Republic of Bulgaria
Executive Agency for Fisheries and Aquacultures

Bulgarian Annual Report on the efforts in 2017 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 2018

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Summary

The Bulgarian fishing fleet operates exclusively in Black Sea and at 31st December 2017 it consists of 1,880 fishing vessels featuring a total capacity of 6,081.15 GT and 54,525.35 kW. 1,788 of them are less than 12 meters, which is approximately 95% of all Bulgarian vessels. The most used fishing gear is gillnets (anchored). During the period 2007 – 2017, the Bulgarian fishing fleet has decreased in GT and kW as well in all segments, as it is shown in **Figures 5** and **6**. Each entry (or increase the tonnage or the engine power) in the fishing fleet register has been covered by the removal of at least same quantity from the fleet.

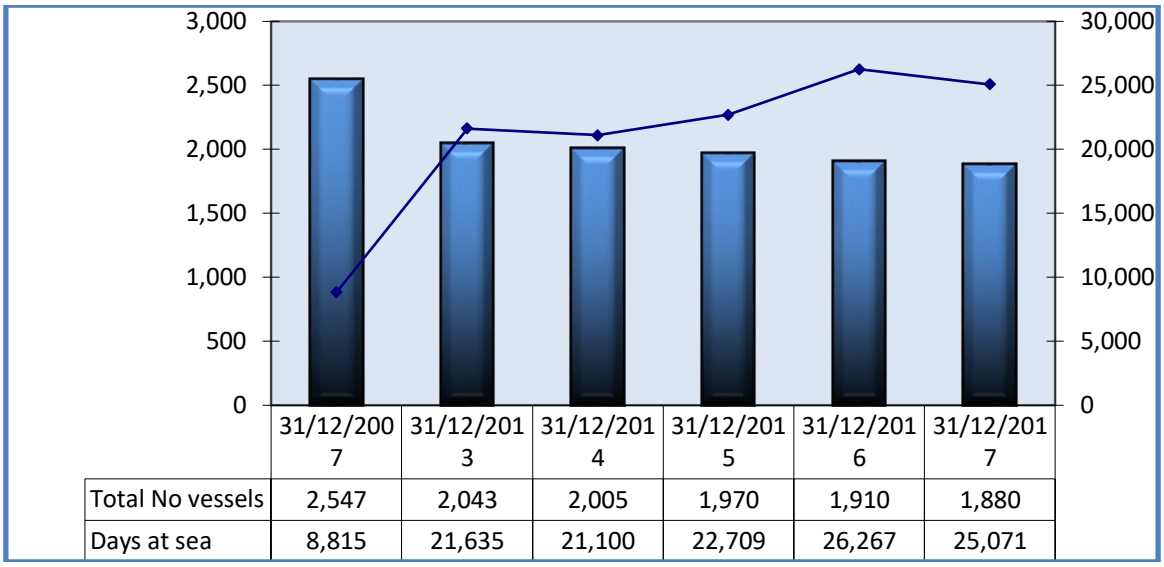
The economic status of the fishing fleet is under the influence of number of factors, the main of them are: the average age of the fleet is approximately 20 years; unbalance between the variable expenses and current earnings; low purchasing abilities of the population, annual migrations of part of the valuable species; variations of fuel prices; lack of a market regulator guaranteeing the same purchase price levels to set maximum and minimum values.

In 2017, there is an increase in the number of active vessels in the segments PMP, HOK and PGP, while other segments see 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 2017 conditionally divided by total length are as follows: LOA 0006 - 228 pcs.; LOA 0612 – 358 pcs.; LOA 1218 – 15 pcs.; LOA 1824 – 1 pc. The measures described in the national legislation (art. 18в of Fisheries and Aquacultures Act-FAA) were applied for the inactive vessels in 2017, but due to the numerous complaints filed and the high public response, the procedure was postponed.

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 31December, 2017 the Bulgarian fishing fleet consists of 1,880 vessels, operating only in Black Sea, with total capacity of 6,081.15 GT и 54,525.35 kW. The fishing vessels assigned to small-scale fishing with LOA of up to 12 meters, represent 95% or 1,788 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 26% from the date of accession of Bulgaria to the EU (01 January 2007). There is a slight decline in active vessels as well as sea days compared to the 2016 reference values, but overall activity remains high compared to the previous years (**Figure 1**).



	31/12/2007	31/12/2013	31/12/2014	31/12/2015	31/12/2016	31/12/2017
Total No vessels	2,547	2,043	2,005	1,970	1,910	1,880
Days at sea	8,815	21,635	21,100	22,709	26,267	25,071

Figure 1. Number of vessels and days at sea for the period 2007-2017

The active fishing vessels in 2017 are 1,295 and the vast majority of them, a total of 1,213, are within the scope of small-scale (mainly coastal) fishing. The percentage of active fishing vessels between the two segments is 93.67% at 6.33% in favor of those with a total length of up to 12 meters. The fishing activity of the fleet in 2017, expressed in days at sea, is a total of 25,071 days, with 69.63% of fishing vessels with a total length of up to 12 meters.

Table 1. Fishing activity of the vessels during 2017

LOA	Number of vessels	GT	kW	Days at sea	Vessels ratio	Days at sea ratio
LOA 0012	1,213	2,009.59	25,530.66	17,457	93.67%	69.63%
LOA 1240	82	2,948.44	15,628.92	7,614	6.33%	30.37%
Sum:	1,295	4,958.03	41,159.58	25,071		

"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 2013, 2014, 2015, 2016 and 2017

	2013			2014			2015			2016			2017	
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	3,249	DFN	VL0006	2,728	DFN	VL0006	2,869	DFN	VL0006	2,924	DFN	VL0006	2,102
	VL0612	4,675		VL0612	4,054		VL0612	4,134		VL0612	4,845		VL0612	3,574
	VL1218	330		VL1218	551		VL1218	291		VL1218	309		VL1218	353
	VL1824	32		VL1824	6		VL1824	11		VL1824	33		VL1824	280
	Sum:	8,286	Sum:		7,339	Sum:		7,305	Sum:		8,111	Sum:		6,309
PS	VL0006	320	PS	VL0006	340	PS	VL0006	303	PS	VL0006	251	PS	VL0006	154
	VL0612	58		VL0612	68		VL0612	62		VL0612	51		VL0612	28
Sum:		378	Sum:		408	Sum:		365	Sum:		302		VL1218	77
FPO	VL0006	170	FPO	VL0006	76	FPO	VL0006	47	FPO	VL0006	167	Sum:		259
	VL0612	763		VL0612	507		VL0612	526		VL0612	764	FPO	VL0006	14
Sum:		933	Sum:		583	Sum:		573	Sum:		931		VL0612	533
HOK	VL0006	494	HOK	VL0006	274	HOK	VL0006	311	HOK	VL0006	196	Sum:		547
	VL0612	951		VL0612	669		VL0612	648		VL0612	765	HOK	VL0006	293
Sum:		1,445	Sum:		943	Sum:		959		VL1218	26		VL0612	785
PGP	VL0006	7	PGP	VL0006	116	PGP	VL0006	118	Sum:		987		VL1218	28
	VL0612	42		VL0612	68		VL0612	52	PGP	VL0006	28	Sum:		1,106
	VL1218	25		VL1218	262	Sum:		170		VL0612	88	PGP	VL0006	80
Sum:		74	Sum:		446	PMP	VL0006	1,314		VL1218	96		VL0612	158
PMP	VL0006	819	PMP	VL0006	1,037		VL0612	3,753	Sum:		212	Sum:		238
	VL0612	3,150		VL0612	3,520		VL1218	2,189	PMP	VL0006	1,895	PMP	VL0006	2,584
	VL1218	2,357		VL1218	2,633		VL1824	511		VL0612	4,852		VL0612	6,868
	VL1824	664		VL1824	1,102	Sum:		7,767		VL1218	1,367		VL1218	1,978
	VL2440	72		VL2440	66	TBB	VL0612	350		VL1824	456		VL1824	360
Sum:		7,062	Sum:		8,358		VL1218	136	Sum:		8570	Sum:		11,790
TM	VL0612	156	TBB	VL0612	69		VL1824	277	TBB	VL0612	201	TBB	VL0612	182
	VL1218	777	TM	VL0612	236	Sum:		763		VL1218	301		VL1218	396
	VL1824	594		VL1218	598	TM	VL0612	238		VL1824	32		VL1824	27
	VL2440	1,930		VL1824	445		VL1218	1,946	Sum:		534	Sum:		605
Sum:		3,457		VL2440	1,840		VL1824	727	TM	VL0612	168	TM	VL0612	102
Total:		21,635	Sum:		3,188		VL2440	1,896		VL1218	3,319		VL1218	1,597
			Total:		21,265	Sum:		4,807		VL1824	1,122		VL1824	900
						Total:		22,709		VL2440	1,615		VL2440	1,618
									Sum:		6,224	Sum:		4,217
									Total:		25,871	Total:		25,071

Table 3 shows the fishing activity data for fishing vessels for 2013, 2014, 2015, 2016 and 2017, showing that the data on the reference 2016 is declined by 3%. The largest decrease was observed in TM and FPO segments by 32% and 41%, respectively, while in the other segments there is an increase of the activity respectively in PMP by 38%, in TBB - by 13%, in HOK and PGP by 12%. The high level of activity in the PMP segment is due to the greater selectivity of the fishing gear by the fishermen while conducting their fishing activities.

Table 4. Activity of the fishing vessels by segments for 2017

Segment		Number of vessels	GT	kW	Days at sea	Activity for the segment	Activity to the fleet
DFN	VL0006	260	194.11	2,358.78	2,102	33.32%	8.38%
	VL0612	400	775.89	10,407.43	3,574	56.65%	14.26%
	VL1218	10	169.38	1,453.31	353	5.60%	1.41%
	VL1824	2	71.24	676.66	280	4.44%	1.12%
	Sum:	672	1,210.62	12,537.4	6,309		25.16%
PS	VL0006	12	7.79	69.83	154	59.46%	0.61%
	VL0612	3	3.51	3.68	28	10.81%	0.11%
	VL1218	1	30.56	308.91	77	29.73%	0.31%
	Sum:	16	41.86	382.42	259		1.03%
FPO	VL0006	4	3.42	35.31	14	2.56%	0.06%
	VL0612	38	120.94	1,046.65	533	97.44%	2.13%
	Sum:	42	124.36	1,081.96	547		2.18%
HOK	VL0006	50	37.4	483.94	293	26.49%	1.17%
	VL0612	97	156.2	2,373.52	785	70.98%	3.13%
	VL1218	1	15.36	98	28	2.53%	0.11%
	Sum:	148	208.96	2,955.46	1,106		4.41%
PGP	VL0006	26	21.02	215.53	80	33.61%	0.32%
	VL0612	38	63.72	874.55	158	66.39%	0.63%
	Sum:	64	84.74	1,090.08	238		0.95%
PMP	VL0006	82	64.43	764.43	2,584	21.92%	10.31%
	VL0612	195	486.09	6,202.72	6,868	58.25%	27.39%
	VL1218	21	402.13	3,002.19	1978	16.78%	7.89%
	VL1824	4	154.46	897.24	360	3.05%	1.44%
	Sum:	302	1,107.11	10,866.58	11,790		47.03%
TBB	VL0612	2	25.57	113.98	182	30.08%	0.73%
	VL1218	6	106.64	805.95	396	65.45%	1.58%
	VL1824	1	32	110	27	4.46%	0.11%
	Sum:	9	164.21	1,029.93	605		2.41%
TM	VL0612	6	49.5	580.31	102	2.42%	0.41%
	VL1218	17	357.85	3,076.24	1,597	37.87%	6.37%
	VL1824	8	416.14	1,911.52	900	21.34%	3.59%
	VL2440	11	1,192.68	3,288.9	1,618	38.37%	6.45%
Sum:		42	2,016.17	8,856.97	4,217		16.82%
Total:		1,295	4,958.03	38,800.8	25,071		

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 2017, activity in PMP segments was 47.03% - the highest one observed, DFN - 25.16% and TM - 16.82%. The two largest segments are DFN - 672 fishing vessels and PMP - 302 fishing vessels, as these two segments are representing 75% of the entire fleet.

Coastal fishing vessels segment with a total length of 12 meters (VL 0012) is most representative in the DFN and PMP segments, with the most active being PMP VL 0612 with 39.34%, DFN VL 0612 with 20.47% to the total small-scale fishing activity for 2017.

Table 5. Segment VL 0012 for 2017

LOA 0012	Segment		Number of vessels	Days at sea	Activity for the segment
	DFN	VL0006	260	2,102	12.04%
		VL0612	400	3,574	20.47%
	PS	VL0006	12	154	0.88%
		VL0612	3	28	0.16%
	FPO	VL0006	4	14	0.08%
		VL0612	38	533	3.05%
	HOK	VL0006	50	293	1.68%
		VL0612	97	785	4%
	PGP	VL0006	26	80	0.46%
		VL0612	38	158	0.91%
	PMP	VL0006	82	2,584	14.80%
		VL0612	195	6,868	39.34%
	TBB	VL0612	2	182	1.04%
	TM	VL0612	6	102	0.58%
		Sum:	1,213	17,457	

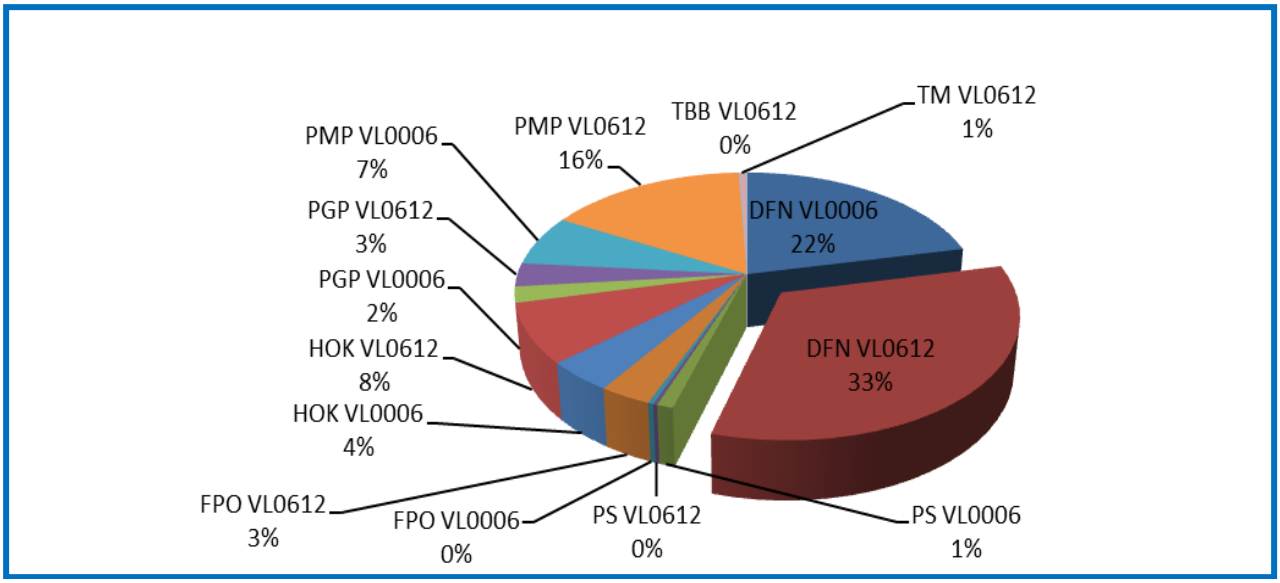


Figure 2. Percentage distribution of the fishing vessels VL 0012

Regarding the case of VL 1240 fishing vessels, the TM - 36 fishing vessels and PMP - 25 fishing vessels are the most numerous. The most active are PMP VL 1218 with 25.98%, TM VL 2440 with 21.25% and TM VL 12-18 with 20.97% (**Table 6** and **Figure 3**)

Table 6. Fishing vessels with LOA VL 1240

LOA1240	Segment		Number of vessels	Days at sea	Activity for the segment
	DFN	VL1218	10	353	4.64%
		VL1824	2	280	3.68%
	PS	VL1218	1	77	1.01%
	HOK	VL1218	1	28	0.37%
	PMP	VL1218	21	1,978	25.98%
		VL1824	4	360	4.73%
	TBB	VL1218	6	396	5.20%
		VL1824	1	27	0.35%
	TM	VL1218	17	1,597	20.97%
		VL1824	8	900	11.82%
		VL2440	11	1,618	21.25%
		Total:	82	7,614	

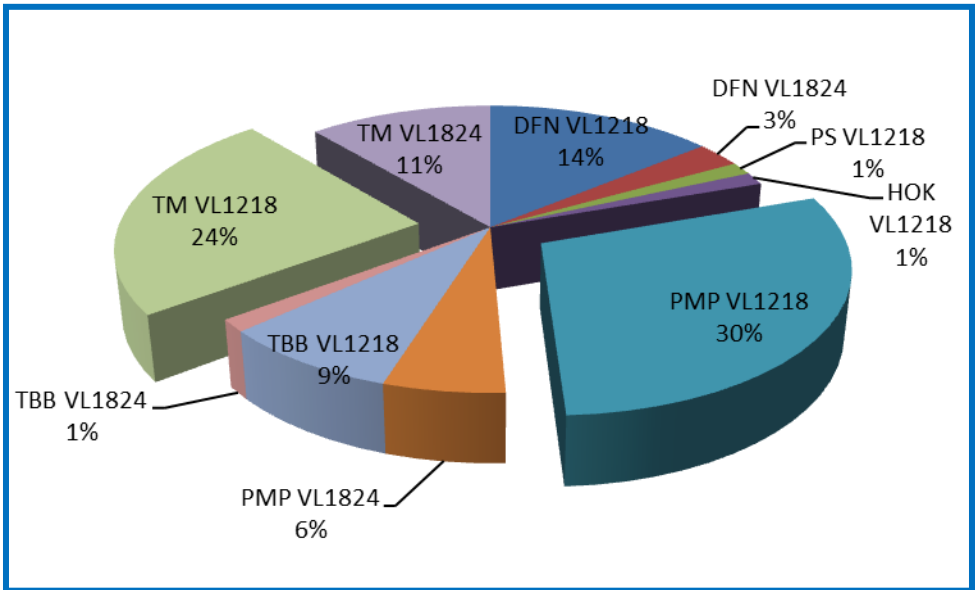


Figure 3. Percentage distribution of the fishing vessels VL 1240

A. 2. Relation to fisheries

Taking 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 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*).
- Rapa wealk (*Rapana venosa*) and White sand clam (*Mya arenaria*).

For 2017 the total amount of landings in Black Sea from Bulgarian fishing fleet is 8,540 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, and in 2016 a special regime for monitoring the catches of Piked Dogfish (*Squalus acanthias*) is introduced. The regime for restricting the fishing opportunities for turbot and sprat applies since 2007. For 2017, the fishing opportunities for the Black Sea were laid down in Council Regulation 2016/73 as follows:

- For turbot – 43.2 tons;
- For sprat – 8,032.5 tons.
- For Piked Dogfish - The level of catches should not exceed the levels from 2015.

In 2017, the catch of turbot is 41.8 tons and the catch of sprat and piked dogfish are respectively 3,189 tons and 50.5 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 – 2017

Main targeted species	FAO code	Landings 2007	Landings 2012	Landings 2013	Landings 2014	Landings 2015	Landings 2016	Landings 2017
European sprat	SPR	2 ,984,585.0	2 ,836,201.9	3,784,192.1	2, 279,108.4	3, 296,994.3	2,295,494.2	3,188,949.81
Med. horse mackerel	HMM	115,885.7	380,662.2	271,376.9	113,073.7	87,178.2	166,190.35	153,481.65
Atlantic bonito	BON	895.0	96,099.6	6,131.0	5,511.3	7,731.8	68,223.3	13,038.3
Bluefish	BLU	8,218.9	550,782.7	49,024.3	304,738.2	138,447.3	712,157.35	71,014.87
Flathead grey mullet	MUF	5,844.9	24,702.2	9,029.7	16,316.4	10,216.1	8,651.5	3,068.41
Red mullet	MUT	12,595.0	131,488.3	256,775.0	328,815.8	632,568.6	877,449.1	374,620.8
Picked dogfish	DGS	23,978.0	28,692.7	30,947.7	34,009.7	133,041.7	83,478.9	50,451.4
Turbot	TUR	66,885.0	36,361.6	39,577.0	39,449.7	43,005.7	42,432.34	41,770.9
Rapana snail	RPN	4,309,989.0	3,793,386.0	4,819,061.5	4,732,410.8	4,100,585.2	3,436,285.06	3,653,148.7
Gobies nei	GPA	73,894.7	89,481.0	74,001.0	63,698.1	47,946.1	64,226.5	39,667.02
Thornback ray	RJC	3,562.0	68,587.7	56,114.7	70,321.8	43,236.6	35,718.09	48,876.35
Silversides nei	SIL	9,437.0	28,108.5	9, 795.4	57,603.3	9,166.9	50,452.4	10,017.1
Anchovy	ANE	60,440.0	7,388.0	9,932.2	369,646.1	12,465.6	54,472.4	3,583.1
Soft-shelled slam	CLS	0.0	885.0	10,296.0	61,040.3	124,339.3	583,401.2	818,927.8

As can be seen from **Table 7** content, there is a significant increase in the catch of sprat, white sand clam and rapana, while catches of bonito, picked dogfish and red mullet are declining compared to 2016 levels. The following segments have the largest percentage of the landings in 2017 - TM 2440 - 27.76%, PMP 0612 - 20.29% and PMP 1218 - 12.74%.

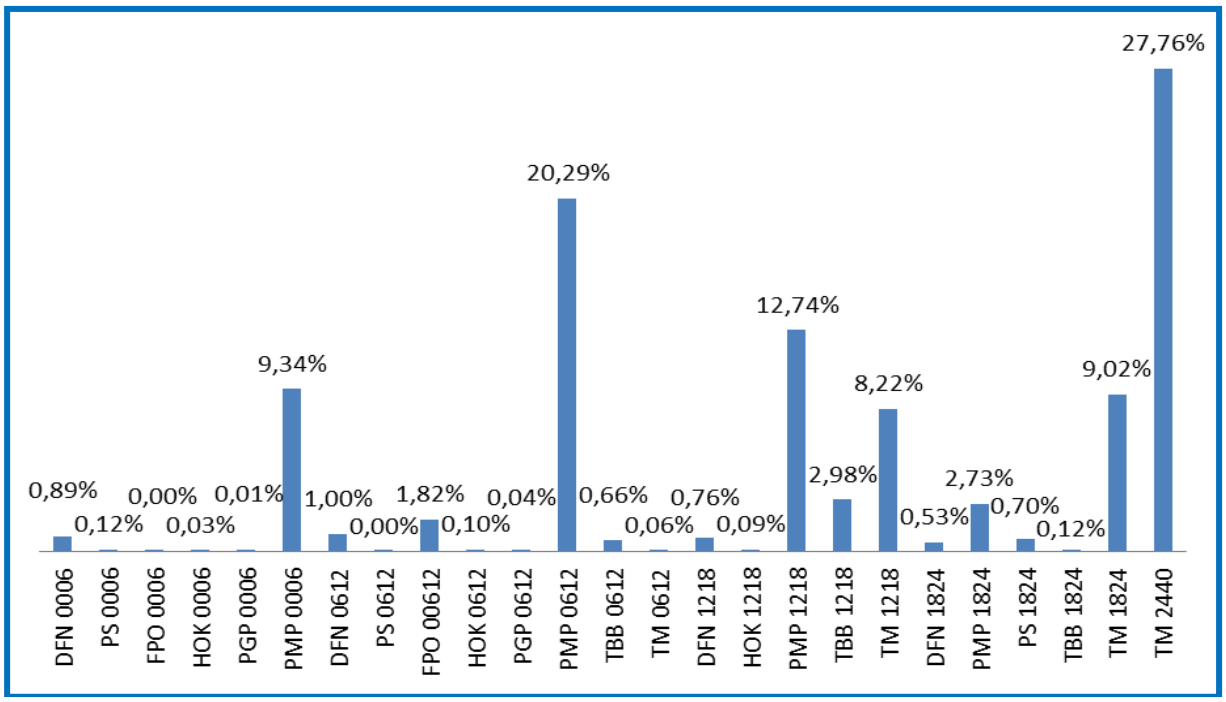


Figure 4. Percentage ratio of catches by the fleet segments to total catches for 2017

Table 8. The value of the landings of the top three of the species for each of the segments

Segment		Species	Code	Landings (kilos)	Value (BGN)	Percentage of value vs. total for the segment	Percentage of landings relative to segment landings
DFN	VL0006	Rapana	PRN	48,662.30	26,871.09	39.53%	64.57%
		Gobies nei	GPA	14,130.02	17,772.43	26.15%	18.75%
		Med. horse mackerel	HMM	1,861.85	4,493.20	6.61%	2.47%
	VL0612	Turbot	TUR	5,978.29	35,457.15	26.91%	7.06%
		Rapana	RPN	38,200.50	21,094.13	16.01%	45.11%
		Gobies nei	GPA	11,931.10	15,006.68	11.39%	14.09%
	VL1218	Turbot	TUR	4,266.06	25,301.94	30.49%	6.60%
		Rapana	RPN	33,867.00	18,701.20	22.54%	52.37%
		Red mullet	MUT	14,508.00	14,072.76	16.96%	22.44%
	VL1824	Thornback ray	RJC	17,653.95	30,508.97	36.12%	39.03%
		P. dog fish	DGS	6,358.00	16,384.00	19.39%	14.06%
		Red mullet	MUT	13,739.00	13,326.83	15.78%	30.38%
PS	VL0006	Sprat	SPR	5,111.00	2,613.21	28.35%	49.25%
		Silverside	SIL	1,693.10	1,246.56	13.53%	16.31%
		Bluefish	BLU	521.90	1,216.81	13.20%	5.03%
	VL0612	Bluefish	BLU	83.00	193.51	38.02%	22.37%
		Gobies nei	GPA	64.00	80.50	15.81%	17.25%
		Anchovy	ANE	60.00	63.20	12.42%	16.17%
	VL1824	Med. horse mackerel	HMM	48,010.00	115,862.42	81.91%	80.95%
		Bluefish	BLU	8,450.00	19,701.10	13.93%	14.25%
		Atl. bonito	BON	1,392.00	2,889.58	2.04%	2.35%

FPO	VL0006	Red mullet	MUT	195.00	189.15	45.44%	59.45%
		Gobies nei	GPA	71.00	89.30	21.45%	21.65%
		Atl. bonito	BON	35.00	72.65	17.45%	10.67%
	VL0612	Sprat	SPR	120,489.00	61,605.05	49.87%	77.92%
		Med. horse mackerel	HMM	16,929.30	40,855.44	33.07%	10.95%
		Others		17,216.35	21,075.73	17.06%	11.13%
HOK	VL0006	Med. horse mackerel	HMM	497.80	1,201.34	30.21%	20.64%
		P. dog fish	DGS	356.00	917.38	23.07%	14.76%
		Gobies nei	GPA	657.50	826.99	20.80%	27.27%
	VL0612	P. dog fish	DGS	3,984.00	10,266.41	52.95%	45.05%
		Med. horse mackerel	HMM	1,604.85	3,872.98	19.97%	18.15%
		Gobies nei	GPA	1,917.60	2,411.92	12.44%	21.68%
	VL1218	P. dog fish	DGS	7,513.00	19,360.33	100%	100%
PGP	VL0006	Gobies nei	GPA	195.00	245.27	17.67%	22.91%
		Bluefish	BLU	105.00	244.81	17.64%	12.34%
		Atl. bonito	BON	107.00	222.12	16.00%	12.57%
	VL0612	Turbot	TUR	377.93	2,241.50	32.75%	12.49%
		P. dog fish	DGS	827.00	2,131.11	31.14%	27.33%
		Atl. bonito	BON	427.00	886.39	12.95%	14.11%
PMP	VL0006	Soft-shelled clam	CLS	175,271.70	732,154.53	67.63%	22.06%
		Rapana	RPN	606,180.40	334,729.93	30.92%	76.31%
		Others		12,905.90	15,721.71	1.45%	1.62%
	VL0612	Soft-shelled clam	CLS	641,249.10	2,678,660.80	80.86%	37.15%
		Rapana	RPN	1,054,531.50	58,2307.27	17.58%	61.09%
		Others		30,288.79	51,833.80	1.56%	1.75%
	VL1218	Rapana	RPN	936,668.00	517,223.60	68.38%	86.46%
		Red mullet	MUT	98,844.50	95,879.17	12.68%	9.12%
		Turbot	TUR	8,828.78	52,363.37	6.92%	0.81%
	VL1824	Rapana	RPN	202,558.00	111,851.56	65.12%	87.33%
		Med. horse mackerel	HMM	7,808.00	18,843.03	10.97%	3.37%
		Red mullet	MUT	15,751.00	15,278.47	8.89%	6.79%
TBB	VL0612	Rapana	RPN	55,798.00	30,811.39	91.25%	99.11%
		Turbot	TUR	497.10	2,948.29	8.73%	0.88%
		Common shrimp	SHC	4.00	7.30	0.02%	0.01%
	VL1218	Rapana	RPN	248,831.00	137,403.29	89.93%	98.03%
		Turbot	TUR	1,675.90	9,939.74	6.51%	0.66%
		Thornback ray	RJC	2,562.00	4,427.56	2.90%	1.01%
	VL1824	Rapana	RPN	9,531.00	5,262.97	82.52%	93.52%
		Bluefish	BLU	229.00	533.91	8.37%	2.25%
		Common stingray	JDP	186.00	247.26	3.88%	1.83%
TM	VL0612	Turbot	TUR	779.80	4,624.98	41.05%	15.68%
		Bluefish	BLU	1,259.00	2,935.35	26.05%	25.31%
		Med. horse mackerel	HMM	738.00	1,781.01	15.81%	14.84%
	VL1218	Sprat	SPR	348,087.00	177,974.06	32.56%	49.78%
		Red mullet	MUT	135,274.90	131,216.65	24.00%	19.35%
		Rapana	RPN	162,450.00	89,704.12	16.41%	23.23%
	VL1824	Sprat	SPR	555,832.00	284,192.39	61.39%	72.40%
		Rapana	RPN	145,257.00	80,210.22	17.33%	18.92%
		Red mullet	MUT	43,805.50	42,491.34	9.18%	5.71%
	VL2440	Sprat	SPR	2,155,964.41	1,102,327.10	82.17%	91.31%
		Med. horse mackerel	HMM	27,232.00	65,718.92	4.90%	1.15%
		Rapana	RPN	109,157.00	60,275.97	4.49%	4.62%

A.3. Development of the fleet

The development of the Bulgarian fishing fleet from 1 January 2007 to 31 December 2017 is presented in **Table 9**, **Fig. 5** and **Fig. 6**. As evidenced, the number of registered vessels has decreased by 26% according to data from the end of 2017 compared to the data of 31.12.2007. 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. In 2017, it was noted that a preserving of the indicators to 2016 in the segment of over 24 meters takes place.

Table 9. Development of the Bulgarian Fishing Fleet

Segment	31 Dec 2007			31 Dec 2013			31 Dec 2014			31 Dec 2015			31 Dec 2016			31 Dec 2017			2017 vs 2007		
	Vessels	GT	kW	Vessels	GT	kW	Vessels	GT	kW	Vessels	GT	kW	Vessels	GT	kW	Vessels	GT	kW	Vessels	GT	kW
Up to 6 m.	845	601	6,594	700	516	6,044	688	508	6,085	691	509	6,098	655	488	6,020	660	495	6,131	-22%	-18%	-7%
6 - 12 m	1,595	3,464	42,173	1,249	2,653	34,127	1,225	2 601	33,420	1,184	2,500	32,168	1,160	2,466	32,107	1,128	2408	31,057	-29%	-30%	-26%
12 - 18 m	66	1,273	8,625	60	1,182	9,163	61	1 183	9,373	64	1,230	9,871	67	1,291	10,377	64	1241	9,900	-3%	-3%	15%
18 - 24 m	29	1,309	4,819	22	927	4,539	19	817	4,005	19	817	4,005	17	738	3,839	17	744	4,149	-41%	-43%	-14%
24 - 40 m	12	1,586	3,304	12	1,310	3,510	12	1 310	3,510	12	1,310	3,510	11	1,193	3,289	11	1193	3,289	-8%	-25%	0%
Total	**2, 547**	**8,233**	**65,515**	**2,043**	**6,587**	**57,383**	**2,005**	**6,420**	**56,393**	**1,970**	**6,367**	**55,651**	**1,910**	**6,176**	**55,632**	**1,880**	**6,081**	**54,525**	**-26%**	**-26%**	**-17%**

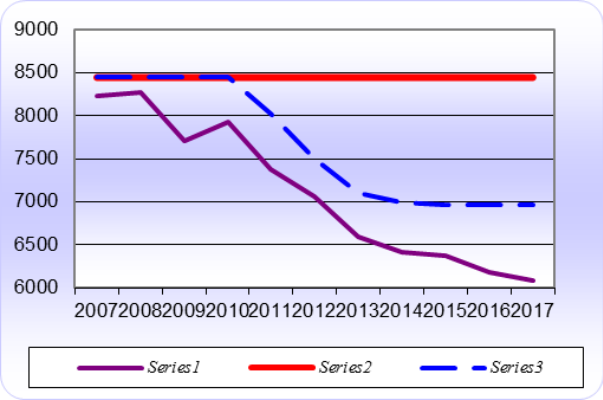


Figure 5. Gross Tonnage capacity for 2007-2017

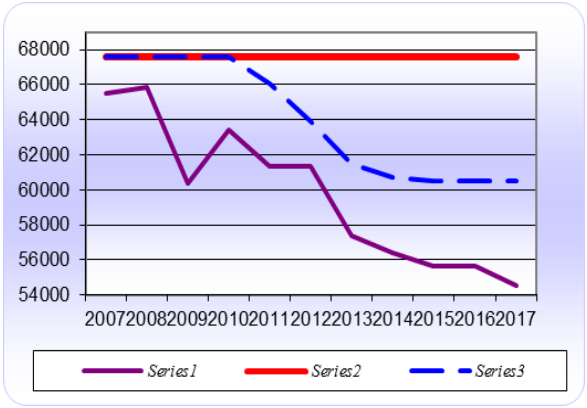


Figure 6. Capacity in kW for 2007-2017

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", 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's 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.**

Table 10: Implementation of the fishing fleet efforts adjustment plan (FEAP) until 31 Dec, 2015

	Bulgarian fishing fleet at 31 Dec 2009			Adjustment plan				Implementation at 31 Dec 2015				
Fleet segment	**No of vessels**	**kW**	**GT**	**kW**	**GT**	**kW %**	**GT %**	**No of vessels**	**kW**	**GT**	**kW %**	**GT %**
LOA <6	708	5,462.35	507.2	4,369.88	405.76	-20%	-20%	14	70.22	10.5	-1.29%	-2.07%
LOA 6<12	1,392	37,160	2,985.48	26,012.0	2,089.84	-30%	-30%	47	2,437.58	295.5	-6.56%	-9.90%
LOA 12<18	65	9,106.23	1,290	6,374.36	903	-30%	-30%	23	2,390.10	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	-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**			**95**	**7,129.46**	**1,545.05**	**-11.81%**	**-20.06%**

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

During the program period 2007 - 2013, as a result of the implementation of FEAP, 95 fishing vessels have been scrapped with total fishing capacity of 1,545.05 GT and 7,129.46 kW.
In conclusion from the presented data, 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 turbot populations, to restructure its fishing fleet as well as to achieve a balance between fishing capacity and fishing opportunities.

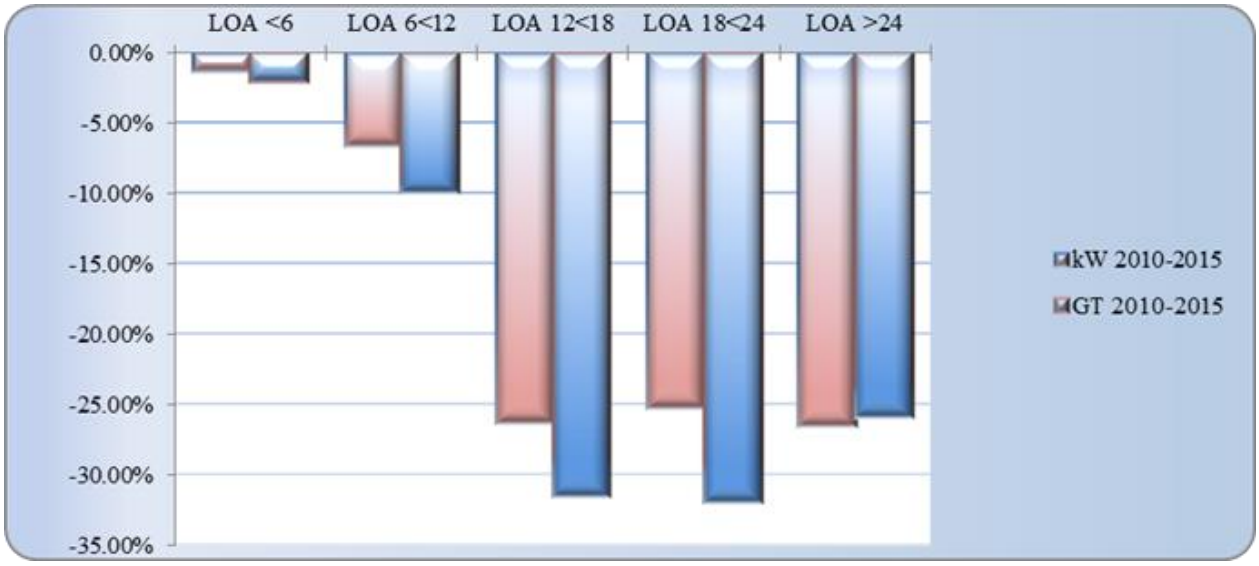


Figure 7. Reduction of Bulgarian fishing fleet in kW and GT

On 21 April 2017, the admission of projects under Priority 1 of the Union "Promotion of environmentally sustainable, innovative, competitive and knowledge-based, resource-efficient fisheries" was opened, Measure 1.3 "Permanent cessation of fishing activities",
with a call for proposals through project selection BG14MFOP001-1.003 "Permanent cessation of fishing activities".

The implementation of the measure will contribute to achieving a specific objective of "Balancing fishing capacity and available fishing opportunities".
With the measure of permanent cessation of fishing activities, the fishing effort of the Bulgarian fishing fleet will be adjusted in accordance with available and accessible resources and according to the capacity of the fishing fleet at segment level, by scrapping part of the old and inefficient vessels in the unbalanced in terms of fishing opportunities segments, i.e. those of up to 24 m. This will reduce the harmful impact of the fleet as a whole on the marine environment and contribute to the balancing of the fleet to the fishing opportunities.
The total amount of the grant is BGN1,681,036 under the procedure. The minimum and maximum amount of the grant under the measure is not defined.
In December 2017, eight contracts were signed under Measure 1.3 "Permanent cessation of fishing activities". The effect of the implementation of the measure will be reflected after the final conclusion of the contract activities.

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}
8,147	301	0	0	0	8,448

kW_{FR}	kW_1	kW_2	kW_3	kW_4	kW_{07}
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 2007-2017

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

Table 13. Management of the entry/exit regime on 31 December, 2017

	Item	GT		kW	
1	Capacity of the Fleet on 01 Jan, 2007	GT_{FR}	8,147	kW_{FR}	64,924
2	Capacity level fo 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)		2,389		24,756
5	Increases in the tonnage (GT) for safety reasons	GT_S	0		0
6	**Total entries (3+4+5)**		2,389		24,756
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}	1,545		7,129
9	Other exits (not included in items 7 and 8)		2,909		28,025
10	**Total exits (7+8+9)**		4,454		35,154
11	Power of the engines, replaced using public aid, subject to power reduction.		0	kW_r	0
12	**Fleet capacity on 31 Dec, 2017 (1+6-10)**	GT_t	6,081	kW_t	54,525
13	**Fleet ceiling on 31 Dec, 2017**		6,964		60,477

Clarifications:
-Lines 1, 3, 5, 7, 8, 9, 11 and 12 present figures, registered in the Community Fleet Register on 31 Dec, 2017;
-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.
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.

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;
- 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 requireement 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 indefinitely;
- Insufficient number of patrol boats equipped with modern controls.

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 (VMS or GPRS depending on the length of vessel);
- Cooperation with other national authorities regarding the technical parameters of fishing vessels (with Executive Agency Maritime Administration) 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;
- Optimized informational system and database;
- 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 to improve the national legal framework in its management of the fleet

D.2. Plan for improving the fleet management system

Contracts for financial aid for building of fish auctions have been signed in 2015, which will facilitate the direct supply of fishery products to the final consumer. The modernization of fishing ports and the construction of new ones with the appropriate infrastructure would also have a positive effect on facilitating the process of direct supply of fish and other aquatic organisms.
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 small 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.
In 2017, the performing of physical checks of engine power on fishing vessels continued, in accordance with the requirements of Council Regulation 1224/2009, in accordance with a validated 2014 and revised 2016 Sample Plan for the measurement of the engine power of fishing vessels, for which there is a risk of declaring lower than the actual power of the propulsion engine

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 2017 the work on improvement of ERS continued.

SECTION E

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

In 2017, changes to the national legislation relating to fleet management have been initiated. At this stage, the changes are presented in a draft of an entirely new Fleet Management Ordinance.

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 2013, 2014, 2015, 2016 and 2017, as shown below. For the calculation of the indicators, the data collected under the Data Collection Framework (DCF) for 2013, 2014, 2015, 2016 and 2017 and the EAFA information and statistical system were used. Given the national legislation in 2012, the economic questionnaires, collected under the DCF were anonymous, that is why 2012 should not be included in the assessment, because of the technical impossibility of allocating fishing vessels according to the DCF segmentation.

F.1. Technical Indicator

The technical indicator assessment was made according to the Guidelines and it is relevant for all active vessels during 2013, 2014, 2015, 2016 and 2017. The vessels are considered as active ones if they have fishing licenses and also have reported at least one day at sea during the reference year. Inactive vessels are with or without fishing licenses, have not reported at least one day at sea and landings during the reference year (due to ship repairs, sale, etc.)

Table 14. Proportion of inactive vessels in the whole fleet for 2013, 2014, 2015, 2016 and 2017

Loa	< 6					6 - 12 m					12 - 18 m					18 - 24 m					24 - 40 m				
Representative year	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Inactive vessels	304	307	278	241	228	534	583	487	463	358	14	9	7	6	15	10	2	3	2	1	0	0	0	0	0
Total number	700	688	691	655	660	1 249	1 225	1 184	1 160	1 128	60	61	64	67	64	22	19	19	17	17	12	12	12	12	11

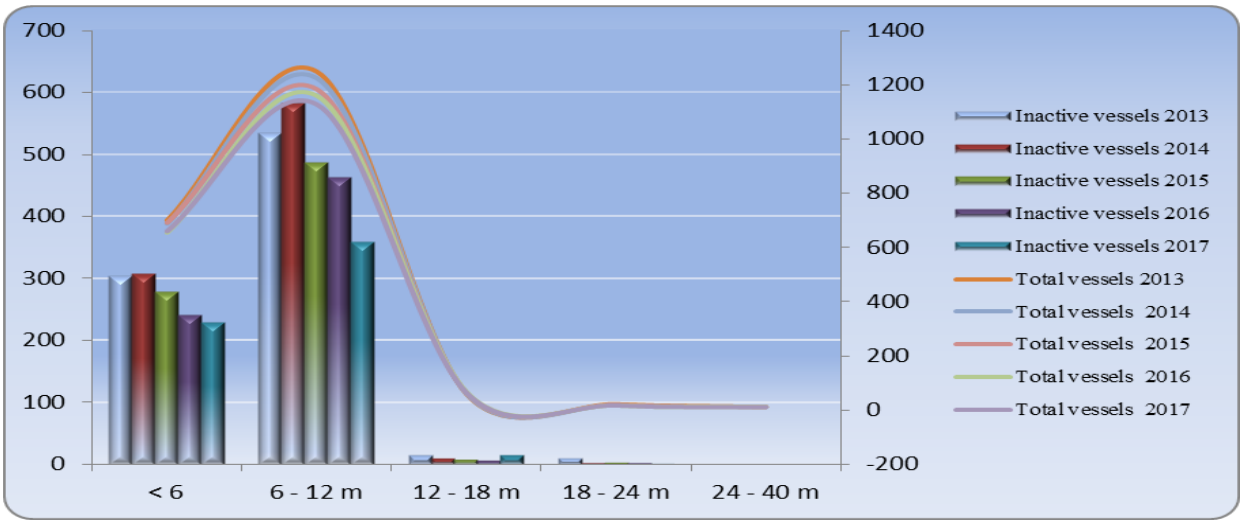


Figure 8. Chart of the inactive vessels throughout the years

Figure 8 shows the ratio between inactive fishing vessels and total number of fishing vessels in each fishing segment. As it is visible, the percentage of inactive vessels, which represents the unused capacity, in the segments under 12 m (95.0 % from the Bulgarian fishing fleet), in 2017, is still high. The main reasons for this figures are seasonable fisheries, low return on funds, repair activities etc. However, in the segments for the period 2013-2017, there has been a downward trend in the number of inactive vessels, as a result of the withdrawal measures under national law, as well as numerous meetings with industry representatives and information campaigns.

Only for the LOA segment of 12-18 there was a slight increase in the number of inactive vessels.

Summarized information for the technical indicator for the period 2013-2017, calculated as ratio between current effort and maximum observed effort is presented in **Table 15**. The observed maximum effort is calculated on the basis of the maximum number of days at sea for one vessel in the relevant segment. This option for calculation has been chosean instead of calculation based on theoretical days at sea, due to the fact, that there are no defined areas in Black Sea, where a total number of days at sea is fixed, which days a particular vessel may be present in, using a specified gear or targeting a given stock. For this reason we consider that if there are no specific restrictions, the fishing vessels having similar parameters could spend a similar 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 in 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 imbalances are observed.

A large part 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 2013	No of vessels 2014	No of vessels 2015	No of vessels 2016	No of vessels 2017	Technical indicator 1 – Current/Maximum effort ratio									
							GT/Days 2013	GT/Days 2014	GT/Days 2015	GT/Days 2016	GT/Days 2017	kW/Days 2013	kW/Days 2014	kW/Days 2015	kW/Days 2016	kW/Days 2017
DFN	VL0006	296	276	297	304	260	0.11	0.10	0.11	0.10	0.08	0.09	0.08	0.09	0.08	0.07
PS	VL0006	15	19	18	19	12	0.41	0.25	0.19	0.20	0.31	0.19	0.06	0.05	0.01	0.14
PMP	VL0006	38	39	51	53	82	0.28	0.26	0.21	0.24	0.27	0.20	0.21	0.14	0.09	0.22
FPO	VL0006	5	7	7	6	4	*	0.36	0.31	0.41	*	*	0.25	0.13	0.05	*
HOK	VL0006	43	31	33	26	50	0.24	0.31	0.22	0.38	0.24	0.24	0.31	0.20	0.33	0.23
PGP	VL0006	2	12	8	7	26	*	0.29	0.34	0.29	0.19	*	0.20	0.24	0.27	0.17
Total number		**399**	**384**	**414**	**415**	**434**	**0.26**	**0.26**	**0.23**	**0.27**	**0.22**	**0.18**	**0.19**	**0.14**	**0.14**	**0.16**
DFN	VL0612	436	396	442	430	400	0.10	0.10	0.10	0.07	0.08	0.10	0.09	0.10	0.07	0.08
PS	VL0612	5	8	10	6	3	*	0.37	0.18	0.39	*	*	0.22	0.14	0.05	*
FPO	VL0612	44	34	39	42	38	0.20	0.21	0.20	0.28	0.19	0.19	0.21	0.19	0.35	0.18
HOK	VL0612	84	58	57	49	97	0.14	0.14	0.13	0.08	0.09	0.14	0.14	0.13	0.08	0.09
PGP	VL0612	8	13	11	13	38	0.33	0.37	0.30	0.34	0.21	0.33	0.37	0.30	0.32	0.21
PMP	VL0612	143	130	135	154	195	0.18	0.18	0.15	0.24	0.20	0.17	0.18	0.15	0.23	0.19
TM	VL0612	5	5	5	6	6	*	*	*	0.74	*	*	*	*	0.74	*
TBB	VL0612	-	1	6	3	2	-	*	0.53	*	0.55	-	*	0.53	*	0.55
Total number		**725**	**645**	**705**	**703**	**779**	**0.19**	**0.23**	**0.23**	**0.29**	**0.22**	**0.19**	**0.20**	**0.22**	**0.20**	**0.22**
DFN	VL1218	13	10	10	7	10	0.26	0.23	0.35	0.49	0.41	0.26	0.23	0.35	0.49	0.41
PGP	VL1218	1	3	-	2	-	*	*	-	*	-	*	*	-	*	-
PMP	VL1218	29	28	22	14	21	0.57	0.56	0.60	0.76	0.62	0.57	0.56	0.60	0.76	0.62
TBB	VL1218	-	-	3	4	6	-	-	*	*	0.67	-	-	*	*	0.67
HOK	VL1218	-	-	-	1	1	-	-	-	*	*	-	-	-	*	*
TM	VL1218	12	11	22	33	17	0.27	0.36	0.40	0.57	0.62	0.27	0.36	0.40	0.57	0.62
Total number		**55**	**52**	**57**	**61**	**55**	**0.37**	**0.38**	**0.45**	**0.61**	**0.58**	**0.37**	**0.38**	**0.45**	**0.61**	**0.58**
DFN	VL1824	1	3	2	1	2	*	*	*	*	*	*	*	*	*	*
PS	VL1824	-	-	-	-	1	-	-	-	-	*	-	-	-	-	*
PMP	VL1824	7	10	5	4	4	0.81	0.77	*	*	*	0.81	0.77	*	*	*
TBB	VL1824	-	-	2	1	1	-	-	*	*	*	-	-	*	*	*
TM	VL1824	5	4	7	9	8	*	*	0.65	0.63	0.62	*	*	0.65	0.63	0.62
Total number		**13**	**17**	**16**	**15**	**16**	**0.81**	**0.77**	**0.65**	**0.63**	**0.62**	**0.81**	**0.77**	**0.65**	**0.63**	**0.62**
TM	VL2440	11	11	12	12	11	0.78	0.72	0.71	0.68	0.72	0.78	0.72	0.71	0.68	0.72
PMP	VL2440	1	1	-	-	-	*	*	-	-	-	*	*	-	-	-
Total number		**12**	**12**	**12**	**12**	**11**	**0.78**	**0.72**	**0.71**	**0.68**	**0.72**	**0.78**	**0.72**	**0.71**	**0.68**	**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. Economic indicators

The data used for the calculation of economic indicators is from questionnaires for economic statistics in 2016 and 2017 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. Values of ROI for 2016 show that the most profitable was the DFN 1218 segment, followed by segment PGP 0006, TM 1824 and TM 2440. In 2017, the highest values of the indicator were in PMP 0612, DFN 1218 and PMP 1218 segments, but there was a significant decrease in the segments PGP 0006 and DFN 1218.

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 2016 (€'000)						
DFN 0006	175.90	146.65	11.30	731.27	1.55%	-2.65%
PS 0006	15.29	7.80	0.99	32.01	3.08%	-1.12%
FPO 0006	8.01	15.75	-7.89	11.77	-67.04%	-71.24%
HOK 0006	11.55	5.05	2.18	63.10	3.46%	-0.74%
PGP 0006	5.93	2.77	3.16	20.03	15.78%	11.58%
PMP 0006	190.93	395.35	-211.41	144.44	-146.37%	-150.57%
DFN 0612	451.75	428.54	-58.47	2323.20	-2.52%	-6.72%
PS 0612	2.89	2.18	0.23	10.11	2.30%	-1.90%
FPO 0612	87.51	72.01	13.62	238.30	5.72%	1.52%
HOK 0612	83.08	58.02	11.28	249.20	4.53%	0.33%
PGP 0612	8.39	6.74	-0.74	55.89	-1.33%	-5.53%
PMP 0612	814.65	700.04	52.05	1064.90	4.89%	0.69%
TBB 0612*	0.00	0.00	0.00	0.00		
TM 0612	74.21	72.07	-3.99	130.98	-3.05%	-7.25%
DFN 1218	144.95	51.76	92.08	451.31	20.40%	16.20%
HOK 1218*	0.00	0.00	0.00	0.00		
PGP 12-18*	0.00	0.00	0.00	0.00		
PMP 1218	391.38	291.89	68.52	1217.57	5.63%	1.43%
TBB 1218*	0.00	0.00	0.00	0.00		
TM 1218	1105.65	850.85	15.08	3317.11	0.45%	-3.75%
DFN 1824*	0.00	0.00	0.00	0.00		
PMP 1824*	0.00	0.00	0.00	0.00		
TBB 1824*	0.00	0.00	0.00	0.00		
TM 1824	519.07	312.00	180.09	1733.94	10.39%	6.19%
TM 2440	748.85	466.77	234.25	2877.42	8.14%	3.94%

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 2017 (€'000)						
DFN 0006	58.61	96.20	-74.80	678.49	-11.03%	-14.60%
PS 0006	5.13	3.79	-1.92	15.52	-12.35%	-15.92%
FPO 0006*	0.00	0.00	0.00	0.00		
HOK 0006	4.95	12.43	-15.69	126.67	-12.39%	-15.96%
PGP 0006	9.33	3.56	1.53	59.06	2.60%	-0.97%
PMP 0006	436.37	430.01	-12.38	222.42	-5.57%	-9.14%
DFN 0612	234.51	286.07	-142.38	2099.43	-6.78%	-10.35%
PS 0612*	0.00	0.00	0.00	0.00		
FPO 0612	66.87	76.79	-20.74	274.86	-7.55%	-11.12%
HOK 0612	17.20	45.60	-42.45	394.82	-10.75%	-14.32%
PGP 0612	4.81	6.17	-4.36	134.74	-3.23%	-6.80%
PMP 0612	1121.07	506.32	550.75	1256.34	43.84%	40.27%
TBB 0612*	0.00	0.00	0.00	0.00		
TM 0612	39.47	35.17	-3.97	215.04	-1.85%	-5.42%
DFN 1218	154.54	111.27	39.47	594.10	6.64%	3.07%
HOK 1218*	0.00	0.00	0.00	0.00		
PMP 1218	579.07	432.36	110.01	1777.46	6.19%	2.62%
TBB 1218	116.42	74.12	8.65	327.52	2.64%	-0.93%
TM 1218	449.38	344.58	52.18	1484.20	3.52%	-0.05%
PS 1824*	0.00	0.00	0.00	0.00		
DFN 1824*	0.00	0.00	0.00	0.00		
PMP 1824*	0.00	0.00	0.00	0.00		
TBB 1824*	0.00	0.00	0.00	0.00		
TM 1824	363.08	280.04	43.35	987.38	4.39%	0.82%
TM 2440	828.67	636.45	127.65	2278.35	5.60%	2.03%

* Segments with * are equal or 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 2010-2015 (source: European Central Bank) – 4.2% is used for the calculation of the indicator for 2016.

[2] average risk-free long-term interest rate for Bulgaria for the period 2011-2016 (source: European Central Bank) – 3.57% is used for the calculation of the indicator for 2017.

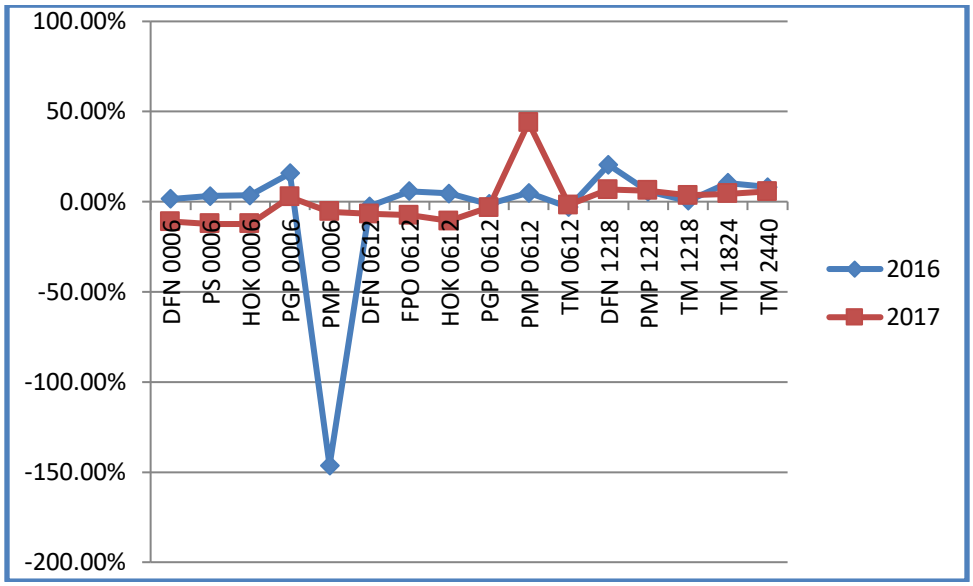


Figure 9. Return on investment (ROI) for 2016 and 2017

Figure 9 shows the ROI values for 2016 and 2017. 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 increase of the ROI indicator only in the segments PMP 0612 and PMP 0006.

In both segments with the largest number of ships (DFN 0006 and DFN 0612), the rate of return on investment decreased significantly in 2017 compared to the previous year. 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 2016-2017 the indicator CR/BER is calculated in the short and long term (**Table 17**).

The 2016 results show that 13 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 DFN 1218. Calculations are also made for the CR/BER ratio for 2016, 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 2009-2015 in the long-term, the indicator has a positive value of over 1 in 8 of the segments, including 24% (294 vessels) of the fleet, with a value between 0 and 1 in 7 of the segments 69% (831 vessels) and with a negative value of two segments - PMP 0006 and FPO 0006, which are unprofitable in short-term.

In the short term, in 2017 the value of the indicator in 8 of the segments representing 23% 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 (PS 0006, PMP 0006 and TM 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 2011-2016. They are added to the fixed costs. The lowest value of the CR/BER ratio in 2017 is the HOK 0612 segment, followed by DFN 0006. 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 2016 and 2017 (€'000)

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	175.90	39.90	70.61	124.69	242.57	1.28	0.73
PS 0006	15.29	10.26	11.60	4.05	15.78	1.10	0.97
FPO 0006	8.01	1.21	1.71	14.69	-2.05	-5.50	-3.91
HOK 0006	11.55	5.88	8.53	3.49	12.22	1.37	0.95
PGP 0006	5.93	0.77	1.61	2.00	2.43	5.11	2.44
PMP 0006	190.93	14.60	20.67	387.75	-20.05	-13.48	-9.52
DFN 0612	451.75	138.54	236.11	371.68	1332.14	0.58	0.34
PS 0612	2.89	1.01	1.44	1.65	3.34	1.23	0.87
FPO 0612	87.51	14.39	24.40	59.49	76.22	1.95	1.15
HOK 0612	83.08	24.88	35.34	46.92	81.21	1.45	1.02
PGP 0612	8.39	3.39	5.73	5.75	18.20	0.78	0.46
PMP 0612	814.65	108.81	153.54	653.78	777.56	1.48	1.05
TBB 0612*	0.00	0.00	0.00	0.00	0.00		
TM 0612	74.21	15.01	20.51	63.20	138.17	0.73	0.54
DFN 1218	144.95	8.60	27.56	44.27	39.67	11.70	3.65
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	391.38	44.26	95.40	278.60	331.05	2.55	1.18
TBB 1218*	0.00	0.00	0.00	0.00	0.00		
TM 1218	1105.65	296.97	436.29	793.60	1545.85	1.05	0.72
DFN 1824*	0.00	0.00	0.00	0.00	0.00		
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	519.07	43.23	116.06	295.75	269.76	5.17	1.92
TM 2440	748.85	61.80	182.65	452.79	462.01	4.79	1.62

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	58.61	37.22	61.44	96.20	-95.80	-1.01	-0.61
PS 0006	5.13	3.26	3.81	3.79	14.58	0.41	0.35
FPO 0006 *	0.00	0.00	0.00	0.00	0.00		
HOK 0006	4.95	8.21	12.74	12.43	-8.44	-0.91	-0.59
PGP 0006	9.33	4.24	6.35	3.56	10.26	1.36	0.91
PMP 0006	436.37	18.74	26.68	430.01	1831.74	0.34	0.24
DFN 0612	234.51	90.83	165.78	286.07	-754.06	-0.57	-0.31
PS 0612 *	0.00	0.00	0.00	0.00	0.00		
FPO 0612	66.87	10.81	20.62	76.79	-138.91	-0.92	-0.48
HOK 0612	17.20	14.05	28.15	45.60	-17.05	-2.02	-1.01
PGP 0612	4.81	3.00	7.81	6.17	-27.67	-0.45	-0.17
PMP 0612	1121.07	64.00	108.85	506.32	198.51	9.61	5.65
TBB 0612*	0.00	0.00	0.00	0.00	0.00		
TM 0612	39.47	8.27	15.94	35.17	146.51	0.52	0.27
DFN 1218	154.54	3.81	25.02	111.27	89.34	11.36	1.73
HOK 1218*	0.00	0.00	0.00	0.00	0.00		
PMP 1218	579.07	36.70	100.15	432.36	395.31	4.00	1.46
TBB 1218	116.42	33.65	45.34	74.12	124.79	1.26	0.93
TM 1218	449.38	52.62	105.60	344.58	452.85	1.99	0.99
PS 18-24*	0.00	0.00	0.00	0.00	0.00		
DFN 1824*	0.00	0.00	0.00	0.00	0.00		
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	363.08	39.69	74.94	280.04	327.65	2.09	1.11
TM 2440	828.67	64.57	145.91	636.45	629.02	2.98	1.32

Data on direct subsidies are excluded from the calculation.

[1] adding opportunity costs to fixed costs.

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

Indicator values for CR / BER for the period 2016-2017 are presented in **Table 18.**

Table 18. Ratio between current revenue and break-even revenue (CR/BER) for 2016 – 2017

Ratio between current revenue and break-even revenue (CR/BER) for 2016																
	DFN 0006	PS 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	TM 0612	DFN 1218	PMP 1218	TM 1218	TM 1824	TM 2440
CR/BER	1.28	1.1	1.37	5.11	-13.48	0.58	1.95	1.45	0.78	1.48	0.73	11.7	2.55	1.05	5.17	4.79
CR/BER [1]	0.73	0.97	0.95	2.44	-9.52	0.34	1.15	1.02	0.46	1.05	0.54	3.65	1.18	0.72	1.92	1.62
Ratio between current revenue and break-even revenue (CR/BER) for 2017																
	DFN 0006	PS 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	TM 0612	DFN 1218	PMP 1218	TM 1218	TM 1824	TM 2440
CR/BER	-1.01	0.41	-0.91	1.36	0.34	-0.57	-0.92	-2.02	-0.45	9.61	0.52	11.36	4.00	1.99	2.09	2.98
CR/BER [1]	-0.61	0.35	-0.59	0.91	0.24	-0.31	-0.48	-1.01	-0.17	5.65	0.27	1.73	1.46	0.99	1.11	1.32

No vessel has received subsidies in 2017.

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

Direct subsidies for 2014, 2015, 2016 and 2017 (€'000).				
Fleet segment	**2014**	**2015**	**2016**	**2017**
DFN 0006	0,1	0	0	0
PGP 0006	0,26	0	0	0
PMP 0612	0,26	0	0	0
PGP 1218	13	0	0	0

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 subjects to 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 2017 the allocated national quota was 43.2 t for turbot and sprat – 8 032.5 t (Council Regulation 2016/2372).
Four research surveys were conducted in the Bulgarian aquatory in Black sea – two demersal and two pelagic during 2017.
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 Fmsy, i.e. percentage of death from fishing corresponds to maximum sustainable catch. The calculation of the Sustainable harvest 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 Fmsy data was taken from the report for Black Sea assessments (STECF-15-16) for 2015 and (STECF 17-11) for 2016. The results for the estimated value of the Sustainable harvest indicator are shown in **Table 20**. For 21 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 6 of these 21 segments there is an increase in the value of the indicator for 2016, but in the other 15 segments, there is a decrease. 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. The segment TM 1824 was also with indicator for sustainable harvest below 1 for 2015, but the value for 2016 is over 1.

Table 20. Indicator for sustainable harvest for 2015 and 2016

Segment	Indicator for sustainable harvest for 2015	Indicator for sustainable harvest for 2016
DFN 0006	3.564	1.588
DFN 0612	3.394	2.143
DFN 1218	2.915	2.003
DFN 1824	5.385	1.821
FPO 0006	4.371	1.435
FPO 0612	1.931	1.064
HOK 0006	4.193	7.961
HOK 0612	4.418	7.251
PGP 0006	5.556	1.158
PGP 0612	4.749	2.720
PMP 0006	3.836	1.491
PMP 0612	2.904	2.207
PMP 1218	2.242	3.434
PMP 1824	2.268	3.280
PS 0006	1.461	1.054
PS 0612	2.259	1.533
TBB 0612	4.790	3.731
TBB12-18	2.151	5.203
TBB 18-24	2.639	1.639
TM 0612	2.570	2.039
TM 1218	1.466	1.832
TM 1824	0.979	1.102
TM 2440	0.757	0.890

F.3.2. Stocks-at-risk indicator

The indicator is not calculated because the catches in 2017 did not exceed 10% of the biomass from the research surveys of target species. The landings of turbot in 2017 were 41.99 tonnes (reported data to DCF) and the established biomass was 863 tonnes. The landings of sprat in 2017 were 3,189 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 2013, 2014, 2015, 2016 and 2017. Should be considered that the data for biological indicator for 2017 will be available in 2019 year, because of which in determining a trend in the development of segments are taken only available indicators for 2017. This is a possible change in some segments in the next periods.

Tables 21

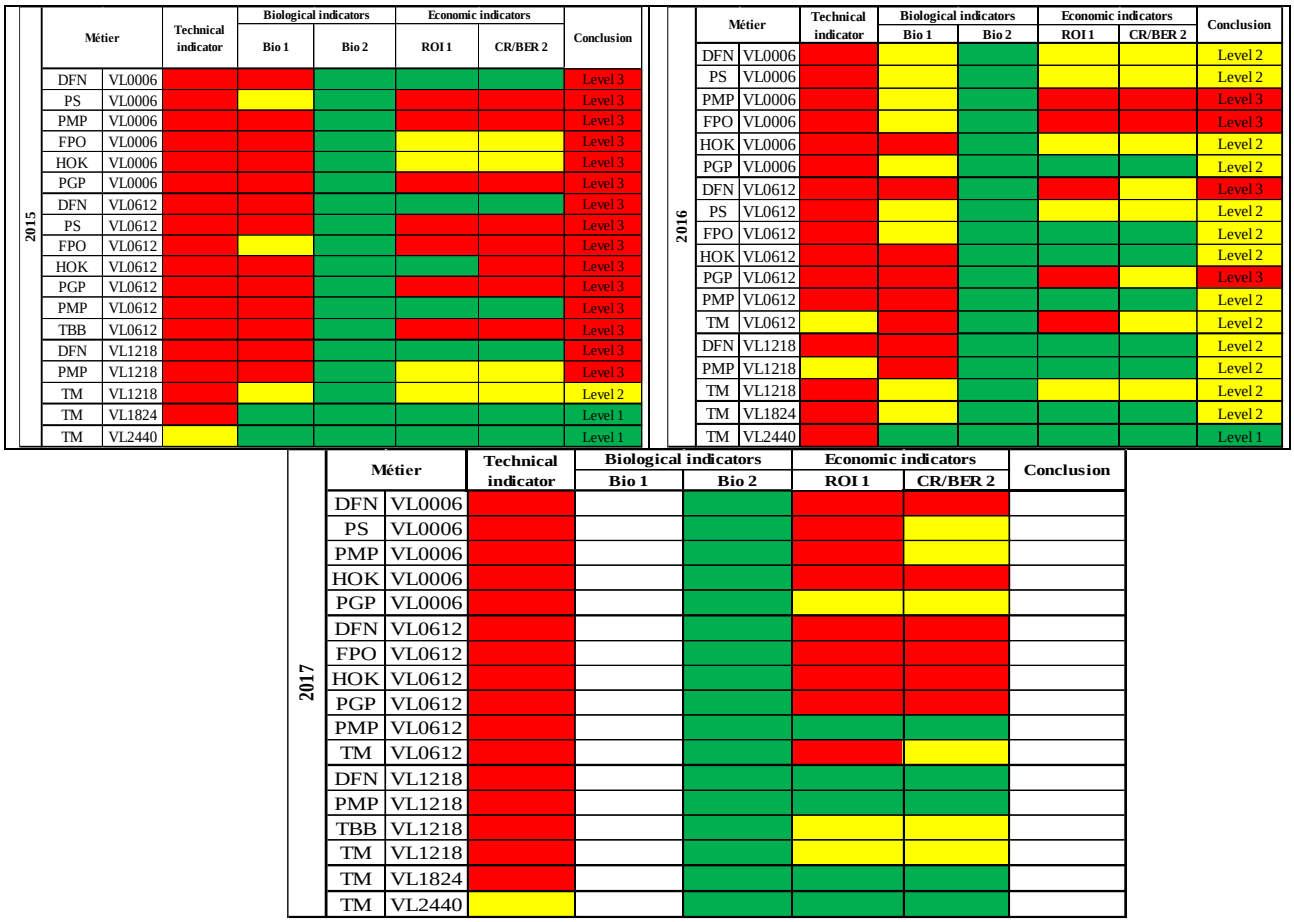
Indicator	Definition	Level 1 "Green"	"Level 2 „Yellow"	Level 3 "Red"
Technical	The private between the average and the maximum effort per vessel	As defined By types / stocks	0.7-0.9	<0.7
Biological 1	$F_{estimated}/F_{target}$	ROI > Target point	>1	>>1
Biological 2	Catch/Biomass	CR/BER >1	As defined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

2013

Métier		Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI 1	CR/BER 2	
DFN	VL0006						Level 3
PS	VL0006						Level 3
PMP	VL0006						Level 2
HOK	VL0006						Level 3
DFN	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 2
TM	VL2440						Level 1

2014

Métier		Technical indicator	Biological indicators		Economic indicators		Conclusion
			Bio 1	Bio 2	ROI 1	CR/BER 2	
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



2015	Métier		Technical indicator	Biological indicators		Economic indicators		Conclusion
				Bio 1	Bio 2	ROI 1	CR/BER 2	
	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

2016	Métier		Technical indicator	Biological indicators		Economic indicators		Conclusion
				Bio 1	Bio 2	ROI 1	CR/BER 2	
	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

2017	Métier		Technical indicator	Biological indicators		Economic indicators		Conclusion
				Bio 1	Bio 2	ROI 1	CR/BER 2	
	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						

G.1. Segment from 0 to 6 meters

In 2017 the summary of fishing vessels in this segment is decreased down to 660, compared to the past years, keeping the levels from the previous 2016. In 2017 also, there is a positive trend of decrease of the number of the inactive vessels. In 2017, there was a 1% decrease in inactive ships compared to 2016, and in the long run compared to 2013 by 6%.

According to the segmentation used in the data collection framework (DCF) for active vessels with a length of 0 to 6 m and in 2017 the following segments are retained: DFN, PS, PMP, FPO, HOK and PGP. There is an increase 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 are nearly two times more fishing vessels in the HOK segment compared to the previous year. The greatest change is in the PGP segment of only 7 fishing vessels in 2016 to 26 in the current 2017. Overall, the tendency for the selective use of passive fishing techniques is preserved.

G.1.1. Segment DFN/VL 0006

Approximately 60% 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, but have to be counted and drop by as much as 13% of last year's levels.
The technical indicator figures calculated for the period 2013-2017 indicate that the usability of fishing vessels in this segment is extremely low or there is a technical overcapacity here. In terms of overall economic performance in the segment, there is an improvement in 2014 and 2015 compared to 2013. In 2016, there is a decline, but overall the values for both indicators remain positive. For 2017, there is a fall in indicator values. Based on this, it can be judged that the segment is profitable in the short term, but not in the long run. The values calculated for the Sustainable Harvest Indicator by the segment remain high and in 2016, respectively, the segment has a significant impact on the stock. The stocks-at-risk indicator is not calculated as catches do not exceed 10% of the biomass found for the target species (turbot and sprat). The overall analysis shows that the segment DFN / VL 0006 remains unbalanced in 2017.

G.1.2. Segment PS/VL 0006

The number of fishing vessels in this segment varies between 12 and 19 for the period 2013-2017 as the smallest (12 vessels in total) this year. The calculations of the technical indicator indicate that there is no good usability of fishing vessels in this segment as well. Regarding the economic indicators in 2017, they are falling compared to the previous 2016. The biological indicator maintains the comparatively low values of the previous years. Despite the positive trend in biological indicators for 2016, the segment is still unbalanced so far.

G.1.3. Segment PMP/VL 0006

In spite of the larger number of vessels in the segment, data from the technical indicator shows that there is a significant ineligibility of fishing vessels in this segment and in 2017. The return on investments in the segment has grown to 2016 levels. For 2016-146.37% and in 2017 -5.57%. The ratio between current segment revenue and break-even revenue during the previous 3 years was negative, whereas in 2017 they reached a positive value of 0.91. With regard to the biological indicator, an improvement is seen from 2015 to reach 1.158 in 2016. Despite the improved performance over the previous years, it can be concluded that there is an imbalance in fishing capacity and opportunities for PMP / VL 0006 for fishing.G.1.4.

G.1.4. Segment FPO/VL 0006

In 2017, as in previous years, a small number of ships operate in the segment. Given this, no figures for 2013 and 2017 for the calculated indicators were provided due to the non-representativeness of the sample. For the period 2014-2016, the technical indicator values are below 0.7, indicating a significant under-utilization of capacity in the segment. For both economic indicators, very low values are observed in 2014. A positive change occurs in 2015 when they reach 1.43% return on investment and 1.24 is the ratio between current segment revenue and even-break revenues. In 2016 again there was a sharp drop in the values - -67.04%

and -5.5. The biological indicator in 2015 reached 4.371, and in 2016 it again dropped to a value of 1.435. The segment relies on fishing opportunities that are structurally set at higher levels than the maximum sustainable yield levels. The segment remains unbalanced.

G.1.5. Segment HOK/VL 0006

The number of fishing vessels in this segment has increased almost double to the previous years. From the calculations being made on the technical indicator, it appears that the segment has a low usability of the ships. In terms of return on investments in 2017, it reaches negative values, as opposed to the positive trend of growth from previous years. This in turn is a sign that in 2017 the segment is at a loss. Negative values are also observed in the Ratio between current segment revenue and break-even revenues. The overall assessment of the indicators and the high values of the biological indicator show that the segment is unbalanced and therefore there is a need to take action.

G.1.6. Segment PGP/VL 0006

As in the PMP/VL 0006 and HOK/VL 0006 segments, there is a significant increase in the number of ships in the segment. According to the data of the technical indicator, both in the previous years and in 2017 there is an imbalance and inefficient use of the fishing vessels. Return on investment ranges from 15.78% in 2016 to 2.60% in 2017. This trend is also seen in the other economic indicator. However, in 2017, segment operators were able to cover their costs. Biological indicator values for 2016 show a significant drop from 2015 and are now approaching 1. Given the data being presented, the segment is unbalanced in terms of fishing capacity and fishing opportunities.

G.2. Segment from 6 to 12 meters

This segment accounts for approximately 60% of fishing vessels. In 2017, their number was 1,128 ships, of which 779 were active and 358 were inactive. The percentage of inactive vessels compared to the total number in the segment remains high in 2017. According to the DCF segmentation for 6 to 12 m active vessels in 2017, the following segments are observed: DFN, PS, FPO, HOK, PGP, PMP, TM and TBB. The PS and TBB segments are not included in the analysis, given the small number of vessels in.

G.2.1. Segment DFN/VL 0612

In segment DFN/VL 0612 are more than half of the active fishing vessels, being between 6 and 12 in length. The values of the technical indicator indicate the existence of technical overcapacity and substantial inadequate usability of the fishing vessels in the segment. And in 2017 economic indicators show a decline in values compared to 2014, 2015 and 2016. Return on investment has fallen from -2.52% in 2016 to -6.78% in 2017. This in turn is a sign for segment fragility in the long run. This downward trend is also observed in the ratio between current segment revenue and break-even revenue, which means that in 2017 the segment was unprofitable. By preserving the

negative values for the future, the segment can be considered economically ineffective and in the long run.
Low values for economic and technical indicators, as well as high biological indicator values, indicate that the DFN/VL 0612 segment is unbalanced.

G.2.2. Segment PMP/VL 0612

Approximately 25% of the active fishing vessels with a length of 6-12 m operate in this segment. Here too, the values of the technical indicator are low and indicate a lack of usability of the fleet. Return on investment in 2017 marked a significant increase, reaching its highest values of 43.84% over the period 2013-2016. According to the calculated data on the ratio between current segment revenue and break-even, there is again a significant increase in values in 2017 compared to 2016. This positive trend is expected to remain in the years to come. Biological indicator values are down from 2016, but still above the allowable thresholds. Generally, the segment is in an imbalance.

G.2.2. Segment FPO/VL 0612

With respect to the technical indicator data, the segment is in an imbalance. Indicator values are low, indicating the poor usability of fishing vessels. Economic indicators are negative for the period 2013-2015. In 2016, return on investment and CR/BER has reached positive values, but in 2017 they again reach negative values. The segment remains economically inefficient in the short and long term. Also, according to data for 2016, the Sustainable Harvest Indicator values in this segment continue to decline as the indicator reaches a value of 1.064. Currently, the segment is unbalanced.

G.2.3. Segment HOK/VL 0612

The calculations of the technical indicator and in this segment indicate the inefficient use of fishing vessels. Economic data are heterogeneous for the observed period. In 2016 return on investment was positive at 4.53%, but significantly lower than in 2015 - 31.69%, and in 2017 even reached a negative value. A decline is observed in the ratio between current segment revenue and break-even revenue. In 2016 there was a significant increase in the values of the biological indicator. The segment is unstable and unbalanced in the short and long term.

G.2.4. Segment PGP/VL 0612

The usability 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 break-even revenue, the negative trend for values over the entire period of 2013-2017 remains. Sustainable Harvest Indicator values show a significant decrease from 4.749 in 2016 to 2.039 in 2017, but are still above allowable thresholds. The segment is unbalanced and economically ineffective.

G.2.5. Segment TM/VL 0612

Segment data is calculated for 2016 and 2017, as it has operated a small number of fishing vessels in the previous years. During the two years there are 6 fishing vessels in the segment, and according to the calculated values of the technical indicator, they are of relatively good utilization. The Return on Investment indicator remains negative over the two years as opposed to the break-even revenue, which is positive, but still below 1. The indicators of the biological indicator in 2017 show a decrease compared to the 2016 benchmark, but still remain high. In view of the small number of vessels, the segment is unstable and there is currently no detailed analysis of the existence of a balance or imbalance.

G.3. Segment from 12 to 18 meters

In 2016, this segment includes a total of 64 fishing vessels, of which 55 are active. Thus, the percentage of inactive vessels is approximately 14%, an increase over the previous two years. According to the DCF segmentation of the active vessels with a length of 12 to 18 m in 2017, the following segments are observed: DFN, PMP, TM, TBB, and HOK. The HOK segment cannot be analyzed due to the very small number of ships in it, and for TBB only data representative for the current 2017 are available.

G.3.1. Segment DFN/VL 1218

The values of the technical indicator again show poor utilization of the fishing vessels in the segment. The 20.40% growth in the 2016 indicator has fallen to 6.64 in 2017, but still holds higher than previous years. The same trend is also observed in the ratio between current segment revenue and break-even revenue, and operators were already able to cover their costs (CR / BER> 1) in 2015, 2016 and 2017. Despite the high values of the economic indicators, the biological values exceed the permissible limits. In 2017, there is a drop to 2.003 compared to 2.915 in 2016. Given this, as well as low fleet usability 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 2017 show that the fishing capacity of fishing capacity has been maintained over the previous years. The economic indicators show an increase compared to 2016. Return on investment increased from 5.63% to 6.19%. The percentage of the indicator, reduced by the interest rate on long-term investments with low risk, remains positive in 2016. The ratios between the current segment revenue and the break-even revenue continue to increase also in 2017 and the ratio remains above 1. Operators were therefore able to generate enough income to cover their costs in 2017. While preserving these results in future periods it would also be beneficial to invest in the segment and also in the long term. The results of the Sustainable Harvest Indicator calculations show an increase in values from 2.242 in 2016 to 3.434 in 2017 above the allowable thresholds. The data show that, for the long term, the

segment is economically ineffective. Given the positive economic and technical indicators, as well as the observed decline in biological values, it is possible for the segment to achieve a balance in subsequent periods.

G.3.3. Segment TM/VL 1218

The aggregate analysis of the indicators shows that in the short term the segment is profitable but with a significant imbalance between fishing capacity and fishing opportunities, despite the increased technical and economic indicator for 2017. In the long run, the segment is overcapitalized and unprofitable. Calculations of the biological indicator for 2016 show that it retains comparatively low values. However, it can be argued that the segment has an imbalance between fishing capacity and fishing opportunities.

G.4. Segment from 18 to 24 meters

The number of fishing vessels in the segment is retained in 2017 17 pcs, of which only one was inactive. According to the DCF segmentation, the following segments are registered for active vessels with a length of 18 to 24 meters: DFN, PMP, TBB, TM, and this year for the first time there is a fishing vessel in the PS segment. Due to the small number of vessels in segments and the variations in fishing gear used, analysis can only be made for the TM segment. To date, the analysis can only be done in the short term as none of the segments covers the entire monitored period - 2013-2017.

G.4.1. Segment TM/VL 1824 meters

The data for this segment is presented for 2015, 2016 and 2017. According to the technical indicator calculations, the usability of fishing vessels is low. Overall, this is a result of the frequent repairs, due to the significantly high average age of the ships. Economic indicators are positive. In 2017 return on investment is 4.39%, which is significantly lower than the levels achieved in 2015 and 2016. The ratio between current segment revenue and break-even revenue is over 1 for the observed period – 1.92 in 2016 and 1.11 in 2017. Shipowners have therefore generated enough income to cover their costs. For the biological indicator, the values also fall within the sustainable harvest limits. Based on the data presented for the three years, it can be argued that the segment is balanced, but only in the short term. The segment will continue to be monitored with a view to achieving a lasting balance between fishing capacity and fishing opportunities.

G.5. Segment over 24 meters

For the period 2013-2017, 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 PMP are considered. The PMP segment will not be taken into account as it has a single fishing vessel and in the period 2015-2017 the segment does not exist.

G.5.1. Segment TM/VL 2440

In 2017, there was a slight increase in the technical indicator values, calculated on the basis of the observed maximum effort. By this indicator, the segment retained the values of previous years. Economic indicators retain the positive values as well as the sustainable harvest 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 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, EAFA 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. Ships which have been suspended on this ground are automatically withdrawn from the fishing vessel register and the released capacity remains in favor of the State and subsequently allocated to fishing vessels wishing to be entered in the Fleet Register. EAFA plans to continue implementing 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.
At the end of 2017, proposals were made to amend and supplement the current secondary legislation, as well as the adoption of an entirely new regulation for the management of the fishing fleet. 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. Permanent cessation of fishing activities

On 21 April, 2017, the admission of projects under Union Priority 1"Promoting environmentally sustainable, resource–efficient, innovative, competitive and knowledge–based fisheries" was opened, measure 1.3 "Permanent cessation of fishing activities" was opened, with a call for proposals through project selection BG14MFOP001-1.003 "Permanent cessation of fishing activities".
The implementation of the measure will contribute to achieving a specific objective, namely "Achieving a sustainable balance between fishing capacity and fishing opportunities". With the measure of permanent cessation of fishing activities, the fishing effort of the Bulgarian fishing fleet will be adjusted in accordance with available and accessible resources and according to the capacity of the fishing fleet at segment level, by scrapping part of the old and inefficient vessels in the unbalanced in terms of fishing opportunities segments, i.e. those up to 24 m. This will reduce the harmful impact of the fleet as a whole over the marine environment and contribute to the balancing of the fleet to the fishing opportunities. Towards the end of 2017, eight contracts

for permanent cessation of fishing activities were signed, all of them falling into the largest segment to VL0012. The result of the implementation will be reflected in the reporting scheme for 2018.

H.3. Added value, product quality and use of unwanted catches

On 24 August 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.4. 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.