Republic of Croatia
Ministry of Agriculture
Directorate of Fisheries

Annual report on balance between fishing capacity and fishing opportunities for 2018

pursuant to Article 22 of the ***Regulation (EU) No 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 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)***

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1. Section A: Description of the fishing fleet segments in relation to fisheries

In accordance with the Article 22 of the Regulation (EU) No 1380/2013, Croatia has put in place measures to adjust its fishing capacity with the available resources. This report is prepared in line with the Guidelines provided by the Commission. However, given that Croatia acceded to the EU on 1st July 2013, and started applying the EU structural funds only in 2016, the effects of such measures to the balance of the fleet and resources are evident only to a limited extent with the full effect expected over the next period. In terms of the assessment of the long-term profitability of the fleet segments, it should be pointed out that the characteristics of the Croatian fleet, in particular small-scale, mean that in most cases the profitability may not be judged based on the incomes from just fishing activity, and hence should be interpreted with caution. As the importance and the sustainability of the small-scale fleet is in the core of the CFP, this is an important element that needs to be considered when assessing the overall fleet capacity.

As the TACs are only applicable for the Bluefin tuna and Mediterranean swordfish in the case of Croatia, the measures related to this particular fleet have been strictly imposed in accordance with the applicable regulations and recommendations of ICCAT. Having said this, Croatian capacity as calculated using the SCRS methodology is in line with the opportunities and has been duly communicated to the Commission.

Croatian fleet capacity ceiling was set at the date of accession, and has been fixed for the first time in the Annex II of Regulation (EU) 1380/2013. The ceiling as set in the Annex II is 53.452,00 GT and 426.064,00 kW. The permanent cessation of fishing activities funded under the EFF had an effect in 2015, 2016 and 2017 and resulted with a decrease of the ceiling capacity to 48.759,83 GT and 405.211,48 kW by the end of 2018. It can be stated that fleet management measures in Croatia are a combination of the capacity management through permanent cessation activity funded by EMFF including also a strict calculation matching the fishing capacity with the fishing opportunities in tuna fishery, and an array of effort management measures pursuant to national legislation in force. As foreseen in the Fleet Report submitted in 2015, permanent cessation of fishing activities was one of the measures under the OP for the EFF and it was implemented in 2015, 2016 and 2017 for PS and DTS fleet segments. In 2017 permanent cessation of fishing activities for PS and DTS segments was continued under the EMFF, as was planned in the 2016 and 2017 fleet report action plans.

The figures listed in this report indicate the number of 7.731 vessels in 2018. The ceiling limit set in the Annex II of the Regulation (EU) No 1380/2013 includes also the total of 3.500 vessels included in the Fleet register pursuant to accession negotiations.

The licences in Croatia are issued for an indefinite time (no provisions on withdrawal if vessel is inactive). Croatian national legal framework foresees the possibility of a vessel being erased from the register under certain circumstances which needs to be further developed.

1.1 Description of fleets

A. Description and analysis of small-scale fleet previously categorized as “for personal needs”

Prior to its accession to the EU Croatia had a very specific category of non-commercial fishery that was transferred to the commercial category in 2015, pursuant to the regulations in force. The transition process of their full registration ended in April 2015, while the administrative process of licensing followed throughout 2016. These vessels’ licence holders are not full-time fishermen, nor do they depend on fishing activity and only perform it in very specific places and in very specific times. Exactly this is the reason why they fall into a separate category of commercial fleet, that is nationally defined by the Marine Fisheries Act, and limited both in catch and fishing gears. According to the list of vessels that have been designated for granting licences under conditions set by national legislation, the capacity of these vessels was included in the fleet register in 2015. However, most of the vessels remained inactive in 2015 and 2016, as the licences were not issued due to the prolonged administrative procedure and Fisheries Information System updating.

Following the transfer from the previous non-commercial fishery into the commercial one, Croatia included the small-scale vessels for personal needs into the national sampling scheme within the amended National Data Collection Programme. With regards to the Data Collection Framework fleet segment categorization, all these vessels fall under the polyvalent passive gears segment (PGP), but they are not full-time engaged in the fishery and most of them have very limited activity. Taking into account the above mentioned constrains, Croatia was able to conduct the required data collection and include in the analysis of active vessels the limited share of the segment which was active during 2016 and 2017. Characteristics of the PGP fleet segment, including the active small-scale vessels that entered the commercial fleet in 2015 are shown in Table 1.

It should be noted that economic and fishing activity data analysis for the PGP segment should be taken with caution, as the fleet was mostly inactive in 2015 and with limited activity in 2016 and 2017. It is expected that economic and fishing activity data analysis of the segment shall be improved in the following years. In connection to the progressive, but still limited, increase of the fishing activities, an overall increasing trend is expected in the values of fishing activity and economic data.

It is important to mention though that this fleet category including the vessels previously operating for personal needs is still kept as a ring-fenced category, with specific requirements and constrains. The catches of this particular fleet element and their possibilities to market the fish as well as the gears allowed are strict and technical measures foresee the possibility to exercise this activity only on a local scale. However, as this has been the traditional category existing prior to the accession, the social needs are of particular concern. With all constrains of the operation of this fleet and their particular social and traditional characteristics, it may not be expected that they are economically viable, and the activity they have does not show indications as to the substantial impact on the resources (given their very sporadic and very limited catches and manner of operation). Albeit their number might indicate importance, this is assessed as a skewed indication since their overall activity does not correspond to the activity of the fishermen that are engaged in full or even half-time fisheries. Additionally, owners of the licenses for this particular fleet are not envisaged to be beneficiaries of public aid.

Table 1. Characteristics of PGP segment in 2018.

Fleet segment		**Number of vessels**	**Total GT**	**Landing (kg)**	**Landing value (EUR)**	**Days at sea**	**Share of vessels in total fleet**	**Share in total landing (%)**	**Share in total landing value (%)**
PGP	VL0006	2811	2,449.08	4,660.85	14,649.69	2435	36.4%	0.01%	0.02%
PGP	VL0612	794	1,784.69	11,797.48	82,015.31	3253	10.3%	0.02%	0.14%
PGP total		3695	4,233.77	16,458.33	96,665.00	5688	46.6%	0.02%	0.16%

B. Analysis of the fleet

In 2018, majority of the fleet (7.174 vessels) was small-scale (92,79%), composed of 4.283 vessels with LoA less than 6 m (53,40%) and 2.891 vessels with LoA between 6 and 12 m (37,39%). Only 557 vessels corresponding to 7,21% of the fleet was large-scale. The large-scale fleet contained 331 vessels, or 4,28% with LoA between 12 and 18 m; 111 vessels, or 1,44% with LoA between 18 and 24 m and 115 vessels, or 1,49% with LoA between 24 and 40 m. Although the structure of the fleet somewhat changed with the inclusion of 3.500 small-scale vessels for personal needs in 2015, the fleet operates essentially the same. Another significant factor in the large-scale fleet reduction is scrapping of vessels.

Table 2. Overall fleet characteristics in 2018.

Vessel length	**Total GT**	**Total kW**	**Total no. vessels**	**Share in total fleet number**	**Small-scalle vs. Large-scale fleet**
VL0006	3.895,56	39.230,40	4.283	55,40%	92,79%
VL0612	10.498,84	172.667,56	2,891	37,39%	
VL1218	6.047,16	55.136,04	331	4,28%	7,21%
VL1824	7.648,93	32.521,40	111	1,44%	
VL2440	17,958,45	61.327,90	115	1,49%	
TOTAL	**46.048,94**	**360.883,30**	**7.731**		

In 2018 the most important fleet segment in terms of share in landing weight was the purse seine segment (PS, 90,75% of total landings weight) with less than 3% of total number of active vessels. This segment includes vessels which remain active the entire year and fishing activity represents the main activity.

The demersal trawls (DTS) are the second most important in terms of shares in landings weight, as they have 6% share in landings weight and constitute 5,5% of active fleet. It is obvious that the main fleet segments in terms of landings weight and value are purse seiners and demersal trawlers, with 96,75% share in landings and 78,9% in landings value.

The largest number of vessels in the in main commercial fleet were active in driftnet and fixed nets segment (DFN, in Croatia fixed nets – gillnets and trammel nets, 1008 active vessels or 16,6% of the active fleet). Highly seasonal activity of the DFN segment indicates strong dependency on activities other than fishery which leads to the conclusion that fishery is a secondary activity for this fleet or part of it. This is further emphasized by the fact that the total landings of DFN segment represent 1,35% of total landings, indicating the low activity rather than high impact. The same is applicable for hook and line gears (HOK) and miscellaneous active gear (MGO), that together constitute 11% of active fleet, but their share in landings is around 1,2%. This is also due to the fact that these fleet segments are composed almost entirely of vessels less than 6 and 12 m LoA whose activity is largely seasonal and operate on local basis. In majority of cases, these activities are not the main source of income for the licence owner, and the fleet displays highly seasonal character.

The PGP segment which includes the largest number of vessels, is constituted mainly of small-scale vessels for personal needs transferred to the commercial category in 2015. This segment is managed as a specific fleet category with catch and gear restrictions and special licences, and is important as a specific social and traditional category.

Table 3. Landings weight distribution by fishing technique in 2018.

Fishing technique	Total GT	Total kW	No. vessels	Active vs. Inactive fleet	Share in active fleet	Landing weight (tons)	Share in total landing weight	Landing value (million EUR)	Share in total landing value
DFN	2,997.91	50,937.24	1008	6059 = 78.4%	16.6%	939.61	1.35%	5.51	9.08%
DRB	385.09	4,942.62	33		0.5%	229.58	0.33%	0.99	1.63%
DTS	7,242.57	50,104.77	332		5.5%	4,164.02	6.00%	15.08	24.85%
FPO	354.25	7,305.40	158		2.6%	87.78	0.13%	0.97	1.59%
HOK	1,138.65	28,080.50	319		5.3%	325.17	0.47%	2.18	3.60%
MGO	546.19	11,304.30	345		5.7%	533.32	0.77%	2.58	4.26%
MGP	6.22	14.72	1		0.0%	3.72	0.01%	0.01	0.02%
PGO	5.73	251.60	5		0.1%	1.52	0.00%	0.00	0.00%
PGP	4,233.77	35,955.96	3605		59.5%	16.46	0.02%	0.10	0.16%
PMP	215.63	4,279.40	87		1.4%	113.70	0.16%	0.47	0.77%
PS	14,755.90	60,253.39	166		2.7%	62,945.42	90.75%	32.81	54.05%
INACTIVE	14,167.03	107,453.43	1672	21.6%	-	-	-	-	-
TOTAL	**46,048.94**	**360,883.33**	**7731**			**69,360.30**		**60.69**	

1.2 Link with fisheries

Landings in 2018 included 125 species in total. The tables below list the most important ones in terms of quantity and value. In total, 9 species accounted for more than 95% in total landing (Table 4), while 23 species accounted for over 90% of landing value (Table 5). Quantities landed have been stable over time, with the share of small pelagic species targeted in purse seine fisheries, sardine and anchovy, by far dominating the overall structure (85,8% of total landing weight in 2018). Small pelagic species also constituted the most important species in terms of value, accounting for over 53% of total landing value. On the other hand, species targeted by demersal trawling, red mullet and hake, account for 1,2% and 1,4% respectively in terms of quantity, but 2,7% and 6,5% respectively in terms of the value.

Table 4. Species representing over 95% of Croatian landing weight in 2018.

Species	Species FAO code	Total landing weight (tons)	Share in total landing weight (%)
Sardine	PIL	46,267.11	66.71%
Anchovy	ANE	13,250.81	19.10%
Atlantic chub mackerel*	VMA	1,806.65	2.60%
Jack and horse mackerels nei	JAX	1,461.71	2.11%
Hake	HKE	988.43	1.43%
Deep-water rose shrimp	DPS	912.59	1.32%
Red mullet	MUT	841.59	1.21%
Horned and musky octopuses	OCM	321.97	0.46%
Norway lobster	NEP	231.40	0.33%
		69,360.30	

**FAO code changed to VMA in 2016 (previously Pacific chub mackerel - MAS)*

Table 5. Species representing over 90% of Croatian landing value in 2018.

Species	Species FAO code	Total landing value (million EUR)	Share in total landing value (%)
Sardine	PIL	19.53	32.18%
Anchovy	ANE	11.49	18.93%
Hake	HKE	3.97	6.54%
Norway lobster	NEP	3.33	5.49%
Deep-water rose shrimp	DPS	2.49	4.10%
Common sole	SOL	1.78	2.93%
Red mullet	MUT	1.61	2.65%
Gilthead seabream	SBG	1.13	1.86%
Horned and musky octopuses	OCM	1.04	1.72%
Warty venus	VEV	0.93	1.53%
Common octopus	OCC	0.84	1.39%
European squid	SQR	0.71	1.17%
Gurnards; searobins nei	GUX	0.69	1.13%
Atlantic chub mackerel*	VMA	0.68	1.13%
Red scorpionfish	RSE	0.64	1.06%
John dory	JOD	0.59	0.97%
Bluefin tuna	BFT	0.58	0.95%
Jack and horse mackerels nei	JAX	0.56	0.92%
Common cuttlefish	CTC	0.53	0.87%
Monkfishes nei	MNZ	0.46	0.76%
Dentex dentex	DEC	0.46	0.76%
Great Mediterranean scallop	SJA	0.38	0.62%
Sea urchins, nei	URX	0.35	0.57%
Common Spiny Lobster	SLO	0.31	0.51%
TOTAL		**60.69**	

**FAO code changed to VMA in 2016 (previously Pacific chub mackerel - MAS)*

The most important fleet segment in terms of contribution to total landings is purse seines from 24 to 40 meters LoA. This fleet segment accounts for 55,2% of landings in 2018. Overall, purse seine segments with 90,75% of landings form the backbone of Croatian fisheries. These fleet segments target sardines and anchovies, and fall under the provisions of the multiannual management plan for small pelagic in GSA 17 as adopted under the GFCM. The effect of the measures foreseen by the GFCM management plan, further strengthened by national measures going beyond the GFCM framework, is an overall decrease in the catch of sardine and anchovy by 16% in 2018 compared to 2014 (Table 6).

Table 6. Annual decrease in the catch (tons) of small pelagic species from 2014 to 2018.

Small pelagic species	Catch (tones)					Trend	∆ 2018 to avg. 14-17	∆ 2018 to 2017	∆ 2018 to 2014
	2014	2015	2016	2017	2018	2014-2018			
Sardine	61,036.05	51,776.87	54,411.50	48,420.04	46,284.38		-14%	-4%	-24%
Anchovy	10,142.23	12,797.02	8,239.08	10,884.12	13,264.47		26%	22%	31%
Total	71,178.29	64,573.89	62,650.58	59,304.16	59,548.85		-8%	0%	-16%
% of total catch	89.03%	87.87%	85.98%	85.18%	84.92%				

The largest number of vessels in the main commercial fleet were active in drift net and fixed nets segment (DFN, in Croatia fixed nets – gill nets and trammel nets, 1008 active vessels or 16,6% of the main commercial fleet), while only 1,35% of landing volume contributes with 9,1% of landing value. Their actual activity is highly seasonal and the calculation of different parameters is skewed due to the nature of this activity. The most important segment in this gear class was the one between 6 and 12 meters LoA, with 664 vessels, representing around 11% of the active fleet. Only fixed nets are used in Croatia (trammel and gill nets), and they operate in shore and coastal waters, in limited areas and during limited periods. These fishermen have 120 fishing days yearly per vessel and catch around 12 kg per fishing day on average. The overall contribution of the segment to the effort and catch is very limited.

In the further analysis, the specific impact of the small-scale fleet in relation to its activity and social context is considered. Croatia is fully in line with the provisions of the Basic regulation that calls for the recognition of the specificities of the small-scale fleet, taking into account all the relevant provisions and elements of the fleet policy. Additionally, catch reporting requirements in Croatia for vessels less than 10 m LoA are based on monthly catch reports that are particularly suited for passive gears. In the further description of fleet segments a metier approach was taken (Table 7); segments selected in ranking by effort, landing weight and value are identified as the most important fleet segments in terms of their contribution to total landing, landing value and effort.

Out of 28 active segments and in total 23 clustered fleet segments, 14 segments were selected by the ranking procedure. These segments that constitute more than 90% of total landing, landing value and effort, are the following: purse seiners (PS) from 12 to 40 meters LoA, demersal trawlers (DTS) from 6 to 40 meters LoA, fixed netters (DFN) less than 12 meters LoA, hooks and lines vessels (HOK) from 6 to 12 meters LoA, vessels using pots/traps (FPO) less than 12 meters LoA and vessels with other active gears (MGO) less than 12 meters LoA.

Table 7. Characteristics of fleet segments in 2018 ranked by share in total landing value. Selection of fleet segments that achieve 90% of the total landing, landing value and effort. Segments highlighted in blue constitute for over 90% of any variable considered.

Fleet segment		Tonnage GT	Vessel power kW	Number of vessels	Landing weight *(tons)*	Landing value *(million EUR)*	Fishing days	LPUE *Landing (kg) / Fishing day*	Fishing days per vessel	Share of vessels in active fleet	Share in total landing	Share in total landing value	Share in total Fishing days
DFN	**VL0006**	331.92	4,115.88	325	199.86	0.96	23,413	8.5	72	5.36%	0.29%	1.59%	**10.97%**
DFN	**VL0612**	2,391.93	43,305.99	664	690.68	4.29	54,803	12.6	83	10.96%	1.00%	**7.07%**	**25.67%**
DTS	**VL0612**	1,118.18	12,781.93	127	743.09	2.56	11,381	65.3	90	2.10%	1.07%	**4.21%**	**5.33%**
DTS	**VL1218**	2,954.28	25,459.00	163	1,863.30	6.37	17,659	105.5	108	2.69%	2.69%	**10.49%**	**8.27%**
DTS	**VL1824**	1,933.00	7,634.50	28	954.52	3.75	4,207	226.9	150	0.46%	1.38%	**6.18%**	**1.97%**
DTS	**VL2440**	1,232.00	4,155.00	9	601.46	2.40	1,737	346.3	193	0.15%	0.87%	**3.96%**	0.81%
FPO	**VL0006**	55.97	1,269.52	51	18.15	0.16	5,037	3.6	99	0.84%	0.03%	0.26%	**2.36%**
FPO	**VL0612**	298.28	6,035.88	107	69.63	0.81	16,833	4.1	157	1.77%	0.10%	1.34%	**7.88%**
HOK	**VL0612**	890.81	22,959.03	221	292.50	1.95	11,903	24.6	54	3.65%	0.42%	**3.21%**	**5.57%**
MGO	**VL0006**	221.82	4,535.00	269	375.87	2.03	18,480	20.3	69	4.44%	0.54%	**3.35%**	**8.66%**
MGO	**VL0612**	304.48	6,696.64	74	155.02	0.54	5,575	27.8	75	1.22%	0.22%	0.89%	**2.61%**
PS	**VL1218**	680.23	5,718.80	34	5,846.06	3.18	4,053	1,442.4	119	0.56%	**8.43%**	**5.25%**	**1.90%**
PS	**VL1824**	3,566.68	15,487.00	43	18,384.00	9.87	6,674	2,754.6	155	0.71%	**26.51%**	**16.27%**	**3.13%**
PS	**VL2440**	10,324.00	36,730.40	62	38,279.98	19.31	10,022	3,819.6	162	1.02%	**55.19%**	**31.82%**	**4.69%**
DFN	VL1218	274.06	3,515.37	19	49.07	0.26	1,008	48.7	53	0.31%	0.07%	0.42%	0.47%
DRB	VL0612	93.89	1,397.72	13	68.19	0.31	1,290	52.9	99	0.21%	0.10%	0.51%	0.60%
DRB	VL1218	291.20	3,544.90	20	161.40	0.68	1,968	82.0	98	0.33%	0.23%	1.12%	0.92%
DTS	VL0006	5.11	74.34	5	1.65	0.00	90	18.3	18	0.08%	0.00%	0.01%	0.04%
HOK	VL0006	87.65	1,597.07	90	23.93	0.15	3,248	7.4	36	1.49%	0.03%	0.26%	1.52%
HOK	VL1218	160.19	3,524.40	8	8.74	0.08	322	27.1	40	0.13%	0.01%	0.13%	0.15%
MGO	VL1218	19.89	72.66	2	2.43	0.01	178	13.7	89	0.03%	0.00%	0.02%	0.08%
MGP	VL0612	6.22	14.72	1	3.72	0.01	221	16.8	221	0.02%	0.01%	0.02%	0.10%
PGO	VL0006	5.73	251.60	5	1.52	0.00	302	5.0	60	0.08%	0.00%	0.00%	0.14%
PGP	VL0006	2,449.08	17,859.84	2811	4.66	0.01	1,507	3.1	1	46.39%	0.01%	0.02%	0.71%
PGP	VL0612	1,784.69	18,096.12	794	11.80	0.08	2,420	4.9	3	13.10%	0.02%	0.14%	1.13%
PMP	VL0006	33.85	564.56	35	17.18	0.10	2,203	7.8	63	0.58%	0.02%	0.16%	1.03%
PMP	VL0612	181.78	3,714.84	52	96.51	0.37	3,966	24.3	76	0.86%	0.14%	0.60%	1.86%
PS	VL0612	184.99	2,317.19	27	435.38	0.44	3,007	144.8	111	0.45%	0.63%	0.72%	1.41%
Total		**31,881.91**	**253,429.90**	**6,059**	**69,360.30**	**60.69**	**213,507**	**324.9**	**35**				

Majority of the landings of purse seines in the segment from 24 to 40 meters LoA included sardine (78%) and anchovy (17%) and similarly for purse seine vessels from 18 to 24m LoA, sardine (76%) and anchovy (19%). More or less the same structure can be observed (in similar shares) in all PS segments above 12 m LoA, however purse seines under 12 m LoA have a slightly different landing composition and do not target as much sardine and anchovy. This is a result of different purse seine nets used more in the coastal area, with different mesh sizes. Also these segments have a high contribution of other gears in their landing, such as fixed nets, longlines, etc.

For demersal trawls, the composition in segments from 24 to 40 and from 18 to 24 meters LoA mainly includes deep-water rose shrimp, hake and red mullet. In the demersal trawl segments from 12 to 18 m LoA and 6 to 12 m LoA the main species landed were red mullet and hake, while Deep-water rose shrimp, European squid, Norway lobster and horned and musky octopuses are also caught in larger quantities. The differences between different segments of the same gear groups can be explained by the fishing grounds exploited (smaller segments tend to stay closer to shore, use gears other than bottom trawl nets and exploit different fishing grounds, whereas larger segments tend to operate in areas further from the shore).

On the other hand, the fixed nets segment from 6 to 12 m LoA, which represents the largest number of vessels active in the main commercial fleet, and has the second highest contribution to effort (GT*Fishing days), has a total landing of 1% which contributes with 7,7% to total landing value. The main species targeted are common sole and a mixture of other demersal species (gilthead seabream, hake, red mullet red scorpionfish etc.).

MGO segment, selected for its high ranking in the landing value, includes a variety of traditional mobile and active gears, such as hand gathering gears and harpoon, which have different target assemblages. Shellfish are mainly targeted, including Warty venus and European flat oyster, followed by Cephalopods such as common octopus.

HOK segment from 6 to 12 meters LoA in 2018 mainly targets demersal fish such as hake and gurnards however vessels with Bluefin tuna quota are also included in this segment.

Compared to 2017 landing composition, there were no relevant changes in 2018, however overall landing of small pelagic fish in purse seine segments further decreased, mainly due to the decrease in the landing of sardine by 4%, as a result of the management regime implemented pursuant to the provisions of the GFCM and national legal framework.

1.3 Development in fleets

Croatia's capacity ceiling was fixed by way of Regulation (EU) 1380/2013. Furthermore, permanent cessation of fishing activities was envisaged as part of the OP for the EFF as well as for the EMFF, with the target date for achieving results by the end of 2015 for the EFF and the end of 2018 for EMFF respectively.

In the course of 2018, 120 new vessels entered the fleet without public aid, with a total capacity of 141,59 GT and 2.351,80 kW. In the same year 136 vessels left the fleet with a total capacity of 572,45 GT and 6.500,08 kW out of which 22 vessels permanently left the fleet within the permanent cessation of fishing activities measure with a total capacity of 1.037,29 GT and 5.546,45 kW.

Following the implementation of the permanent cessation, the ceiling capacity in 2018 is further reduced to 48.759,83 GT and 405.211,48 kW. The capacity reduction by fleet segment in 2018 is shown in the table below.

Table 8. Permanent cessation of fishing activities in 2018 under the EMFF.

Fleet segment		**Total GT**	**Total kW**	**Number of vessels**
DTS	VL0612	71,34	620,45	7
	VL1218	94,00	736,00	4
	VL1824	325,00	1.508,00	5
Total DTS		*490,34*	*2.864,45*	*16*
PS	VL1824	103,00	500,00	2
	VL2440	443,95	2.182,00	4
Total PS		*546,95*	*2.682,00*	*6*
Total capacity reduction		**1.037,29**	**5.546,45**	**22**

Total capacity of vessels scrapped in 2018, according to the measure permanent cessation of fishing activities, is included in the total fleet capacity expressed in GT and kW. As the measure was executed during January to May 2018, these vessels were active in 2018 and their capacity is included in the capacity of each fleet segment in 2018.

1.4 Catch based management

Three fisheries are managed through catch based management approach in Croatia.

– **Bluefin tuna**: TAC is set at the level of ICCAT and allocated among the CPCs. National quota for 2018 was set by the Regulation (EU) No 120/2018 and amounted to 779.84 tons. This quota was nationally allocated to commercial fleets: PS and HL fleet with the quantity also allocated to by-catch from commercial vessels not authorised for BFT fishery, and non-commercial fleets: sports, recreational and scientific. Quota after swaps was adjusted to 765.84 tons. Total amount of catch in 2018 was 743,958 tons (97% of adjusted quota), out of which 678.7 tons was caught in PS fishery which accounts for 96.7% of PS quota, and 88% of adjusted BFT quota.
– **Swordfish**: in line with the ICCAT Recommendation 16-05, the Croatian Administration established the national list of vessels authorised to fish for swordfish and regulated the use of fishing gears; Regulation (EU) No 120/2018 has set a total quota of 15,52 tons for 2018 for Croatia . After two quota swaps (+18,403 tons from ES; and afterwards -3 tons to ES), the adjusted Croatian SWO quota was 30,95 tons for 2018. Total amount of catch in 2018 was 28,167 tons (91% of adjusted quota).
– **Small pelagic species in Adriatic Sea**: in December 2016, for the first time, the Council agreed on setting a catch limit for the EU concerning small pelagic species in the Adriatic Sea for 2017 (namely 112 700 tonnes of Small pelagic species (Anchovy and Sardine) *Engraulis encrasicolus* and *Sardina pilchardus* - Annex IL of Regulation 2017/0127). The same catch limit was agreed for the 2018 fishing opportunities (Annex IL of Regulation 2018/120).

As the TACs are only applicable for the Bluefin tuna and swordfish stocks in case of Croatia, the measures related to this particular fleet are stemming from the relevant recommendations of the ICCAT. This means that BFT and SWO fleets are under a strict capacity regime, which guarantees that the capacity is in line with the availability of the resources.

Bluefin tuna farming represents one of the pillars of the national fishing sector in general and significantly determines the Croatian mariculture. Investment in this segment proved to be economically very successful. Four companies are engaged in tuna farming in Croatia, three of which are in the Zadar and one in the Split area. Total Croatian farming capacity is limited to the capacity of 7.880 tons as reported to ICCAT 1 July 2008. Croatian maximum input of wild caught Bluefin tuna into its farms was limited to 2.947 tons in accordance with level of the input quantities registered with ICCAT by Croatian farms in 2006.

According to the capacity plan for 2018, a total of 15 vessels were authorized to participate in the BFT PS fishery, and 12 vessels were authorized to participate in commercial HL fishery. The criteria for allocation of individual quotas took into account historical data regarding participation in this fishery and the overall quota. HL quota has been allocated to 12 hooks and line vessels. Total quota of 79.5 tons was allocated to this segment and individual quotas was assigned to each vessel. The number of PS vessels engaged in BFT fishing season in 2018 has increased from 12 vessels in 2017 to 15 in 2018 in line with Article 45 of Recommendation 17-07, while the number of vessels using hook and line gears remained the same (12) in 2018 when compared to 2017.

Total Croatian BFT quota for 2018 was 779.84t and it was initially distributed among the fishing fleets as follows:

- 698,84t for PS fleet (-20t)
- 60t to HL/LL fleet (+19.5t)
- 3t to sport fishing (+0.5t)
- 8t to recreational fishing
- 10t to bycatch (-8t)

After the 1st revision of the BFT fishing plan, 8t out of the total of 10t of bycatch quota was reallocated to scientific fishery, and after 2nd revision, 20t of the remaining quota remaining after closure of the PS season was distributed to HL gear group (19.5t) and sport fishery (0.5t).

As Croatia is a tuna farming country, and all catch of purse seine fisheries is transferred to farming cages, there is no landing of purse seines *per se*, therefore in the further analysis catch data is considered. Estimation of value of fish caught using average Bluefin tuna price is not appropriate since quota is caught within Joint fishing operation, and it is mostly owned by the farms and not the vessels. This means that the value of catch does not represent vessel income. At the same time majority of vessels are owned by the farming company or they are contracted by and working in cooperation with farm company.

As for MED SWO fishery, total MED SWO quota at disposal to Croatia for 2018 was 33.95t (after receiving 18,403 tons from ES through swap) and it was initially distributed among the fishing fleets as follows:

- commercial LL fleet (28.95t)
- commercial HL fleet (4t)
- by-catch (1t)

Catches of SWO amounted to 28.167t in 2018. Before the end of fishing season, 3t was returned to ES through swap. The total number of vessels authorised for LL MED SWO fishing was 17 and for HL Med SWO fishing 21.

Regarding the small pelagic fishery, fleet capacity is frozen pursuant to Recommendation GFCM/40/2016/3 to the level of active purse seine fleet in 2014. In 2018 there were total of 169 vessels authorised for fishing with purse seine net for small pelagic stocks “srdelara” out of which 146 were active. The Recommendation GFCM/42/2018/8 sets an obligation to progressively over a three-year period (2019-2021) decrease the level of the catches of sardine and anchovy by 5% annually starting with the level of catches reported for 2014. With regards to this, in 2018, Croatian authorised fleet caught a total of 59.548.85t of sardine and anchovy which is 16.3% less than the catch of sardine and anchovy reported for 2014 and 0.4% less than catch of sardine and anchovy reported for previous year - 2017.

1.5 Data collection and data validation

Since 2018 all modifications on fishing vessels in the Fleet Register are automatically transmitted to the Union Vessel Register following FLUX procedures.

Croatia has a national plan for the validation systems as per Article 109 (8) of the Control Regulation. The National Plan for the Implementation of the Validation and Verification System in Republic of Croatia was approved by Commission Implementing Decision (EU) 2015/2277 of 2 December 2015. During 2015 Croatia started implementing the VALID system which is continuously being developed further and is used to control data quality. The target date for the full implementation of VALID system was set for October 1st 2018 including alarms and notifications for immediate detection of discrepancies.

VALID automatic cross-check procedures operate in addition to local validations on data-entry and are based on several validation rules packages (EC core rules, DCF reporting validation rules, national VMS rules, fleet registrations/licensing, catch documentation rules, traceability rules etc.).

Statistical cross-check procedures are performed prior to reporting according to data collection on-demand validation reports and internal procedures for statistical and reporting purposes for data end users (EC, ICCAT, GFCM, EUROSTAT, FAO etc) under DCF and include specific rules developed for each report in order to verify and validate data.

In 2017 DG MARE performed an audit of the catch registration system in Croatia with an objective to assess whether the catch registration systems function effectively and comply with applicable regulations. As some shortcomings in the Croatian fisheries control system were identified, an Action plan with remedial actions was established.

During 2018 a full traceability system of fisheries products up until first sale was established pending implementation by the end of 2019. During the course of 2018 and 2019 a series of workshops were organized to familiarize the sector with the new system, legislation and electronic reporting. This process started in 2016 by implementing an electronic transport document and linking first sale with logbooks and catch reports. The aim is to enhance the estimation of economic indicators and monitor fish prices in domestic market as well as import and export more efficiently.

In 2016 the upgrading of the national FIS (Fisheries Information System) in regard to the fleet register and the new FIS module used for license issuing has been finalized. Both registers, fleet register and register of licences, are directly linked which enables efficient verification of data. Catch reporting requirements in Croatia for all vessels under 10 m LoA are based on monthly catch reports that are particularly suited for passive gears. Small-scale vessels for personal needs, that were transferred to the commercial fleet in 2015 also fall under the national requirement.

In addition to obligations pursuant to Article 9 of the Basic Regulation, Croatia requires VMS on every demersal trawler (OTB), purse seiner (PS) and any vessel with dredges (DRB) regardless of their overall length. VMS is also obligatory for vessels with BFT and/or SWO quota, equipped with hooks, lines and longlines. Vessels with quota for recreational fisheries of BFT are also required to have VMS. Validation rules according to Art. 26(1), Art. 33(2) and Art. 47 (1) of Commission Implementing Regulation (EU) No. 404/2011 (CIR) have been set up accordingly. E-logbooks are obligatory for all demersal trawlers (OTB), purse seiners (PS) and all vessels with dredges (DRB) regardless of LoA as well as for all vessels with hooks, lines and longlines with BFT quota. VMS and e-logbook installation on authorized shore seiners and small purse seiners was conducted after the approval of the derogations based on the respective Management plans by the EC during 2018.

Croatia is finalizing the development of mobile applications (mTransportDocument, mSalesNote, mCatchReport and mLogbook) to facilitate reporting by the sector. This should decrease the administrative burden of data entry into FIS and enable the DoF to focus more resources on data validation and verification. Plans for the future include installing sensors that notify when towing gear is in use.

Data validation process is presented in the flow chart below.

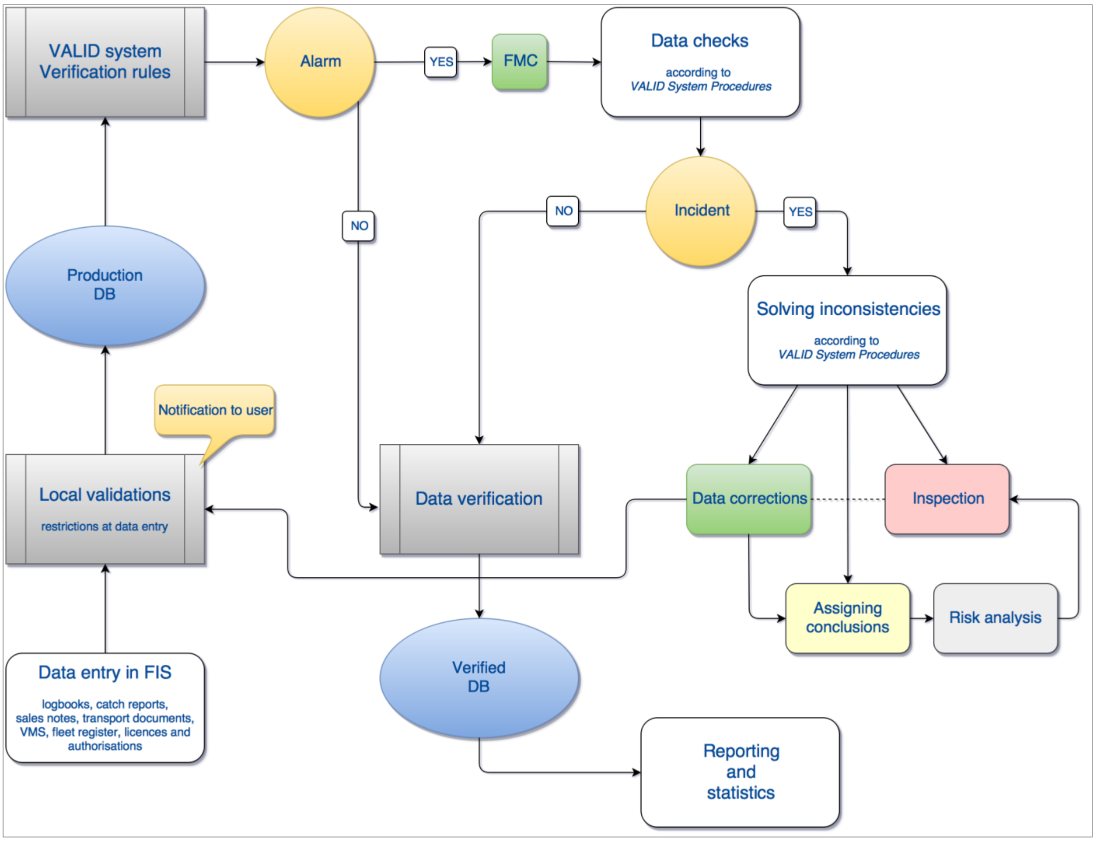

Chart 1. Flow chart of the data validation and verification system for fisheries

2. Section B: Impact on fishing capacity of fishing effort reduction schemes adopted under multiannual management or recovery plans or under national schemes

2.1 Statement of effort reduction schemes

In 2018, Croatia has finalised the withdrawal of the vessels from the fleet under the EMFF. In addition an array of measures for spatial and temporal restrictions of fleet activities were implemented. These were based on a complex scheme of closed areas, temporal closures, different technical measures applicable in different areas and overall managing of the effort in all segments.

Since October 2013, exploitation of sardine and anchovy is regulated by the GFCM-level management plan for small pelagic stocks in GSA 17, and the amendments to this plan were adopted in 2014, 2015, 2016 and 2018. All vessels actively fishing for anchovies and sardines in GSA 17 are subject to the provisions of this plan. In terms of effort management, the vessels fishing actively for small pelagics have a limit of activity of 20 days per month with a total maximum of 180 days per year, with additional limit of 144 days for vessels targeting anchovies and 144 days for vessels targeting sardines. The limitation of days has a direct consequence on the effort. Furthermore, in 2018 (as per provisions from 2016) spatial and temporal closures were implemented in this fishery.

On national level in 2018, temporal closures included a total of 87 days of closure for entire PS fleet targeting sardine and anchovy and were as follows:

1. From 1 January to 15 February, (targeting the spawning period of sardine) – entire fleet targeting small pelagics, entire area, total of **46** days.
2. From 16 to 28 February (targeting the spawning period of sardine) – entire fleet targeting small pelagics allowed to fish for only 5 days, generating additional closure of **8** days.

3. From 1 to 15 May (targeting the spawning period of anchovy) – entire fleet targeting small pelagics, entire area, total of **15** days.
4. From 16 to 31 May (targeting the spawning period of anchovy) – entire fleet targeting small pelagics allowed to fish for only 5 days, generating additional closure of **11** days.
5. From 24 to 31 December (targeting the spawning period of sardine) – entire fleet targeting small pelagics, entire area, total of **7** days.

This spatio-temporal restriction mechanism resulted with a total of 87 days of closure for the entire PS fleet. In comparison to the GFCM management framework, this was 57 days more than the binding obligation. The described scheme was implemented in addition to the national scheme of spatio-temporal restrictions in channel areas through restrictions for vessels over 12 m which lasted 6 months in continuity. The effect of effort management was a 8% reduction in the number of fishing days in 2018 in the purse seine fleet compared to 2017, and 16% compared to 2014 (Table 9). Croatia is implementing the National program for control, monitoring and surveillance of the GFCM management plan. In respect to the program and in order to ensure that effort restrictions were followed, vessels were continuously monitored via VMS within the Fisheries Monitoring Centre and data was cross-checked with electronic logbook and sales notes data. The inspection was notified immediately upon reaching monthly and annual effort limits.

Table 9. Reduction in the total number of fishing days in the purse seine fleet during the period 2014-2018.

Fleet segment		Fishing days					Trend	Δ 2018 to avg. 14-17	Δ 2018 to 2017	Δ 2018 to 2014
		2014	2015	2016	2017	2018	2014-2018			
PS	VL0006	174	116	189	196			-100%	-100%	-100%
	VL0612	3,295	2,930	2,539	2,738	3,007		5%	10%	-9%
	VL1218	4,976	4,210	4,190	3,908	4,053		-6%	4%	-19%
	VL1824	8,526	6,723	7,891	7,609	6,674		-13%	-12%	-22%
	VL2440	11,123	9,956	12,085	11,283	10,022		-10%	-11%	-10%
	VL40XX	166	172					-100%		-100%
Total		**28,260**	**24,107**	**26,894**	**25,734**	**23,756**		**-9%**	**-8%**	**-16%**

For bottom trawlers, in 2018 temporal closure was implemented in period from 16 September to 15 October (EMFF fund) in the fishing zones C and D and part of the fishing zone E.

Pursuant to the national legislation in force, a diverse set of fisheries management measures is in place in Croatia, including: temporal and spatial restrictions for certain fishing gears; engine power restrictions in certain areas and temporal and spatial restrictions and closures for certain species during their spawning periods. Restrictions are permanent in some areas, and some restrictions cover significant parts of internal waters and territorial sea. In line with scientific advice, trawling is under strict temporal and spatial restriction regime, particularly in internal waters while a no-take zone for bottom trawling has been established in the area of the Jabuka Pit for a three-year period.

For the purpose of managing of resources in line with the provisions of the Council Regulation (EC) No 1967/2006, management plans were adopted for purse seines and trawl nets in 2014, and PS MP was revised in 2018. At the same time management plans for the shore seines and small purse seines are approved with approval of derogations. The management plans adopted contain provisions on future developments in effort management for these gears, such as temporal and spatial closures and authorisation of fishing license holders.

In addition to elements as required by the Basic regulation, the information on fish size of sardine and anchovy was added to the e-logbook for purse seiners. As fisheries in Croatia are managed through national fishing zones, fish size is an important element in terms of indirect monitoring of the stocks. As this data is linked with VMS data, the indication of the movement of fish of a certain size in certain periods and fishing zones is obtained. The analysis of VMS for purse seine fishery conducted in 2017 indicated that sardine of smaller size is more densely distributed in the inner fishing zones, while larger vessels able to venture further from the shore target larger sizes of sardine.

2.2 Impact on fishing capacity of effort reduction schemes

The GFCM plan for small pelagics in the Adriatic restricts the capacity to the level corresponding to the capacity of all pelagic trawlers and purse seiners fishing actively for small pelagic stocks in 2014. Effort management measures are foreseen under the plan. The plan was further amended in 2014, 2015, 2016 and in 2018 setting additional effort limitations for vessels targeting anchovies and introducing additional obligations of spatial and temporal closures, as well as reduction of catch limit in compare to 2014.

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

Croatia did not have a capacity ceiling prior to the accession to the EU and its capacity was initially fixed at the levels as at the date of accession. The capacity ceilings and capacity reduction is shown in the table below. The capacity ceiling as set in 2017 was further lowered by 1.037,29 GT and 5.546,45 kW by the end of 2018, resulting in the cumulative reduction from 1 July 2013 of 8,77% GT and 4,48% kW.

The ceiling set in 2018 is 48.759,83 GT and 405.211,48 kW.

Table 10. Capacity ceilings as of date of accession to the EU.

CAPACITY CEILING	Total GT	Total kW	Capacity reduction	Cumulative reduction (from 1st July 2013)	Measure of reduction
1 July 2013	53.452,00	426.064,00	None	None	None
31 Dec 2014	53.452,00	426.064,00	None	None	None
31 Dec 2015	52.187,32	421.383,90	1.264,68 GT 4.680,10 kW	2,37 % GT 1,10 % kW	PCFA EFF
31 Dec 2016	51.287,52	416.877,28	899,80 GT 4.506,62 kW	4,05 % GT 2,16 % kW	PCFA EMFF
31 Dec 2017	49.797,12	410.739,93	1.490,40 GT 6.119,35 kW	6,84 % GT 3,60 % kW	PCFA EMFF
31 Dec 2018	48.759,83	405.211,48	1.037,29 GT 5.546,45 kW	8,77 % GT 4,48 % kW	PCFA EMFF

PCFA - Permanent cessation of fishing activities

In 2018 a number of vessels included in purse seine and demersal trawl fishery exited the fleet with public aid. The entering of the new capacity in the fleet (without public aid) is compensated by prior capacity withdrawal (without public aid) of at least equal amount. Vessels exiting the fleet are replaced by other vessels in line with the provisions of the Marine Fisheries Act and the Ordinance on the fishing license for commercial fishing at sea and fishing license register, in line with the fleet policy requirements.

Croatia ensures that the fishing capacity of its fleet does not exceed at any time the fishing capacity ceilings set in accordance with the provisions of the CFP.

Effective reduction of capacity in PS and DTS segments took place in line with the Action plan submitted in 2015 as well as its revisions for 2016 and 2017, which included measures for permanent withdrawal within the scope of EMFF OP. The targeted date for achieving these results under the EMFF was end of 2017. Other measures in terms of activity regulation are foreseen in relevant RFMOs' and national legislation.

Overall, Croatia complies with the entry/exit scheme and the level of reference.

4. Section D: Summary report on the weaknesses and strengths of the fleet management system together with a plan for improvements and information on the general level of compliance with fleet policy instruments

4.1 Summary of weakness and strengths of fleet management system

In 2013, Croatia started implementing the DCF in line with the applicable rules. Furthermore, two management plans were adopted in 2014, the one for purse seines and the one for bottom trawlers. During 2017 MP for purse seine “srdelara” was revised and adopted for the next period. Management plans for shore seine nets and for small purse seine nets including the requested derogations were approved in October 2018. Derogations include approaching the shore, operating over the seagrass beds and using gears with mesh sizes smaller than the minimums set by the Mediterranean Regulation. Pursuant to the plans adopted and requested derogations approved, management measures were implemented in 2018 for a limited number of vessels.

The Management plans contain numerous provisions on future effort reduction and fleet management. The implementation of the OP for EMFF is expected to have a positive result in terms of fleet management.

Fleet management in Croatia has always been based on effort management rather than capacity management. Effort is regulated through numerous technical provisions as well as through a complex set of temporal and spatial prohibitions and closed areas.

Given the fleet structure of Croatia, whereby the largest share of active vessels use fixed nets and similar gears, it is strongly believed that capacity based management might not be the right option for these segments. This fleet operates locally and only part-time, which in terms of fleet management does not necessarily mean that the capacity can be matched with the resources easily. The activity of the fleet and their total catches do not indicate significant impact on the resources. As the overall number of active days of coastal gears is far less than the one in trawl segment, Croatia firmly believes that significant impact on the status of the resources could be achieved by measures focusing on the trawl segment rather than on the fixed nets segment.

Croatia has adopted the basic rules for entry/exit scheme, and adjusted all the elements of fleet register in accordance with the EU requirements. This relates among other things to fleet segmentation in the register.

Since fleets of different Member States exploit the resources in the GSA 17, a closer sub-regional approach is required in order to achieve the balance of the fleets, particularly in small pelagic fisheries and in bottom trawl fisheries. A long cooperation at the level of science exists at the level of GSA 17, and the administrations of the three MSs have been closely cooperating in development of the management framework for small pelagics and demersal species in GSA 17. Croatia believes that the regional approach is one of the key elements in order to maintain sustainable levels of exploitation.

Croatia emphasizes the need to invest further efforts into gaining a clearer picture of stocks distribution, in particular if sub-stocks have been identified. With the distribution of the fleet and its activity, some of the elements contained in the analysis of harvest indicators might need considerations, given the gaps in data available. This can have an effect on future assessments of biological indicators, which may be linked with general assessment of balance of fleets to the resources. It is believed that effort management measures and technical measures are a more suitable tool in maintaining and/or achieving the sustainable levels of exploitation at the level of GSA 17.

In 2015 Italy and Croatia adopted joint management measures at the national level establishing no-take zone for bottom trawls in the area of Jabuka pit. This regime was introduced from July 2015 to October 2016 after which regime was modified and more stringent one has been established for the three year period. On the top of national legislations this new regime was also transposed into GFCM Recommendation 41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea. New regime includes three zones where particular management regime applies, one in the middle where all kind of demersal (trawls and longlines) and sport fishery is prohibited, and two side zones where only limited number of authorised vessels can operate for limited time of two days per week. This is the first FRA area in the Adriatic and an important measure for demersal fishery which will have significant impact on the fleets.

4.2 Plan for improvements in fleet management system

With the adoption of management plans for purse seines and bottom trawls, it has become possible to issue authorizations based on historical record and activity in these fisheries. For the first authorisation process that took place in 2014 and 2015 Croatia defined criteria as minimal fishing activities in preceding period from 1 July 2009 – 30 June 2014. Authorisations were issued for period of consecutive 3 years. As a result of the first authorisation process there were a total of 729 special fishing authorizations, out of which 480 for bottom trawls and 249 for purse seines. Given that some vessels had authorizations for both gears, the total number of authorised vessels is less.

For the second authorisation process that began in 2017 stricter criteria have been set in terms of minimum fishing activity for each fleet segment in the period from 1 July 2014 – 1 November 2017. As a result, total of 520 special fishing authorizations, out of which 351 for bottom trawls and 169 for purse seines. Further capacity reduction was addressed through permanent cessation of fishing activities measures that were implemented under the current OP and envisaged for implementation under the EMFF. Croatia intends to further develop the national legal framework in terms of application of the entry-exit scheme. Provisions on effort restrictions in the fleets targeting anchovies and sardines are also expected to show the results in subsequent years.

With the adoption of management plans for shore seine nets and for small purse seine nets it become possible to issue authorization for limited number of vessels as defined in MPs. Fishing activity in period from 1 January 2008 to 31 December 2012 for shore seine nets and from 1 January 2012 to 31 December 2016 for small purse seine were main criteria for issuing the authorization. At the end, special fishing authorization permitted 87 vessels less than 12m LoA and 85 kW for shore seine fishery and 52 vessels for small purse seine fishery. Authorizations are issued till 1 April 2021. Given that some vessels have authorizations for both type of gears, the total number of authorised vessels is less.

4.3 Information on general level of compliance with fleet policy instruments

The key legal instrument governing fleet management in Croatia is the Marine Fisheries Act (OG 62/2017, 130/2017 and 14/2019), which is fully in line with current EU legislation. It also contains the key administrative elements, stipulating the key bodies and their activities. Also, the Act provides for the measures of fleet licencing and fleet registration. Pursuant to the Act, a specific Ordinance governing the issue of fleet licencing and licence transfer as well as entry-exit provisions has been adopted. In administrative sense, the provisions of these two instruments constitute the key framework for fleet management. The Act and the Ordinance contain also numerous provisions guaranteeing the compliance with the fleet policy in general. As the instrument of control, Croatia operates a rather complex system of verifications at the level of general fleet registration (as applicable to all merchant vessels) and at the level of specific provisions on fishing fleet (i.e. engine certification). National control and inspection schemes and programs have been adopted in order to closely follow the fleet in terms of effort management. The most important one relates to the management plan for small pelagic species in GSA 17, for which very specific provisions apply.

Croatia in general complies with the fleet policy instruments.

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

Administrative procedures relevant to the management of the fishing fleet remained in 2018 the same as in previous years. The process of authorisation of trawlers and purse seiners, which was implemented for the first time in 2014-2015, and repeated in 2017-2018, represents an additional management instrument for these fleets. Due to the fact that stricter criteria have been used in comparison to the first authorisation process the total number of issued authorisations is significantly reduced. The authorisation process for shore seines and small purse seines in 2018 resulted with reduction of active coastal fleet.

6. Section F: Estimation and discussion of balance indicators

The balance indicators were calculated according to the EC 2014 Balance Indicator Guidelines (COM(2014)545) with the aim of identifying the overall trends by fishing method and LOA class and provide a national assessment on the balance between fishing capacity and fishing opportunities for each identified fleet segment. This section contains the indicators as they have been calculated using the results of the National Data Collection Programme under the Data Collection Framework (DCF) submitted to the EC following the Fleet Economic data call (Ref. Ref. Ares(2019)421298 - 24/01/2019) in 2019 for the period 2012-2018. Technical indicators were calculated for the time period 2012-2018. In 2018 technical indicators were calculated for 33 unclustered fleet segments out of which 28 were active and 5 were inactive segments. Economic indicators were calculated for the period 2012-2017 for 23 clustered fleet segments that are consistent during the entire time period.

Some of the indicators, in particular some economic indicators, should be interpreted with caution. As Croatia has been a member of the EU since July 1st 2013, data submitted under the DCF is available for a short time series, therefore any conclusions on trends are still very limited. Croatian fisheries in some fleet segments include a variety of gears that were grouped in accordance with the DCF methodology, but in reality operate on highly seasonal and local basis with differing operational patterns. In these segments (DFN, HOK, FPO, MGO, PGO, PGP and PMP) socio-economic constrains and realities are particularly important, as these activities include primarily small vessels operating in coastal waters. The point of particular sensitivity is the issue of revenue and activity, whereby all vessels that were active for one day were included in the analysis. With this approach, the number of vessels seems to be disproportionally high in relation to any of the indicators, and in small-scale fleet segments indicates economical unviability in most cases. This approach should be taken with caution, as in most cases of small-scale fishermen the fishery is not the only source of income and they are usually active in a highly limited area or time, with negligible overall impact. The social dimension in such cases is strongly emphasised, as this forms a key element of national fisheries management scheme and policies. Croatia acknowledges the need to have a uniform approach to these indicators, but would like to point out some specific elements in cases when management measures are linked with a multi-gear and multi-species fishery that does not necessarily constitute a high-value or an industrial branch. In such cases, the vessels were categorized into one or the other category based on the applicable rules, but never the less in the DFN and the HOK segments the overall income distribution does not depend on fisheries. These vessels do not participate in catches and landings in real percentages even in relative terms, and hence Croatia believes that the assessments should be further considered. Croatia fully acknowledges and supports the need to have a uniform approach based on best available indicators and data, and shall highly appreciate the guidance by the EC and the STECF as well as any further clarification and discussion on the issue.

6.1 Technical indicators

The Inactive Fleet Indicator

The results of the Inactive Fleet Indicator presented in Table 11 show that the number of inactive vessels has significantly decreased in 2018 and amounted to 21,6%. Most of these vessels are shorter than 12 meters (692 vessels in VL0006 and 792 in VL0612), while only a small percentage of the large scale fleet is inactive (3,6%). As a consequence of the inclusion of small scale vessels previously categorised for personal needs, a high majority of these inactive vessels have passive gears listed in their licenses (gillnet and trammel net fleet segments).

The segment that had the highest percentage of inactive vessels in 2018 (15,4% in number) is VL0006 which was most affected with inclusion of small scale vessels previously categorised for personal needs. This decrease is a result of issuing licenses for small scale vessels for personal needs that progressed during the period 2015-2017 enabling activation of these vessels. Percentage of inactive vessels in all segments is stable over years.

The overall inactive indicator needs to be considered against the applicable rules and technical measures in Croatia. The licenses for different fisheries in question were issued, as has been stated before, without the requirement of activity. In addition, since even the active fleet in this segment does not use fisheries as the main source of income, the inactive licenses are in most cases kept as the given right rather than the actual activity element, as the owners in all cases have other sources of income.

The legal and technical frameworks in Croatia imply a right assigned to the owner without the requirement of activity. This in turn results in a situation whereby the license owners do not depend on this activity directly for the time being, but need to keep on the possibility (particularly since the national legal framework does not allow for any ceasing of rights issued).

In accordance with the Croatian national legal system, there is no obligation of activity of the vessel. The licence is issued under certain conditions but these do not include the obligation of a minimum activity. Furthermore, Croatian national legal system allows for a temporary inactivity while the rights stemming from the licence are not withdrawn. As a result of this system, high percentage of inactive vessels in some segments should not be considered as overcapacity because fishery is not their main activity or economic interest.

Table 11. Inactive fleet indicator in 2012-2018.

Fleet segment		Number of vessels							No. inactive vessels as % of total vessels						
		2012	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*
INACTIVE	VL0006	648	700	754	1781	974	944	692	15.4	16.1	17.2	22.7	12.6	11.3	9.0
INACTIVE	VL0612	602	679	732	3062	1262	1177	792	14.3	15.6	16.7	39.0	16.3	14.1	10.2
INACTIVE	VL1218	90	96	107	105	111	104	104	2.1	2.2	2.4	1.3	1.4	1.2	1.3
INACTIVE	VL1824	25	32	33	35	35	35	40	0.6	0.7	0.8	0.4	0.5	0.4	0.5
INACTIVE	VL2440	38	44	43	43	40	37	44	0.9	1.0	1.0	0.5	0.5	0.4	0.6
National fleet		1403	1551	1669	5026	2422	2297	1672	33.3	35.6	38.1	64.0	31.3	27.5	21.6
Fleet segment		**Inactive kW as % of fleet kW**							**Inactive GT as % of fleet GT**						
		2012	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*
INACTIVE	VL0006	2.5	2.5	2.8	7.0	3.9	3.7	2.5	1.5	1.5	1.7	4.4	2.2	2.1	1.5
INACTIVE	VL0612	12.7	14.0	14.4	25.9	18.0	18.1	14.6	5.1	5.6	5.9	16.0	8.6	8.4	6.5
INACTIVE	VL1218	3.8	4.0	4.4	3.4	4.2	3.8	4.4	3.6	3.7	4.1	3.6	4.3	3.9	4.2
INACTIVE	VL1824	1.7	2.0	2.1	1.8	2.0	2.0	2.6	2.9	3.5	3.6	3.4	3.5	3.6	4.7
INACTIVE	VL2440	5.8	6.3	6.1	4.7	4.6	4.3	5.7	13.8	15.2	14.7	11.9	11.9	11.2	13.9
National fleet		26.5	28.8	29.9	42.7	32.8	31.9	29.8	26.9	29.5	30.0	39.2	30.5	29.2	30.8

The Vessel Utilization Indicator

The Vessel utilisation indicators (VUI) shown in Table 12 were calculated using maximum observed days for each unclustered fleet segment. Taking into account the methodological and data-availability considerations in mind, as well as the limitations of the indicator itself, the results indicate that the segments have rather stable activity levels over the years.

VUI was calculated for 28 unclustered fleet segments in 2018, of which:

- 10 appear to be in balance, of which 4 are segments 0 – 12 m in length and 6 are segments above 12 metres LOA,
- 18 appear not to be in balance, of which 14 are segments 0 – 12 m in length and only 4 above 12 metres LOA.

Trends were calculated for 28 segments, of which:

- 3 displayed an increasing trend,
- 4 displayed a declining trend,
- 16 displayed no trend,
- 5 displayed flat/null trend.

Among length classes of all gear groups a different situation can be observed, from most homogenous (PSVL1824, PSVL2440 and DTSVL2440) to very low values of utilisation indicator (PGP, MGO). This can be explained by different nature and areas of operation of the vessels, as well as by different operational realities in some gears used in Croatia. Furthermore, for some small gears, this also indicates and confirms the specific realities of highly seasonal and highly small-scale approach to the activity. In the most significant segments we can notice that PS segments are rather stable over the past years with slight improvement. This can be explained by the introduction of effort management measures in terms of limiting number of total fishing days targeting small pelagics. Regarding DTS segments situation is stable with no significant trend in all length classes. Some changes between years are also affected by the changes in the number of vessels which change segments over the years based on their gear activity.

Similarly as for the inactive fleet indicator, the results of this indicator need to be considered in view of the fleet structure and its activity. Again, it should be noted that particularly in smaller fleet segments fishing activities do not represent the only source of income, and rarely are the main one. Due to this fact, in those segments even though the indicator shows values less than 0,7 it is considered that it is not really a sign of imbalance. This particularly holds true for FPO, HOK and MGO segments with vessels of less than 12 meters. With the seasonal character of the vessels, and their overall characteristics of operations, VUI is calculated against the parts of the fleet that are in fact more dependent on this activity than majority.

Table 12. Vessel utilisation indicator calculated using maximum sea days on a vessel level (aggregated to un-clustered fleet segments) for the period 2012-2018

Calculated as: average days at sea / maximum days at sea observed.

Traffic light system: 0.7< red; 0.7 ≥ yellow > 0.9; ≥ 0.9 green ≥ 0.9.

Trend analysed for the period 2012-2017, using the slope equation and a 5% threshold to indicate significance, as: Slope > 0.05 increasing; Slope < -0.05 decreasing; -0.05 < Slope < 0.05 no significant trend and slope = 0 flat/null trend.

Fleet segment		Vessel utilisation indicator (VUI)							No vessels 2018	Trend 2018	Trend 2012-2018	Status 2018
		2012	2013	2014	2015	2016	2017	2018				
DFN	VL0006	0.30	0.31	0.31	0.29	0.28	0.32	0.31	325	no trend		out of balance
	VL0612	0.32	0.32	0.32	0.33	0.32	0.32	0.33	664	no trend		out of balance
	VL1218	0.57	0.61	0.66	0.63	0.74	0.71	0.64	19	decreasing		out of balance
	VL2440	1	NA	NA	NA	NA	NA	NA	-	-		-
DRB	VL0006	NA	1	NA	NA	NA	NA	NA	-	-		-
	VL0612	1	0.85	0.80	0.71	0.67	0.84	0.83	13	no trend		in balance
	VL1218	0.93	0.77	0.81	0.69	0.65	0.75	0.71	20	no trend		in balance
	VL1824	NA	1	1	1	1	1	NA	-	-		-
	VL2440	NA	1	NA	NA	NA	NA	NA	-	-		-
DTS	VL0006	1	1	1	1	NA	1	1	5	flat/null		in balance
	VL0612	0.42	0.41	0.41	0.41	0.42	0.46	0.47	127	increasing		out of balance
	VL1218	0.41	0.42	0.41	0.45	0.45	0.48	0.51	163	increasing		out of balance
	VL1824	0.57	0.63	0.66	0.61	0.65	0.66	0.63	28	no trend		out of balance
	VL2440	0.69	0.74	0.77	0.77	0.80	0.83	1	9	increasing		in balance
FPO	VL0006	0.53	0.52	0.50	0.48	0.43	0.47	0.45	51	decreasing		out of balance
	VL0612	0.47	0.38	0.47	0.49	0.46	0.50	0.47	107	no trend		out of balance
	VL1218	NA	NA	1	1	1	1	NA	-	-		-
HOK	VL0006	0.38	0.27	0.32	0.29	0.33	0.33	0.35	90	no trend		out of balance
	VL0612	0.33	0.30	0.34	0.35	0.37	0.34	0.37	221	no trend		out of balance
	VL1218	1	1	1	1	1	1	1	8	flat/null		in balance
MGO	VL0006	0.27	0.29	0.29	0.26	0.28	0.29	0.28	269	no trend		out of balance
	VL0612	0.42	0.45	0.46	0.46	0.44	0.43	0.40	74	no trend		out of balance
	VL1218	1	1	1	1	1	1	1	2	flat/null		in balance
MGP	VL0612	NA	NA	1	1	NA	1	1	1	flat/null		in balance
	VL1218	NA	NA	NA	NA	NA	1	NA	-	-		-
	VL2440	1	NA	NA	NA	NA	NA	NA	-	-		-
PGO	VL0006	1	1	1	1	1	1	1	5	flat/null		in balance
	VL0612	NA	1	1	NA	1	1	NA	-	-		-
PGP	VL0006	1	0.85	0.71	0.21	0.01	0.01	0.01	2811	decreasing		out of balance
	VL0612	0.58	0.56	0.57	0.27	0.05	0.03	0.03	794	decreasing		out of balance
PMP	VL0006	0.43	0.47	0.59	0.49	0.47	0.49	0.47	35	no trend		out of balance
	VL0612	0.42	0.49	0.48	0.52	0.49	0.62	0.46	52	no trend		out of balance
	VL1218	1	1	1	1	1	1	NA	-	-		-
	VL2440	NA	1	1	NA	NA	NA	NA	-	-		-
PS	VL0006	1	1	1	1	1	1	NA	-	-		-
	VL0612	0.49	0.55	0.52	0.57	0.54	0.52	0.60	27	no trend		out of balance
	VL1218	0.59	0.59	0.61	0.67	0.62	0.68	0.67	34	no trend		out of balance
	VL1824	0.64	0.67	0.73	0.76	0.81	0.76	0.81	43	no trend		in balance
	VL2440	0.67	0.73	0.76	0.83	0.84	0.75	0.83	62	no trend		in balance
	VL40XX	1	1	1	1	NA	NA	NA	-	-		-

6.2 Biological indicators

Sustainable Harvest Indicator

The SHI (Sustainable Harvest Indicator) was calculated based on the results of GFCM working groups for small pelagic species and WG for demersal species in 2018 and in reference to 2017 values of fishing mortality and Fmsy values at that time. Only for PIL and ANE 2018 was reference year since assessment was made on the n-1 year. For the SOL outcomes of STECF report 18-16 were used.

Indicators were calculated for all segments based on the available assessment (Annex I). Results for those segments for which assess species count for more than 40% are presented in the Table 13. As this indicator depends on the stock assessment and the calculation of the Fmsy, some of the values and stocks included in some segments should be taken with caution due to a changes in the assessment methodology or model.

Table 13. Overview of available and significant SHI per fleet segment for the period 2012-2018.

Fleet segment		SHI						%Landing value	Status 2017
		2012	2013	2014	2015	2016	2017		
PS	VL0612	-	-	-	-	-	0.69	46%	in balance
PS	VL1218	3.40	2.30	2.30	2.20	2.40	1.40	91%	out of balance
PS	VL1824	3.30	2.30	2.30	2.20	2.40	1.45	95%	out of balance
PS	VL2440	3.30	2.30	2.30	2.20	2.40	1.50	95%	out of balance
DFN	VL1218	-	3.70	2.50	2.50	0.57	1.34	51%	out of balance
DRB	VL0612	-	-	-	-	-	0.96	40%	in balance
DRB	VL1218	-	-	-	-	-	0.74	33%	in balance
FPO	VL0006	-	-	-	-	-	0.88	58%	in balance
FPO	VL0612	-	-	-	-	-	1.20	77%	out of balance
DTS	VL0612	-	-	-	-	0.33	1.13	45%	out of balance
DTS	VL1218	4.80	4.40	3.30	3.20	0.93	1.18	47%	out of balance
DTS	VL1824	4.60	4.50	3.30	3.30	0.50	1.71	74%	out of balance
DTS	VL2440	-	4.80	3.40	3.30	0.44	1.67	74%	out of balance

PS segments show continues imbalances since they are highly dependent on only two stock, and at the same time those stocks (sardine and anchovy) are overexploited. Given the need to secure sustainability and safeguard the implementation of the GFCM plan for small pelagics in GSA 17 and 18, Croatia believes that PS segments need to be addressed in terms of imbalance with available resources.

As for the DTS segments which were balanced in 2017, there has been general increase on indicator value ending with values above 1, same as DFN segment.

In 2019 indicators have been calculated for additional segments where FPO and PMP are showing balance with the resources, as well as PS VL0612 and DRB segments.

Although share of landing value for other segments is below 40%, DRB VL1218 segment which is at 33% can also be considered as balanced having SHI 0,74 and comparing it with DRB VL0612.

Therefore, five segments are considered to be in balance and 9 segments are considered to be out of balance, while for the remaining segments share of considered stocks in not relevant.

Stocks-at-risk Indicator

There were no stocks at risk targeted by Croatian fleet, as per available data.

6.3 Economic indicators

Following the methodology proposed in the Guidelines, results of two economic indicators are presented below: RoFTA (long-term return) and the CR/BER ratio of current revenue to break-even revenue (short-term return).

For Croatia, these indicators were calculated for the period 2012-2017 for 23 clustered fleet segments that are consistent in the period. Although considerable resources have been devoted to collecting economic and social data it is important to emphasize that the economic analysis is limited by the limitation of the economic indicators as well as the relatively short time series of data related to the period of major changes in Croatia - Croatia's accession to the EU and the beginning of the EFF and EMFF measures implementation in Croatia, all of which have an impact on the reliability and quality of economic data. Unfortunately, economic indicators as such cannot sufficiently reflect the full range of factors that affect the fishing sector in Croatia and the results need to be interpreted with caution. For this reason a section on social indicators has been included in the chapter below. However, because of the shortcomings of economic and social indicators, additional information is required in order to assess the situation and allocate appropriate measures to a particular segment of the fleet, and representatives of the fisheries sector in Croatia as well as the scientific and advisory bodies are important stakeholders in this process. Therefore, although the results of the balance analysis are informative, the overall balance assessment and the necessary activities take into account additional information at the Member State level.

In 2017, the economic performance of the overall fleet improved compared to previous years.

Return of fixed tangible assets (RoFTA) and Current Revenue Against Break-Even Revenue (CR/BER)

For the 23 clustered fleet segments in 2017 CR/BER (short-term return) indicates that for:
- 16 fleet segments values are over threshold; and
- 7 fleet segments values are below threshold.

RoFTA (long-term return) indicates that for:
- 5 fleet segments values are out of balance;
- 7 fleet segments values are not sufficiently profitable; and
- 11 fleet segments are in balance.

According to the results, in 2017 an overall improvement compared to the previous period is evident.

The total amount of Gross Value Added (GVA) and gross profit increased to EUR 48.5 million and EUR 26.1 million, respectively while net profit increased to EUR 11.3 million. In 2017, revenue was estimated at EUR 81.38 million, an increase of 23% since 2015 confirming a positive trend in the last year. Total expenditures amounted to EUR 73.76 million in 2017, with the change in the cost structure where there is significant decrease in fixed costs related primarily to small scale PGP segment. Wages and salaries remained most important with 34% and followed by energy costs with 22% of all costs. The tangible asset value of the fleet continued to decrease in 2017, amounting to EUR 370.3 million. Investments decreased by 15% in 2017 and amounted to EUR 8.2 million. The gross profit in 2017 was EUR 26.13 million, net profit margin was estimated at 14%. The Rate of Return on Fixed Tangible Assets (RoFTA) increased in 2017 to 4,5%. Labour productivity (GVA/FTE) increased to EUR 29 thousand, FTE decreased by 36%, and GVA increased by 58% to EUR 48.5 million. Energy consumption per landed tonne remained stable with value of 339 litres/tonne in comparison to 344 in 2016, while landed weight per sea day decreased to 291 kg/day in 2017.

The results of CR/BER and RoFTA analysis indicate coherent results. From the short-term perspective (CR/BER), 15 fleet segments changed the balance status to positive compared to 2016 while for only 2 segments a declining trend is indicated. In addition to relatively high values of the replacement value of the vessel and although the results are more favourable in 2017 compared to 2016, ROFTA does not show better results due to insufficiently generated net profit.

For the demersal trawl (DTS) and purse seine (PS) segments, values of economic indicators suggest an increase compared to the previous period, especially for vessels over 12 m LoA, which have been more heavily affected by management measures. Since the As the latest analysis of biological indicators suggests that DTS segments are in imbalance with available resources, the indication on economic performance of DTS segments may not be a real indicator of profitability as profitability is related to other factors which are not necessarily related to an imbalance between capacity and available resources (fish prices, market trends etc.). Croatia will continue to closely follow these segments and related stocks in the future.

Although economic results indicate that PS vessels over 24 m LoA have operated with a net loss, it is important to note that this segment is involved in tuna purse seining. As the entire catch of Bluefin tuna is immediately transferred to cages for farming, there is no landing per se. The potential value of this catch is afterward recorded through tuna farm revenues and not fisheries. Furthermore, a large quantity of small pelagic fish landed by these vessels on the landing sites is designated for tuna feeding. The small pelagics intended for tuna feeding have a lower market value. In this capacity, the aim of this fishery is not the profitability of a single vessel but the contribution to the overall operation of the company which owns both the farm and vessels. In general, indicators for purse seiners are showing more favourable opportunity in 2017, showing slow but steady progress in achieving balance.

According to the economic indicators, the most stable segments of the period are DRB VL0006, FPO VL0006 and HOK VL0612, while DRB VL0612, DTS and PS segments show slightly weaker results.

Table 14. Economic indicators for 2012-2017.

1 - (Short-term) Current revenue to break-even revenue ratio (CR/BER)

Calculated as: Current revenue (CR) / Break Even Revenue (BER),
where, CR = income from landings + other income
and BER = fixed costs / (1-[variable costs / current revenue]) excluding opportunity cost of capital
and Fixed costs = non variable costs + annual depreciation
and Variable costs = crew wage + unpaid labour + energy costs + repair costs + other variable costs
Traffic light system (status in 2016): green ≥1; red < 1.0; (negative values highlighted in dark red) (as according to the 2014 Balance Indicator Guidelines)
Trend analysed for the period 2012-2016, using the slope equation and a 5% threshold to indicate significance, as: Slope > 0.05 increasing; Slope < -0.05 decreasing; -0.05 < Slope < 0.05 no significant trend and slope = 0 flat/null trend.

Fleet segment		Current revenue to break-even revenue ratio (CR/BER)						Trend (5%)	Trend 2012-2017	Status 2017
		2012	2013	2014	2015	2016	2017			
DFN	VL0006	-0.10	0.71	0.64	-1.76	-0.43	2.14	increasing		in balance
	VL0612	0.00	0.70	1.42	0.79	0.05	3.00	increasing		in balance
	VL1218	-0.70	0.67	0.75	0.40	-1.41	1.37	increasing		in balance
DRB	VL0612	1.93	2.59	2.55	6.86	4.80	1.69	increasing		in balance
	VL1218	-1.98	0.66	1.65	1.84	1.23	-0.21	increasing		out of balance
DTS	VL0612	-0.36	0.24	0.28	0.62	0.11	4.53	increasing		in balance
	VL1218	-0.30	0.85	1.16	0.27	0.93	2.66	increasing		in balance
	VL1824	-0.33	0.15	0.31	0.01	0.86	1.38	increasing		in balance
	VL2440	-0.09	0.03	0.10	0.06	0.16	0.41	increasing		out of balance
FPO	VL0006	-0.59	1.02	28.34	-14.96	2.71	0.15	decreasing		out of balance
	VL0612	-1.38	-2.22	-0.69	0.48	0.58	3.29	increasing		in balance
HOK	VL0006	-2.75	-5.62	15.22	-6.46	-1.16	12.87	increasing		in balance
	VL0612	-0.88	2.50	0.85	0.95	1.83	6.26	increasing		in balance
MGO	VL0006	0.81	2.85	2.88	0.79	0.90	5.25	increasing		in balance
	VL0612	-1.23	0.62	-0.07	-0.68	0.84	1.52	increasing		in balance
PGP	VL0006	-0.52	-0.07	-0.26	-156.14	-2.22	-0.48	no significant trend		out of balance
	VL0612	-0.54	-1.24	0.39	-0.85	-0.08	-0.20	no significant trend		out of balance
PMP	VL0006	-2.47	0.37	0.62	-44.77	0.25	-0.84	decreasing		out of balance
	VL0612	-0.22	-1.67	4.65	-1.27	-0.45	1.09	no significant trend		in balance
PS	VL0612	-2.36	2.16	1.11	-0.47	-0.16	2.21	increasing		in balance
	VL1218	-0.21	1.37	1.30	-1.27	0.17	1.02	increasing		in balance
	VL1824	0.45	1.29	1.29	0.47	0.96	2.14	increasing		in balance
	VL2440	0.42	1.04	0.76	0.16	0.77	0.89	no significant trend		out of balance
Total		-0.01	0.86	1.02	0.23	0.63	2.19	increasing		in balance

Table 14. Economic indicators for 2012-2016. - continued

2 - (Long-term profitability) Return on Fixed Tangible Assets (RoFTA, %)

Calculated as: Net profit* / (fleet depreciated replacement value)

where Net profit* = (Income from landings + other income) - (crew wage + unpaid labour + energy + repair + other variable costs + non variable costs + annual depreciation).

Compared against TRP, where TRP = 5-year (2011-2015) average risk free long term interest rate. Average long-term interest rate for Croatia: 2016 - *3,45*; 2012-2016 - *4,38* (Source: ECB).

Comments on balance (status in 2016): RoFTA ≥ TRP "in balance"; > 0 RoFTA ≤ TRP "not sufficiently profitable" and RoFTA < 0 "out of balance".

Trend analysed for the period 2012-2016, using the slope equation and a 5% threshold to indicate significance, as: Slope > 0.05 increasing; Slope < -0.05 decreasing; -0.05 < Slope < 0.05 no significant trend and slope = 0 flat/null trend.

Fleet segment		Return on Fixed Tangible Assets (RoFTA, %)						Trend (5%)	Trend 2012-2017	Status 2017
		2012	2013	2014	2015	2016	2017			
DFN	VL0006	-12.6	-2.5	-3.6	-35.1	-14.5	13.8	increasing		in balance
	VL0612	-8.0	-2.5	3.3	-1.5	-11.3	15.1	increasing		in balance
	VL1218	-13.1	-2.3	-1.9	-2.7	-17.5	2.5	increasing		not sufficiently profitable
DRB	VL0612	14.3	17.6	15.1	23.1	14.4	3.4	increasing		not sufficiently profitable
	VL1218	-24.1	-2.7	5.8	8.4	1.1	-7.1	decreasing		out of balance
DTS	VL0612	-12.8	-5.7	-5.3	-1.5	-5.3	18.0	increasing		in balance
	VL1218	-9.6	-1.1	1.2	-3.8	-0.4	8.4	increasing		in balance
	VL1824	-8.6	-5.8	-4.2	-2.2	-0.6	1.3	increasing		not sufficiently profitable
	VL2440	-6.8	-6.3	-6.2	-6.4	-5.9	-3.4	increasing		out of balance
FPO	VL0006	-11.8	0.2	316.3	-27.5	23.2	-9.9	no significant trend		out of balance
	VL0612	-13.6	-22.8	-16.2	-10.2	-5.8	23.4	increasing		in balance
HOK	VL0006	-23.6	-43.0	103.4	-77.2	-48.0	333.3	increasing		in balance
	VL0612	-16.2	10.4	-1.0	-0.4	10.9	60.2	increasing		in balance
MGO	VL0006	-3.7	42.3	37.6	-8.9	-7.6	176.5	increasing		in balance
	VL0612	-13.6	-2.8	-11.2	-18.1	-6.8	5.8	increasing		in balance
PGP	VL0006	-87.7	-57.0	-38.2	-0.6	-1.8	-2.1	increasing		out of balance
	VL0612	-11.5	-17.2	-4.1	-5.4	-6.8	-0.9	increasing		not sufficiently profitable
PMP	VL0006	-256.5	-16.4	-24.0	-175.9	-17.5	-16.4	increasing		out of balance
	VL0612	-7.7	-23.7	23.1	-28.8	-30.2	1.0	no significant trend		not sufficiently profitable
PS	VL0612	-24.7	6.8	0.8	-17.4	-14.1	7.9	increasing		in balance
	VL1218	-17.5	3.5	3.1	-12.6	-10.5	0.3	increasing		not sufficiently profitable
	VL1824	-4.1	2.2	2.3	-3.4	-0.3	5.3	increasing		in balance
	VL2440	-4.1	0.3	-1.8	-5.3	-1.1	-0.5	increasing		not sufficiently profitable
Total		-7.8	-1.1	0.1	-4.7	-2.6	6.0	increasing		in balance

6.4 Social indicators

Regardless of the fact that the category of small-scale coastal fisheries (vessels <12 meters using passive gears) is not economically significant, it is of significant social importance due to the large number of vessels and fishermen involved. Analysis of the data collected under the DCF for the reference year 2018 shows that small scale fleet segments, with 5.526 vessels cover about 71% of vessels in the fleet and only 2,90% of total landing. Average length of these vessels is only 6 m and average age of 36,94 years, which limits their fishing activities to fishing grounds near the port and to one day fishing trips. Analysis of effort and landing of the small-scale fleet shows that segments, DFN and MGO cover over 72% of days at sea of small-scale fleet, similar as in landing weight (73%) and landing value (68%). Although MGOVL0006 covers less than 4% of the small-scale fleet, it is significant both in small-scale fleet landing value and total landing value (Table 7, Table 15). Regarding average vessel age, youngest vessels are in MGOVL0006 and in small segments PGOVL0006 and HOKVL1218.

On the other hand, even though PGPVL006 and PGPVL0612 cover almost 65% of small-scale fleet vessels, their share in days at sea, landing weight and values is insignificant even in small-scale fleet, as the most important role of fisheries in this segment is to provide the source of food and additional income for home budget. Segments with low share of vessels and low activity (around 5% in small-scale fleet) are FPOVL006 and FPOVL0612 which together cover about 3% of small-scale vessels, around 9% DAS, 4,3% of landing weight and 8,2% of landing value, PMPVL006, PMPVL0612 (1,56% vessels, 4,14% DAS, 5,5% landing weight and 4% landing values) and HOKVL0006 (between

1 and 2% in each category). HOKVL0612 covers a significant part in landing weight and value, predominantly consisted of Bluefin tuna, hake and swordfish (Table 8).

Table 15. Fleet segments that form small-scale fisheries and their share in landing weigh, landing value and days at sea in 2018.

Fleet segment	% Number of vessels	Average age of vessel	Average age of licence holder	% DAS	% Landing weight	% Landing value
DFNVL0006	5,88%	35,57	50	17,05%	9,92%	8,18%
DFNVL0612	12,02%	35,45	50	39,18%	34,29%	36,38%
DFNVL1218	0,34%	36,79	53	0,62%	2,44%	2,17%
FPOVL0006	0,92%	29,12	44	2,14%	0,90%	1,32%
FPOVL0612	1,94%	34,28	51	6,67%	3,46%	6,88%
HOKVL0006	1,63%	34,81	50	2,06%	1,19%	1,31%
HOKVL0612	4,00%	30,80	51	8,88%	14,52%	16,52%
HOKVL1218	0,14%	20,00	59	0,19%	0,43%	0,68%
MGOVL0006	4,87%	25,88	44	12,13%	18,66%	17,23%
MGOVL0612	1,34%	30,16	48	3,54%	7,70%	4,58%
MGOVL1218	0,04%	55,50	53	0,12%	0,12%	0,10%
PGOVL0006	0,09%	20,20	39	0,17%	0,08%	0,00%
PGPVL0006	50,87%	38,80	64	1,34%	0,23%	0,12%
PGPVL0612	14,37%	40,17	65	1,79%	0,59%	0,70%
PMPVL0006	0,63%	35,46	47	1,54%	0,85%	0,83%
PMPVL0612	0,92%	29,90	49	2,60%	4,62%	3,02%
Total	100,00%	36,94	59	100%	100%	100%

Currently, small scale fleet is in the process of aging, both in means of license holders so as fishing vessels. The average age of vessels licence holder in small-scale fleet is 59. Small-scale fleet segment with youngest licence holders is PGOVL0006 with average licence holders age of 39, although only 5 vessels fall into this segment. Together with MGO and PMP this group consists of younger population (the youngest vessels licence holder is 20 years old) with gears suitable also for other activities as tourism or transport. The oldest segment is PGP in general, with 40% of vessels in small scale fleet (average vessel age of 34) and average vessels licence holders' age of 64.This group of vessels, previously categorised as "for personal needs", fall into a separate category of commercial fleet. Most of these vessels licence holders are older than 60, retired and occasionally engaged in fishing activities. It has to be taken to account that during the competition for license holders in small scale coastal artisanal fisheries, an advantage was given to the older applicants. Due to legal restrictions, authorized persons in this category could only be natural persons without legal rights to be involved in first sales and without obligations to pay social security fees. However, reporting on fishing activities is mandatory for this category so as for any other category of commercial fisheries. Since there is no income, salaries or any kind of remuneration in this category, all of the participants are considered as unpaid labour. Still, this category with a large number of participants is of great social importance as supplementary activity and food security for households. In this category is also the oldest Croatian fisherman in small scale fleet and in active fleet, 104 years old.

A small share of young people in a group of owners/license holders suggests that there may be a lack of initiative in opening a business in fisheries for newcomers which could have long-term consequences for the fleet in terms of the absence of successors in fisheries business.

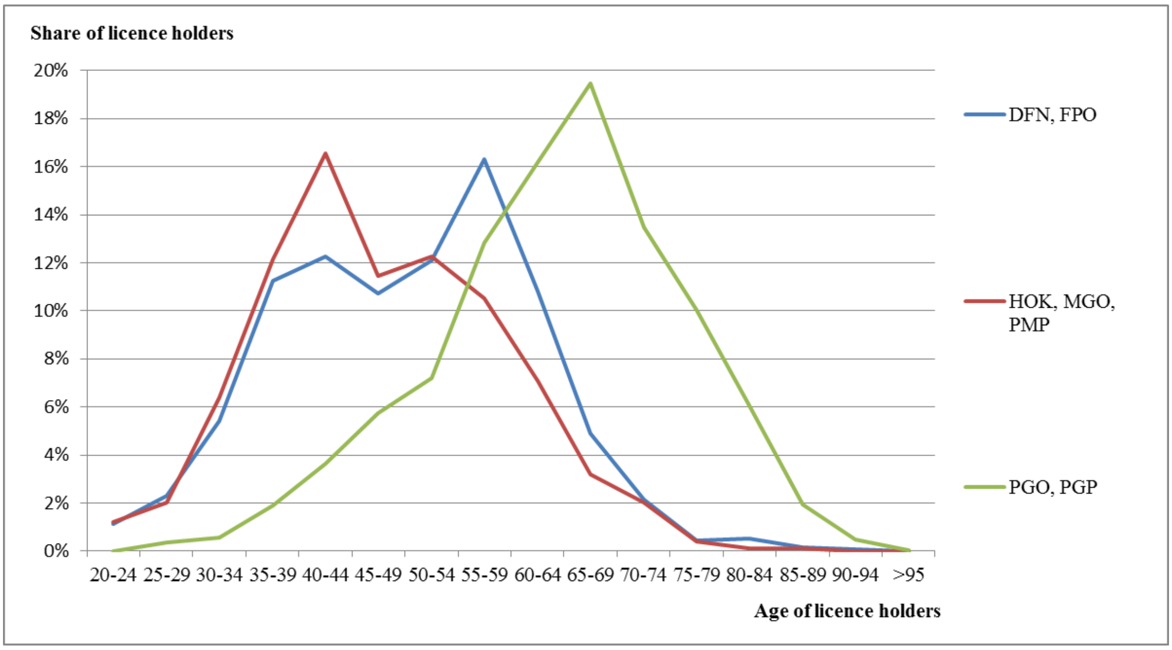

Figure 1. Share of licence holders by age (5-years age groups) for small-scale fleet in 2018.

Days at sea for passive gears have a distinct seasonal character with spring and autumn peaks, depending on migration of target species to the inshore area during the warmer period of the year, but also depending on other integrated activities – tourism, transport or agriculture. Data for 2018 show that on average vessels from fleet segment HOKVL0006 have 42 days at sea during the year while vessel in fleetFPOVL0612 segment have in average 114 days at sea.

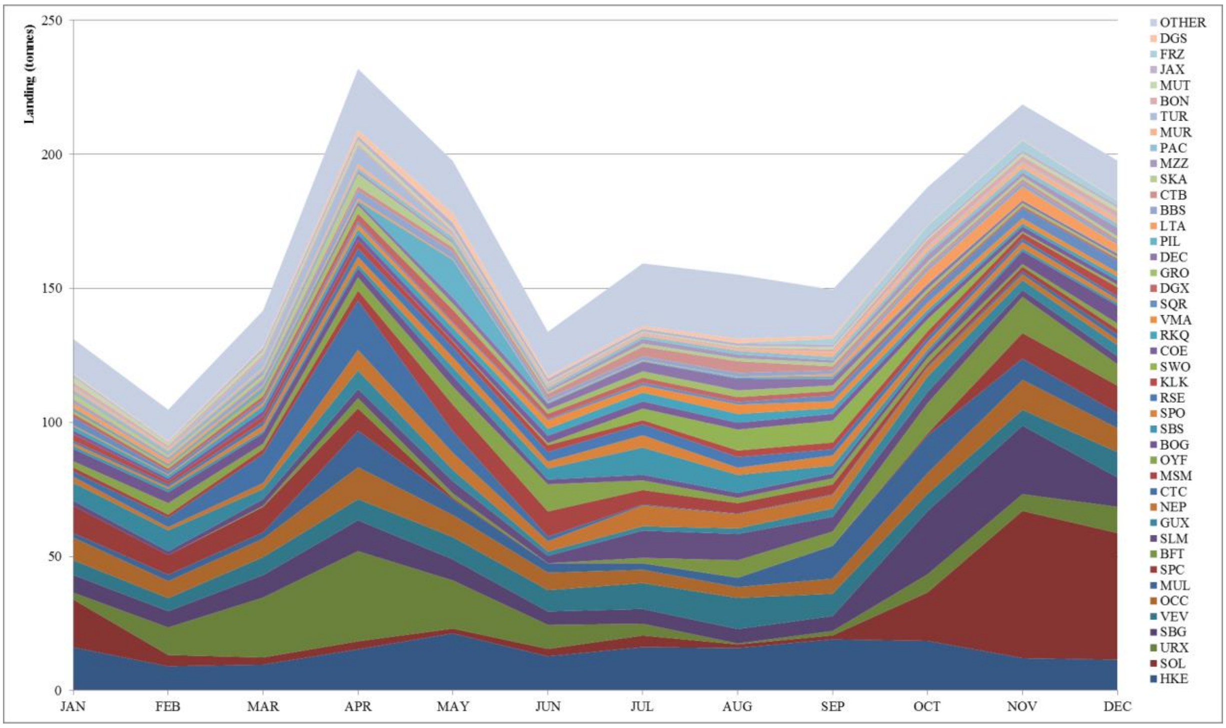

Figure 2. Landing composition in the small-scale fisheries in 2018.

In 2018, the total value of landings of small-scale fishery was €11,8 million, covering 19,5% of total value of landings. The catch is highly diverse, with 42 species covering 90% of landing (Figure 3), compared with total landing where 4 species cover 90% of landing. Most of the landing weight and landing value consists of demersal fish (common sole, hake, seabream) (Figure 3). Most of the small-scale fisheries catch is sold on the local market, and income is often used as the addition to the home budget providing food security. This is the main reason for negative economic indicators in these segments, but for some fishermen in these segments, commercial benefit is not even a priority since they have other sources of income.

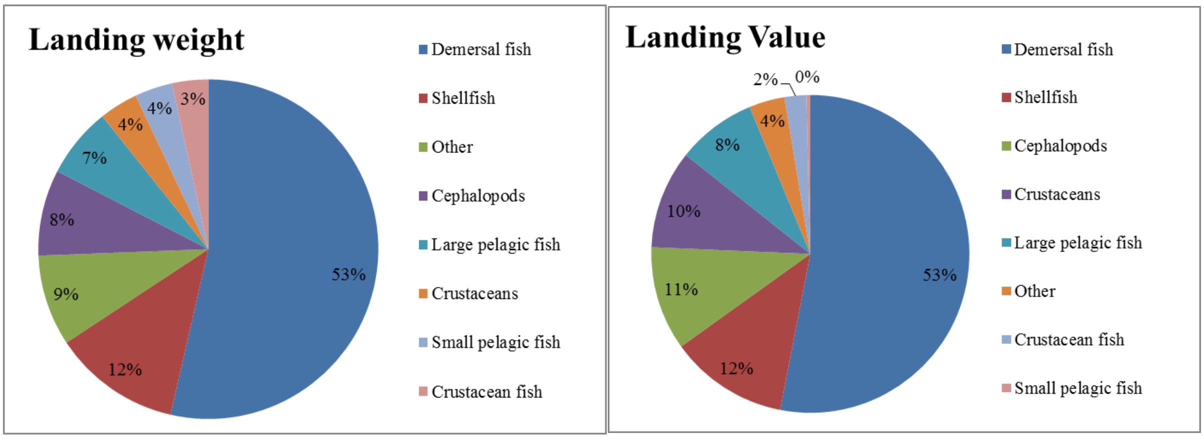

Figure 3. Target assemblages of small-scale fisheries in 2018.

Table 16. Characteristics of small-scale fisheries in 2018.

Fleet segment	Number of vessels	Days at sea	Landing (kg) per DAS
DFNVL0006	325	95,53	6,49
DFNVL0612	664	107,47	9,25
DFNVL1218	19	59,00	41,81
FPOVL0006	51	76,27	4,41
FPOVL0612	107	113,55	6,03
HOKVL0006	90	41,61	5,76
HOKVL0612	221	73,15	15,04
HOKVL1218	8	43,63	12,37
MGOVL0006	269	82,15	14,34
MGOVL0612	74	87,23	25,80
MGOVL1218	2	107,00	22,75
PGOVL0006	5	60,80	3,59
PGPVL0006	2811	0,87	1,99
PGPVL0612	794	4,10	3,41
PMPVL0006	35	80,23	6,36
PMPVL0612	51	92,69	14,68

A distinctive local character of the use of the fishing gears and target assemblage could be noticed in a regional distribution of the vessels from different fleet segments. Nearly half of the vessels from the FPO fleet segment are from two counties well known by the tradition of trap fishery – Primorje-Gorski kotar and Lika Senj County (Figure 4). Also, 80% of total landing of Norway lobster from small scale fleet was landed by FPO vessels from Primorje-Gorski kotar county (Table 17). Around 40% of vessels from the HOK fleet segment are situated in Split-Dalmatia County while 61% of total landed volume of swordfish and 63% of hake was landed by vessels from this county. Tradition of gillnet fishing of the Istria region, especially targeting *Solea solea* is reflected in share of gillnets in Istria county (30-50% of total number of vessels in DFN fleet segment) so as in share of landed volume of *Solea solea* (88% of total landing of *Solea solea* landed by vessels from Istria county, 99% with gillnets).

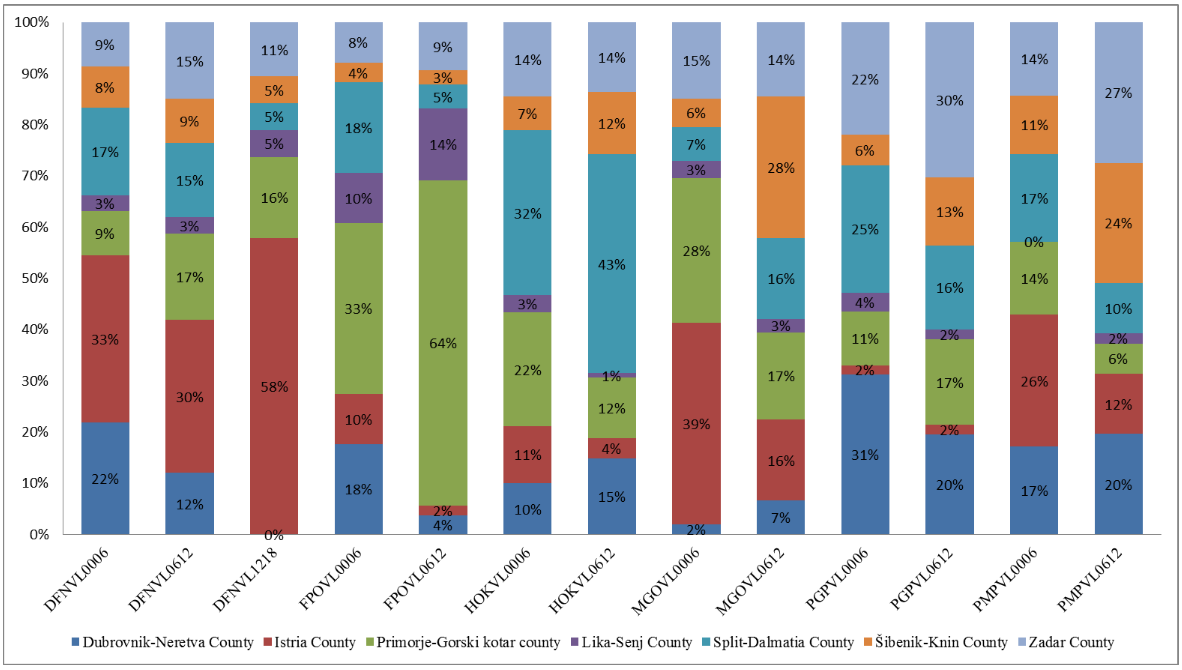

Figure 4. Distribution of the fleet segments of the small scale fleet by counties in 2018.

Table 17. Distribution of landing volume of selected species for small scale fleet by counties in 2018.

County	Solea solea	Nephrops norvegicus	Xiphias gladius	Merluccius merluccius
Dubrovnik-Neretva County	0%	0%	28%	7%
Istria County	88%	1%	2%	1%
Primorje-Gorski kotar County	6%	80%	0%	13%
Lika-Senj County	0%	13%	0%	3%
Split-Dalmatia County	0%	1%	61%	63%
Šibenik-Knin County	0%	0%	8%	3%
Zadar County	5%	5%	1%	10%
Total	**100%**	**100%**	**100%**	**100%**

Even though existing indicators show a certain level of imbalance, DFN segment is not included in the Action plan as Croatia considers that addressing the capacity of the most important fleet segments in terms of percentage of landings and activity is the issue of priority. With very low catch and landing values, the DFN segment is considered to be primarily highly artisanal and important in terms of social and economic elements for local population and communities, and actions in that segment are envisaged in future years, primarily by way of regulation of their activity. It is also expected that this fleet segment shall in the forthcoming years be the one mostly encompassed by the EMFF measures of diversification of activities and provision of services complementary to fisheries.

7. Overall: Statement of opinion on balance of fleet capacity with fishing opportunities

The national assessment of overall balance status per fleet segment provided in Table 18 was made taking into consideration firstly the available biological indicators (SHI - Sustainable Harvest Indicator) and assessment on the balance of related fleet segments. For fleet segments for which SHI is not available, technical, economic and social indicators were used for the assessment, but also additional information on fleet behaviour.

Overall, Croatia considers that there are some imbalances in its fleet primarily when compared to the status of the stocks. This corresponds to 2017 status, or in case of small pelagics to 2018. Imbalance has been assessed in PS segments where like in previous years Croatia considers that purse seiners should be given the most attention in terms of capacity and effort reduction. In the PS segment, the intention to maintain the balance in relation to the availability of small pelagic resources is further supported by measures within the GFCM management plan and Emergency measures that have been set for the period 2019-2021, as well as through the national management plan pursuant to the Mediterranean Regulation. Since previous experience is showing improvement in balance, Croatia intends to continue with the measures provided within the framework of the EMFF. This particular stands for temporal cessation which has significant impact on improvement of spawning biomass and recruitment. In addition, Croatia intends to reduce fishing effort applying other national and regionally agreed measures as is further described in the Action plan.

For 2018, in accordance with latest stock assessment DTS segments should be considered to be out of balance, and at the same time showing signs of overcapacity but with positive economic indicators. In 2017, in the area of Jabuka pit, Croatia introduced a special marine management area with no-take zone which is expected to have impact on this fleet. DTS segments were also covered with measures in the framework of EMFF such a temporal and permanent cessation. Following capacity reductions of this fleet in the previous years, Croatia considers that effort reduction measures should be continued through temporary cessation of fishing activities.

Results of the latest available stock assessment were also reflected on the balance of the small-scale fleet mostly using fixed nets and trammel nets (DFN segments) where a change of SHI value for VL1218 segment, being negative in 2018, can be observed. However, change observed in one year in comparison to last year’s positive indicator cannot be considered as imbalance and Croatia will continue to closely monitor the situation. Overall, DFN segments are considered to be in balance.

Croatia is aware that indication of imbalance exists in some other segments of the fleet. However, these fleets are considered highly local and operating in very restricted areas with limited impact on resources, so for further consideration of their balance Croatia shall continue to follow closely these fleet segments so as to prevent a possible negative impact on stocks. This stands also for FPOVL1218 segment which is considered to be in balance regardless of the negative SHI value. This segment operates locally and it is highly dependent on Norway lobster which is dominantly exploited by the DTS segment. However, FPO fleet is using highly selective gears (traps) and operate in the area which is forbidden for trawling so in this case SHI indicator should be considered with caution.

According to the results of the analysis and national assessment on the overall status, out of 42 fleet segments, 18 are considered to be in balance and 8 segments out of balance with their fishing opportunities. Segments in balance are considered to be DFN, DRB, FPO, HOK, MGO, MGP, PMP and PSVL0612.

PGPVL0006 and PGPVL0612 are managed as a specific category separately from the main commercial fleet, through strict gear and catch restrictions.

Due to the small size of some segments it was not possible to determine their independent status. However, because of their characteristics it was considered that their status is equal to the status of segments to which they are clustered to. Therefore, in case of clustered fleet segments, overall status is determined according to the overall status of the specified main fleet segment. This was the case for DTSVL0006 segment which was assessed to be out of balance regardless of positive indicators, and it was considered that small number of vessels cannot be representative when compared to all other vessels using same gear.

In conclusion, overview of balance status per indicator and an overall national assessment on balance by fleet segment is provided in the table below (Table 18).

Table 18. Overview of results of most recent available values of balance indicators and overall status assessment.

Fleet segment		No vessels 2018	SHI 2017	VUI 2018	CR/BER 2017	ROFTA% 2017	OVERALL STATUS	Basis for assessment
DFN	VL0006	325	0.36	0.31	2.14	13.8	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL0612	664	0.93	0.33	3.00	15.1	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL1218	19	1.34	0.64	1.37	2.5	in balance	Increasing trends of economic indicators.
	VL2440	-	NA	NA	NA	NA	NA	No active vessels in 2018.
DRB	VL0006	-	NA	NA	NA	NA	NA	No active vessels in 2018.
	VL0612	13	0.96	0.83	1.69	3.4	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL1218	20	0.74	0.71	-0.21	-7.1	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL1824	-	NA	NA	NA	NA	NA	No active vessels in 2018.
	VL2440	-	NA	NA	NA	NA	NA	No active vessels in 2018.
DTS	VL0006	5	0.15	1	4.53	18.0	out of balance	SHI indicates high dependency on overfished stocks.
	VL0612	127	1.13	0.47	4.53	18.0	out of balance	SHI indicates high dependency on overfished stocks.
	VL1218	163	1.18	0.51	2.66	8.4	out of balance	SHI indicates high dependency on overfished stocks.
	VL1824	28	1.71	0.63	1.38	1.3	out of balance	SHI indicates high dependency on overfished stocks.
	VL2440	9	1.67	1	0.41	-3.4	out of balance	SHI indicates high dependency on overfished stocks.
FPO	VL0006	51	0.88	0.45	0.15	-9.9	in balance	Status is determined according to positive SHI.
	VL0612	107	1.2	0.47	3.29	23.4	in balance	Economic indicators indicate sufficient profitability with an increasing trend.
	VL1218	-	NA	NA	NA	NA	NA	No active vessels in 2018.
HOK	VL0006	90	0.51	0.35	12.87	333.3	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL0612	221	0.72	0.37	6.26	60.2	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL1218	8	0.04	1	6.26	60.2	in balance	Clustered to HOKVL0612. Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
MGO	VL0006	269	0.01	0.28	5.25	176.5	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL0612	74	0.02	0.40	1.52	5.8	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL1218	2	0.01	1	1.52	5.8	in balance	Clustered to MGOVL0612. Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
MGP	VL0612	1	0.06	1	4.53	18.0	in balance	Clustered to DTSVL0612. Status is determined according to positive SHI.
	VL1218	-	NA	NA	NA	NA	NA	No active vessels in 2018.
	VL2440	-	NA	NA	NA	NA	NA	No active vessels in 2018.
PGO	VL0006	5	0.04	1	NA	NA	in balance	Clustered to PGPVL0006. Positive SHI and VUI indicates sufficient utilization.
	VL0612	-	NA	NA	NA	NA	NA	No active vessels in 2018.
PGP	VL0006	2811	0.61	0.01	-0.48	-2.1	NA	Category for personal needs which is managed separately from the main commercial fleet, through gear and catch restrictions, as a specific category.
	VL0612	794	0.30	0.03	-0.20	-0.9	NA	
PMP	VL0006	35	0.16	0.47	-0.84	-16.4	in balance	Status is determined according to positive SHI.
	VL0612	52	0.69	0.46	1.09	1.0	in balance	Status is determined according to positive SHI.
	VL1218	-	NA	NA	NA	NA	NA	No active vessels in 2018.
	VL2440	-	NA	NA	NA	NA	NA	No active vessels in 2018.
PS	VL0006	-	NA	NA	NA	NA	NA	No active vessels in 2018.
	VL0612	27	0.69	0.60	2.21	7.9	in balance	Positive SHI and economic indicators indicate sufficient profitability with an increasing trend.
	VL1218	34	1.40	0.67	1.02	0.3	out of balance	SHI indicates high dependency on overfished stocks.
	VL1824	43	1.45	0.81	2.14	5.3	out of balance	SHI indicates high dependency on overfished stocks.
	VL2440	62	1.50	0.83	0.89	-0.5	out of balance	SHI indicates high dependency on overfished stocks.
	VL40XX	-	NA	NA	NA	NA	NA	PSVL40XX does not exist from 2016.

8. ACTION PLAN

**Measures in italic are new in compare to 2018 Action plan*

Based on the Overall status of the analysed fleet segments we present Action plan concerning imbalanced segments. Pursuant to Action plan presented in the Fleet report for previous years, significant actions took place which resulted with overall improvement in some fleet segments. However, due to a high dependency of PS segments on only two species (sardine and anchovy) and their exploitation status, they are still showing imbalance. In addition, this imbalance of PS segments is also a result of their economic performances which is largely influenced by the low price of small pelagic fish in Croatia.

During the past period and during the implementation of Action plan from Fleet report made for 2016 and 2017 Croatia implemented capacity reduction affecting PS and DTS segments through permanent cessation of fishing activities. This resulted with additional capacity reduction of 546.95 GT in PS segments and 490.34 GT in DTS segments in 2018 (Table 9). This was not the only measure foreseen but due to its significance and the fact that permanent cessation can be applied only to vessels with high activity it is considered to be highly efficient in addressing imbalance. This also imposes the need for future implementation of this measure in the next programming period.

It is important to stress that the implementation of permanent cessation measure under the EMFF ended in 2018 and due to this fact its full effects couldn't be observed within this Report. Nevertheless, indication of the overall effect can be observed in the reduced quantities of catch in some segments which is direct link to lower impact on the resources.

According to Chapter 7 and overall status of the fleet it is clear that imbalance in PS segments need to be addressed. This will be done through a set of measures directed to improvement of stock status and reduction of fishing effort. Measures will dominantly target protection of juvenile fish and redirection of fleet from the areas identified as nurseries or important for protection of early age classes of sardine and anchovy. Specifically, over the next years (2019 to 2021) Croatia is planning to apply at least the following measures:

- Maximum of 180 fishing days per vessel per year;
- Maximum 20 days per vessel per month;
- Maximum of 144 days targeting anchovy and 144 days per vessel targeting sardine;
- Spatial and temporal closure of no less than 30 continuous days taking place between 1 April to 30 September in order to protect anchovy during spawning and additional closure period between 1 October and 31 March to protect sardine during spawning season;
- Closures for vessels over 12 m length overall for not less than 6 months which shall cover at least 30% of the area which has been identified as a nursery area or as an important area for the protection of early age classes of fish (in territorial and inner sea);
- Limitation of overall fleet capacity of purse seiners actively fishing for small pelagic stocks in terms of gross tonnage (GT) and/or gross registered tonnage (GRT), engine power (kW) and number of vessels, as recorded both in national and GFCM registers in 2014; and
- Control of exploitation so as to ensure that the catches remain at the current levels with possible further decrease;
- Additional temporal closure directed to protection of spawners;
- Further improvement in scientific surveys and stock assessment methodology.

Since these measures are directed to improvement of stock status they need to be applied over a longer period in order to have effect. This is also important due to a time delay in stock assessment which is needed to assess their effect on stocks. Following the obligations as previously listed, Croatia plans to submit a notification for implementation of temporary cessation of fishing activities funded through national founds. This cessation will be based upon the provisions of the National management plan for purse seines and it would go beyond the provisions of GFCM Regional MP and related Emergency measures. This measure will be in place for 5 year period starting from 2020.

Although DTS segments were assessed as balanced in 2017, in line with the latest stock assessment, their status has changed. Due to their importance and possible future negative trends, they have been assessed as out of balance. Croatia plans to implement additional measures and continue with implementation of temporary cessation of fishing activities funded through EMFF during key periods for recruitment of target species based upon the provisions of the National management plan for bottom trawl net and scientific advice on the current status for key stocks. Revision of criteria for issuing special license have started in 2018 and finished in 2019 which resulted with additional decrease of capacity. One of the most important measures is the implementation of FRA area in Jabuka Pit with introduction of a large no-take zone and additional buffer zone with limited activities. While the first results are showing signals of improvement of stocks it can be expected that this measure will have significant impact on overall fleet balance. In addition, Croatia plans to implement new MP expected to be adopted on the GFCM level which should set more restrictive measures in terms of effort and spatial management. At the same time further improvements are being made in the control framework and traceability of catch. Such improvements should also have effect to marketing with positive effect on fleet economics.

<table>
<tr><th colspan="2">Fleet segment</th><th>Measure</th><th>Time-frame</th></tr>
<tr><td rowspan="3">PS</td><td>VL1218</td><td rowspan="3">▪ Limitation of effort (whole period)
▪ Time and spatial regulation (whole period)
▪ Temporal cessation (2019 EMFF, from 2020 national founds)
▪ Revision of authorisations with reduction of capacity (ended in 2019)
▪ Decrease of catch level in caparison to 2014 level (5% per year 2019-2021)
▪ Improvement of survey and stock assessment (cont.)</td><td rowspan="3">2019, 2020 and 2021</td></tr>
<tr><td>VL1824</td></tr>
<tr><td>VL2440</td></tr>
<tr><td rowspan="5">DTS</td><td>VL0006</td><td rowspan="5">▪ Implementation of new MP (2020)
▪ Revision of authorisation (ended in 2019)
▪ Limitation and reduction of fishing effort (2020 and onwards)
▪ Implementation of temporal cessation (whole period)
▪ Implementation of no-take zones (depending on scientific recommendation)
▪ Improvement in MSC (cont.)</td><td rowspan="5">2019, 2020 and 2021</td></tr>
<tr><td>VL0612</td></tr>
<tr><td>VL1218</td></tr>
<tr><td>VL1824</td></tr>
<tr><td>VL2440</td></tr>
</table>

ANNEX I. Overview of SHI per fleet segment for 2018

Fleet segment	ANE	CTC	DPS	HKE	MTS	MUL	NEP	PIL	SOL	Total	Total LandVal of segment (EUR)	Share	SHI
DFNVL0006	62.94	64,913.54	136.38	37,428.51	292.34	54,847.02	1,057.50	109.06	37,287.28	196,134.57	964,470.95	20.34%	0.36
DFNVL0612	182.90	161,215.85	50.24	188,992.63	1,137.10	65,388.44	12,341.57	1,620.47	1,155,330.48	1,586,259.69	4,291,538.17	36.96%	0.93
DFNVL1218	0.00	5,007.02	9,246.66	14,523.27	0.00	787.70	35.97	5,912.75	95,867.32	131,380.69	255,733.28	51.37%	1.34
DRBVL0612	0.00	21,750.76	0.00	721.53	6.98	57.19	0.00	0.00	104,226.17	126,762.62	311,841.69	40.65%	0.97
DRBVL1218	0.00	55,513.03	10.64	4,097.62	696.14	0.00	37.41	0.00	166,108.39	226,463.23	677,903.24	33.41%	0.75
DTSVL0006	0.00	51.71	0.00	116.38	0.00	0.00	0.00	26.17	0.00	194.25	3,149.74	6.17%	0.15
DTSVL0612	530.10	40,584.17	175,584.16	550,143.36	5,631.80	18,698.49	347,062.42	624.11	30,631.98	1,169,490.61	2,557,985.12	45.72%	1.14
DTSVL1218	1,734.54	123,675.76	693,020.59	1,336,189.60	13,281.66	377.06	656,143.05	23,323.23	159,401.91	3,007,147.41	6,369,376.21	47.21%	1.19
DTSVL1824	0.00	2,758.32	968,541.61	867,067.33	609.45	0.00	966,094.57	0.00	4,503.31	2,809,574.58	3,748,809.58	74.95%	1.72
DTSVL2440	0.00	302.78	641,768.37	494,814.24	4.99	0.00	654,366.87	0.00	382.70	1,791,639.95	2,400,560.25	74.63%	1.67
FPOVL0006	0.00	1,860.33	24.55	1,920.60	1.66	5,329.59	82,118.13	7.47	189.70	91,452.03	155,734.02	58.72%	0.89
FPOVL0612	35.98	2,122.31	0.00	19,334.60	0.00	44.27	607,155.88	17.09	668.07	629,378.20	810,994.37	77.61%	1.21
HOKVL0006	2.43	1,160.55	0.00	22,898.90	30.75	351.60	0.00	4.73	10.39	24,459.35	154,955.12	15.78%	0.51
HOKVL0612	1.01	7,730.58	13.64	410,955.59	58.18	1,197.87	0.00	87.22	376.93	420,421.01	1,948,180.73	21.58%	0.72
HOKVL1218	11.10	0.00	0.00	934.62	0.00	0.00	0.00	21.61	0.00	967.32	80,157.66	1.21%	0.04
MGOVL0006	4.77	11,960.61	0.00	313.81	140.97	2,589.99	63.31	9.29	2,157.63	17,240.38	2,032,271.78	0.85%	0.01
MGOVL0612	0.00	5,591.61	0.00	1,259.26	9.97	469.48	201.43	387.88	197.95	8,117.58	540,115.81	1.50%	0.02
MGOVL1218	0.00	80.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.43	11,353.09	0.71%	0.01
MGPVL0612	0.00	453.88	0.00	48.16	0.00	0.00	0.00	0.00	0.00	502.03	9,247.02	5.43%	0.06
PGOVL0006	0.55	0.00	112.78	0.00	0.00	197.25	57.12	0.90	0.00	368.61	13,474.34	2.74%	0.04
PGPVL0006	2.17	124.67	0.00	2,102.79	10.81	1,314.18		4.22	28.87	3,587.70	14,649.69	24.49%	0.61
PGPVL0612	4.16	4,211.01	0.00	3,815.71	0.00	909.82	364.73	8.10	2,353.77	11,667.31	82,015.31	14.23%	0.30
PMPVL0006	7.80	2,749.12	0.00	2,169.80	6.65	2,752.70		17.30	1,040.05	8,743.43	97,964.19	8.93%	0.16
PMPVL0612	17.34	11,841.62	112.78	5,520.33	0.00	2,458.09	2,254.57	341.88	19,892.11	42,438.73	367,175.09	11.56%	0.24
PSVL0612	91,675.96	126.40	0.00	409.32	0.00	12,613.49	43.16	97,618.03	24.74	202,511.10	437,114.67	46.33%	0.69
PSVL1218	1,145,861.98	0.00	796.47	758.45	0.00	1,336.32	43.16	1,759,879.98	0.00	2,908,676.36	3,184,079.92	91.35%	1.41
PSVL1824	4,073,370.70	0.00	0.00	0.00	0.00	4,246.56		5,306,008.07	0.00	9,383,625.33	9,873,438.01	95.04%	1.45
PSVL2440	6,173,350.46	0.00	0.00	0.00	0.00	7,709.10		12,331,846.08	0.00	18,512,905.64	19,311,080.35	95.87%	1.50
F/Fmsy	**1.3**	**0.8**	**2.1**	**3.4**	**1.5**	**1.2**	**1.5**	**1.7**	**2.7**				