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REPUBLIC OF BULGARIA
MINISTRY OF AGRICULTURE, FOOD AND FORESTS
EXECUTIVE AGENCY FOR FISHERIES AND AQUACULTURES

Bulgarian Annual Report on the efforts in 2016 to achieve a sustainable balance between fishing capacity and fishing opportunities

(In accordance with Regulation 1380/2013, Regulation 1013/2010 and Guidelines for balance between capacity and fishing opportunities)

Introduction

The Bulgarian annual report is prepared in line with the rules laid down in Regulation 1380/2013, Commission Regulation 1013/2010, Regulation 1013/2010 and Commission guidelines (version September 2014) in accordance with art. 22 of Regulation 1380/2013. This report contains national measures for management of fisheries and fishing effort applied in 2016 in order to achieve sustainable balance between fishing capacity and fishing opportunities.

Summary of the report

The Bulgarian fishing fleet operates exclusively in Black Sea and at 31st December 2016 it consists of 1910 fishing vessels with total capacity of 6 175 GT and 55 631.92 kW. From the total number of vessels – 1 815 fishing are with length less than 12 m, which is approximately 95% of the fishing fleet. The most used fishing gear is gillnets (anchored). During the period 2007 – 2016 the Bulgarian fishing fleet reduced in GT and kW as well in all segments, as it is shown in figures 3 and 4. 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.

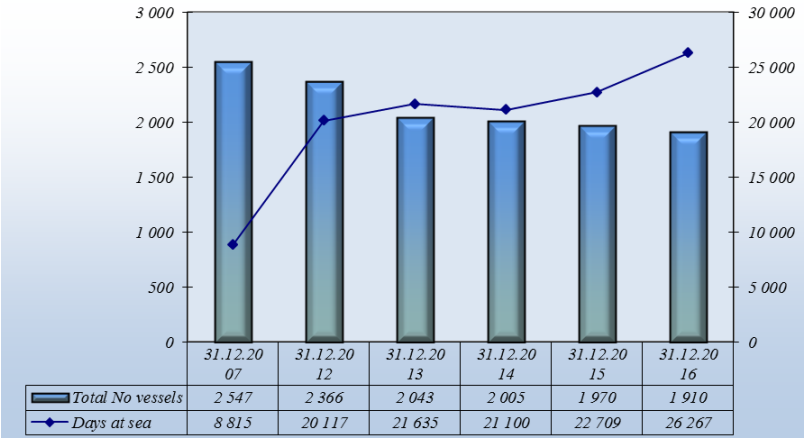
The economic status of the fishing fleet is under the influence of number of factors, the main of them are: the average age of the fleet is approximately 20 years; unbalance between the expenses and income; low purchasing abilities of the population, annual migrations of part of the valuable species; variations of fuel prices.

In 2016 there is an increase in the number of active vessels in the segments LOA 0-6 and LOA 12-18, the same level of activity is observed in the segment LOA 24-40. The only segment where reduction of the number of active vessels is observed are LOA 6-12 and 18-24. The inactivity of vessels is due mainly to repairs, reorganizations or upcoming sales and transfer of the ownerships, and in lower aspect – to the equipment with new fishing gears. The measures described in national legislation (art. 18в of Fisheries and Aquacultures Act) were applied for the inactive vessels in 2016. As a result of that, a total of 95 fishing vessels were withdrawn. 51 of them fall into segment LOA 0-6 and 44 of them in segment LOA 6-12. As a result of the actions taken and the released fishing capacity, a total of 43 fishing vessels were entered in the fleet register. This has been reflected in the percentage ratio to the number of days at sea in 2016 compared with 2015. There is an increase of 16%.

SECTION A

1. Description of 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 in the territorial waters (within the 12 nautical miles area). At 31st December 2016 the Bulgarian fishing fleet consists of 1910 vessels, operating only in Black Sea with total capacity of 6 175.67 GT and 55 631.92 kW. There are 1 815 vessels less than 12 m, representing 95% of all Bulgarian fishing vessels and most of them are using as a preferred gear gillnets (anchored). The average age of the Bulgarian fishing fleet is 20 years. As it is shown in table 4 (presented below), the number of registered vessels is reduced with 25% from the date of accession of Bulgaria to the EU (01/01/2007) and their days at sea have been increased with approximately 298%, i.e. the fishermen's activity has increased during this period.



	31.12.2007	31.12.2012	31.12.2013	31.12.2014	31.12.2015	31.12.2016
Total No vessels	2 547	2 366	2 043	2 005	1 970	1 910
Days at sea	8 815	20 117	21 635	21 100	22 709	26 267

Figure 1. Number of ships and days at sea for the period 2007-2016

The data for fishing activity of vessels for 2012, 2013, 2014, 2015 and 2016 are presented in Table 1 and Figure 2, and they show increase in the number of active fishing vessels in two of five segments – LOA 0-6 and LOA 6-12. Segment LOA 24-40 trend all vessels in the segment to be active. A slight reduction is observed only in segments LOA 6-12 and 18-24.

Table 1. : Fishing Activity of the vessels for 2012, 2013, 2014, 2015 и 2016.

	Loa	0-6 m					6-12 m					12-18 m					18-24 m					24-40 m				
Active vessels	Year	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
	Number	375	399	384	414	415	728	725	645	705	703	56	55	52	57	61	19	13	17	16	15	11	12	12	12	12
	Days at sea	4512	5059	4561	4962	5461	9391	9795	9161	9763	11734	3163	3489	3953	4562	5814	1170	1290	1527	1526	1643	1881	2002	1898	1896	1615
Inactive vessels	Number	429	304	307	278	241	746	534	583	487	463	14	14	9	7	6	6	10	2	3	2	0	0	0	0	0

- *"Days at sea, according to Decision" 2010/93/EU.*

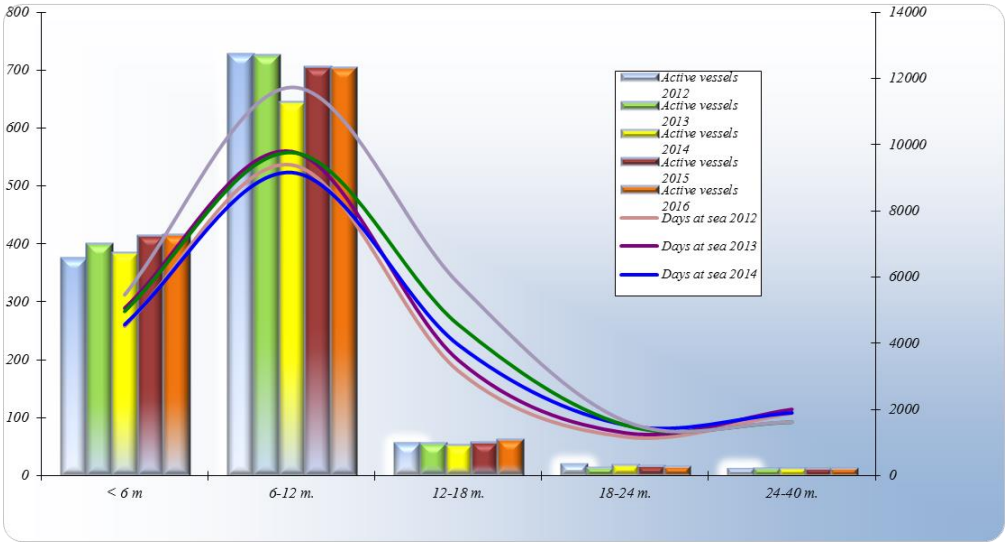


Figure 2. Number of active vessels and days at sea for 2012, 2013, 2014, 2015 и 2016.

Segmentation of vessels by fishing gear in the Black Sea waters shall be carried out in accordance with Decision 2010/93 / EU. The groups of fishing activities and fishing gears typical of each group are listed in Table 1.1, and the number of vessels and days at sea for each segment in Table 1.2.

Table 1.1. - The groups of fishing activities and fishing

Segments	DFN		TM		HOK			FPO			PS	PGP	PMP
Fishing gear	GNS	GND	TBB	OTM	LHP/LHM	LLD	LLS	FPO	FPN	PS	SB	Passive gears only	NO

Table 1.2. - Number of vessels and days at set by segments for 2013, 2014, 2015 and 2016.

Métier	Vessel length	2013		2014		2015		2016	
		No of vessels	Maximum days at sea	No of vessels	Maximum days at sea	No of vessels	Maximum days at sea	No of vessels	Maximum days at sea
DFN	VL0006	296	96	276	99	297	91	304	96
PS	VL0006	15	52	19	71	18	89	19	65
PMP	VL0006	38	78	39	103	51	123	53	152
FPO	VL0006	5	*	7	30	7	22	6	68
HOK	VL0006	43	48	31	30	33	42	26	20
PGP	VL0006	2	*	12	31	8	44	7	14
Total no of vessels		**399**		**384**		**414**		**415**	
DFN	VL0612	436	104	396	107	442	96	430	154
PS	VL0612	5	*	8	22	10	34	6	22
FPO	VL0612	44	86	34	75	39	66	42	66
HOK	VL0612	84	81	58	85	57	89	49	198
PGP	VL0612	8	16	13	14	11	16	13	20
PMP	VL0612	143	125	130	146	135	181	154	134
TM	VL0612	5	*	5	*	5	*	6	38
TBB	VL0612	-	-	1	*	6	110	3	*
Total no of vessels		**725**		**645**		**705**		**703**	
DFN	VL1218	13	96	10	230	10	83	7	90
PGP	VL1218	1	*	3	*	-	-	14	128
PMP	VL1218	29	143	28	161	22	166	2	*
HOK	VL1218	-	-	-	-	-	-	1	*
TBB	VL1218	-	-	-	-	3	*	4	*
TM	VL1218	12	239	11	151	22	219	33	175
Total no of vessels		**55**		**52**		**57**		**61**	
DFN	VL1824	1	*	3	*	2	*	1	*
PMP	VL1824	7	117	10	140	5	*	4	*
TBB	VL1824	-	-	-	-	2	*	1	*
TM	VL1824	5	*	4	*	7	160	9	199
Total no of vessels		**13**		**17**		**16**		**15**	
TM	VL2440	11	225	11	232	12	221	12	197
PMP	VL2440	1	*	1	*	-	-	-	-
Total no of vessels		**12**		**12**		**12**		**12**	

2. Relation to fisheries

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 2016 the total amount of landings from Bulgarian fishing fleet is 8 540 t.

Most of the vessels less than 12 m are involved in small scale fisheries using gillnets. The vessels with length over 12 m use as a main gear pelagic trawl.

From all species in Black Sea, Bulgaria is allocated with TAC only for turbot and sprat, in 2016 introduced a special regime of monitoring on catches of Piked Dogfish (Squalus acanthias). Fishing opportunities regime for turbot and sprat has been applied since 2007. For 2016 the fishing opportunities for the Black Sea were laid down in Council Regulation 2016/73 as follows:

- For turbot - 43,2 tonnes;

- For sprat - 8 032,5 tonnes.
- For Piked Dogfish - The level of catches should not exceed the levels from 2015.

In 2016, the landed quantities of turbot is 42.4 tonnes, and the catches of sprat and piked dogfish are respectively 2 295 tonnes and 83.5 tonnes.

More detailed information for the main species in Black Sea is shown in the tables below:

Table 2: Landings of the main species in Black Sea for 2016.

Main target spieces	FAO code	< 6 m	6 - 12 m	12 - 18 m	18 - 24 m	24 - 40 m	Total 2016
European sprat	SPR	7818.0	71295.2	197021.0	380789.0	1638571	2295494.2
Mediterranean horse mackerel	HMM	7260.2	23819.25	42640.5	55339.4	37131.0	166190.35
Atlantic bonito	BON	18618.7	49101.6	503.0	0.0	0.0	68223.3
Bluefish	BLU	19910.75	32525.0	295651.8	124389.8	239680.0	712157.35
Flathead grey mullet	MUF	5935.4	2578.1	138.0	0.0	0.0	8651.5
Red mullet	MUT	4317.9	35297.1	670975.7	119409.9	47448.5	877449.1
Picked dogfish	DGS	612.0	2593.0	70240.6	9848.3	185.0	83478.9
Turbot	TUR	134.5	10943.62	20210.84	7976.72	3166.66	42432.34
Rapana snail	RPN	577700.3	1196142.6	1308544.16	314721.0	12177.0	3436285.06
Gobies nei	GPA	31358.4	32827.1	763.5	0.0	41.0	64226.5
Thornback ray	RJC	3.0	2016.59	14847.4	11403.1	7448.0	35718.09
Silversides nei	SIL	7589.1	41513.3	1350.0	0.0	0.0	50452.4
Anchovy	ANE	1862.5	29906.0	526.9	8400.0	13777.0	54472.4

Table 3: Landings of the main species in Black Sea for the period 2007 - 2016

Main target spieces	FAO code	Landings 2007	Landings 2012	Landings 2013	Landings 2014	Landings 2015	Landings 2016
European sprat	SPR	2 984 585.0	2 836 201.9	3 784 192.1	2 279 108.4	3 296 994.3	2295494.2
Mediterranean horse mackerel	HMM	115 885.7	380 662.2	271 376.9	113 073.7	87 178.2	166190.35
Atlantic bonito	BON	895.0	96 099.6	6 131.0	5 511.3	7 731.8	68223.3
Bluefish	BLU	8 218.9	550 782.7	49 024.3	304 738.2	138 447.3	712157.35
Flathead grey mullet	MUF	5 844.9	24 702.2	9 029.7	16 316.4	10 216.1	8651.5
Red mullet	MUT	12 595.0	131 488.3	256 775.0	328 815.8	632 568.6	877449.1
Picked dogfish	DGS	23 978.0	28 692.7	30 947.7	34 009.7	133 041.7	83478.9
Turbot	TUR	66 885.0	36 361.6	39 577.0	39 449.7	43 005.7	42432.34
Rapana snail	RPN	4 309 989.0	3 793 386.0	4 819 061.5	4 732 410.8	4 100 585.2	3436285.06
Gobies nei	GPA	73 894.7	89 481.0	74 001.0	63 698.1	47 946.1	64226.5
Thornback ray	RJC	3 562.0	68 587.7	56 114.7	70 321.8	43 236.6	35718.09
Silversides nei	SIL	9 437.0	28 108.5	9 795.4	57 603.3	9 166.9	50452.4
Anchovy	ANE	60 440.0	7 388.0	9 932.2	369 646.1	12 465.6	54472.4

3. Development of the fleet

The development of Bulgarian fishing fleet from 1st January 2007 to 31st December 2016 is presented in Table 4, Figure 3 and Figure 4. As it is shown, the number of registered vessels at the end of 2016 is reduced with 25% in comparison with 31th December 2007. In general, Bulgarian fishing fleet is reduced in tonnage and in power. The most considerable reduction is observed in the segment between 18 and 24 m. A significant reduction is registered also in the segments between 6 and 12 m, and up to 6 m. In 2016 there is the same trend as in 2015 for the segment over 24 m.

Table 4: Development of Bulgarian fishing fleet

	31.12.2007			31.12.2012			31.12.2013			31.12.2014			31.12.2015			31.12.2016			Changes compared to 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	805	582	6 507	700	516	6 044	688	508	6 085	691	509	6 098	655	488	6 020	-22%	-19%	-9%
6 - 12 m	1 595	3 464	42 173	1 466	3 129	39 444	1 249	2 653	34 127	1 225	2 601	33 420	1 184	2 500	32 168	1 160	2 466	32 107	-27%	-29%	-24%
12 - 18 m	66	1 273	8 625	64	1 227	8 853	60	1 182	9 163	61	1 183	9 373	64	1 230	9 871	67	1 291	10 377	2%	1%	20%
18 - 24 m	29	1 309	4 819	20	890	3 714	22	927	4 539	19	817	4 005	19	817	4 005	17	738	3 839	-41%	-44%	-20%
24 - 40 m	12	1 586	3 304	11	1 234	2 848	12	1 310	3 510	12	1 310	3 510	12	1 310	3 510	11	1 193	3 289	-8%	-25%	0%
Total	**2 547**	**8 233**	**65 515**	**2 366**	**7 061**	**61 366**	**2 043**	**6 587**	**57 383**	**2 005**	**6 420**	**56 393**	**1 970**	**6 367**	**55 651**	**1 910**	**6 176**	**55 632**	**-25%**	**-25%**	**-15%**

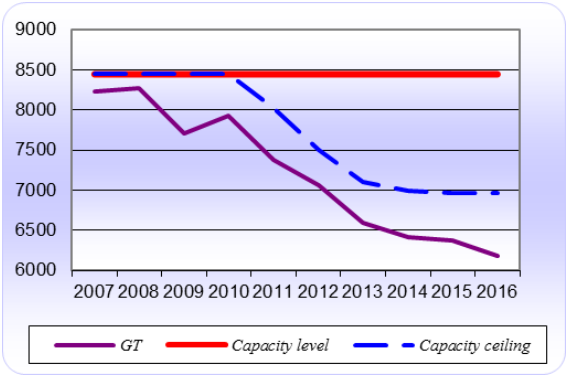


Figure 3. Capacity in GT for the period 2007-2016

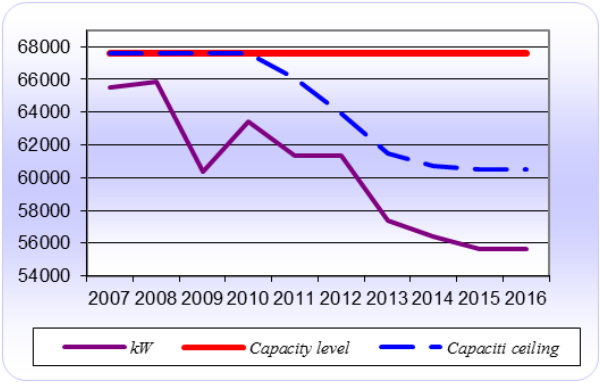


Figure 4. Capacity in kW for the period 2007-2016

SECTION 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 with implementation of the scheme for withdrawing from exploitation of vessels from the Bulgarian fishing fleet it could be concluded, that Bulgaria makes efforts for withdrawing from exploitation of vessels in the segments LOA 12-18, LOA 18-24, LOA 24-40, and LOA 6-12. The implementation of the fishing effort adjustment plan is resumed in table 5.

Table 5: Implementation of the Fishing Effort Adjustment Plan (FEAP) up to 31.12.2015.

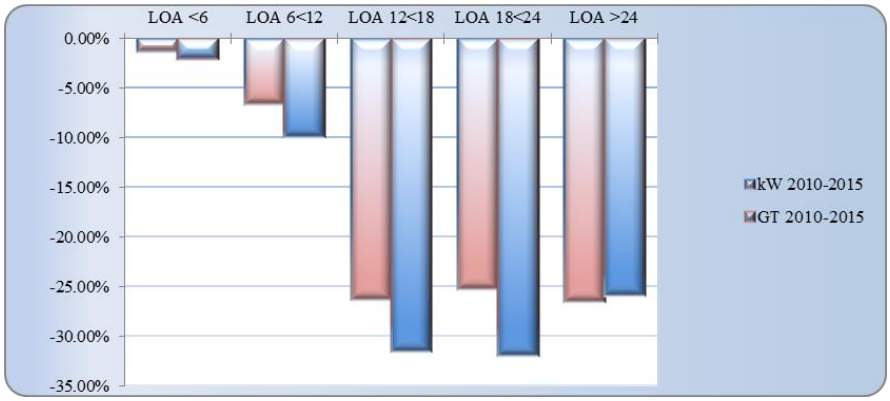
	Bulgarian fishing fleet at 31.12.2009			Adjustment plan				Implementation at 31.12.2015				
Fleet segment	**No of vessels**	**kW**	**GT**	**kW**	**GT**	**kW %**	**GT %**	**No of vessels**	**kW**	**GT**	**kW %**	**GT %**
LOA <6	708	5462.35	507.2	4369.88	405.76	-20%	-20%	14	70.22	10.5	-1.29%	-2.07%
LOA 6<12	1392	37160	2985.48	26012	2089.84	-30%	-30%	47	2437.58	295.5	-6.56%	-9.90%
LOA 12<18	65	9106.23	1290	6374.36	903	-30%	-30%	23	2390.10	407.13	-26.25%	-31.56%
LOA 18<24	28	4773.66	1253.4	2864.2	752.04	-40%	-40%	9	1201.92	400.56	-25.18%	-31.96%
LOA >24	13	3877.5	1665	2326.5	999	-40%	-40%	2	1029.65	431.36	-26.55%	-25.91%
Total	**2206**	**60379.7**	**7701.08**	**41946.9**	**5149.64**			**95**	**7129.46**	**1545.05**	**-11.81%**	**-20.06%**

2. Impact of effort reduction schemes on fishing capacity

During the program period 2007 - 2013, in implementation of FEAP, 95 fishing vessels have been scrapped with total fishing capacity of 1545,05 GT and 7129,46 kW. The number of fishing vessels in this segment is significantly higher compared to other segments. The fishing effort has been reduced with 248,6 kW and 23,48 GT.

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 and to achieve a balance between fishing capacity and fishing opportunities.

Figure 5. Reduction of Bulgarian fishing fleet in kW and GT



On 21 April 2017, the admission of projects under Priority 1 of the Union 1 "Promotion of environmentally sustainable, innovative, competitive and knowledge-based, resource-efficient fisheries" was opened, Measure 1.3 "Ending fishing activities" With a call for proposals through project selection BG14MFOP001-1.003 "Final 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 the 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 terms of fishing opportunities segments, namely up to 24 m. This will reduce the harmful impact of the fleet to the marine environment and will contribute to balancing the fleet to fishing opportunities. The total amount of the grant is BGN 1 681 036 under the procedure. The minimum and maximum amount of the grant under the measure is not defined.

SECTION C

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

The capacity of Bulgarian fishing fleet at 1st January 2007 is as follows: GT_{07} = 8 448 GT и kW_{07} = 67 607 kW.

Table 7: Calculation of baseline : (GT_{07} и kW_{07}) at 01/01/2007

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 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 8: Information on the vessel capacity, entered or removed from the fleet register in the period 2007-2016

	Entry/Exit regime	GT										kW									
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ENTRY	Vessels' entered the FR after excluding of the vessels	3	3	86	328	217	338	583	159	77	208	55	50	420	3 894	1 412	3 099	6 284	3 564	787	2 720
	Vessels' entered the FR after the accession date based on an administrative decision	86	44	171	-	-	-	-	-	-		700	401	1 582	-	-	-	-	-	-	-
	Total	**89**	**48**	**257**	**328**	**217**	**338**	**583**	**159**	**77**	**208**	**756**	**451**	**2 002**	**3 894**	**1 412**	**3 099**	**6 284**	**3 564**	**787**	**2 720**
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	164	85	7 449	883	1 932	868	7 843	1 504	1 365	3 006
	Total	**2**	**5**	**830**	**97**	**785**	**653**	**1 059**	**331**	**133**	**403**	**164**	**85**	**7 449**	**883**	**3 446**	**3 044**	**10 256**	**2 282**	**1 614**	**3 006**

Table 9: Management of entry/exit regime at 31st December 2016г.

		GT		kW	
1	Capacity of the fleet on 01/01/2007	**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)		2 333		23 713
5	Increases in tonnage GT for reasons of safety	**GT_S**	0		0
6	**Total entries (3 + 4 + 5)**		2 333		23 713
7	Exits before 1/1/2007 financed with public aid	**GT_{a1}**	0	**kW_a**	0
8	Exits after 1/1/2007 financed with public aid	**GT_{a2}**	1 545		7 129
9	Other exits (not included in 7 and 8)		2 759		25 875
10	**Total exits (7 + 8 + 9)**		4 304		33 005
11	Power of engines replaced with public aid conditional to power reduction		0	**kW_r**	0
12	**Capacity of the fleet on 31/12/2016 (1 + 6 - 10)**	**GT_t**	6 176	**kW_t**	55 632
13	**Fleet ceiling on 31/12/2016**		6 964		60 477

Lines 1, 3, 5, 7, 8, 9, 11 and 12 present figures as registered in the Community Fleet Register on 31/12/2016
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

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

According to the national legislation, all fishing vessels carrying out commercial fishing shall be included in the Ship register kept by the Executive Agency Maritime Administration (The Bulgarian institution responsible for the technical characteristics and condition of the vessels) and in the Fishing Fleet Register kept by the Executive Agency for Fisheries and Aquacultures (The Bulgarian institution responsible for the control of fishing activities).

Basic principle in the management of the Bulgarian fleet is that the fishing capacity, being a composition of the gross tonnage and the power of the vessels may never be increased before the taking out of the same or greater fishing capacity from the Bulgarian fishing fleet.

The national legislation has been amended in 2012, when measures allowing the suspension of the license of vessels, which have been inactive during two consecutive years. The capacity of these vessels can be allocated to fishing vessels that intend to carry out commercial fisheries.

1.1. Weaknesses:

- Lack of conditions for direct sale from master of vessel to 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 and ensuring better working conditions;
- High age of the fishing fleet;
- High average age of employees in the sector;
- Dependence of fisheries from the seasonal catches of some valuable species;
- Restricted navigation area of significant part of the fleet. As it was mentioned, Bulgarian fishing fleet consists mainly of small vessels, bigger part of them are authorized to navigate within the area of 2 miles from the coast.

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 ensure possibilities for more efficient control, and from the other hand it ensures the submission to fishermen of information related to management of fisheries;
- Raising the awareness of sector, 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 (VMS or GPRS depending on the length of vessel);
- Cooperation with other national authorities regarding the technical parameters of fishing vessels (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 central administration;
- 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;
- Administrative measures against IUU fisheries, through point system for serious infringements, allowing temporary suspensions or permanent withdrawal of fishing license.

2. Plan for improving the fleet management system:

Contracts for financial aid for building of fish auctions have been signed in 2015. In 2016 the modernizations of two fishing ports (Chernomorets and Pomorie) have been accomplished. In 2017, contracts for modernization of two more fishing ports (Varna and Burgas) are expected to be signed. That will facilitate direct offering of fisheries products to end users. Modernization of fish ports and building of new ones with the appropriate infrastructure will also have positive impact on facilitation of the process of direct offering of fish and other aquatic organisms.

The Fisheries and Aquacultures Act laid down rules for withdrawal of vessels that have been inactive during two consecutive years. The released capacity shall be allocated to fishing vessels, which entering into register will guarantee the rejuvenating and modernization of fishing fleet, and more effective usage of fishing capacity.

A significant part of valuable species are migrating and their catches in yearly aspect depend on the abundance of their passages. The fishing licenses and authorizations system is functioning in a matter to grant fishing authorization for all species (excluding turbot, which is a subject of a separate authorization system) and thus allows fishermen to target all allowed species, which could compensate the yearly fluctuations of migrating species.

The system of certification and verification of the engine power allow monitoring of the real propulsion engine power and not exceeding the engine power recorded in the license. The Executive Agency for Fisheries and Aquacultures and Executive Agency Maritime Administration will continue their joint activities for the implementation of the Sampling Plan for identification of fishing vessels with a risk of under-declaration of propulsion engine power, approved in 2014 and revised in 2016. Moreover, the EAFA staff performs permanent documentary checks and verifications, ensuring the proper monitoring of the engine power.

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 coastal area and to avoid point of contact with the bigger fishing vessels using active fishing gears.

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, special fishing authorizations for 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 2016 the implementation of the Sampling Plan for identification of fishing vessels with a risk of under-declaration of propulsion engine power, based on requirements of Regulation 1224/2009 has been continued. Also in accordance with a 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 through Ordinance 3 from 19.02.2013 for the implementation of Community system for application of point system for serious infringements according to Regulation (EC) 1005/2008 of the Council from 29.09.2008 for creation of Community system for preventing, deterring and eliminating of the illegal, undeclared and regulated 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 2016 the work on improvement of ERS continued.

SECTION E

Information about the changes in the administrative procedures for the fleet management:

No amendments related to fleet management have been adopted in 2016.

SECTION F

Indicators

The technical and economic indicators for 2013, 2014, 2015 and 2016 have been calculated as it is shown below and based on the guidelines for detailed analysis of balance between fishing capacity and fishing opportunities. For the calculation of indicators, data from DCF and informational system of EAFA have been used.

I. Technical indicator

The assessment of the technical indicator has been done in line with the Guidelines and it covers all fishing vessels active in 2013, 2014, 2015 and 2016. The vessels are considered as active if they are provided with fishing license and reported fishing activity at least once during the referent year. The vessels are considered as inactive if they are without authorization for the referent year or with authorization, but they did not report any fishing activity (due to the repair, sale of vessel etc).

Table 10: Proportion of inactive vessels in the whole fleet for 2012, 2013, 2014, 2015 and 2016.

Loa	< 6					6 - 12 m					12 - 18 m					18 - 24 m					24 - 40 m				
Representative year	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2015	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Inactive vessels	429	304	307	278	241	746	534	583	487	463	14	14	9	7	6	6	10	2	3	2	0	0	0	0	0
Total number	805	700	688	691	655	1 466	1 249	1 225	1 184	1 160	64	60	61	64	67	20	22	19	19	17	11	12	12	12	12

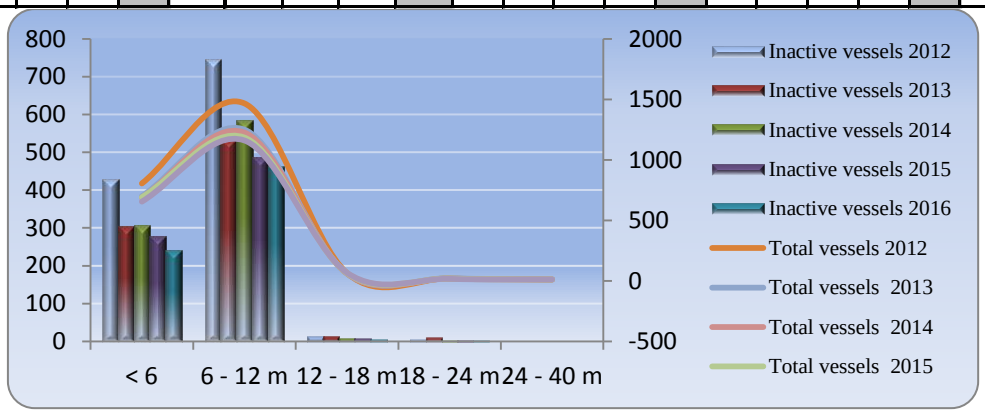


Figure 6. Percentage of inactive vessels

The ratio between inactive fishing vessels and total number of fishing vessels in each segment is presented in Figure 6. As it is visible, the percentage of inactive vessels, which represent the unused capacity, in the segments under 12 m (95,2 % from the Bulgarian fishing fleet) in 2016 is still high. The main reasons for this figures are seasonable fisheries, low degree of revenue, repair activities etc.

In the segments up to 24 meters for the indicated period 2012-2016 there is a tendency to reduce the number of inactive vessels, as the probable reason for this could be the administrative measures for withdraw the inactive vessels from the register.

There are no active vessels, which has been the tendency in recent year for the segment LOA 24-40.

Summarized information for the technical indicator for the period 2013-2015, calculated as ratio between current effort and maximum effort is presented in Table 11. 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 in Black Sea there are not areas, where the number of days at sea of particular vessel or group of vessels is limited. For this reason we consider that if there are no specific restrictions, the fishing vessels with similar parameters could spend a similar number of days at sea. Considering biodiversity as target species relevant to the economic activity in all segments of the Bulgarian fishing fleet, it should be taken into account that this also affects the variations in fishing techniques and gears used. This reflects the large number of segments, some of which are represented by only a few vessels. EAFA also leading a policy to promote the use of passive passive gears with mesh size limitations.

Table 11: Technical indicator

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

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

II. Economic indicators

The data used for the calculation of economic indicators is from questionnaires for economic statistics in 2015 and 2016 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.

II. 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 2015 shows that the most profitable was the DFN 0612 segment, followed by segments DFN 0006, HOK 0612, PMP 0612, DFN

1218, TM 1824 and TM 2440. In 2016, High indicator values retained the DFN 1218, TM 1824 I TM 2440 segments, but there was a significant decrease in the segments DFN 0006 and DFN 0612.

Table 12. 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 2015 (€'000)						
DFN 0006	325,37	213,79	75,54456139	798,49	9,46%	4,48%
PS 0006	9,41	9,72	-2,61	15,02	-17,38%	-22,36%
FPO 0006	3,58	3,26	0,28063	19,67	1,43%	-3,55%
HOK 0006	15,75	13,98	1,60	84,84	1,88%	-3,10%
PGP 0006	2,75	2,79	-0,04	25,76	-0,15%	-5,13%
PMP 0006	88,58	161,24	-77,75	101,17	-76,85%	-81,83%
DFN 0612	2196,07	1092,70	1012,04	2674,76	37,84%	32,86%
PS 0612	1,98	2,65	-2,21	15,83	-13,93%	-18,91%
FPO 0612	132,51	150,01	-22,79	252,09	-9,04%	-14,02%
HOK 0612	51,25	38,96	90,22	284,68	31,69%	26,71%
PGP 0612	1,72	3,10	-2,51	37,45	-6,70%	-11,68%
PMP 0612	725,10	538,02	138,87	1079,12	12,87%	7,89%
TBB 0612	99,39	102,52	-3,13	241,42	-1,30%	-6,28%
TM 0612 *	0	0	0	0,00		
DFN 1218	170,29	86,76	74,90919	614,05	12,20%	7,22%
PMP 1218	733,08	616,10	32,98	2222,65	1,48%	-3,50%
TBB 1218 *	0	0	0	0,00		
TM 1218	771,43	628,5	114,83	3170,33	3,62%	-1,36%
DFN 1824 *	0	0	0	0,00		
PMP 1824 *	0	0	0	0,00		
TBB 1824*	0	0	0	0,00		
TM 1824	343,91	248,94	83,25	893,57	9,32%	4,34%
TM 2440	812,36	599,34	169,15	2552,96	6,63%	1,65%
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%

* 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 2009-2014 (source: European Central Bank) – 4.98% is used for the calculation of the indicator for 2015.
[2] 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.

Table 13. Return on investment (ROI) for 2015 and 2016.

Fleet segment	DFN 0006	PS 0006	FPO 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	PS 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	DFN 1218	PMP 1218	TM 1218	TM 1824	TM 2440
2015	9,46%	-17,38%	1,43%	1,88%	-0,15%	-76,85%	37,84%	-13,93%	-9,04%	31,69%	-6,70%	12,87%	12,20%	1,48%	3,62%	9,32%	6,63%
2016	1.55%	3.08%	-67.04%	3.46%	15.78%	-146.37%	-2.52%	2.30%	5.72%	4.53%	-1.33%	4.89%	20.40%	5.63%	0.45%	10.39%	8.14%

Table 13 shows the ROI values for 2015 and 2016. 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.

Increase of the ROI indicator is seen in the segments PS 0006, HOK 0006, PGP 0006, PS 0612, FPO 0612, PGP 0612, DFN 1218, PMP 1218, TM 1824 and TM 2440.

In both segments with the largest number of ships (DFN 0006 and DFN 0612), the rate of return on investment decreased significantly in 2016 compared to the previous year. The ROI values for the other segments show overcapitalisation, which in the long run also makes them economically ineffective.

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

For 2015-2016 the indicator CR/BER is calculated in the short and long term (Table 14).

In the short term, in 2015 the value of the indicator in 10 of the segments representing 86% 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 5 segments (PS 0006, PGP 0006, PS 0612, FPO 0612 and DFN 1218), 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 2009-2014. They are added to the fixed costs. The lowest value of the CR/BER ratio in 2015 is the PMP 0006 segment, followed by PGP 0612. These results show that investing in these segments is with high risk in the long-term.

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.

Table 14. Ratio between current revenue and break-even revenue 2015 and 2016 (€'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	325,37	61,00	100,77	188,82	145,36	2,24	1,36
PS 0006	9,41	3,90	4,65	8,12	28,45	0,33	0,28
FPO 0006	3,58	1,17	2,15	2,13	2,89	1,24	0,67
HOK 0006	15,75	2,98	7,21	11,17	10,26	1,53	0,64
PGP 0006	2,75	0,55	1,83	2,24	2,96	0,93	0,28
PMP 0006	88,58	13,99	19,03	152,34	-19,44	-4,56	-3,35
DFN 0612	219,07	144,91	278,11	1039,11	275,06	7,98	4,16
PS 0612	1,98	2,59	3,37	1,60	13,51	0,15	0,11
FPO 0612	132,51	24,86	37,41	130,44	1589,47	0,08	0,06
HOK 0612	51,25	5,14	19,31	33,83	15,11	3,39	0,00
PGP 0612	1,72	1,70	3,56	2,53	-3,62	-0,48	-0,23
PMP 0612	725,10	76,74	130,48	509,49	258,08	2,81	1,65
TBB 0612	99,40	3,44	15,46	99,09	1113,23	0,09	0,02
TM 0612 *	0,00	0,00	0,00	0,00	0,00		
DFN 1218	170,29	16,33	46,91	79,05	30,48	5,59	1,95
PMP 1218	733,08	111,37	222,05	588,72	565,57	1,29	0,65
TBB 1218 *	0,00	0,00	0,00	0,00	0,00		
TM 1218	771,43	47,10	47,10	609,50	224,38	3,44	0,79
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	343,91	30,23	74,73	230,43	91,60	3,75	1,52
TM 2440	812,36	61,49	188,6	581,72	16,58	3,75	1,22
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

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 2015-2016 are presented in **Table 15.**

Table 15. Ratio between current revenue and break-even revenue (CR/BER) for 2015 - 2016

Ratio between current revenue and break-even revenue (CR/BER) for 2015																	
	DFN 0006	PS 0006	FPO 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	PS 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	DFN 1218	PMP 1218	TM 1218	TM 1824	TM 2440
CR/BER	2,24	0,33	1,24	1,53	0,93	-4,56	7,98	0,15	0,08	3,39	-0,48	2,81	0,09	1,25	3,44	3,75	3,75
CR/BER [1]	1,36	0,28	0,67	0,64	0,28	-3,35	4,16	0,11	0,06	0,00	-0,23	1,65	0,02	0,65	0,79	1,52	1,22
Ratio between current revenue and break-even revenue (CR/BER) for 2016																	
	DFN 0006	PS 0006	FPO 0006	HOK 0006	PGP 0006	PMP 0006	DFN 0612	PS 0612	FPO 0612	HOK 0612	PGP 0612	PMP 0612	DFN 1218	PMP 1218	TM 1218	TM 1824	TM 2440
CR/BER	1.28	1.1	-5.5	1.37	5.11	-13	0.58	1.23	1.95	1.45	0.78	1.48	11.7	2.55	1.05	5.17	4.79
CR/BER [1]	0.73	0.97	-3.9	0.95	2.44	-9.5	0.34	0.87	1.15	1.02	0.46	1.05	3.65	1.18	0.72	1.92	1.62

No vessel has received subsidies in 2016.

Table 16. Direct subsidies for 2014, 2015 and 2016 (€'000)

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

III. Biological indicators

III.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 2016 the allocated national quota was 43.2 t for turbot and sprat – 8 032.5 t (Council Regulation 2016/73).

Four research surveys were conducted in the Bulgarian aquatory in Black sea – two demersal and two pelagic during 2016.

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 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) because it is the only report available. The results for the estimated value of the Sustainable harvest indicator are shown in Table 17. For 19 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 19 segments there is a increase in the value of the indicator for 2015, but in the other 10 segments, there is an decrease. Only for 2 of the segments - TM 1824 and TM 2440 the value of the indicator is a value below 1 for both years, indicating that currently, the segments are balanced .

Table 17. Indicator for sustainable harvest for 2014 and 2015

Segment	Indicator for sustainable harvest for 2014	Indicator for sustainable harvest for 2015
DFN 0006	4.505	3.56407105
DFN 0612	3.821	3.394404617
DFN 1218	1.161	2.91534576
DFN 1824	5.385	5.384615385
FPO 0006	2.827	4.370703861
FPO 0612	2.398	1.931205432
HOK 0006	3.555	4.193200981
HOK 0612	2.972	4.418134339
PGP 0006	3.513	5.555555556
PGP 0612	4.338	4.748556999
PMP 0006	5.281	3.835617945
PMP 0612	2.667	2.903825153
PMP 1218	2.578	2.242435984
PMP 1824	2.633	2.267809865
PS 0006	1.574	1.461113532
PS 0612	2.218	2.25904143
TBB 0612	5.385	4.790320529
TM 0612	1.941	2.569681882
TM 1218	1.516	1.465640149
TM 1824	0.825	0.979453801
TM 2440	0.926	0.757099603

III.2. Stocks-at-risk indicator

The indicator is not calculated because the catches in 2016 did not exceed 10% of the biomass from the research surveys of target species (turbot and sprat). The landings of turbot in 2016 were 42.43 tons (by reported data to DCF) and the established biomass was 916 tons. The landings of sprat in 2016 were 2295 tons and the biomass was 26 685 tons.

IV. Balance sheet analysis between fishing capacity and fishing opportunities

The analisys is prepared on a basis of aggregate assessment and comparison of the technical, iconomical and biological indicators for 2013, 2014, 2015 and 2016. Should be considered that the data for biological indicator for 2016 will be available in 2018 year, because of which in determining a trend in the development of segments are taken only available indicators for 2016. This is a possible change in some segments in the next periods.

Table 18

Indicator	Definition	Level 1„green“	Level 2 „yellow“	Level 3 „red“
Technical	The private 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 types / stocks	As defined By types / stocks	As defined By types / stocks
Economical 1	ROI (Return on investment)	ROI > Target point	0 < ROI < Target point	ROI<0
Economical 2	CR/BER Current earnings/Equilibrium point	CR/BER >1	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 1
HOK	VL0006						Level 3
DFN	VL0612						Level 3
FPO	VL0612						Level 3
HOK	VL0612						Level 1
PGP	VL0612						Level 3
PMP	VL0612						Level 1
DFN	VL1218						Level 3
PMP	VL1218						Level 1
TM	VL1218						Level 3
PMP	VL1824						Level 1
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 1
PS	VL0006						Level 3
PMP	VL0006						Level 3
FPO	VL0006						Level 3
HOK	VL0006						Level 3
PGP	VL0006						Level 1
DFN	VL0612						Level 1
PS	VL0612						Level 1
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 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

2016

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

Table 18 (2013), Table 19 (2014), Table 20 (2015) and Table 21 (2016)

IV.1 Segment from 0 to 6 meters

In 2016 the summary of fishing vessels in this segments are decreased to 656 according to past years with positive trend of fewer inactive vessels. In 2016 they are 35% of the vessels in the segment.

According to segmentation used in Data Collection Framework (DCF) in active vessels with length from 0 to 6 meters for 2016 are observed the following segments: DFN, PS, PMP, FPO, HOK и PGP.

1.1. Segment DFN/VL 0006

Approximately 73% of active vessels with a length of 0 to 6 m are in this segment, indicating that gillnets are the most usable fishing gear in small-scale fishing.

Data from the technical indicator calculated for the period 2013-2016 show that the usability of fishing vessels in this segment is extremely low or there is 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. On this basis, it can be judged that the segment is profitable and efficient both in the short and the long term. The values calculated for the biological indicator for Sustainable harvest by the segment, remain high and in 2016 respectively, the segment has a significant impact on the stock.

The indicator for risk-at-risk stocks 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 2016.

1.2. Segment PS/VL 0006

The number of fishing vessels in this segment varies between 15 and 19 for the period 2013-2016. The calculations of the technical indicator indicate that this segment does not have a good usability of fishing vessels. In terms of economic indicators, in 2016 there are higher values compared to the previous years. The biological indicator maintains the comparatively low values from the previous years. Despite the positive trend in economic performance for 2016, the segment is still unbalanced.

1.3. Segment PMP/VL 0006

Data from the technical indicator show that there is a significant ineligibility of fishing vessels in this segment also in 2016. In 2013, the values of the economic indicators are positive. Return on investment in the segment is even lower in 2016 compared to 2014 and 2015. From -76.85% in 2015 to -146.37% in 2016. The ratio between current segment revenue and revenue at the equilibrium profitability point in 2013 was 6.33, indicating that in that period shipowners in the segment had generated enough income to cover their costs. In the coming years there is a tendency for a sharp decline in values, which remains in 2016. In view of this, as well as the high values of the biological indicator, it can be concluded that there is an imbalance in the PMP / VL 0006 segment in terms of fishing capacity and fishing opportunities.

1.4. Segment FPO/VL 0006

In 2016, as in previous years, a small number of ships operate in the segment. Given this, no data for 2013 is provided for the calculated indicators 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 revenue at the equilibrium profitability point. In 2016 again there was a sharp decline in values - -67.04% and -5.5. The biological indicator in 2014 is at 2,827 and in 2015 it reaches 4,371, which in turn shows that for the realization of its income, the segment relies on fishing opportunities structurally set at higher levels than levels of exploitation corresponding to maximum sustainable catch. The segment remains unbalanced in 2016.

1.5. Segment HOK/VL 0006

The number of fishing vessels in this segment continues to decline in 2016. It is clear from the calculations made of the technical indicator that the segment has a low usability of the vessels. In terms of return of investment, it is 3.46% in 2016, keeping the positive trend for growth in 2015. This in turn indicates that revenue will be generated in the segment in 2016. If this trend continues in the coming years, the segment may be considered as cost-effective in the long run. The positive trend is also maintained in the ratio between current segment revenue and revenue at the equilibrium profitability point. However, according to the overall assessment of indicators in the short term and the high values of the biological indicator, the segment is unbalanced and therefore there is a need for action.

1.6. Segment PGP/VL 0006

And in this segment, as in the FPO / VL 0006 segment, few ships operate. According to the data of the technical indicator, both in the previous years and in 2016 there is an imbalance and inefficient use of the fishing vessels. Return on investment rose in 2016 to 15.78% compared to 2015 when it was negative. This trend is also observed in the other economic indicator. Therefore, in 2016, segment operators were able to cover their costs. Biological indicator values significantly exceed the allowable threshold and continue to increase in 2015. Given the data presented, the segment is unbalanced in terms of fishing capacity and fishing opportunities.

IV.2. Segment from 6 to 12 meters

This segment accounts for approximately 60% of fishing vessels. In 2016, their number was 1166 ships, of which 703 were active, 463 were inactive. The percentage of inactive vessels in the segment remains high in 2016.

According to the DCF segmentation of 6 to 12 m active vessels in 2016, the following segments are observed: DFN, PS, FPO, HOK, PGP, PMP, TM and TBB. The latter is not included in the analysis given the small number of ships in it.

2.1. Segment DFN/VL 0612

In the segment DFN / VL 0612, 61% of active fishing vessels are 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. In 2016, economic indicators show a significant drop in values over 2014 and 2015. Return on investment has fallen from 37.84% in 2015 to -2.52% in 2016. This in turn is a sign of Instability in the segment over the long term. This downward trend is also observed in the ratio between current segment revenue and revenue at the equilibrium profitability point, which means that in 2016, the segment was unprofitable. By preserving the negative values for the future, the segment can be considered economically ineffective and in the long run.

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

2.2. Segment PS/VL 0612

There are a small number of active ships in the segment. No data is submitted for 2013 due to non-sampling of the sample. The values of the technical indicator remain low for the entire observed period 2013-2016. In economic indicators, in 2015 there was a sharp fall in values and in particular in the return on investment indicator. An increase in values is seen in 2016. Return on investment reached 2.30%, while in 2015 it was -13.93%. CR/BER in 2015 is 0.15 and in 2016 rises to 1.23. Sustainable catch indicator values keep roughly 2014 levels. The general analysis of segment indicators shows that the indicator is not well balanced.

2.3. Segment PMP/VL 0612

Approximately 22% 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 2014 declined to -50.7% compared to 2013, when it was 60.07%, but in 2015 again reached positive values - 12.87%. In 2016 it declined to 4.89%, but nevertheless kept relatively high values. According to the calculated data for the ratio between current segment revenue and revenue at the equilibrium profitability point, there is a decrease in the values in 2016 compared to 2015. Overall, economic indicators indicate that the segment is cost-effective in the short term. The comparatively high values of the biological indicator remain in 2015 as well. In general, the segment is in short-term and long-term imbalances.

2.4. Segment FPO/VL 0612

With respect to 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, both return on investment and CR/BER have reached positive values. While maintaining the positive trend of growth, the segment could be considered to be cost-effective in the short and long term. Also, according to the 2015 data, the Sustainable Catch Indicator values in this segment have declined. If these indicators are positively developed in the future, the segment could be well balanced and cost-effective, but it is currently unbalanced.

2.5. Segment HOK/VL 0612

The calculations of the technical indicator and 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%. For the ratio between current segment revenue and revenue at the equilibrium profitability point, there is a slight decrease but remains positive. In 2015 there was a significant increase in biological indicator values. The segment is unstable and unbalanced in the short and long term.

2.6. Segment PGP/VL 0612

The usability of ships in this segment is also low, according to the calculations made. For economic indicators - return on investment and the ratio between current segment revenue and revenue at the equilibrium profitability point, the negative trend for values over the entire period 2013-2016 remains. Sustainable catch indicator values remain high and significantly exceed the permissible thresholds. The segment is unbalanced and economically inefficient.

2.7. Segment TM/VL 0612

Segment data is calculated only for 2016 as it has operated a small number of fishing vessels in the previous years. In 2016 there are 6 fishing vessels in the segment, and according to the calculated values of the technical indicator, they are of relatively good utilization. Both economic indicators are negative. Given the small number of ships, the segment is unstable and an in-depth analysis of the existence of a balance or imbalance cannot be made at this point in time.

IV.3. Segment from 12 to 18 meters

In 2016, a total of 67 fishing vessels are in this segment, of which 61 are active. Thus, the percentage of inactive vessels is approximately 9%, which is within the allowable fleet limit. According to the DCF segmentation of the active seagoing ships with a length of 12 to 18 m in 2016 the following segments are observed: DFN, PMP, TM, TBB, PGP and HOK. For the last three segments, no analysis can be made due to the very small number of vessels in them.

3.1. Segment DFN/VL 1218

The values of the technical indicator again show poor utilization of the fishing vessels in the segment. Return on investment has seen a positive growth trend since 2014. The indicator then stood at 1.24%, and in 2016 it now reached 20.40%. The same trend is also observed in the ratio between current segment revenue and revenue at the equilibrium profitability point, and operators were already able to cover their costs (CR / BER> 1) in 2015 and 2016. Despite the high values of the economic indicators, the values for biological indicator exceed the permissible limits. In 2015, they even rose to 2,915 while in 2014 they were significantly lower - 1,161. 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.

3.2. Segment PMP/VL 1218

The figures for the technical indicator in this segment for 2016 show improved use of fishing vessels over previous years. The economic indicators show an increase compared to 2015. Return on investment increased from 1.48% to 5.63%. The percentage of the indicator, reduced by the interest rate on long-term low-risk investments, also reaches positive values in 2016. The ratio of current segment revenue to revenue at the equilibrium profitability point continues to increase in 2016 and the ratio is above 1 So operators were able to generate enough income to cover their costs in 2016. These values lead to the conclusion that the segment had insufficient capitalization in the short term. By preserving these results and in future periods it would be advantageous to invest in the segment and in the long run. The results of the Sustainable Catch Indicator calculations show a decrease in values from 3,342 in 2013 to 2,242 in 2016 but still above the allowable thresholds. The data show that the segment is currently economically ineffective in the long run. 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.

3.3. Segment TM/VL 1218

The aggregate analysis of the indicators shows that in the short term, the segment is unprofitable with potential overcapacity and a clear imbalance between fishing capacity and fishing opportunities. This is due to the inadequate usability of fishing vessels, which in turn is linked to worsened economic performance, which shows a decline in 2016 compared to 2015. In the long run, the segment is overcapitalized and unprofitable. Estimates of the biological indicator for 2015 show that it retains comparatively low values. However, it can be judged that the segment has an imbalance between fishing capacity and fishing opportunities.

IV.4. Segment from 18 to 24 meters

The number of fishing vessels in the segment decreased in 2016 to 17, of which only two were 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 and TM. Due to the small number of vessels in the segment and the variations in fishing gear used, analysis can be made in just two segments - PMP and TM. At this point, the analysis can only be done in the short term as neither of the two segments covers the entire observed period - 2013-2016.

4.1. Segment PMP/VL 18-24

By 2016, the number of vessels in this segment continued to decline, so segment data were calculated only for 2013 and 2014, on which the analysis is based. In the short term, the calculations of the indicators show that in 2013 the segment was balanced with fairly good utilization of fishing vessels. Return on investment in 2013 was positive - 43.42% and above the long-term low risk investment rate (40.27%), indicating that extra revenue was generated in the segment observing insufficient economic capitalization. The ratio between current segment revenue and revenue at the equilibrium profitability point was above 1 (9.67) - operators have generated enough revenue to cover their costs. In 2014, the usability of the vessels is still good, although there is a slight decrease in the values. However, economic performance calculations show a negative trend. Return on investment declined to -19.72% and the CR/BER is already below 1. Although there is a positive trend in the calculation of the Sustainable Catch Indicator, based on the available data, it can be concluded that in the short term the segment Is poorly balanced, long-term, unbalanced and economically ineffective, and there is an imbalance between fishing capacity and fishing opportunities.

4.2. Segment TM/VL 1824

Data for this segment are presented for 2015 and 2016. According to the technical indicator calculations, the usability of fishing vessels is low. Overall, this is due to frequent repairs due to the significantly high average age of the ships. Economic indicators are positive. In 2015 return on investment was 9.32% and in 2016 10.39%. There is a slight increase. The ratio between current segment revenue and revenue at the equilibrium profitability point is over 1 for the observed period - 3.75 in 2015 and 5.17 in 2016. Shipowners have therefore generated enough income to cover their costs. For the biological indicator, the values also fall within the sustainable catch limits. Based on the data available for 2015 and the available data for 2016, it can be argued that the segment is balanced but only in the short term. Currently there is no reason to believe that there is a balance or an imbalance in the segment in the long run.

IV.5. Segment over 24 meters

For the period 2012-2016, 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 includes a single fishing vessel, and in 2016, as in 2015, the segment does not exist.

5.1. Segment TM/VL 2440

In 2016, there was a slight decline in the technical indicator, calculated on the basis of the observed maximum effort. The most likely reason for this is the existence of repairs that led to the temporary inactivity of some of the fishing vessels over a given period of the year. Economic indicators retain the positive values as well as the sustainable catch indicator. On this basis, it can be concluded that the segment is balanced despite the lower values of the technical indicator in 2016. Therefore, the segment will continue to be monitored with a view to achieving a lasting balance between fishing capacity and fishing opportunities.

V. Adaptation measures for fleet segments where structural excess capacity is identified.

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 (Fisheries and Aquaculture Act), according to which there is the possibility of termination of the operation of the fishing licenses and authorizations if for two consecutive years the vessel has not engaged in any fishing activity. Vessels that have been suspended on this ground are automatically removed 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 according to the following timetable:

- In 2017, fishing vessels that were inactive in 2014 and 2015 will be de-registered;
- In 2018, fishing vessels that were inactive in 2016 and 2017

Regarding the small fishing vessels Bulgaria will continue to implement a policy of simplification of management of this particular part of the fishing fleet, and namely:

- Simplified authorization scheme for fishing vessels under 10 m;
- Simplified data reporting system for fishing vessels under 10 m.

2. Permanent cessation of fishing activities.

On 21 April 2017, the admission of projects under Priority 1 of the Union 1 "Promotion of environmentally sustainable, innovative, competitive and knowledge-based, resource-efficient fisheries" was opened, Measure 1.3 "Ending fishing activities" with a call for proposals through project selection BG14MFOP001-1.003 "Final 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 the available 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 segments in terms of fishing opportunities, i.e. those 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 Fishing opportunities.

АНЕКС 1

	Риболовна техника	Дължина на кораба	Брой кораби	GT	kW	Настоящо усилие		Максимално усилие			Технически индикатор 1 -	
						GT дни	kW дни	MAX дни на море	GT дни	kW дни	GT	kW
2016	DFN	VL0006	304	222.64	2 672.74	2 088.99	25 139.30	**96**	21 373.44	256 583.04	**0.10**	**0.08**
	PS	VL0006	19	11.34	78.58	151.75	1 233.99	**65**	737.10	5 107.70	**0.20**	**0.01**
	PMP	VL0006	53	39.82	587.26	1 471.96	23 873.97	**152**	6 052.64	89 263.52	**0.24**	**0.09**
	FPO	VL0006	6	4.89	33.02	151.71	525.21	**68**	332.52	2 245.36	**0.41**	**0.05**
	HOK	VL0006	26	18.54	324.73	145.51	2 265.63	**20**	370.80	4 694.60	**0.38**	**0.33**
	PGP	VL0006	7	4.89	112.53	24.48	857.52	**14**	68.46	1 575.42	**0.29**	**0.27**
	Общо за сегмента		**415**	**302.12**	**3 808.86**	**4 034.40**	**53 895.62**	**Средно за сегмента**			**0.27**	**0.14**
	DFN	VL0612	430	825.45	11 483.25	12 498.46	156 684.03	**154**	127 119.30	1 768 420.50	**0.07**	**0.07**
	PS	VL0612	6	8.09	15.45	52.48	163.35	**22**	177.98	339.90	**0.39**	**0.05**
	FPO	VL0612	42	134.6	1196.77	2 652.30	24 266.00	**66**	8 883.60	78 986.82	**0.28**	**0.35**
	HOK	VL0612	49	92.07	1 341.57	1 682.27	21 695.92	**198**	18 229.86	265 630.86	**0.08**	**0.08**
	PGP	VL0612	13	22.17	304.52	201.90	291.56	**20**	443.40	6 090.40	**0.34**	**0.32**
	PMP	VL0612	154	417.07	5 118.51	15 971.10	184 744.30	**134**	55 887.38	685 880.34	**0.24**	**0.23**
	TM	VL0612	6	51.32	488.37	1 409.05	12 429.95	**38**	1 950.16	18 558.06	**0.74**	**0.74**
	TBB	VL0612	3	38.2	202.24	2 592.34	12 692.83	*	*	*	*	*
	Общо за сегмента		**703**	**1 588.97**	**20 150.68**	**37 059.90**	**412 967.94**	**Средно за сегмента**			**0.29**	**0.20**
	DFN	VL1218	7	83.98	891.59	3 859.15	42 490.20	**90**	7 558.20	80 243.10	**0.49**	**0.49**
	PMP	VL1218	14	248.28	201.39	23 383.57	206 037.41	**128**	31 779.84	270 769.92	**0.76**	**0.76**
	PGP	VL1218	2	39.74	251.54	1 896.08	12 785.84	*	*	*	*	*
	HOK	VL1218	1	15.36	98.00	399.36	2 548.00	*	*	*	*	*
	TBB	VL1218	4	76.86	617.09	6 157.36	52 368.31	*	*	*	*	*
	TM	VL1218	33	727.32	5 829.98	67 438.93	540 776.31	**175**	127 281.00	1 020 246.50	**0.57**	**0.57**
	Общо за сегмента		**61**	**1 191.54**	**7 889.59**	**103 134.45**	**857 006.07**	**Средно за сегмента**			**0.61**	**0.61**
	DFN	VL1824	1	30.56	308.91	1 008.48	10 194.03	*	*	*	*	*
	PMP	VL1824	4	141.76	855.75	16 729.36	11 177.77	*	*	*	*	*
	TBB	VL1824	1	32.00	110.00	1 024.00	3 520.00	*	*	*	*	*
	TM	VL1824	9	461.84	2 210.43	63 310.52	275 524.35	**199**	91 906.16	439 875.57	**0.63**	**0.63**
	Общо за сегмента		**15**	**666.16**	**3 485.09**	**82 072.36**	**300 416.15**	**Средно за сегмента**			**0.63**	**0.63**
	TM	VL2440	12	1 310.04	3 509.55	177 622.56	461 544.00	**197**	258 077.88	691 381.35	**0.68**	**0.68**
	Общо за сегмента		**12**	**1 310.04**	**3 509.55**	**177 622.56**	**461 544.00**	**Средно за сегмента**			**0.68**	**0.68**
	ОБЩО		***1 206***	***5 058.83***	***38 843.77***	***403 923.67***	***2 085 829.78***					