75	123	40.33%	0.54%
	VL1218	1	24.62	220	102	33.44%	0.45%
	Тотал:	40	87.87	1093.5	305		1.34%
PGP	VL0006	8	6.14	91.94	30	19.23%	0.13%
	VL0612	9	16.74	271.02	38	24.36%	0.17%
	VL1218	1	20	158.13	88	56.41%	0.39%
	Тотал:	18	42.88	521.09	156		0.68%
PMP	VL0006	68	50.69	523.74	1383	18.04%	6.06%
	VL0612	132	297.71	4107.09	4409	57.50%	19.31%
	VL1218	14	254.76	1989.58	1484	19.35%	6.50%
	VL1824	3	159.21	934.33	392	5.11%	1.72%
	Тотал:	217	762.37	7554.74	7668		33.59%
PS	VL0006	8	4.49	26.42	74	61.16%	0.32%
	VL0612	3	3.64	13.61	47	38.84%	0.21%
	Тотал:	11	8.13	40.03	121		0.53%
TBB	VL1218	1	17.23	126	98		0.43%
	Тотал:	-	-	-	-	-	-
TM	VL0612	3	38.63	442.77	201	4.50%	0.88%
	VL1218	21	458.82	3466.12	1768	39.60%	7.74%
	VL1824	11	519.75	2437.11	901	20.18%	3.95%
	VL2440	10	1114.07	2714.9	1595	35.72%	6.99%
Total		45	2131.27	9060.9	4465		19.56%
SUM		1233	4895.43	40403.57	22831		

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 2020, activity in DFN segments was 40.73 % - the highest one observed, PMP – 33.59 % and TM – 19.56 %. The two largest segments are DFN - 864 fishing vessels and PMP - 217 fishing vessels, as these two segments are representing 88 % 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 DFN VL 0612 with 31.82 % and PMP VL 0612 with 30.82 % to the total small-scale fishing activity for 2020 - **Table 5** and **Figure 2**.

Table 5: Fishing in segment VL 0012 for 2020

Segment		LOA	Number of VIs		GT	kW	Days at Sea	
LOA 0012	DFN	VL0006	326	28%	254.93	3218.72	2650	18.53%
		VL0612	515	45%	983.68	13651.84	4551	31.82%
	PS	VL0006	8	1%	4.49	26.42	74	0.52%
		VL0612	3	0%	3.64	13.61	47	0.33%
	FPO	VL0006	3	0%	0.98	8.09	28	0.20%
		VL0612	34	3%	108.4	1012.03	690	4.82%
	HOK	VL0006	15	1%	10.05	193.75	80	0.56%
		VL0612	24	2%	53.2	679.75	123	0.86%
	PGP	VL0006	8	1%	6.14	91.94	30	0.21%
		VL0612	9	1%	16.74	271.02	38	0.27%
	PMP	VL0006	68	6%	50.69	523.74	1383	9.67%
		VL0612	132	11%	297.71	4107.09	4409	30.82%
	TM	VL0612	3	0%	38.63	442.77	201	1.41%
	Total			1148		1829.28	24240.77	14304

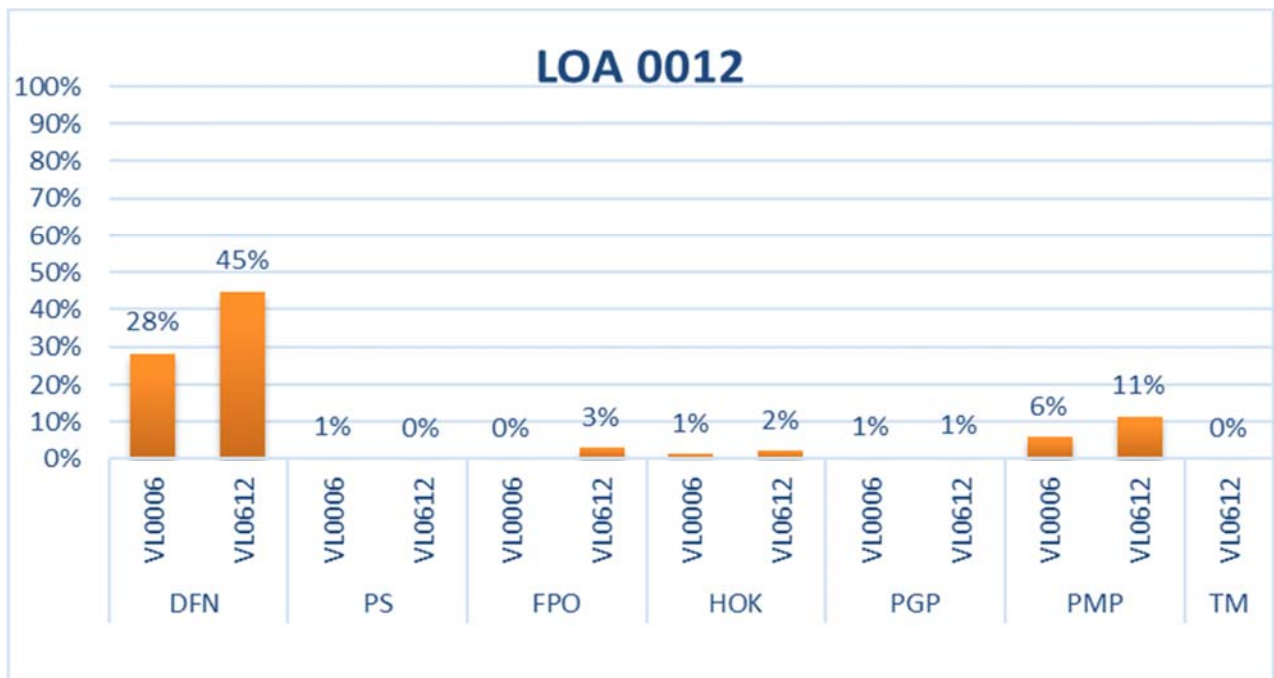


Figure 2: Percentage distribution of the fishing vessels VL 0012



Regarding the case of VL 1240 fishing vessels, the TM - 42 fishing vessels and DFN - 23 fishing vessels are the most numerous. The most active are TM VL 1218 with 20.73 %, TM VL 2440 with 18.71 % and DFN VL 1218 with 18.10 % (Table 6 and Figure 3)

Table 6: Fishing vessels having LOA VL 1240

Segment	LOA	Number of Vls		GT	kW	Days at Sea		
LOA 1240	DFN	VL1218	19	22%	316.08	2623.25	1543	18.10%
		VL1824	3	4%	103	919.38	458	5.37%
		VL2440	1	1%	78.61	574	98	1.15%
	HOK	VL1218	1	1%	24.62	220	102	1.20%
	PGP	VL1218	1	1%	20	158.13	88	1.03%
	PMP	VL1218	14	16%	254.76	1989.58	1484	17.40%
		VL1824	3	4%	159.21	934.33	392	4.60%
	TBB	VL1218	1	1%	17.23	126	98	1.15%
	TM	VL1218	21	25%	458.82	3466.12	1768	20.73%
		VL1824	11	13%	519.75	2437.11	901	10.57%
		VL2440	10	12%	1114.07	2714.9	1595	18.71%
	Total	85		3066.15	16162.8	8527		

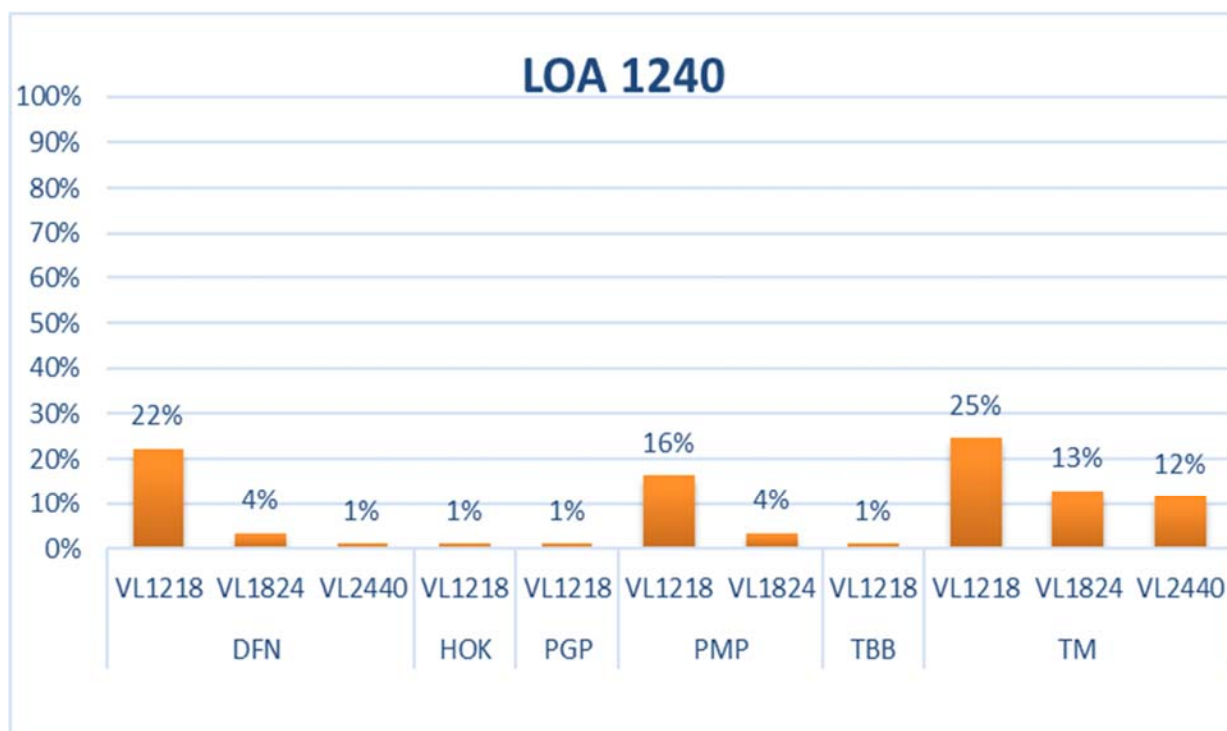


Figure 3: Percentage distribution of the fishing vessels VL 1240



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 2020 the total amount of landings in Black Sea from Bulgarian fishing fleet is 6,228 tons, which is a drop of 39 % to 2019 figures.

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 2020 the fishing opportunities for Black Sea were laid down in Council Regulation 2019/2236 (16 Dec, 2019), as follows:

- For turbot – 75.0 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 considerably.

For 2020, the catches of turbot are 62.18 tons, sprat – 1,622.9 tons, picked dogfish – 47.8 tons, incl. IUU fishing.

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 metric tons 2007 – 2020.



Main targeted species	FAO Code	2007	2013	2014	2015	2016	2017	2018	2019	2020
<i>European sprat</i>	SPR	2 984.6	3 784.2	2 279.1	3 297.0	2 295.5	3 188.9	3 187.8	4 584.6	1 622.7
<i>Med. horse mackerel</i>	HMM	115.9	271.4	113.1	87.2	166.2	153.5	196.7	101.6	108.8
<i>Atlantic bonito</i>	BON	0.9	6.1	5.5	7.7	68.2	13.0	22.9	3.7	31.5
<i>Bluefish</i>	BLU	8.2	49.0	304.7	138.4	712.2	71.0	260.7	24.0	253.2
<i>Red mullet</i>	MUT	12.6	256.8	328.8	632.6	877.4	374.6	595.2	554.3	319.3
<i>Picked dogfish</i>	DGS	24.0	30.9	34.0	133.0	83.5	50.5	10.1	16.8	47.5
¹ Turbot	TUR	66.9	39.6	39.4	43.0	42.4	41.8	55.4	54.9	61.6
<i>Rapana venosa</i>	RPW	4 310.0	4 819.1	4 732.4	4 100.6	3 436.3	3 653.1	3 515.4	4 222.1	2 745.6
<i>Gobies nei</i>	GPA	73.9	74.0	63.7	47.9	64.2	39.7	25.1	31.2	33.7
<i>Thornback ray</i>	RJC	3.6	56.1	70.3	43.2	35.7	48.9	13.1	9.1	17.2
<i>Anchovy</i>	ANE	60.4	9.9	369.6	12.5	54.5	3.6	4.8	70.6	422.2
<i>Soft-shelled slam</i>	CLS	0.0	10.3	61.0	124.3	583.4	818.9	600.5	507.8	462.2

¹The landings of turbot in this table do not include IUU-fishing (Illegal, unreported and unregulated), which is 588.8 kilos for 2020. The total yearly amount of IUU-fishing is 1,537.9 kilos.

Table 7.1. Catches of bulky species trends.



As can be seen from **Tables 7** and **7.1.** content, there is a significant increase in the catch of anchovy, bonito and red mullet - species featuring a local importance, while at the same time catches of sprat and rapana have decreased significantly compared to 2019 levels.

The following segments have the largest percentage of the landings in 2020 - TM 2440 – 25.7 %, PMP 0612 – 19.9 % and TM 1218 – 10.6 % - **Figure 4.**



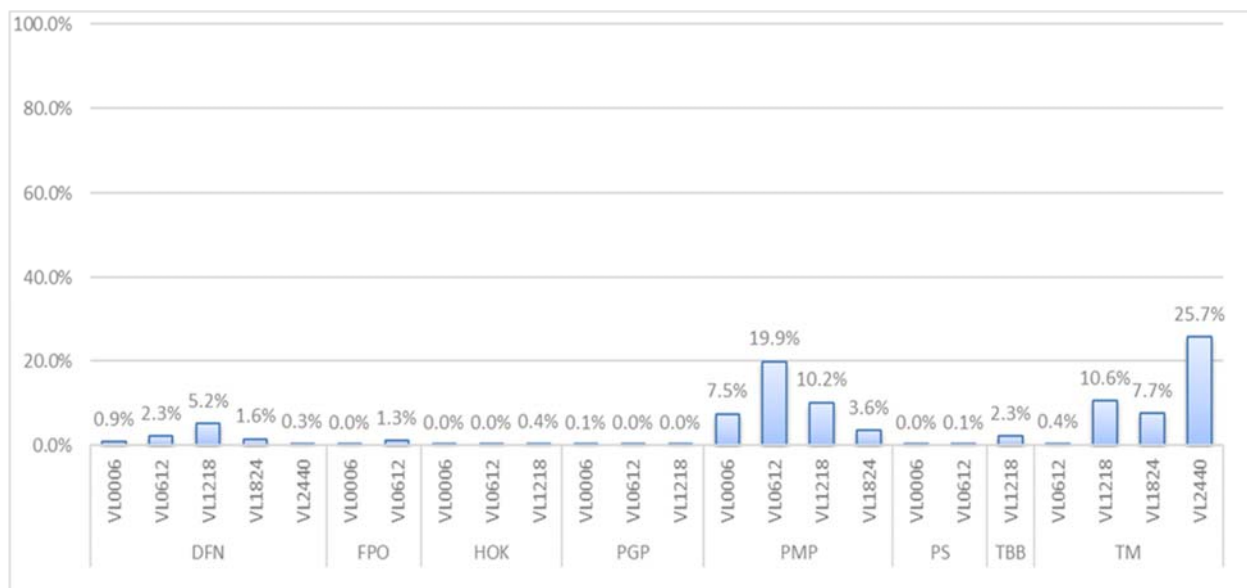


Figure 4: Percentage ratio of catches by the fleet segments to total catches for 2020.

Table 8: Value of the landings of the top of the species (average first sale price) for each of the segments - 2020.

Segment	Species	Code	Landings, kilos	Price, EUR
DFN 0006	Silverside	SIL	354.00	414.18
	Soft-shelled clam	CLS	4174.00	22122.20
	Garpike	GAR	1257.20	4060.76
	Leaping mullet	LZS	1746.10	3596.97
	Turbot	TUR	418.90	4256.02
	Shad	SHC	2210.70	8533.30
	Bluefish	BLU	9969.55	50146.84
	Thornback ray	RJC	296.00	464.72
	Flathead mullet	MUF	682.40	1439.86
	Deepwater prawn		8.00	29.12
	Atlantic bonito	BON	3687.20	17440.46
	Flounder	FLE	7.40	14.80
	Golden grey mullet	MGA	612.20	1059.11
	Gobies	GPA	10719.05	20580.58
	Common shrimp	CSH	2.00	6.56
Rapana	RPW	2250.00	1665.00	



	Mediterranean horse mackerel	HMM	7963.20	22456.22
	Anchovy	ANE	722.00	859.18
	European sprat	SPR	576.30	403.41
	Black mussel	MSM	10535.00	5583.55
	Red mullet	MUT	217.00	397.11
	Piked dogfish	DGS	120.00	282.00
	Whiting	WHG	71.00	119.99
DFN 0612	Silverside	SIL	220.00	257.40
	Soft-shelled clam	CLS	3133.00	16604.90
	Garpike	GAR	1912.50	6177.38
	Leaping mullet	LZS	1528.30	3148.30
	Turbot	TUR	8340.57	84740.14
	Shad	SHC	3110.50	12006.53
	So-iuy mullet	MYZ	351.00	2520.18
	Bluefish	BLU	13827.95	69554.59
	Common stingray	JDP	35.00	68.25
	Thornback ray	RJC	4063.95	6380.40
	Flathead mullet	MUF	1024.00	2160.64
	Deepwater prawn		84.70	308.31
	Atlantic bonito	BON	22540.80	106617.98
	Flounder	FLE	82.50	165.00
	Golden grey mullet	MGA	223.30	386.31
	Gobies	GPA	15551.00	29857.92
	Common shrimp	CSH	137.00	449.36
	Rapana	RPW	40304.00	29824.96
	Mediterranean horse mackerel	HMM	7207.80	20326.00
	Anchovy	ANE	477.10	567.75
	European sprat	SPR	10401.60	7281.12
Red mullet	MUT	1721.30	3149.98	
Piked dogfish	DGS	3806.05	8944.22	
Whiting	WHG	369.70	624.79	
DFN 1218	Leaping mullet	LZS	4.50	9.27
	Turbot	TUR	15185.25	154282.14
	Shad	SHC	97.00	374.42
	Bluefish	BLU	26260.70	132091.32
	Common stingray	JDP	85.00	165.75



	Thornback ray	RJC	5869.90	9215.74
	Flathead mullet	MUF	28.00	59.08
	Gobies	GPA	1257.50	2414.40
	Rapana	RPW	197713.00	146307.62
	Mediterranean horse mackerel	HMM	4150.50	11704.41
	Anchovy	ANE	268.00	318.92
	Red mullet	MUT	63844.00	116834.52
	Piked dogfish	DGS	5371.10	12622.09
	Whiting	WHG	736.20	1244.18
DFN 1824	Garpike	GAR	15.00	48.45
	Turbot	TUR	3275.50	33279.08
	Shad	SHC	63.00	243.18
	Bluefish	BLU	15063.00	75766.89
	Thornback ray	RJC	2316.50	3636.91
	Atlantic bonito	BON	21.00	99.33
	Gobies	GPA	10.00	19.20
	Rapana	RPW	48073.00	35574.02
	Mediterranean horse mackerel	HMM	5678.50	16013.37
	Red mullet	MUT	4139.00	7574.37
	Piked dogfish	DGS	17970.00	42229.50
Whiting	WHG	92.10	155.65	
DFN 2440	Turbot	TUR	1892.30	19225.77
	Bluefish	BLU	1326.00	6669.78
	Thornback ray	RJC	374.00	587.18
	Rapana	RPW	14744.00	10910.56
	Mediterranean horse mackerel	HMM	320.00	902.40
	Red mullet	MUT	290.00	530.70
	Piked dogfish	DGS	103.00	242.05
FPO 0006	Deepwater prawn		33.00	120.12
	Gobies	GPA	16.50	31.68
	Common shrimp	CSH	15.00	49.20
	Mediterranean horse mackerel	HMM	298.00	840.36
	Anchovy	ANE	294.00	349.86
	European sprat	SPR	350.00	245.00
FPO 0612	Silverside	SIL	88.00	102.96



	Soft-shelled clam	CLS	215.00	1139.50
	Garpike	GAR	2522.80	8148.64
	Leaping mullet	LZS	64.00	131.84
	Shad	SHC	6329.50	24431.87
	Bluefish	BLU	995.30	5006.36
	Flathead mullet	MUF	11.00	23.21
	Atlantic bonito	BON	851.00	4025.23
	Golden grey mullet	MGA	1.50	2.60
	Gobies	GPA	597.50	1147.20
	Common shrimp	CSH	54.00	177.12
	Mediterranean horse mackerel	HMM	20258.00	57127.56
	Anchovy	ANE	12824.40	15261.04
	European sprat	SPR	33771.30	23639.91
	Red mullet	MUT	146.30	267.73
	Whiting	WHG	5.00	8.45
HOK 0006	Bluefish	BLU	19.30	97.08
	Flathead mullet	MUF	15.00	31.65
	Atlantic bonito	BON	2.00	9.46
	Gobies	GPA	138.40	265.73
	Mediterranean horse mackerel	HMM	211.40	596.15
	Piked dogfish	DGS	345.00	810.75
HOK 0612	Leaping mullet	LZS	5.00	10.30
	Turbot	TUR	86.35	877.32
	Shad	SHC	36.40	140.50
	Bluefish	BLU	53.60	269.61
	Thornback ray	RJC	517.00	811.69
	Atlantic bonito	BON	26.00	122.98
	Gobies	GPA	125.30	240.58
	Mediterranean horse mackerel	HMM	191.50	540.03
	Red mullet	MUT	4.00	7.32
	Piked dogfish	DGS	443.00	1041.05
HOK 1218	Turbot	TUR	638.20	6484.11
	Shad	SHC	26.00	100.36
	Bluefish	BLU	1117.00	5618.51
	Thornback ray	RJC	62.50	98.13
	Flathead mullet	MUF	240.00	506.40



	Rapana	RPW	8270.00	6119.80
	Mediterranean horse mackerel	HMM	89.00	250.98
	Red mullet	MUT	11562.00	21158.46
	Piked dogfish	DGS	4718.00	11087.30
	Whiting	WHG	27.00	45.63
PGP 0006	Silverside	SIL	3.00	3.51
	Soft-shelled clam	CLS	2787.00	14771.10
	Garpike	GAR	30.00	96.90
	Shad	SHC	21.80	84.15
	Bluefish	BLU	11.80	59.35
	Flathead mullet	MUF	119.00	251.09
	Atlantic bonito	BON	320.00	1513.60
	Gobies	GPA	80.40	154.37
	Mediterranean horse mackerel	HMM	4.00	11.28
PGP 0612	Soft-shelled clam	CLS	775.00	4107.50
	Leaping mullet	LZS	10.50	21.63
	Bluefish	BLU	2.70	13.58
	Atlantic bonito	BON	19.00	89.87
	Gobies	GPA	31.00	59.52
	Rapana	RPW	1463.00	1082.62
	Mediterranean horse mackerel	HMM	30.50	86.01
	Red mullet	MUT	480.00	878.40
PGP 1218	Turbot	TUR	495.10	5030.22
	Shad	SHC	386.50	1491.89
	Bluefish	BLU	360.00	1810.80
	Rapana	RPW	57.00	42.18
	Mediterranean horse mackerel	HMM	108.00	304.56
	Red mullet	MUT	768.00	1405.44
PMP 0006	Soft-shelled clam	CLS	110704.40	586733.32
	Garpike	GAR	131.00	423.13
	Leaping mullet	LZS	32.80	67.57
	Turbot	TUR	183.00	1859.28
	Shad	SHC	547.80	2114.51
	Bluefish	BLU	321.90	1619.16
	Flathead mullet	MUF	183.70	387.61



	Deepwater prawn		35.00	127.40
	Atlantic bonito	BON	147.00	695.31
	Golden grey mullet	MGA	37.30	64.53
	Gobies	GPA	2461.80	4726.66
	Common shrimp	CSH	191.70	628.78
	Rapana	RPW	344615.00	255015.10
	Mediterranean horse mackerel	HMM	167.80	473.20
	Anchovy	ANE	242.00	287.98
	European sprat	SPR	51.00	35.70
	Black mussel	MSM	8643.70	4581.16
	Red mullet	MUT	127.00	232.41
PMP 0612	Silverside	SIL	10.00	11.70
	Soft-shelled clam	CLS	339798.50	1800932.05
	Garpike	GAR	125.00	403.75
	Leaping mullet	LZS	178.00	366.68
	Turbot	TUR	1893.70	19239.99
	Shad	SHC	632.30	2440.68
	Bluefish	BLU	6073.10	30547.69
	Thornback ray	RJC	400.20	628.31
	Flathead mullet	MUF	135.00	284.85
	Deepwater prawn		155.30	565.29
	Atlantic bonito	BON	2803.50	13260.56
	Gobies	GPA	1631.70	3132.86
	Common shrimp	CSH	451.00	1479.28
	Rapana	RPW	851053.80	629779.81
	Mediterranean horse mackerel	HMM	3242.90	9144.98
	Anchovy	ANE	133.00	158.27
	European sprat	SPR	1240.00	868.00
	Black mussel	MSM	28596.80	15156.30
	Red mullet	MUT	1358.00	2485.14
	Piked dogfish	DGS	233.10	547.79
Whiting	WHG	68.00	114.92	
PMP 1218	Silverside	SIL	64.00	74.88
	Soft-shelled clam	CLS	350.00	1855.00
	Turbot	TUR	8346.60	84801.46
	Shad	SHC	163.00	629.18



	Bluefish	BLU	20265.90	101937.48
	Common stingray	JDP	68.00	132.60
	Thornback ray	RJC	305.40	479.48
	Flathead mullet	MUF	761.00	1605.71
	Gobies	GPA	151.80	291.46
	Rapana	RPW	551605.00	408187.70
	Mediterranean horse mackerel	HMM	4918.50	13870.17
	Anchovy	ANE	178.50	212.42
	European sprat	SPR	167.00	116.90
	Black mussel	MSM	309.00	163.77
	Red mullet	MUT	39105.30	71562.70
	Piked dogfish	DGS	9232.40	21696.14
	Whiting	WHG	1269.45	2145.37
PMP 1824	Leaping mullet	LZS	23.00	47.38
	Turbot	TUR	4619.90	46938.18
	Shad	SHC	4.00	15.44
	Bluefish	BLU	10988.00	55269.64
	Thornback ray	RJC	392.00	615.44
	Flathead mullet	MUF	18.00	37.98
	Gobies	GPA	5.00	9.60
	Rapana	RPW	183835.00	136037.90
	Mediterranean horse mackerel	HMM	6843.00	19297.26
	Anchovy	ANE	1308.00	1556.52
	Red mullet	MUT	11509.00	21061.47
	Piked dogfish	DGS	3580.00	8413.00
PS 0006	Silverside	SIL	725.50	848.84
	Soft-shelled clam	CLS	235.00	1245.50
	Garpike	GAR	2.00	6.46
	Leaping mullet	LZS	108.00	222.48
	Shad	SHC	38.00	146.68
	Bluefish	BLU	21.50	108.15
	Flathead mullet	MUF	170.20	359.12
	Deepwater prawn		17.50	63.70
	Flounder	FLE	11.00	22.00
	Gobies	GPA	110.00	211.20
	Common shrimp	CSH	8.90	29.19



	Mediterranean horse mackerel	HMM	211.50	596.43
	Anchovy	ANE	445.00	529.55
	European sprat	SPR	533.50	373.45
	Red mullet	MUT	100.70	184.28
PS 0612	Silverside	SIL	329.60	385.63
	Garpike	GAR	44.00	142.12
	Leaping mullet	LZS	102.70	211.56
	Shad	SHC	283.00	1092.38
	Bluefish	BLU	59.20	297.78
	Flathead mullet	MUF	245.00	516.95
	Deepwater prawn		40.00	145.60
	Flounder	FLE	10.00	20.00
	Gobies	GPA	196.00	376.32
	Common shrimp	CSH	5.00	16.40
	Mediterranean horse mackerel	HMM	1294.00	3649.08
	Anchovy	ANE	552.00	656.88
	Red mullet	MUT	399.50	731.09
	TBB 1218	Turbot	TUR	604.50
Bluefish		BLU	159.50	802.29
Rapana		RPW	134008.00	99165.92
Mediterranean horse mackerel		HMM	368.10	1038.04
Red mullet		MUT	6507.00	11907.81
TM 0612	Turbot	TUR	1055.00	10718.80
	Bluefish	BLU	2121.00	10668.63
	Common stingray	JDP	25.00	48.75
	Thornback ray	RJC	120.00	188.40
	Gobies	GPA	24.00	46.08
	Mediterranean horse mackerel	HMM	62.00	174.84
	Anchovy	ANE	5.00	5.95
	Red mullet	MUT	15934.00	29159.22
	Whiting	WHG	3376.00	5705.44
TM 1218	Silverside	SIL	1736.00	2031.12
	Turbot	TUR	8762.65	89028.52
	Shad	SHC	140.10	540.79
	Bluefish	BLU	47688.30	239872.15



	Common stingray	JDP	661.80	1290.51
	Thornback ray	RJC	1569.40	2463.96
	Flathead mullet	MUF	227.20	479.39
	Atlantic bonito	BON	11.00	52.03
	Gobies	GPA	255.20	489.98
	Rapana	RPW	215567.00	159519.58
	Mediterranean horse mackerel	HMM	9022.70	25444.01
	Anchovy	ANE	60701.00	72234.19
	European sprat	SPR	228879.70	160215.79
	Red mullet	MUT	75638.60	138418.64
	Piked dogfish	DGS	853.90	2006.67
	Whiting	WHG	6177.50	10439.98
	TM 1824	Turbot	TUR	3663.17
Shad		SHC	584.00	2254.24
Bluefish		BLU	28147.50	141581.93
Common stingray		JDP	308.00	600.60
Thornback ray		RJC	748.00	1174.36
Flathead mullet		MUF	9.00	18.99
Atlantic bonito		BON	1060.00	5013.80
Gobies		GPA	210.00	403.20
Rapana		RPW	127585.00	94412.90
Mediterranean horse mackerel		HMM	10110.00	28510.20
Anchovy		ANE	23405.00	27851.95
European sprat		SPR	224425.00	157097.50
Red mullet		MUT	56212.70	102869.24
Piked dogfish		DGS	696.00	1635.60
Whiting		WHG	2076.00	3508.44
TM 2440	Turbot	TUR	2127.41	21614.49
	Shad	SHC	1165.00	4496.90
	Bluefish	BLU	68345.80	343779.37
	Common stingray	JDP	619.00	1207.05
	Thornback ray	RJC	209.00	328.13
	Flathead mullet	MUF	33.00	69.63
	Atlantic bonito	BON	51.00	241.23
	Gobies	GPA	113.00	216.96
	Rapana	RPW	24460.00	18100.40



	Mediterranean horse mackerel	HMM	26000.50	73321.41
	Anchovy	ANE	320687.00	381617.53
	European sprat	SPR	1122255.00	785578.50
	Red mullet	MUT	29188.20	53414.41
	Piked dogfish	DGS	40.00	94.00
	Whiting	WHG	2517.00	4253.73
Total			6228123.66	9429051.84

A.3. Development of the fleet

The development of the Bulgarian fishing fleet from 1 January 2007 to 31 December 2020 is presented in **Table 9**, **Fig. 5** and **Fig. 6**. As evidenced, the number of registered vessels has decreased by 28% according to data from the end of 2020, 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			31.12.2016			31.12.2017			31.12.2018			31.12.2019			31.12.2020			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	655	488	6020	660	495	6131	663	496	6086	674	508	6282	682	519	6450	-19%	-14%	-2%
6 - 12 m	1595	3464	42173	1160	2466	32107	1128	2408	31057	1099	2317	30484	1073	2260	29675	1050	2201	28861	-34%	-36%	-32%
12 - 18 m	66	1273	8625	67	1291	10377	64	1241	9900	66	1270	10129	65	1244	9809	65	1262	9974	-2%	-1%	16%
18 - 24 m	29	1309	4819	17	738	3839	17	744	4149	18	813	4535	18	822	4535	18	822	4535	-38%	-37%	-6%
24 - 40 m	12	1586	3304	11	1193	3289	11	1193	3289	11	1193	3289	11	1193	3289	11	1193	3289	-8%	-25%	0
Total	2547	8233	65515	1910	6176	55632	1880	6081	54525	1857	6088	54523	1841	6027	53590	1826	5997	53110	-28%	-27%	-19%

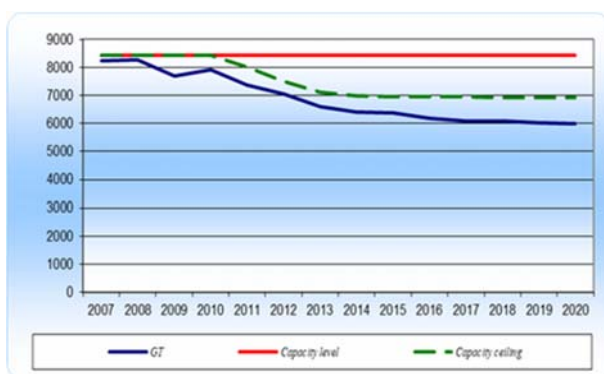


Figure 5. Capacity in GT for 2007-2020

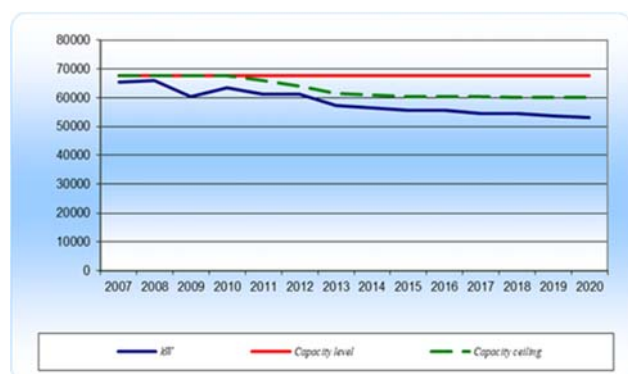


Figure 5. Capacity in KW for 2007-2020



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 2020, 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.

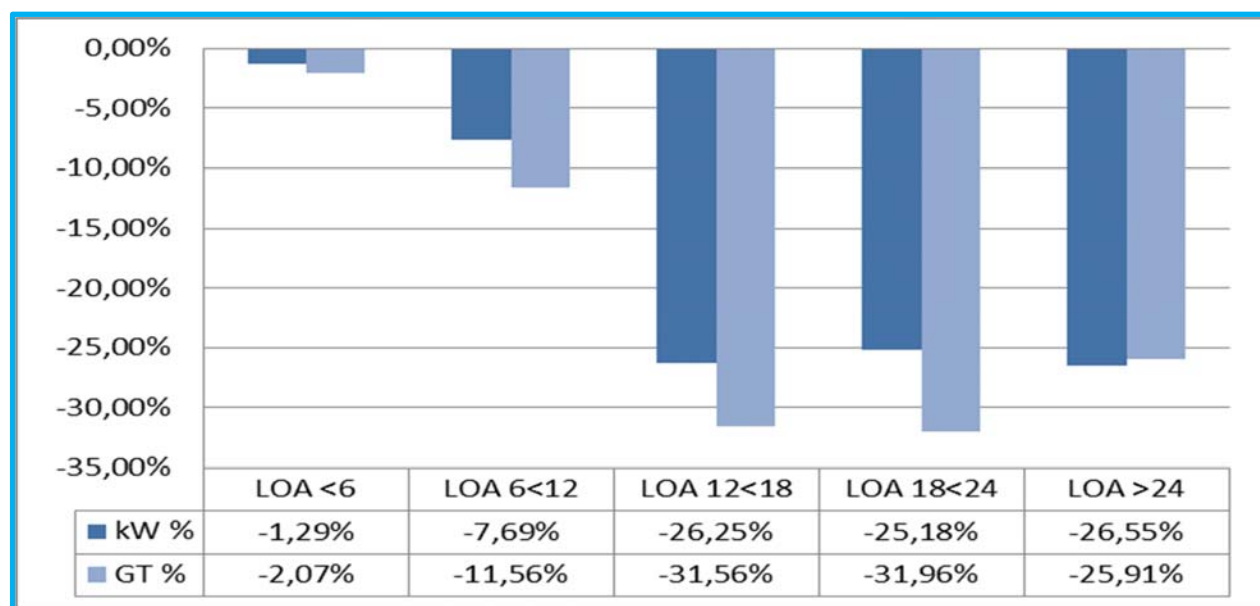


Figure 7. Reduction of Bulgarian fishing fleet in kW and GT

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 2007-2020.

Entry/Exit regime	GT																				kW									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
ENTRY	FR after withdrawal	3	3	86	328	217	338	583	159	77	208	44	202	97	118	55	50	420	3 894	1 412	3 099	6 284	3 564	787	2 720	766	2 160	950	1 362	
	Vessels entered the FR after the accession date, based on adm. decision.	86	44	171	-	-	-	-	-	-	-	-	-	-	-	700	401	1 582	-	-	-	-	-	-	-	-	-	-	-	
	Total	89	48	257	328	217	338	583	159	77	208	44	202	97	118	756	451	2 002	3 894	1 412	3 099	6 284	3 564	787	2 720	766	2 160	950	1 362	
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	156	164	85	7 449	883	1 932	868	7 843	1 504	1 365	3 006	2 049	1 741	1 708	1 958	
	Total	2	5	830	97	785	653	1 059	331	133	403	148	196	167	156	164	85	7 449	883	3 446	3 044	10 256	2 282	1 614	3 006	2 049	2 162	1 708	1 958	

Table 13: Management of the entry/exit regime on 31 December, 2020.

	Item	GT		kW	
1	Capacity of the Fleet on 01 Jan, 2007	GT _{FR}	8 147	kW _{FR}	64 924
2	Capacity level for the application of the entry/exit regime	GT ₀₇	8 448	kW ₀₇	67 607
3	Entries of vessels of more than 100 GT financed with public aid	GT ₁₀₀	0	kW ₁₀₀	0
4	Other entries or capacity increases (not included in 3 & 5)		2 824		29 358
5	Increases in the tonnage (GT) for safety reasons	GT _S	0		0
6	Total entries (3+4+5)		2 824		29 358
7	Exits before 1 January, 2007, financed with public aid	GT _{a1}	0	kW _a	0
8	Exits after 1 January, 2007, financed with public aid	GT _{a2}	1 595		7 551
9	Other exits (not included in items 7 and 8)		3 379		33 621
10	Total exits (7+8+9)		4 974		41 172
11	Power of the engines, replaced using public aid, subject to power reduction.		0	kW _r	0
12	Fleet capacity on 31 Dec, 2020 (1+6-10)	GT _t	5 997	kW _t	53 110
13	Fleet ceiling on 31 Dec, 2020		6 917		60 056

Clarifications:

- Lines 1, 3, 5, 7, 8, 9, 11 and 12 present figures as registered in the Community Fleet Register on 31/12/2020
- Line 4 is calculated as : 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 the national legislation, measures are laid down which allow termination of the validity of the issued license for commercial fishing in case of non-practice of fishing activity for two consecutive calendar years. The released capacity consequently remains in favor of the state and is allocated to fishing vessels that have expressed their desire to engage in commercial fishing.

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, while the discharging ports are 75;
- 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;
- Relatively low average consumption of fish per capita;
- Use of fishing vessels (mainly in segment VL0006) to catch fish for personal use without being placed on the market;
- Restricted navigation area of significant part of the fleet. As it was mentioned above, Bulgarian fishing fleet consists mainly of small boats, major 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 proving of repairs and does not specify a period within which they can be performed, which allows the "retaining" of fishing capacity. This way it is impossible to transfer it to another fishing vessel that actually wish to carry out fishing activities;
- Low price of the first sale of some species;
- Unsufficient 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;
- Regular training sessions of the 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;
- New by-laws to the national legal framework, supplementing its part for the management of the fishing 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 auctions, 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 2016. It is expected to be revised by the end of 2021.

Over the next 3 years, Bulgaria will continue to apply at national level a ban on the use of trawling equipment in the waters up to 3 nautical miles from the coast, applying a derogation for a certain number of vessels in the area between 1 and 3 nautical miles. This allows smaller fishing vessels with a limited navigating area to deploy their fishing gear in the closer coastal zone, thus avoiding contact with larger vessels using active fishing gear..

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

The fleet is managed through a system of commercial fishing licenses, as it is laid down in the Fisheries and Aquacultures Act. The order and conditions for issuance of the commercial fishing licenses, special licences and authorizations are determined in line with the legislation of the European Union, according to the provision of art. 17, par. 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 (EC) 2847/93, (EC) 1936/2001 and (EC) 601/2004 and for repealing of regulations (EC) 1093/94 and (EC) 1447/1999.

In 2020, electronic fishing logbook (ERS) equipment was installed on board fishing vessels of over 12 meters, and technical tests of the operation and training of masters of vessels were carried out. From 1 January 2021, information on fishing activities of vessels of over 12 meters in length will be reported electronically only.

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. The Regulation on the terms and conditions for management of the fishing fleet of the Republic of Bulgaria is aimed at determining the terms and conditions for entry and withdrawal of vessels in the register of fishing vessels, as well as those for allocation of free fishing capacity in the navy released as a result of:

- Official withdrawal of fishing vessels from the Register of fishing vessels, kept by the Executive Agency for Fisheries and Aquaculture, pursuant to Art. 18c, para. 3 of the Fisheries and Aquaculture Act;
- Withdrawal of fishing vessels from the Register of Vessels, kept by the Executive Agency



"Maritime Administration" under Art. 22, para. 1, item 1, item 3 and para. 2 of Ordinance № 1 of 2003 for entry in the Register of Ships;

- Expiration of validity certificates for free fishing capacity. Conducting a procedure for allocating a free fishing capacity from two to three calendar years.

There is a text regulating as inadmissible for participation in the procedure for allocation of fishing capacity persons with granted public aid for permanent cessation of fishing activities under European fisheries funds. A minimum of eligibility and assessment criteria for participants in a procedure for allocating fishing capacity in the fleet have been established. An evaluation criterion is established, setting a ratio between the average registered gross tonnage and the average registered engine power in the register of fishing vessels for the respective segment by the total length overall of fishing vessels.

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 2016, 2017, 2018, 2019 and 2020, as shown below. For the calculation of the indicators, the data collected under the Data Collection Framework (DCF) for 2016, 2017, 2018, 2019 and 2020, and the EAFA information and statistical system, were used.

F.1. Technical Indicator

The technical indicator assessment has made according to the Guidelines and it is relevant for all active vessels during 2016, 2017, 2018, 2019 and 2020. 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 2016, 2017, 2018, 2019 and 2020.

LOA	<6					6-12 m					12-18 m					18-24 m					24-40 m				
Representative year	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Inactive vessels	241	226	249	268	255	463	349	400	444	333	6	9	9	9	8	2	1	2	1	1	0	0	0	0	0
Total number	655	660	662	674	682	1160	1128	1100	1073	1050	67	64	66	65	65	17	17	18	18	18	12	11	11	11	11



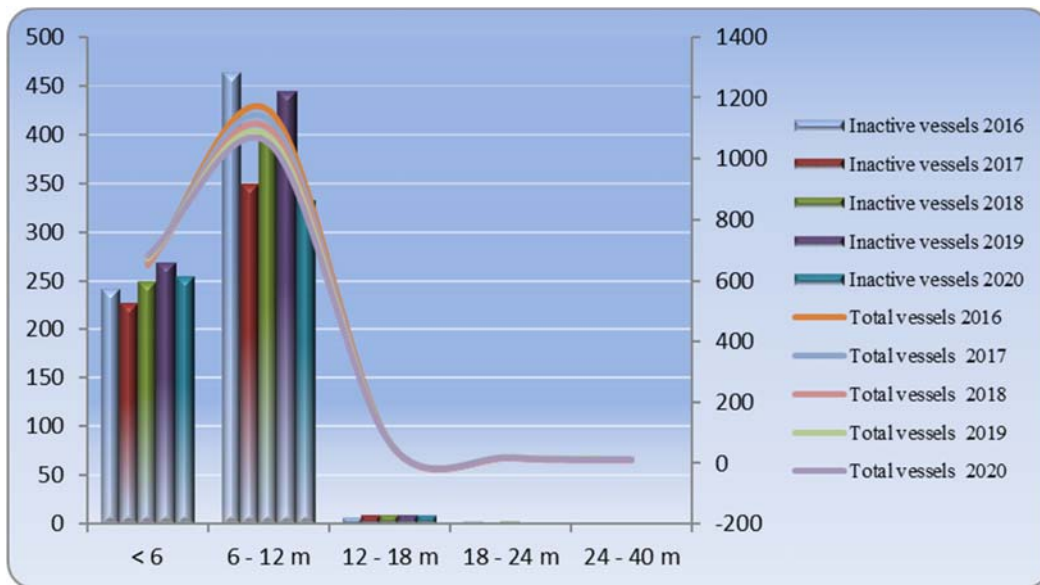


Figure 8. Chart of the inactive vessels throughout the years.

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 2020, is still high-about 35%. 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 2016-2020 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 must 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 2016	No of vessels 2017	No of vessels 2018	No of vessels 2019	No of vessels 2020	Technical indicator 1 – Current/Maximum effort ratio									
							GT/Days 2016	GT/Days 2017	GT/Days 2018	GT/Days 2019	GT/Days 2020	kW/Days 2016	kW/Days 2017	kW/Days 2018	kW/Days 2019	kW/Days 2020
DFN	VL0006	304	260	304	298	326	0.10	0.08	0.10	0.12	0.13	0.08	0.07	0.10	0.09	0.09
PS	VL0006	19	12	12	13	8	0.20	0.31	0.29	0.59	0.49	0.01	0.14	0.15	0.23	0.18
PMP	VL0006	53	82	80	70	68	0.24	0.27	0.21	0.16	0.19	0.09	0.22	0.16	0.11	0.15
FPO	VL0006	6	4	2	3	3	0.41	*	*	*	*	0.05	*	*	*	*
HOK	VL0006	26	50	12	17	15	0.38	0.24	0.50	0.42	0.27	0.33	0.23	0.40	0.39	0.25
PGP	VL0006	7	26	7	7	8	0.29	0.19	0.20	0.40	0.38	0.27	0.17	0.06	0.20	0.30
Total number		415	434	417	408	428	0.27	0.22	0.26	0.34	0.29	0.14	0.16	0.17	0.20	0.19
DFN	VL0612	430	400	457	403	515	0.07	0.08	0.07	0.08	0.07	0.07	0.08	0.07	0.08	0.07
PS	VL0612	6	3	4	4	3	0.39	*	*	*	*	0.05	*	*	*	*
FPO	VL0612	42	38	34	32	34	0.28	0.19	0.25	0.18	0.24	0.55	0.18	0.22	0.16	0.23
HOK	VL0612	49	97	26	25	24	0.08	0.09	0.36	0.10	0.23	0.08	0.09	0.36	0.10	0.23
PGP	VL0612	13	38	12	14	9	0.34	0.21	0.23	0.40	0.30	0.32	0.21	0.23	0.40	0.30
PMP	VL0612	154	195	164	148	132	0.24	0.20	0.21	0.15	0.20	0.23	0.19	0.21	0.15	0.20
TM	VL0612	6	6	4	2	3	0.74	0.55	*	*	*	0.74	0.55	*	*	*
TBB	VL0612	3	2	3	3	-	*	*	*	*	-	*	*	*	*	-
Total number		703	779	704	631	720	0.29	0.22	0.22	0.18	0.21	0.20	0.22	0.22	0.18	0.21
DFN	VL1218	7	10	7	9	19	0.49	0.41	0.34	0.54	0.46	0.49	0.41	0.34	0.54	0.46
PGP	VL1218	2	-	2	-	1	*	-	*	-	*	*	-	*	-	*
PMP	VL1218	14	21	16	21	14	0.76	0.62	0.61	0.57	0.59	0.76	0.62	0.61	0.57	0.59
TBB	VL1218	4	6	6	7	1	*	0.67	0.70	0.53	*	*	0.67	0.70	0.53	*
HOK	VL1218	1	1	-	-	1	*	*	-	-	*	*	*	-	-	*
TM	VL1218	33	17	26	19	21	0.57	0.62	0.44	0.42	0.42	0.57	0.62	0.44	0.42	0.42
Total number		61	55	57	56	57	0.61	0.58	0.52	0.52	0.49	0.61	0.58	0.52	0.52	0.49
DFN	VL1824	1	2	-	-	3	*	*	-	-	*	*	*	-	-	*
PS	VL1824	-	1	-	1	-	-	*	-	*	-	*	-	*	-	-
PMP	VL1824	4	4	3	9	3	*	*	*	0.55	*	*	*	*	0.55	*
TBB	VL1824	1	1	2	2	-	*	*	*	*	-	*	*	*	*	-
TM	VL1824	9	8	11	5	11	0.63	0.62	0.54	*	0.52	0.63	0.62	0.54	*	0.52
Total number		15	16	16	17	17	0.63	0.62	0.54	0.55	0.52	0.63	0.62	0.54	0.55	0.52
TM	VL2440	12	11	10	10	10	0.68	0.72	0.74	0.72	0.75	0.68	0.72	0.74	0.72	0.75
DFN	VL2440	-	-	-	1	1	-	-	-	*	*	-	-	-	*	*
PMP	VL2440	-	-	1	-	-	-	-	*	-	-	-	-	*	-	-
Total number		12	11	11	11	11	0.68	0.72	0.74	0.72	0.75	0.68	0.72	0.74	0.72	0.75

* 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 2019 and 2020 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 were 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 2019, the highest values of the indicator were in PMP 0006 segment, followed by the segments TM 2440 and TM 1824.

Values of ROI for 2020 show that the most profitable was the PMP 0612, PMP 0006, PGP 0006 and TM 2440 segments.

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 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%
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 ²
Values for 2020 (€'000)						
DFN 0006	105.03	103.66	-3.19	818.21	-0.39%	-2.23%
PS 0006	2.50	2.68	-0.21	10.52	-1.96%	-3.80%
FPO 0006*	0.00	0.00	0.00	0.00		
HOK 0006	0.92	3.46	-2.53	40.73	-6.22%	-8.06%
PGP 0006	8.66	3.93	4.74	14.97	31.66%	29.82%
PMP 0006	445.91	224.03	219.50	208.52	105.26%	103.42%
DFN 0612	294.57	236.92	31.59	2750.83	1.15%	-0.69%
PS 0612*	0.00	0.00	0.00	0.00		
FPO 0612	123.06	90.10	29.44	238.22	12.36%	10.52%



HOK 0612	2.07	7.22	-5.15	168.23	-3.06%	-4.90%
PGP 0612	3.23	1.03	2.20	37.77	5.83%	3.99%
PMP 0612	1305.30	299.36	998.00	891.01	112.01%	110.17%
TM 0612*	0.00	0.00	0.00	0.00		
DFN 1218	418173.10	302581.34	86985.64	1533778.54	5.67%	3.83%
HOK 1218*	0.00	0.00	0.00	0.00		
PGP 1218*	0.00	0.00	0.00	0.00		
PMP 1218	368.76	244.91	97.29	1066.14	9.13%	7.29%
TBB 1218*	0.00	0.00	0.00	0.00		
TM 1218	477.71	331.33	99.39	1519.88	6.54%	4.70%
DFN 1824*	0.00	0.00	0.00	0.00		
PMP 1824*	0.00	0.00	0.00	0.00		
TM 1824	323.55	256.95	26.19	1505.27	1.74%	-0.10%
DFN 2440*	0.00	0.00	0.00	0.00		
TM 2440	873.77	510.46	341.07	1292.14	26.40%	24.56%

* 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 2013-2018 (source: European Central Bank) – 2.35% is used for the calculation of the indicator for 2019.

² average risk-free long-term interest rate for Bulgaria for the period 2014-2019 (source: European Central Bank) – 1.84% is used for the calculation of the indicator for 2020.

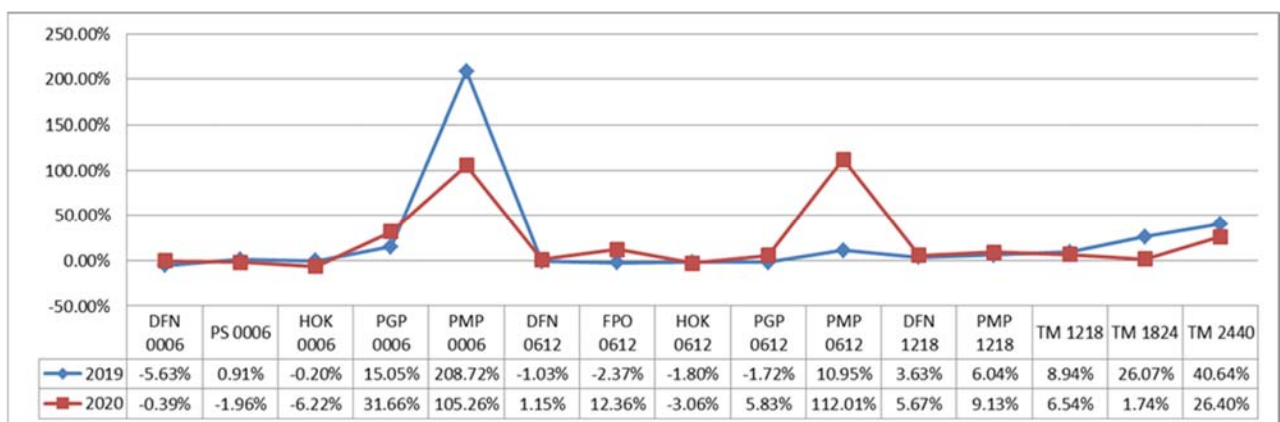


Figure 9. Return on investment (ROI) for 2019 and 2020.

Figure 9 shows the ROI values for 2019 and 2020. 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 0612, followed by PGP 0006 and FPO 0612.

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 the value for DFN 0006 remains negative. 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 2019-2020 the indicator CR/BER is calculated in the short and long term (**Table 17**).

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.

The 2020 results show that 11 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 segments PMP 0612, PMP 0006, TM 2440. Calculations are also made for the CR/BER ratio for 2020 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 2014-2019. In long-term, the indicator has a positive value of over 1 in 9 of the segments, including 26% (315 vessels) of the fleet. For 4 segments (DFN 0006, PS 0006, DFN 0612 and TM 1824), this ratio is positive but below 1 and with a negative value for the other 2 segments, which are unprofitable in short-term and in long-term.

Table 17. Ratio between current revenue and break-even revenue 2019 and 2020 (€'000)

2019 Fleet segment	Current revenue (CR) = Income from landings + other income	Fixed costs = Non variable costs + depreciation	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
2020 Fleet segment	Current revenue (CR) = Income from landings + other income	Fixed costs = Non variable costs + depreciation	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	105.03	23.62	38.68	84.60	121.45	0.86	0.53
PS 0006	2.50	0.32	0.51	2.38	7.01	0.36	0.22
FPO 0006*	0.00	0.00	0.00	0.00	0.00		
HOK 0006	0.92	1.62	2.37	1.84	-1.63	-0.57	-0.39
PGP 0006	8.66	0.95	1.23	2.98	1.45	5.98	4.64
PMP 0006	445.91	12.63	16.47	213.78	24.26	18.38	14.10
DFN 0612	294.57	65.43	116.04	197.55	198.65	1.48	0.84
PS 0612*	0.00	0.00	0.00	0.00	0.00		
FPO 0612	123.06	10.22	14.60	83.41	31.71	3.88	2.72
HOK 0612	2.07	2.42	5.51	4.80	-1.84	-1.13	-0.50
PGP 0612	3.23	0.36	1.06	0.66	0.46	7.07	2.43
PMP 0612	1305.30	29.45	45.84	277.86	37.41	34.89	22.41
TM 0612*	0.00	0.00	0.00	0.00	0.00		
DFN 1218	418173.10	47.93	76.15	283.26	148.56	2.81	1.77



HOK 1218*	0.00	0.00	0.00	0.00	0.00		
PGP 1218*	0.00	0.00	0.00	0.00	0.00		
PMP 1218	368.76	38.97	58.59	232.50	105.47	3.50	2.33
TBB 1218*	0.00	0.00	0.00	0.00	0.00		
TM 1218	477.71	60.31	88.27	318.01	180.39	2.65	1.81
DFN 1824*	0.00	0.00	0.00	0.00	0.00		
PMP 1824*	0.00	0.00	0.00	0.00	0.00		
TM 1824	323.55	61.03	88.73	236.32	226.41	1.43	0.98
DFN 2440*	0.00	0.00	0.00	0.00	0.00		
TM 2440	873.77	24.14	47.91	508.57	57.75	15.13	7.62

Clarifications:

- 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 2019-2020 are presented in **Table 18**.

Table 18. Ratio between current revenue and break-even revenue (CR/BER and CR/BER¹) for 2019 and 2020.

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	TM 1218	TM 1824	TM 2440
CR/BER	-0.89	1.6	0.94	17.82	34.79	0.64	0.54	-0.21	-0.83	4.76	2.28	2.79	3.79	24.77	34.06
CR/BER ¹	-0.5	0.63	0.56	4.91	25.2	0.35	0.37	-0.08	-0.24	2.63	1.25	1.64	2.19	7.88	11.7
Ratio between current revenue and break-even revenue (CR/BER) for 2020															
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	TM 1218	TM 1824	TM 2440
CR/BER	0.86	0.36	-0.57	5.98	18.38	1.48	3.88	-1.13	7.07	34.89	2.81	3.5	2.65	1.43	15.13
CR/BER ¹	0.53	0.22	-0.39	4.64	14.1	0.84	2.72	-0.5	2.43	22.41	1.77	2.33	1.81	0.98	7.62

Table 19. Direct subsidies for 2014, 2015, 2016, 2017, 2018, 2019 and 2020(€'000)

Direct subsidies for 2014, 2015, 2016, 2017, 2018, 2019 and 2020 (€'000).							
Fleet segment	2014	2015	2016	2017	2018	2019	2020
DFN 0006	0,1	0	0	0	0	0	0,15
DFN 0612	0	0	0	0	18,28	0	9,18
DFN 1218	0	0	0	0	0	0	109,55
DFN 1824	0	0	0	0	0	0	20,62
DFN 2440	0	0	0	0	0	0	21,07
HOK 1218	0	0	0	0	0	0	15,33
PMP 0612	0,26	0	0	0	0	0	7,84
PMP 1218	0	0	0	0	0	0	72,11
PMP 1824	0	0	0	0	0	0	55,72
PGP 0006	0,26	0	0	0	0	0	0
PGP 1218	13	0	0	0	0	0	0
TM 1218	0	0	0	0	0	0	126,05



TM 1824	0	0	0	0	0	0	67,70
TM 2440	0	0	0	0	0	0	167,19

F.3. Biological indicators

F.3.1. Sustainable harvest indicator

The Bulgarian marine fisheries are performed 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 2020 the allocated national quota was 75 t for turbot and sprat – 8 032.5 t (Council Regulation (EU) 2019/2236 of 16 December 2019 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Mediterranean and Black Seas).

Four research surveys were conducted in the Bulgarian aquatory in Black sea – two demersal and two pelagic during 2020.

The biological indicator 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) and was used for the calculations for 2019 and 2020. The results for the estimated value of the Sustainable harvest indicator are shown in Table 20. 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 11 of these 17 segments there is an increase in the value of the indicator for 2020, in 6 segments, there is a decrease. There are 3 segments for which the indicator was below 1 in 2019 but above 1 in 2020 (FPO 0612, TM 1218 and TM 1824). 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.

Table 20. Indicator for sustainable harvest for 2019 and 2020.



Segment	Indicator for sustainable harvest for 2019	Indicator for sustainable harvest for 2020
DFN VL0006	2.397	1.871
DFN VL0612	2.860	3.145
DFN VL1218	3.735	2.502
DFN VL2440	2.585	7.713
FPO VL0006	1.775	1.234
FPO VL0612	0.983	1.185
HOK VL0006	6.909	7.960
HOK VL0612	6.220	8.103
PGP VL0006	1.228	1.775
PGP VL0612	2.419	1.502
PMP VL0006	1.931	1.934
PMP VL0612	3.157	2.318
PMP VL1218	1.754	3.337
PMP VL1824	1.680	3.232
PS VL0006	1.073	1.152
PS VL0612	1.393	1.570
TBB VL1218	2.022	1.680
TM VL0612	1.372	1.624
TM VL1218	0.979	1.130
TM VL1824	0.880	1.066
TM VL2440	0.866	0.942

F.3.2. Stocks-at-risk indicator

The indicator is not calculated because the catches in 2020 did not exceed 10% of the biomass from the research surveys of target species.

The landings of turbot in 2020 were 61.59 tonnes (reported data to DCF) and the established biomass was 1,628 tonnes. The landings of sprat in 2020 were 1,622 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	ROI 1	CR/BER 2	
2015	DFN	VL0006						Level 1
	PS	VL0006						Level 3
	PMP	VL0006						Level 3
	FPO	VL0006						Level 2
	HOK	VL0006						Level 2
	PGP	VL0006						Level 3
	DFN	VL0612						Level 1
	PS	VL0612						Level 3
	FPO	VL0612						Level 3
	HOK	VL0612						Level 2
	PGP	VL0612						Level 3
	PMP	VL0612						Level 1
	TBB	VL0612						Level 3
	DFN	VL1218						Level 1
	PMP	VL1218						Level 2
	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						Level 3
	PS	VL0006						Level 2
	PMP	VL0006						Level 2
	HOK	VL0006						Level 3
	PGP	VL0006						Level 2
	DFN	VL0612						Level 3
	FPO	VL0612						Level 3
	HOK	VL0612						Level 3
	PGP	VL0612						Level 3
	PMP	VL0612						Level 2
	TM	VL0612						Level 2
	DFN	VL1218						Level 2
	PMP	VL1218						Level 2
	TBB	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	
2018	DFN	VL0006						Level 3
	PS	VL0006						Level 2
	PMP	VL0006						Level 2
	HOK	VL0006						Level 3
	PGP	VL0006						Level 2
	DFN	VL0612						Level 3
	FPO	VL0612						Level 3
	HOK	VL0612						Level 3
	PGP	VL0612						Level 3
	PMP	VL0612						Level 2
	DFN	VL1218						Level 3
	PMP	VL1218						Level 2
	TBB	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	
2019	DFN	VL0006						Level 3
	PS	VL0006						Level 2
	PMP	VL0006						Level 2
	HOK	VL0006						Level 3
	PGP	VL0006						Level 2
	DFN	VL0612						Level 3
	FPO	VL0612						Level 3
	HOK	VL0612						Level 3
	PGP	VL0612						Level 3
	PMP	VL0612						Level 2
	DFN	VL1218						Level 2
	PMP	VL1218						Level 2
	TBB	VL1218						Level 2
	TM	VL1218						Level 1
	PMP	VL1824						Level 2
	TM	VL2440						Level 1

	Métier		Technical indicator	Biological indicators		Economic indicators		Conclusion
				Bio 1	Bio 2	ROI 1	CR/BER 2	
2020	DFN	VL0006						Level 3
	PS	VL0006						Level 3
	PMP	VL0006						Level 2
	HOK	VL0006						Level 3
	PGP	VL0006						Level 2
	DFN	VL0612						Level 2
	FPO	VL0612						Level 2
	HOK	VL0612						Level 3
	PGP	VL0612						Level 2
	PMP	VL0612						Level 2
	DFN	VL1218						Level 2
	PMP	VL1218						Level 2
	TM	VL1218						Level 2
	TM	VL1824						Level 2
	TM	VL2440						Level 1

