REPUBLIC OF CROATIA
Ministry of Agriculture
Directorate of Fisheries

Annual report on balance between fishing capacity and fishing opportunities for 2019

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)

Zagreb, 2020

European Union

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Disclaimer:

This report contains preliminary landing and effort data for 2019 for the purpose of assessing balance between fishing capacity and fishing opportunities for 2019, therefore this data should not be considered as final landing statistics.

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. Croatia acceded to the EU on 1st July 2013, and started immediately applying the measures targeted to balancing of the fleet with resources in 2014. 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 is 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 and EMFF had an effect in 2015, 2016, 2017 and 2018 and resulted with a decrease of the ceiling capacity to 48.759,83 GT and 405.211,48 kW by the end of 2018. 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, for PS and DTS fleet segments. In 2016, 2017 and 2018 permanent cessation of fishing activities for PS and DTS segments continued under the EMFF, as was planned in the 2016 and 2017 fleet report action plans. It can be stated that fleet management measures in Croatia are a combination of the capacity management through permanent cessation activity funded by EFF and 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 regional and national legislation in force.

The figures listed in this report indicate the number of 7.829 vessels in 2019. The ceiling limit set in the Annex II of the Regulation (EU) No 1380/2013 includes also the total of 3.500 vessels within the small-scale fleet previously categorized as “for personal needs” included in the Fleet register pursuant to accession negotiations.

The licences in Croatia are issued for 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 specific circumstances.

1.1 Description of fleets

A. Developments in the fishing fleet

In 2019 Croatian fishing fleet consisted of 7.829 vessels of which 6.211 were active. Inactive vessels represented 20.7% of the total fleet registered in 2019.

Fleet capacity in terms of GT and kW continued to decrease in 2019 in terms of total vessel tonnage and power. In 2019, GT and kW were reduced by 2% and 1%, respectively, compared to 2018; and by 6% and 4%, respectively, compared to 2012-2018 average values.

B. Analysis of the fleet

The Croatian fishing fleet has a range of vessel types using various gears and targeting different species exclusively in FAO area 37.2.1. (Adriatic), in the GFCM-GSA 17 (Northern Adriatic Sea). The fleet consists of 23 (DCF) active fleet segments, which are divided into 10 small-scale coastal fleet (SSCF)[1] segments (DFN, FPO, HOK, PGP and PMP) and 13 large-scale fleet (LSF) segments (DFNVL1218, DRB, DTS, MGO and PS), and 5 inactive length classes, according to DCF methodology[2].

In 2019, majority of the entire fishing fleet (7.829 vessels) was composed of vessels with LoA less than 6 m (4.400 vessels, 56,2%) and vessels with LoA between 6 and 12 m (2.869 vessels, 36,65%). Only 560 vessels corresponding to 7,15% of the fleet was larger than 12 m LoA, including 345 vessels, or 4,41% with LoA between 12 and 18 m; 104 vessels, or 1,33% with LoA between 18 and 24 m and 111 vessels, 1,42% with LoA between 24 and 40 m.

Small-scale coastal fleet (SSCF) covered 85,8% (5.331) of active vessels and 2.3% of landed weight in 2019 (Table 1). Large-scale fleet (LSF), in total 880 vessels in 2019 represented 14,2% of active fleet, and landed 97,7% in weight and 83,7% in value. Majority of LSF in Croatia is constituted of high activity commercial purse seiners and demersal trawlers which are under a strict management regime. The number of LSF decreased by 2% between 2018 to 2019, and increased by 3% in SSCF.

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. A significant factor in the large-scale fleet reduction is scrapping of vessels.

Table 1. Overall fleet characteristics by fleet activity in 2019.

Fleet by fishing activity	Total no. vessels	Total GT	Total kW	Share in total fleet number, %	Share in days at sea, %	Share in landing weight, %	Share in landing value, %
LSF	880	23.223,02	127.581,13	14,2	35	97,7	83,7
SSCF	5.331	8.890,09	124.340,75	85,8	65	2,3	16,3

C. 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 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. This is the exact 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 the period 2016-2019. Characteristics of the PGP fleet segment in 2019, including the active small-scale vessels that entered the commercial fleet in 2015, are shown in Table 2.

[1] SSCF, small-scale coastal fleet, i.e. fishing vessels with an overall length under 12 metres and which do not use towed gear.
[2] Definitions and acronyms for DCF length classes and fleet segments can be found by navigating through the data collection website (https://datacollection.jrc.ec.europa.eu).

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 cannot be expected that they are economically viable, and the activity they have does not indicate a 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.

It should be noted that the PGP segment is broader and includes also vessels not falling into this particular category of vessels transferred from the non-commercial to commercial category, but also other "strictly" commercial vessels using the same gears. Number of the vessels in a ring-fenced category including those transferred from the non-commercial category is however 3544.

Table 2. Characteristics of PGP segment in 2019.

Fleet segment		Number of vessels	Total GT	Total kW	Share of vessels in active fleet, %	Share in effort (GT*Fish Days), %	Share in effort (kW*Fish Days), %	Share in total landing weight, %	Share in total landing value, %
PGP	VL0006	2.938	2.568,12	18.916,47	47,3	0,44	0,51	0,09	0,39
PGP	VL0612	833	1.926,78	19.096,69	13,4	0,41	0,65	0,05	0,36
PGP total		3.771	4.494,90	38.013,16	60,7	0,84	1,16	0,14	0,74

1.2 Link with fisheries

In 2019 the most important fleet segment in terms of share in landing weight was the purse seine segment (PS, 90,7% 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 over 6% share in landings weight and constitute 5,4% 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 96,8% share in landings and over 79% 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, 1.032 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 1,4% 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 around 11% of active fleet, but their share in landings is 1,2%. This is also due to the fact that these fleet segments are composed almost entirely of vessels less than 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 2019.

Fishing technique	Total GT	Total kW	No. vessels	Share in active fleet	Landing weight (tons)	Share in total landing weight	Landing value (million EUR)	Share in total landing value
DFN	2.961,24	50.816,55	1032	16,6%	941,49	1,4%	5,52	9,1%
DRB	461,24	4.409,06	28	0,5%	229,58	0,3%	0,99	1,6%
DTS	7.371,37	50.442,81	338	5,4%	4.261,73	6,1%	15,36	25,2%
FPO	360,00	7.375,69	160	2,6%	88,01	0,1%	0,97	1,6%
HOK	1.233,90	29.602,00	341	5,5%	331,20	0,5%	2,22	3,7%
MGO	470,11	9.448,22	327	5,3%	490,20	0,7%	2,47	4,1%
PGP	4.494,90	38.013,16	3771	60,7%	55,64	0,1%	0,27	0,4%
PMP	85,33	1.864,52	46	0,7%	57,82	0,1%	0,30	0,5%
PS	14.675,02	59.949,87	168	2,7%	62.945,42	90,7%	32,81	53,9%
TOTAL	**32.113,11**	**251.921,88**	**6.211**	**-**	**69.401,08**	**-**	**60,91**	**-**

Landings in 2019 included 129 species in total. The table below lists the most important ones in terms of quantity and value. In 2019, 5 species accounted for more than 90% in total landing, and 24 species for over 90% of landing value (Table 4). 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 (84% of total landing weight in 2019). Small pelagic species also constituted the most important species in terms of value, accounting for over 47% of total landing value. On the other hand, species targeted by demersal trawling, red mullet and hake, account for 1,2% and 1,8% respectively in terms of quantity, but 2,5% and 7,6% respectively in terms of the value.

Table 4. Species representing over 90% of Croatian landing weight and value in 2019.

Species	Species FAO code	Total landing weight (tons)	Share in total landing weight	Total landing value (million EUR)	Share in total landing value
Sardine	PIL	45.140,79	71,4%	20,05	34,6%
Anchovy	ANE	7.995,01	12,6%	7,26	12,5%
Hake	HKE	1.133,19	1,8%	4,41	7,6%
Norway lobster	NEP	266,12	0,4%	3,52	6,1%
Deep-water rose shrimp	DPS	714,80	1,1%	1,97	3,4%
Common sole	SOL	197,84	0,3%	1,63	2,8%
Red mullet	MUT	746,06	1,2%	1,44	2,5%
Common octopus	OCC	156,85	0,2%	1,24	2,1%
Gilthead seabream	SBG	122,56	0,2%	1,14	2,0%
Warty venus	VEV	77,38	0,1%	0,85	1,5%
Atlantic chub mackerel	VMA	2.114,15	3,3%	0,84	1,5%
John dory	JOD	41,81	0,1%	0,83	1,4%
Horned and musky octopuses	OCM	226,85	0,4%	0,81	1,4%
Bluefin tuna	BFT	71,78	0,1%	0,75	1,3%
Gurnards; searobins nei	GUX	117,78	0,2%	0,75	1,3%
Red scorpionfish	RSE	43,23	0,1%	0,75	1,3%
Jack and horse mackerels nei	JAX	1.566,26	2,5%	0,63	1,1%
European squid	SQR	59,29	0,1%	0,61	1,1%
Monkfishes nei	MNZ	93,28	0,1%	0,58	1,0%
Sea urchins, nei	URX	163,85	0,3%	0,57	1,0%
Common cuttlefish	CTC	89,67	0,1%	0,53	0,9%
Dentex dentex	DEC	19,05	0,0%	0,40	0,7%
Various squids nei	SQU	224,35	0,4%	0,38	0,6%
Common Spiny Lobster	SLO	7,59	0,0%	0,37	0,6%
Great Mediterranean scallop	SJA	37,08	0,1%	0,30	0,5%
OTHER		1.837,01	2,9%	5,39	9,3%
TOTAL		**63.263,64**	**-**	**58,01**	**-**

The most important fleet segment in terms of contribution to total landings is purse seiners from 24 to 40 meters LoA. This fleet segment accounted for 54,1% of landings in 2019. Overall, purse seine segments with over 90% of landing weight and over 50% of landing value in 2019 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 overall landing of sardine and anchovy by 11% in 2019 compared to 2018, and by 25% compared to baseline year 2014 (Table 5).

Table 5. Annual decrease in the landing (tons) of small pelagic species from 2014 to 2019.

Small pelagic species	Landing (tons)						Δ 2019 to 2018	Δ 2019 to avg. 14-18	Δ 2019 to 2014
	2014	2015	2016	2017	2018	2019			
Sardine	60.974,45	51.729,58	54.368,33	48.333,44	46.267,11	45.140,79	-2%	-14%	-26%
Anchovy	10.122,85	12.785,11	8.235,78	10.880,35	13.250,81	7.995,01	-40%	-28%	-21%
Σ	**71.097,30**	**64.514,69**	**62.604,11**	**59.213,79**	**59.517,92**	**53.135,81**	**-11%**	**-16%**	**-25%**
Share in total landing	89,5%	88,5%	86,6%	86,0%	85,8%	84,0%			

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, 1.032 active vessels or 16,6% of the main commercial fleet), while only 1,4% 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 673 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 around 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 6); 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.

Although more than 60% of the active fleet is made up of PGP vessels, in 2019 their contribution in both landing weight and value was less than 1%, in line with legal limitations on catch related to small-scale vessels for personal needs.

Out of 23 clustered fleet segments, 12 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) from 6 to 12 meters LoA, hooks and lines vessels (HOK) from 6 to 12 meters LoA, vessels using pots/traps (FPO) from 6 to 12 meters LoA and vessels with other active gears (MGO) less than 12 meters LoA.

Table 6. Characteristics of fleet segments in 2019 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 *(tonnes)*	Landing value *(million EUR)*	Days at sea	Fuel consumption (tonnes)	Landed weight per sea day *(kg/day)*	Landed value per sea day *(EUR/day)*	Days per vessel	Energy consumed per landed tonne *(l/tonne)*	Share of vessels in active fleet	Share in total landing weight	Share in total landing value	Share in total effort (kW Fish days)
PS	**VL2440**	10.270,00	36.598,40	62	34.219,19	17,24	10.105	4.961,07	3.386	1.707	163	145	1,0%	**54,1%**	**29,7%**	**23,5%**
PS	**VL1824**	3.463,68	15.006,00	41	16.314,96	8,58	6.633	2.017,47	2.460	1.293	162	124	0,7%	**25,8%**	**14,8%**	**9,8%**
DTS	**VL1218**	2.757,08	24.088,02	155	1.643,43	6,07	17.118	4.118,75	96	355	110	2.506	**2,5%**	**2,6%**	**10,5%**	**10,2%**
DTS	**VL1824**	2.188,00	8.096,50	29	1.084,73	4,36	5.097	3.063,77	213	856	176	2.824	0,5%	1,7%	**7,5%**	**5,8%**
DFN	**VL0612**	2.367,31	43.171,76	673	658,58	4,27	75.463	3.305,55	9	57	112	5.019	**10,8%**	1,0%	**7,4%**	**16,1%**
PS	**VL1218**	757,86	6.249,20	37	5.948,35	3,08	4.120	750,48	1.444	747	111	126	0,6%	**9,4%**	**5,3%**	**3,0%**
DTS	**VL0612**	1.194,29	14.103,29	145	809,16	2,85	13.396	1.683,65	60	213	92	2.081	**2,3%**	1,3%	**4,9%**	**5,2%**
DTS	**VL2440**	1.232,00	4.155,00	9	565,86	2,33	1.839	1.556,90	308	1.267	204	2.751	0,1%	0,9%	**4,0%**	**3,5%**
HOK	**VL0612**	1.143,78	27.854,09	250	314,16	2,24	18.376	1.880,02	17	122	74	5.984	**4,0%**	0,5%	**3,9%**	**7,3%**
MGO	**VL0006**	214,62	4.626,19	266	346,30	2,10	25.321	317,07	14	83	95	916	**4,3%**	0,5%	**3,6%**	1,6%
DFN	VL0006	348,65	4.313,62	340	214,60	1,12	36.157	291,19	6	31	106	1.357	**5,5%**	0,3%	1,9%	1,5%
FPO	VL0612	310,66	6.356,37	114	76,07	0,83	13.087	228,31	6	63	115	3.001	1,8%	0,1%	1,4%	**4,1%**
DRB	VL1218	369,67	3.121,34	16	124,73	0,58	1.717	384,14	73	337	107	3.080	0,3%	0,2%	1,0%	1,3%
MGO	VL0612	255,49	4.822,03	61	124,59	0,53	6.207	311,29	20	85	102	2.499	1,0%	0,2%	0,9%	**1,9%**
PS	VL0612	183,48	2.096,27	28	569,50	0,41	3.439	106,58	166	118	123	187	0,5%	0,9%	0,7%	1,0%
DRB	VL0612	91,57	1.287,72	12	43,79	0,25	1.131	141,13	39	222	94	3.223	0,2%	0,1%	0,4%	0,5%
PGP	VL0006	2.568,12	18.916,47	2.938	56,42	0,22	19.048	62,62	3	12	6	1.110	**47,3%**	0,1%	0,4%	0,5%
PGP	VL0612	1.926,78	19.096,69	833	31,44	0,21	6.407	167,76	5	33	8	5.337	**13,4%**	0,0%	0,4%	0,7%
PMP	VL0612	58,34	1.239,12	18	40,01	0,20	2.003	75,29	20	101	111	1.882	0,3%	0,1%	0,4%	0,6%
DFN	VL1218	245,28	3.331,17	19	27,87	0,19	1.404	78,31	20	138	74	2.810	0,3%	0,0%	0,3%	0,9%
FPO	VL0006	49,34	1.019,32	46	16,70	0,15	3.725	69,12	4	39	81	4.138	0,7%	0,0%	0,3%	0,6%
HOK	VL0006	90,12	1.747,91	91	21,71	0,13	4.531	74,94	5	30	50	3.453	1,5%	0,0%	0,2%	0,3%
PMP	VL0006	26,99	625,40	28	11,51	0,07	2.238	27,00	5	33	80	2.346	0,5%	0,0%	0,1%	0,2%
TOTAL		**32.113,11**	**251.921,88**	**6.211**	**63.263,64**	**58,01**	**278.562**	**25.672,40**	**227**	**208**	**45**	**406**				

Target species of selected fleet segments are presented in the table below (Table 7).

Compared to 2018 landing composition, there were no relevant changes in 2019, however overall landing of small pelagic fish in purse seine segments further notably decreased, mainly due to the decrease in the landing of sardine and anchovy by 11%, as a result of the management regime implemented pursuant to the provisions of the GFCM and national legal framework (Table 5).

In 2019, the majority of landings of purse seiners from 24 to 40 meters LoA included sardine (80,4%) and anchovy (13,1%) and similarly for purse seine vessels from 18 to 24m LoA, sardine (74,7%) and anchovy (17,4%). 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 18 to 40 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 hake, red mullet and Deep-water rose shrimp, while Norway lobster, European squid 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 (kW*Fishing days), has a total landing of 1% which contributes with 7,4% to total landing value. The main species targeted are common sole and a mixture of other demersal species (common sole, gilthead seabream, red scorpionfish, red mullet 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. In terms of hand gathering gears, sponges and red coral are traditionally collected.

HOK segment from 6 to 12 meters LoA in 2019 mainly targeted demersal fish such as hake and gurnards however vessels with Bluefin tuna and swordfish quota are also included in this segment.

Table 7. Target species of selected fleet segments in 2019.

Fleet segment (FS)		Target species	Species FAO code	Landing value *(million EUR)*	Share in total landing value of FS	Landing weight *(tonnes)*	Share in total landing of FS	Share in total landing
PS	**VL2440**	Sardine	PIL	12,22	70,9%	27.506,51	80,4%	60,9%
		Anchovy	ANE	4,06	23,6%	4.474,61	13,1%	56,0%
		Atlantic chub mackerel	VMA	0,47	2,7%	1.183,06	3,5%	56,0%
PS	**VL1824**	Sardine	PIL	5,41	63,1%	12.186,61	74,7%	27,0%
		Anchovy	ANE	2,58	30,1%	2.840,68	17,4%	35,5%
		Atlantic chub mackerel	VMA	0,30	3,4%	739,87	4,5%	35,0%
DTS	**VL1218**	Red mullet	MUT	0,78	12,9%	405,32	24,7%	54,3%
		Hake	HKE	1,46	24,1%	374,85	22,8%	33,1%
		Deep-water rose shrimp	DPS	0,46	7,6%	166,59	10,1%	23,3%
		Norway lobster	NEP	0,59	9,6%	44,23	2,7%	16,6%
		Horned and musky octopuses	OCM	0,45	7,4%	124,83	7,6%	55,0%
DTS	**VL1824**	Hake	HKE	1,12	25,8%	288,46	26,6%	25,5%
		Deep-water rose shrimp	DPS	0,87	20,0%	316,20	29,1%	44,2%
		Red mullet	MUT	0,19	4,4%	99,34	9,2%	13,3%
		Norway lobster	NEP	1,14	26,2%	86,29	8,0%	32,4%
		Various squids nei	SQU	0,13	3,1%	79,94	7,4%	35,6%
DFN	**VL0612**	Common sole	SOL	0,93	21,9%	113,65	17,3%	57,4%
		Gilthead seabream	SBG	0,53	12,5%	57,11	8,7%	46,6%
		Red scorpionfish	RSE	0,36	8,4%	20,93	3,2%	48,4%
		Hake	HKE	0,21	5,0%	54,44	8,3%	4,8%
PS	**VL0612**	Sardine	PIL	0,19	45,8%	417,37	73,3%	11,1%
		Anchovy	ANE	0,04	9,7%	43,18	7,6%	8,0%
		Atlantic bonito	BON	0,03	8,4%	9,93	1,7%	23,0%
		Mullets nei	MUL	0,02	6,0%	12,37	2,2%	11,3%
		Atlantic chub mackerel	VMA	0,01	3,3%	33,92	6,0%	6,0%
DTS	**VL0612**	Hake	HKE	0,61	21,3%	155,75	19,2%	13,7%
		Red mullet	MUT	0,35	12,2%	180,71	22,3%	24,2%
		Norway lobster	NEP	0,34	12,1%	25,99	3,2%	9,8%
		Horned and musky octopuses	OCM	0,22	7,6%	60,77	7,5%	26,8%
		Deep-water rose shrimp	DPS	0,11	4,0%	41,05	5,1%	5,7%
DTS	**VL2440**	Norway lobster	NEP	0,77	32,8%	57,81	10,2%	21,7%
		Deep-water rose shrimp	DPS	0,53	22,6%	190,48	33,7%	26,6%
		Hake	HKE	0,49	21,0%	125,82	22,2%	11,1%
		Monkfishes nei	MNZ	0,10	4,3%	16,31	2,9%	17,5%
		Red mullet	MUT	0,09	3,7%	44,24	7,8%	5,9%
HOK	**VL0612**	Bluefin tuna	BFT	0,74	32,9%	70,14	22,3%	97,7%
		Hake	HKE	0,37	16,7%	95,92	30,5%	8,5%
		Gurnards; searobins nei	GUX	0,28	12,3%	43,22	13,8%	36,7%
		Swordfish	SWO	0,25	11,2%	28,51	9,1%	85,2%
MGO	**VL0006**	Warty venus	VEV	0,72	34,3%	65,39	18,9%	84,5%
		Common octopus	OCC	0,39	18,8%	49,82	14,4%	31,8%
		Sea urchins, nei	URX	0,33	15,9%	96,08	27,7%	58,6%
		Gilthead seabream	SBG	0,12	5,7%	12,74	3,7%	10,4%

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 2019, 230 new vessels entered the fleet without public aid, with a total capacity of 525,91 GT and 5.067,70 kW. In the same year 215 vessels left the fleet with a total capacity of 694,87 GT and 7.453,06 kW.

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 2019 was set by the Regulation (EU) No 124/2019 and amounted to 862.79 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 843.8 tons. Total amount of catch in 2019 was 830.73 tons (98.5% of adjusted 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 124/2019 has set a total quota of 15,05 tons for 2019 for Croatia. After three quota swaps (+17,87 tons from Spain + 25 tons from Greece; and afterwards -10 tons back to Spain), the adjusted Croatian SWO quota was 47,9 tons for 2019. Total amount of catch in 2018 was 33,4 tons (70% of adjusted quota). Croatia applies approach of allocating individual quota per vessel for swordfish LL fishery, while swordfish HL fishery operates under the "Olympic" system with only the overall quota for the segment set.
- **Small pelagic species in Adriatic Sea**: in December 2016, for the first time, the Council set 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). Furthermore, the Recommendation GFCM/42/2018/8 set 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. This obligation was transposed into EU legislation by way of Regulation (EU) No 124/2019 (Annex IL) which has for 2019 set a maximum catch limit for sardine and anchovy in Adriatic for EU Member States to a level of 107.065 tons.

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 in the past. However, decreasing trend has been noted with regards to the price on the market of destination (Japan) which was partially compensated with the increase of the volume of production. 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 2019, a total of 16 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. The system of allocation of individual quota was changed in 2019 and should ensure stability for the fleet that met the criteria for a period of 10 years. Introduction of new vessels

into the Ps and HL commercial BFT fleet not depends on the total allocation on regional and subsequently national level. HL quota has been allocated to 12 hooks and line vessels. Total quota of 80 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 2019 has increased from 15 vessels in 2018 to 16 in 2019 in line with Recommendation 18-02, while the number of vessels using hook and line gears remained the same (12) in 2019 when compared to 2018.

Total Croatian BFT quota for 2019 was 862,79t and it was initially distributed among the fishing fleets as follows:

- 750t for PS fleet
- 80t to HL/LL fleet 5t to sport fishing
- 12,5t to recreational fishing
- 12,29t to bycatch

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 as such, therefore in the further analysis only 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 2019 was 57.927t (after receiving 42.877 tons from ES and EL through swap) and it was initially distributed among the fishing fleets as follows:

- commercial LL fleet (47.427)
- commercial HL fleet (6t)
- by-catch (2t)
- recreational fishing (2.5t)

Catches of SWO amounted to 33.4,90t in 2019 The total number of vessels authorised for LL MED SWO fishing was 21 and for HL Med SWO fishing 20.

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 2019 there were total of 170 vessels authorised for fishing with purse seine net for small pelagic stocks “srdelara” out of which 150 were active. In 2019, Croatian authorised fleet for purse seine net “srdelara” caught a total of 53.094,2 tonnes of sardine and anchovy which is 25% less than the catch of sardine and anchovy reported for 2014 (baseline year) and 11% less than catch of sardine and anchovy reported for 2018 (Table 8).

Table 8. Catch reduction in purse seine net “srdelara” in the period 2014-2019.

Small pelagic species	Catch in purse seine net "srdelara" *(tonnes)*						Δ 2019 to 2018	Δ 2019 to avg. 14-18	Δ 2019 to 2014
	2014	2015	2016	2017	2018	2019			
Sardine	61.011,47	51.743,06	54.339,44	48.400,47	46.238,73	45.099,00	-2%	-14%	-26%
Anchovy	10.127,28	12.788,92	8.232,34	10.875,09	13.239,52	7.995,19	-40%	-28%	-21%
Σ	**71.138,75**	**64.531,99**	**62.571,78**	**59.275,55**	**59.478,25**	**53.094,19**	**-11%**	**-16%**	**-25%**

1.5 Data collection and data validation

The monetary values of economic data for calculating economic indicators in this report are not adjusted for inflation. This is important in terms of comparing results of balance indicators in the framework of STECF working groups as the results may differ slightly.

In 2013, Croatia started implementing the DCF in line with the applicable rules. All fleet segments with major contribution to the total catch of the Croatian fleet have been sampled with satisfactory response rates. In 2018, response rate of the main commercial fleet was 40% and 5% of PGP vessels, allowing for a representative sample for the estimation of economic variables. Where possible, administrative sources were used to include data for all vessels (including energy consumption, energy costs and subsidies). However, subsidies on investments related to the decommissioning schemes are included in inactive segments, so they have no effect on the calculation of economic indicators.

Capacity, effort and landing data is collected for the entire fleet according to the Control Regulation and national legislation. Fishing reports are used for reporting on fishing activity for vessels below 12 meters LoA using passive gears. 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 reporting requirement.

Methodologies for estimation of value of unpaid labour, value of physical capital and consumption of fixed capital were improved to allow results that are more consistent over time series. As a result of these changes values and figures may differ from previous reports.

With regard to the 3 500 small-scale vessels which were transferred into the commercial SSCF in 2015, all these vessels fall under the polyvalent passive gears segment (PGP), however these fishers are not full-time engaged in fishery and most of them had very limited activity in 2015-2019. Therefore economic indicators for the PGP segment should be taken with caution.

Since 2018, all modifications on fishing vessels in the Fleet Register are automatically transmitted to the Union Vessel Register following FLUX procedures. For the purpose of real time monitoring and control of the fishing fleet, 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 VALID system became fully operational in October 2018 including alarms and notifications for immediate detection of discrepancies. The system is constantly upgraded and the set of alarms expanded.

In terms of data validation and quality, 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.). In addition, statistical crosscheck 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 and implemented.

During 2018 a full traceability system of fisheries products up until first sale was established and implemented in 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.

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 and 2019.

It needs to be stressed that in Croatia, there is an obligation of reporting entire catch and landing regardless of the vessels' length.

Mobile applications (mTransportDocument, mSalesNote, mCatchReport and mLogbook) are gradually being introduced since 2018, to facilitate reporting by the sector. After full implementation, the administrative burden of data entry into FIS should be significantly decreased hence more focus and resources will be dedicated to fleet monitoring and data validation. Plans for the future include installing sensors that notify when towing gear is in use as well as geo-locators for the passive gears.

Data validation process is presented in the flow chart below.

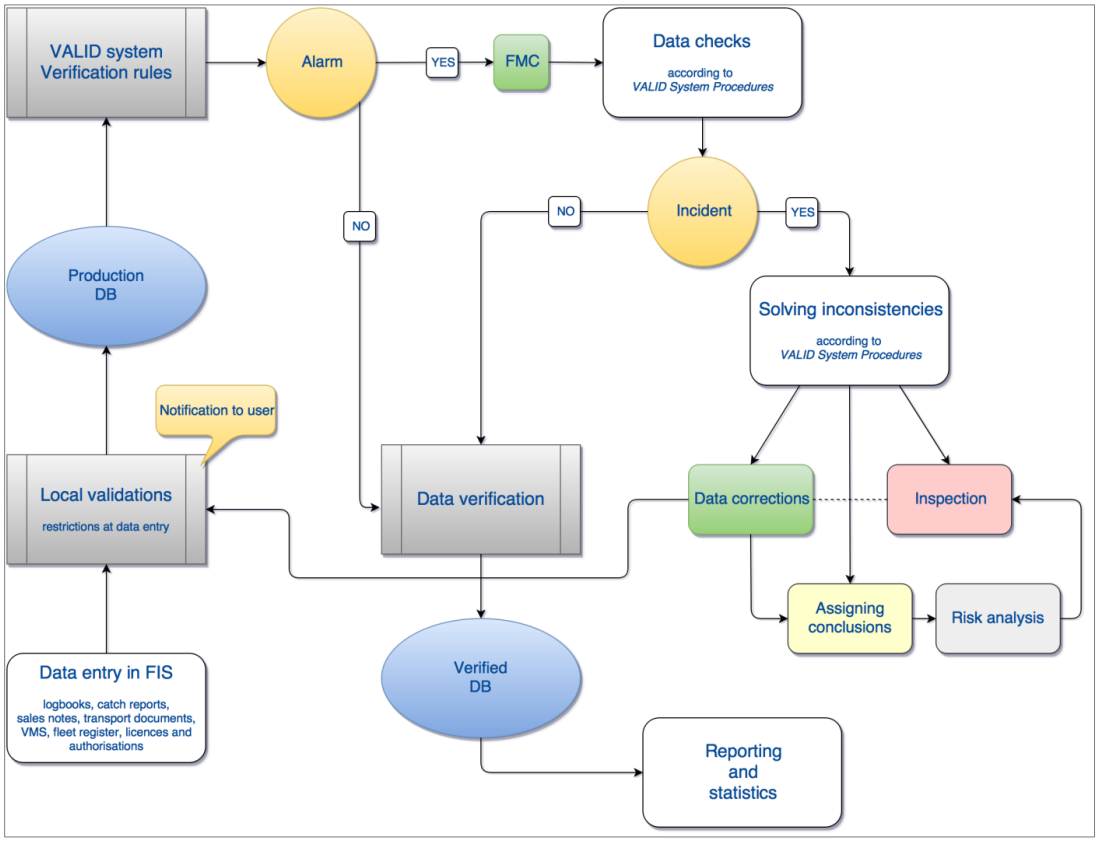

Chart 1. Flow chart of the FIS-VALID system (FMC – Fisheries Monitoring Centre).

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 as well as emergency measures pursuant to it 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 annual 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 2019 (as per provisions from 2018) spatial and temporal closures were implemented in this fishery.

On national level in 2019, temporal closures included a total of 91 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 30 May (targeting the spawning period of anchovy) – entire fleet targeting small pelagics, entire area, total of 30 days.
4. 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 91 days of closure for the entire PS fleet. In comparison to the GFCM management framework, this was 31 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 7 months in continuity. The effect of effort management was a 3% reduction in the number of fishing days in 2019 in the purse seine fleet compared to 2018, and 18% compared to 2014 (Table 9.1.).

Table 9.1. Effort reduction in the purse seine fleet (PS) during the period 2014-2019.

Fleet segment		Fishing days						Δ 2019 to avg. 14-18	Δ 2019 to 2018	Δ 2019 to 2014
		2014	2015	2016	2017	2018	2019			
PS	VL0612	3.469	3.046	2.728	2.934	3.007	3.169	4%	5%	-9%
	VL1218	4.976	4.210	4.190	3.908	4.053	3.874	-9%	-4%	-22%
	VL1824	8.526	6.723	7.891	7.609	6.674	6.455	-14%	-3%	-24%
	VL2440	11.289	10.128	12.085	11.283	10.022	9.694	-12%	-3%	-14%
Total		**28.260**	**24.107**	**26.894**	**25.734**	**23.756**	**23.192**	**-10%**	**-2%**	**-18%**

For bottom trawlers, in 2019 temporal closure was implemented in period from 16 September to 15 October (EMFF fund) (total of 30 days) in the fishing zones C and D and part of the fishing zone E. The effect of catch/effort management was a 7% reduction in the number of fishing days in 2019 in the DTS fleet compared to 2018 (Table 9.2.). As a result, in 2019 total catch of demersal species in the bottom trawl net was reduced by 2% compared to 2018, and by 9% compared to 2015 (Table 9.3.)

Table 9.2. Effort reduction in the DTS fleet during the period 2014-2019.

Fleet segment		Fishing days						Δ 2019 to avg. 15-18	Δ 2019 to 2018	Δ 2019 to 2015
		2014	2015	2016	2017	2018	2019			
DTS	VL0612	14.412	13.842	12.235	15.154	13.362	12.290	-10%	-8%	-11%
	VL1218	16.847	16.761	16.346	17.027	17.659	15.736	-7%	-11%	-6%
	VL1824	5.343	4.370	4.887	4.556	4.207	4.649	3%	11%	6%
	VL2440	2.927	3.019	2.303	2.089	1.737	1.731	-24%	0%	-43%
Total		**39.529**	**37.992**	**35.771**	**38.826**	**36.965**	**34.406**	**-8%**	**-7%**	**-9%**

Table 9.3. Catch reduction in bottom trawl net in the period 2014-2019.

Demersal species	Catch in bottom trawl net (OTB) (tonnes)						Δ 2019 to avg. 15-18	Δ 2019 to 2018	Δ 2019 to 2015
	2014	2015	2016	2017	2018	2019			
Total catch	4.782,4	4.361,6	3.988,5	4.224,5	4.020,4	3.957,7	**-5%**	**-2%**	**-9%**

It is important to note that in 2019, a Recommendation GFCM/43/2019/5 on a multiannual management plan for sustainable demersal fisheries in the Adriatic Sea (geographical subareas 17 and 18) was adopted. This Recommendation includes a comprehensive set of management measures aiming at achieving sustainable demersal fishing activities in the Adriatic Sea. Among other, the Recommendation sets a transitional effort regime imposing an obligation to decrease the effort proportionally to the contribution of a certain country to the total effort in the reference year in the area by the gear group, as reported through GFCM Data Collection Reference Framework (DCRF) Task V-2. This provision is transposed into the EU acquis by way of Regulation (EU) 2019/2236 which sets an overall quota of days for Croatia for 2020 to a total of 39.257. It should be noted here that some methodological differences exist in calculation and presentation of fishing days according to DCF and DCRF.

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/Pomo Pit for a three-year period (ending on 31 December 2020) pursuant to Recommendation GFCM/41/2017/3. This FRA area includes a no-take zone (zona A, Figure 1) where all types of commercial bottom fisheries (bottom trawls, bottom set nets, traps, set longlines) as well as recreational fishery are forbidden and zones with a restricted management of fishing activities for HR an IT fleets (zone B and C, Figure 1). In addition, Recommendation GFCM/42/2018/8, starting from 2019, prohibits fishing activities with purse seines for small pelagics in Jabuka/Pomo Pit area. The FRA area has been further strengthened within the Recommendation GFCM/43/2019/5 which contains a provision that prevents the automatic re-opening of the area after 31 December 2020 in the absence of an adequate FRA regulation, but rather expands the no-take zone to the entire FRA area.

For the purpose of managing of resources in line with the provisions of the Council Regulation (EC) No 1967/2006, national management plans were adopted for purse seines and trawl nets in 2014, and PS MP was revised in 2017. At the same time management plans for the shore seines and small purse seines are approved with approval of derogations in October 2018. 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.

Croatia is implementing the National program for control, monitoring and surveillance of the GFCM management plans. 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 crosschecked with electronic logbook and sales notes data. The inspection was notified immediately upon reaching monthly and annual effort limits. 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 continuously from 2016 to 2019 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 pelagic species in the Adriatic limits 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 comparison 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 (Table 10).

The ceiling in 2019 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
31 Dec 2019	48.759,83	405.211,48	None	8,77 % GT 4,48 % kW	None

PCFA - Permanent cessation of fishing activities

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, 2017 and 2018, 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 2018. 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 2014, two management plans were adopted, 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 also contributed to achievement of positive result in terms of fleet management. The impact of capacity reduction through permanent cessation scheme and authorisation process can clearly be observed in effort reduction for PS and DTS segments and overall catch of these segments as a consequence.

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 structure of Croatian fleet, 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, close 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 pelagic 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/Pomo 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. This is the first FRA area in the Adriatic and an important measure for demersal fishery which will have significant impact on the fleets. Croatia believes that the bottom-up approach used for establishing the FRA area in Jabuka/Pomo Pit represents an excellent example of efficient management coordinated at all levels – scientific, sectorial and administrative and should be applied as such in all future efforts of establishing FRA area in the Adriatic and elsewhere.

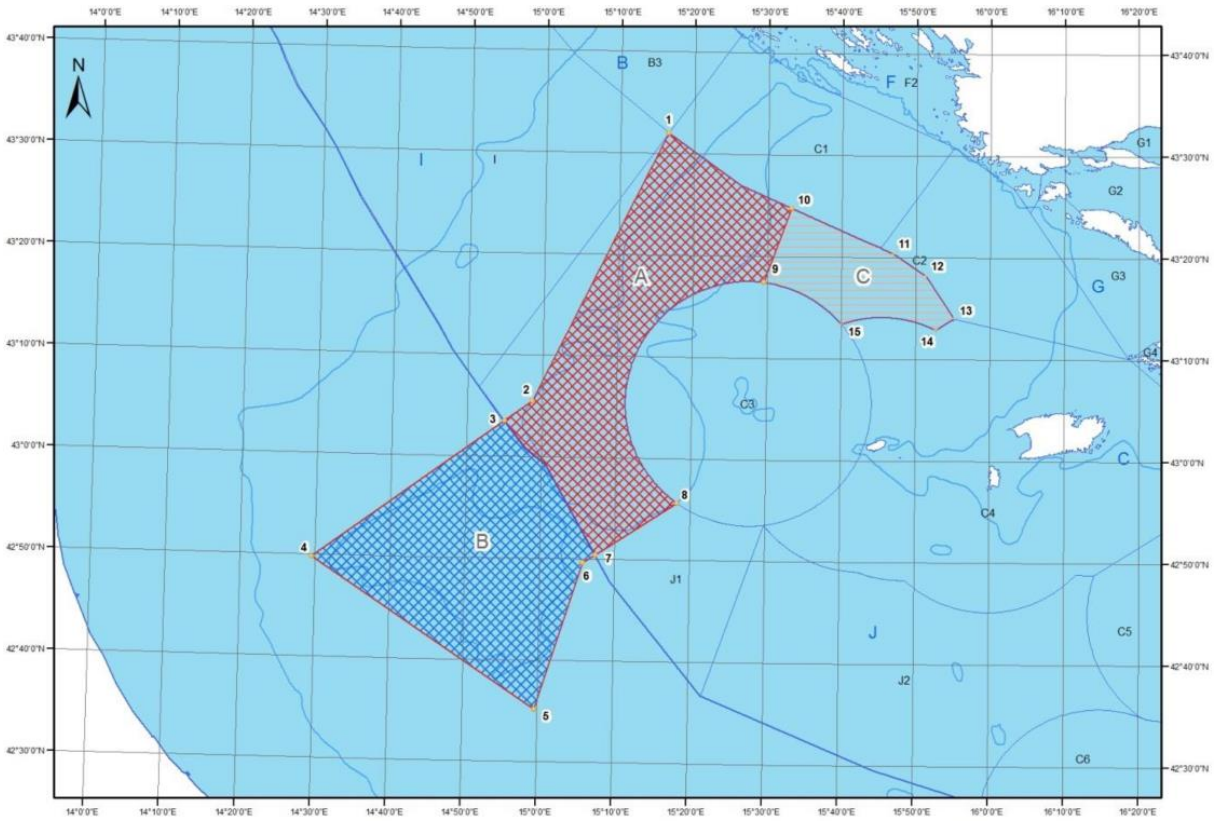

Figure 1. Jabuka/Pomo Pit FRA (1:750.000) (Recommendation GFCM/41/2017/3 and OG 106/2019).

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 (OG 116/2017, 29/2018, 75/2018 and 38/2019) as well as Fleet register and entry-exit provisions (OG 5/2019) have been adopted . In administrative sense, the provisions of these two instruments constitute the key framework for fleet management. The Act and the Ordinances 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 2019 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. In the table below are listed specific authorisations valid in 2019.

Table 11. Specific authorisations valid in 2019.

Type of authorisation		Number in 2019	Active in 2019
Authorisations issued by gear type in accordance with relevant national management plans	Demersal trawl	351	317
	Purse seine net "srdelara"	170	150
	Purse seine net "ciplarica"	36	24
	Purse seine net "igličara"	5	3
	Purse seine net "oližnica"	12	4
	Purse seine net "palamidara"	31	20
	Purse seine net "lokardara"	40	10
	Seine net "girarica"	13	8
	Seine net "migavica"	52	45
	Seine net "šabakun"	16	15
	Seine net "oližnica"	5	4
Authorisations issued by vessel/gear type according to individual quota allocation	Blefin tuna purse seine (PS) vessels	16	16
	Blefin tuna hook and line (HL) vessels	12	12
	Swordfish hook and line (HL) vessels	20	11
	Swordfish drifting longline (LL) vessels	21	14
Authorisations issued by vessel/gear type in fisheries restricted area (FRA)	Demersal trawlers in Jabuka (Pomo) Pit	51	49
	Set longliners in Jabuka (Pomo) Pit	12	12
Other authorisations	Small-scale vessels for personal needs (specific category)	3.3544	2.307
	Coral vessels	51	14

**"Number in 2019" refers to authorizations valid in 2019. "Active in 2019" are determined according to the use of respective gears (at least one fishing day in 2019).*

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. Ares(2020)316179 - 17/01/2020) in 2020 for the period 2012-2019.

Technical indicators were calculated for the time period 2012-2019. For 2019, technical indicators were calculated for 28 clustered fleet segments out of which 23 were active and 5 were inactive segments. Economic indicators were calculated for the period 2012-2018 for 23 main (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 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. For certain fleet segments 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, these vessels do not participate in catches and landings in real percentages even in relative terms, and hence the results of the indicators should be interpreted with caution in terms of assessment of balance status.

6.1 Technical indicators

The Inactive Vessel Indicator

The Inactive Vessel Indicator was calculated for five fleet segments for the period 2012-2019 (Table 12). The results of the Inactive Vessel Indicator show that the number of inactive vessels has further decreased in 2019 and amounted to 20,7%. Most of these vessels are shorter than 12 meters (687 vessels in VL0006 and 750 in VL0612), while only a small percentage of the large scale fleet was inactive (2,3%). 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 of vessels up to 12 LOA, which had the highest percentage of inactive vessels in 2019 (18,4% in number), was most affected with inclusion of small scale vessels previously categorised for personal needs. This decrease is a result of gradual issuing licenses for small-scale vessels for personal needs that progressed since 2015 enabling gradual activation of these vessels.

The overall Inactive Vessel Indicator needs to be considered against the applicable rules and technical measures in Croatia. 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 for maintaining it. 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.

Gradual decreasing trend since 2015 can be observed for SSCF segments due to the activation of a specific category of small-scale vessels for personal needs (previously "subsistence" vessels) in the PGP fleet segment while LSF segments show no significant trends. Therefore the potential threat to delay or hamper the measures of bringing capacity in line with the available fishing opportunities is minimal.

Table 12. Inactive Vessel Indicator in 2012-2019.
Proportion of inactive vessels to the total HRV fleet; provided as % in number, % in engine power (kW) and % in gross tonnage (GT).
Values > 20% highlighted red (as according to the 2014 Balance Indicator Guidelines)

Fleet segment		Number of vessels								No. inactive vessels as % of total vessels							
		2012	2013	2014	2015	2016	2017	2018	2019	2012	2013	2014	2015	2016	2017	2018	2019
INA	VL0006	648	700	754	1781	974	944	690	687	15,4	16,1	17,2	22,7	12,6	11,3	8,9	8,8
INA	VL0612	602	679	732	3062	1262	1177	790	750	14,3	15,6	16,7	39,0	16,3	14,1	10,2	9,6
INA	VL1218	90	96	107	105	111	104	104	108	2,1	2,2	2,4	1,3	1,4	1,2	1,3	1,4
INA	VL1824	25	32	33	35	35	35	40	34	0,6	0,7	0,8	0,4	0,5	0,4	0,5	0,4
INA	VL2440	38	44	43	43	40	37	44	39	0,9	1,0	1,0	0,5	0,5	0,4	0,6	0,5
Total		1403	1551	1669	5026	2422	2297	1668	1618	33,3	35,6	38,1	64,0	31,3	27,5	21,6	20,7

Fleet segment		Inactive kW as % of fleet kW								Inactive GT as % of fleet GT							
		2012	2013	2014	2015	2016	2017	2018	2019	2012	2013	2014	2015	2016	2017	2018	2019
INA	VL0006	2,5	2,5	2,8	7,0	3,9	3,7	2,5	2,5	1,5	1,5	1,7	4,4	2,2	2,1	1,5	1,5
INA	VL0612	12,7	14,0	14,4	25,9	18,0	18,1	14,6	14,7	5,1	5,6	5,9	16,0	8,6	8,4	6,5	6,3
INA	VL1218	3,8	4,0	4,4	3,4	4,2	3,8	4,4	4,9	3,6	3,7	4,1	3,6	4,3	3,9	4,2	4,5
INA	VL1824	1,7	2,0	2,1	1,8	2,0	2,0	2,6	2,1	2,9	3,5	3,6	3,4	3,5	3,6	4,7	3,8
INA	VL2440	5,8	6,3	6,1	4,7	4,6	4,3	5,7	5,0	13,8	15,2	14,7	11,9	11,9	11,2	13,9	12,8
Total		26,5	28,8	29,9	42,7	32,8	31,9	29,7	29,2	26,9	29,5	30,0	39,2	30,5	29,2	30,7	29,0

The Vessel Utilization Indicator

The vessel utilisation indicators (VUR and VUR2020) shown in Tables 13 were calculated using maximum observed days for each clustered fleet segment (VUR) and theoretical maximum days (VUR220). 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.

VUR was calculated for 23 clustered fleet segments in 2019, of which:

- 6 appear to be in balance, of which 2 are segments 0 – 12 m in length and 4 are segments above 12 metres LOA,
- 17 appear not to be in balance, of which 13 are segments 0 – 12 m in length and only 4 above 12 metres LOA.

Trends were calculated for 23 segments, of which:

- 1 displayed an increasing trend,
- 2 displayed a declining trend,
- 14 displayed no significant trend,
- 6 displayed flat/null trend.

VUR2020 was calculated for 23 clustered fleet segments in 2019, of which:

- 4 appear to be in balance, all of which are above 18 metres LOA,
- 19 appear not to be in balance, of which 15 are segments 0 – 12 m in length and only 4 above 12 metres LOA.

Trends were calculated for 23 segments, of which:

- 1 displayed a declining trend,

- 19 displayed no significant trend,
- 3 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 pelagic species. Regarding DTS segments situation is stable with slight improvement 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 vessel 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 13.1. Vessel utilisation ratio (VUR) calculated using observed maximum sea days on a vessel level for the period 2012-2019.

VUR calculated as: average days at sea per vessel / maximum days at sea at fleet segment level
Traffic light system: 0.7< red; 0.7 ≥ yellow > 0.9; ≥ 0.9 green ≥ 0.9
Trend analysed for the period 2012-2019, 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 Utilization Ratio (VUR)								No vessels 2019	Trend 2019	Trend 2012-2019	Status 2019
		2012	2013	2014	2015	2016	2017	2018	2019				
DFN	VL0006	0,30	0,31	0,31	0,29	0,28	0,33	0,32	0,32	340	flat/null trend		out of balance
DFN	VL0612	0,32	0,32	0,32	0,33	0,32	0,33	0,34	0,36	673	flat/null trend		out of balance
DFN	VL1218	0,56	0,61	0,66	0,63	0,74	0,69	0,64	0,64	19	no significant trend		out of balance
DRB	VL0612	1,00	0,79	0,80	0,71	0,67	0,84	0,83	0,86	12	no significant trend		in balance
DRB	VL1218	0,93	0,75	0,82	0,69	0,66	0,71	0,71	0,79	16	no significant trend		in balance
DTS	VL0612	0,41	0,40	0,41	0,40	0,42	0,46	0,44	0,43	145	no significant trend		out of balance
DTS	VL1218	0,41	0,42	0,41	0,45	0,45	0,48	0,51	0,51	155	no significant trend		out of balance
DTS	VL1824	0,57	0,63	0,66	0,61	0,65	0,66	0,63	0,69	29	no significant trend		out of balance
DTS	VL2440	0,66	0,74	0,77	0,77	0,80	0,83	1,00	1,00	9	increasing		in balance
FPO	VL0006	0,53	0,52	0,50	0,48	0,43	0,46	0,46	0,50	46	no significant trend		out of balance
FPO	VL0612	0,47	0,38	0,47	0,48	0,46	0,49	0,47	0,44	114	flat/null trend		out of balance
HOK	VL0006	0,38	0,27	0,32	0,29	0,33	0,33	0,30	0,33	91	flat/null trend		out of balance
HOK	VL0612	0,33	0,30	0,34	0,35	0,37	0,36	0,33	0,28	250	flat/null trend		out of balance
MGO	VL0006	0,27	0,29	0,29	0,26	0,28	0,28	0,28	0,29	266	flat/null trend		out of balance
MGO	VL0612	0,44	0,45	0,48	0,47	0,44	0,43	0,41	0,40	61	no significant trend		out of balance
PGP	VL0006	1,65	0,81	0,77	0,25	0,01	0,01	0,03	0,04	2938	decreasing		out of balance
PGP	VL0612	0,58	0,54	0,54	0,27	0,05	0,03	0,05	0,05	833	decreasing		out of balance
PMP	VL0006	0,43	0,47	0,59	0,49	0,47	0,48	0,51	0,59	28	no significant trend		out of balance
PMP	VL0612	0,41	0,49	0,48	0,52	0,50	0,65	0,57	0,75	18	no significant trend		in balance
PS	VL0612	0,48	0,52	0,52	0,58	0,54	0,52	0,60	0,61	28	no significant trend		out of balance
PS	VL1218	0,59	0,59	0,61	0,67	0,62	0,68	0,67	0,61	37	no significant trend		out of balance
PS	VL1824	0,64	0,67	0,73	0,76	0,81	0,76	0,81	0,81	41	no significant trend		in balance
PS	VL2440	0,67	0,73	0,76	0,83	0,84	0,75	0,83	0,79	62	no significant trend		in balance

Table 13.2. Vessel utilisation ratio (VUR220) calculated using 220 days on a vessel level for the period 2012-2019.

VUR220 calculated as: average days at sea per vessel / 220
Traffic light system: 0.7< red; 0.7 ≥ yellow > 0.9; ≥ 0.9 green ≥ 0.9
Trend analysed for the period 2012-2019, 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 Utilization Ratio - 220 (VUR220)								No vessels 2019	Trend 2019	Trend 2012-2019	Status 2019
		2012	2013	2014	2015	2016	2017	2018	2019				
DFN	VL0006	0,36	0,37	0,38	0,37	0,36	0,39	0,43	0,48	340	no significant trend		out of balance
DFN	VL0612	0,41	0,41	0,43	0,43	0,41	0,43	0,49	0,51	673	no significant trend		out of balance
DFN	VL1218	0,25	0,24	0,24	0,27	0,25	0,33	0,27	0,34	19	no significant trend		out of balance
DRB	VL0612	0,48	0,42	0,45	0,50	0,40	0,46	0,46	0,43	12	flat/null trend		out of balance
DRB	VL1218	0,46	0,46	0,61	0,61	0,53	0,54	0,48	0,49	16	flat/null trend		out of balance
DTS	VL0612	0,36	0,35	0,38	0,39	0,39	0,45	0,44	0,42	145	no significant trend		out of balance
DTS	VL1218	0,40	0,41	0,43	0,44	0,45	0,50	0,55	0,50	155	no significant trend		out of balance
DTS	VL1824	0,57	0,68	0,69	0,61	0,74	0,75	0,75	0,80	29	no significant trend		in balance
DTS	VL2440	0,73	0,92	0,93	0,93	0,84	0,78	0,96	0,93	9	no significant trend		in balance
FPO	VL0006	0,31	0,32	0,31	0,33	0,31	0,33	0,35	0,37	46	no significant trend		out of balance
FPO	VL0612	0,38	0,41	0,41	0,43	0,38	0,43	0,52	0,52	114	no significant trend		out of balance
HOK	VL0006	0,20	0,18	0,20	0,19	0,20	0,21	0,20	0,23	91	flat/null trend		out of balance
HOK	VL0612	0,28	0,27	0,27	0,25	0,28	0,30	0,32	0,33	250	no significant trend		out of balance
MGO	VL0006	0,26	0,29	0,29	0,32	0,33	0,32	0,37	0,43	266	no significant trend		out of balance
MGO	VL0612	0,34	0,37	0,42	0,42	0,38	0,42	0,41	0,46	61	no significant trend		out of balance
PGP	VL0006	0,23	0,27	0,23	0,11	0,01	0,01	0,02	0,03	2938	no significant trend		out of balance
PGP	VL0612	0,35	0,37	0,31	0,22	0,03	0,02	0,03	0,03	833	decreasing		out of balance
PMP	VL0006	0,26	0,31	0,37	0,23	0,28	0,24	0,36	0,36	28	no significant trend		out of balance
PMP	VL0612	0,34	0,41	0,37	0,30	0,36	0,43	0,41	0,51	18	no significant trend		out of balance
PS	VL0612	0,39	0,50	0,45	0,42	0,42	0,44	0,56	0,56	28	no significant trend		out of balance
PS	VL1218	0,65	0,65	0,66	0,60	0,58	0,59	0,58	0,51	37	no significant trend		out of balance
PS	VL1824	0,74	0,77	0,85	0,70	0,80	0,73	0,73	0,74	41	no significant trend		in balance
PS	VL2440	0,77	0,86	0,86	0,77	0,82	0,72	0,76	0,74	62	no significant trend		in balance

6.2 Biological indicators

Status of priority species

According stock status indicated in the GFCM SAC 2019 and STECF EWG 17-15 (part 1), sardine in GSA 17-18 is overexploited, while anchovy is in overexploitation, hence for both stocks it is advised to reduce fishing mortality.

With the exception of common cuttlefish which is being sustainably exploited (taking into account some uncertainties in stock assessment results), all priority demersal species are in overexploitation and it is advised to reduce fishing mortality (GFCM SAC 2019 and STECF EWG 19-16). On the level of GFCM SAC in previous years, following scientific advice regarding hake, it was suggested to implement measures to reduce the mortality of large spawners, for example by limiting effort or catches from longlines or gillnet fisheries, complementary measures to the advice already provided by the SAC in 2017 and 2018 on the implementation of measures to protect juveniles of hake, such as the improvement of selectivity or the establishment of FRAs in nursery areas (GFCM SAC 2019 Report). Following establishment of Jabuka/Pomo Pit FRA, according to recent years' monitoring programmes sampling data, including MEDITS and FAO AdriaMed FRA JABUKA/POMO surveys, it is evident that these measures have already yielded positive results in increased abundance and size of many priority species within the FRA. Specifically, for hake is indicated a decrease of F_{curr}/F_{msy}.

Sustainable Harvest Indicator

The most recent estimates of Fcurrent and Fmsy (or its proxy F0.1) relevant for GSA 17 were extracted from the relevant STECF or GFCM reports as indicated in Annex I.B. The following priority stocks were considered:

- small pelagic species: *Sardina pilchardus* (PIL) and *Engraulis encrasicolus* (ANE),
- demersal species: *Mullus barbatus* (MUT), *Sepia officinalis* (CTC), *Parapenaeus longirostris* (DPS), *Merluccius merluccius* (HKE), *Squilla mantis* (MTS), *Nephrops norvegicus* (NEP) and *Solea solea* (SOL).

Indicators were calculated for all segments based on the available assessment (Annex I.B). According to the criteria in the 2014 Balance Indicator Guidelines, the SHI indicator values for 10 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

Results for 13 segments for which assessed species count for more than 40% of landing value are presented in the Table 14. As this indicator depends on the stock assessment results, 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 14. Overview of available and significant SHI per fleet segment for the period 2012-2018.
SHI ≥ 1 'out of balance'; SHI < 1 'in balance' (as according to the 2014 Balance Indicator Guidelines)

Fleet segment		SHI							Share in FS landing value in 2018, %	Status 2018
		2012	2013	2014	2015	2016	2017	2018		
DFN	VL1218	-	3,70	2,50	2,50	0,6	1,34	1,47	51,4	out of balance
DRB	VL0612	-	-	-	-	-	0,96	1,02	40,6	in balance
DRB	VL1218	-	-	-	-	-	0,74	0,78	33,4	in balance
DTS	VL0612	-	-	-	-	0,33	1,13	1,03	41,5	out of balance
DTS	VL1218	4,80	4,40	3,30	3,20	0,93	1,18	1,29	47,2	out of balance
DTS	VL1824	4,60	4,50	3,30	3,30	0,50	1,71	2,14	74,9	out of balance
DTS	VL2440	-	4,80	3,40	3,30	0,44	1,67	2,13	74,6	out of balance
FPO	VL0006	-	-	-	-	-	0,88	0,92	58,7	in balance
FPO	VL0612	-	-	-	-	-	1,20	1,24	77,7	out of balance
PS	VL0612	-	-	-	-	-	0,69	0,70	46,3	in balance
PS	VL1218	3,40	2,30	2,30	2,20	2,40	1,40	1,42	91,4	out of balance
PS	VL1824	3,30	2,30	2,30	2,20	2,40	1,45	1,46	95,0	out of balance
PS	VL2440	3,30	2,30	2,30	2,20	2,40	1,50	1,51	95,9	out of balance

Purse seiners above 12 m LoA continue to show imbalances since they are highly dependent on only two stocks, 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 pelagic species in GSA 17 and 18, Croatia believes that PS segments above 12 m LoA need to be addressed in terms of imbalance with available resources. However, this is not the case for smaller purse seiners below 12 m LoA, which use nets with a larger mesh size and are specialized to target other species, like Atlantic bonito or Mullets.

The indicated imbalance of all DTS segments is connected with the overexploitation status of all priority demersal species, similarly to imbalance status of DFN segment from 12 to 18 m LoA.

Although share of landing value for other segments is below 40%, DRB segment from 12 to 18 m LoA, which has a 33% contribution of assessed species in the fleet segment landing value, can also be considered as balanced having SHI 0,78. In turn, although DRB segment from 6 to 12 m LoA has a borderline SHI for 2018, the status is assessed in line with the 2017 balance status.

Taking into account the above, 4 segments are considered to be in balance and 9 segments are considered to be out of balance according to the results of the SHI, 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 2012-2018 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 2018, the economic performance of the overall fleet improved compared to previous years. Total revenue estimated at EUR 86.6 million has increased by 6% compared to 2017 and 24% compared to 2012-2017 average. The major factor for the positive trend is higher revenues from landing income (+7% compared to 2018) and an increase in income from other sources which has more than tripled since 2016 and represents 28% of all income in 2018. The total amount of gross value added and gross profit in comparison to 2017 in 2018 increased by 6% (EUR 51.4 million) and by 5% (EUR 24.2 million), respectively, while net profit increased by +312% (EUR 3.8 million).

Total expenditures increased in 2018 by 3% compared to 2017 and amounted to EUR 81.3 million in 2018, with the change in the cost structure where a decrease in consumption of fixed capital by 8% can be observed, and an increase of energy and repair and maintenance costs by 9% and 25%, respectively. Increased energy costs are a result of higher fuel prices in 2018, from EUR 0.56 per litre in 2017 to EUR 0.63 per litre in 2018, as energy consumption has decreased in 2018 by 3% as well. As in previous years, personnel costs have the highest share of 29% and followed by energy costs with 20% of all costs.

The value of physical capital continued a decreasing trend which started in 2015. In 2018, estimated (depreciated) replacement value has decreased by 8% compared to previous year with an increase of 1% in SSCF and a reduction of 12% in LSF. Investments increased by 61% in 2018 compared to 2017 and by 68% compared to the 2012-2017 average.

The overall landing has been gradually decreasing since 2014 due to management measures in the Adriatic Sea. Compared to 2014 when it has been at its highest, landings decreased by 13% to 69.4 thousand tonnes of landed seafood products in 2018, while landed value has decreased by only 3% amounting to EUR 59.6 million in 2018. Similar trend is continued in 2019, as volume of products landed further decreased below 65 thousand tonnes and the value of landings amounted to EUR 58 million. More than 110 species are caught commercially in Croatia as is typical of multispecies fisheries. However, small pelagic species targeted in purse seine fisheries, of which sardine and anchovy are most important, by far dominate the overall catch structure and accounted for almost 86% of total volume and over 50% total value of products landed in 2018. Higher value species targeted by demersal fisheries, red mullet, Norway lobster, deep-water rose shrimp and European hake, account for 3.4% in terms of quantity and 18.6% in terms of the value. Prices obtained for the key species targeted by the fleet generally remain stable in the period 2012-2018. Slight annual variations of the prices are mostly resulting from changes in volume of landings over the period.

Purse seiners from 24 to 40 meters LoA contributed for the majority of landed weight and value in 2018, 55% and 32% respectively. Overall, purse seine segments amount to over 90% of volume of products landed.

In 2018 average landed price of 1.37 EUR/kg increased by 3% compared to 2017 and by 8% compared to average in the period 2012-2017. Preliminary results indicate a further increase of 13% in average fish price to 1.56 EUR/kg in 2019. Of the top six commercially most important species Norway lobster and Common sole had the highest prices (14.1 and 8.1 EUR/kg, respectively) in 2018, while sardine and anchovy were sold at relatively low prices (0.4 and 0.8 EUR /kg, respectively). A high influence on fish prices of small pelagic species has the product destination. As Croatia is a Bluefin tuna farming country, a large quantity of small pelagic fish landed on the landing sites is designated for tuna feeding. The small pelagic fish intended for tuna feeding are declared with low prices in the sales notes. These low prices have a minimizing effect on the average price of small pelagic fish.

The most important operational costs are personnel costs followed by energy costs. The cost structure is stable in the period 2012-2018 and is dominated by personnel and energy costs. In 2018, share of energy costs of 20% remained stable compared to the average in the period 2012-2017. At the same time share of personnel costs increased to 29%, compared to 24% average value in the period 2012-2017 which is line with trend of increase of average wage. Other costs such as repair and maintenance, unpaid labour and other variable costs have been stable over period accounting for 7%, 4% and 9%, respectively, in 2018. The average fuel price in 2018 was higher than in 2017. The increasing trend of the fuel price had a direct impact on energy costs and profitability in some typical fuel intensive fleet segments as demersal trawlers. Personnel costs increased with the value of landings both in LSC and SSCF, by 1% and 31%, respectively, in relation to 2017.

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. 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 pelagic species 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 2018, showing slow but steady progress in achieving balance.

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

For the 23 clustered fleet segments in 2018 CR/BER (short-term return) indicates that for:

- 15 fleet segments values are over threshold; and
- 8 fleet segments values are below threshold.

An increasing trend for CR/BER was assessed for 18 fleet segments while a decreasing trend was observed for 3 segments. No significant trend is observed for 2 segments.

RoFTA (long-term return) indicates that for:

- 11 fleet segments values are out of balance;
- 5 fleet segments values are not sufficiently profitable; and
- 7 fleet segments are in balance.

An increasing trend for RoFTA was assessed for 21 fleet segments while a decreasing trend was observed for 2 segments.

Most segments in 2018 showed improved economic development trend compared to 2017. Based on the net profit margin, 5 fleet segments showed high profitability, 2 a reasonable profitability and 16 a weak profitability. The results of CR/BER and RoFTA analysis indicate coherent results. However, for several segments (DRB VL0612, FPO VL0006) CR/BER and RoFTA indicate weak profitability and a deteriorated economic development trend. This is mostly due to insufficiently generated net profit, in addition to relatively high estimated replacement values of the vessel. In addition, these segments have a high share of income of other sources (such as agriculture, tourism, transport etc.) which is not included in the estimation of economic indicators.
According to the results, in 2017 and 2018 an overall improvement compared to the previous period is evident. The most stable segments of the period are DFN, FPO VL0612, HOK VL0612 and MGO VL0006, while DRB VL0612, DTS and PS segments above 12 m LoA show slightly weaker results. For PGP and PMP segments, economic indicators are not reliable in assessing balance.

Table 15.1. Current revenue to break-even revenue ratio (CR/BER) (Short-term) for 2012-2018.

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 2018): green ≥1; red < 1.0; (negative values highlighted in dark red) (according to the 2014 Balance Indicator Guidelines)
Trend analysed for the period 2012-2018, 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 2012-2018	Status 2018
		2012	2013	2014	2015	2016	2017	2018			
DFN	VL0006	-0,23	0,42	0,21	-1,08	-0,47	0,63	2,28	increasing		in balance
	VL0612	-0,11	0,42	0,94	0,44	0,02	2,02	3,78	increasing		in balance
	VL1218	-0,71	0,63	0,77	0,19	-1,10	0,43	1,04	increasing		in balance
DRB	VL0612	1,49	1,94	2,03	2,97	2,34	0,87	0,88	decreasing		in balance
	VL1218	-1,63	0,58	1,57	2,30	0,75	-0,36	-1,15	no significant trend		out of balance
DTS	VL0612	-0,37	0,12	0,13	0,40	0,10	2,45	0,18	increasing		in balance
	VL1218	-0,26	0,67	1,04	0,31	0,63	1,63	1,18	increasing		in balance
	VL1824	-0,32	0,13	0,30	0,28	0,54	0,65	1,85	increasing		in balance
	VL2440	-0,13	0,04	0,13	0,31	0,17	0,39	0,67	increasing		out of balance
FPO	VL0006	-0,49	0,88	21,54	-3,10	2,31	-1,17	-0,54	decreasing		out of balance
	VL0612	-0,75	-2,25	-0,70	0,60	0,64	2,32	2,16	increasing		in balance
HOK	VL0006	-3,83	-5,99	10,89	-3,28	-3,17	20,10	-1,05	increasing		out of balance
	VL0612	-0,60	1,25	0,81	0,77	1,97	5,67	1,59	increasing		in balance
MGO	VL0006	0,47	2,21	2,61	1,09	1,23	6,77	15,30	increasing		in balance
	VL0612	-0,54	0,36	-0,13	0,26	0,94	1,03	0,70	increasing		in balance
PGP	VL0006	-1,09	-0,50	-0,81	-0,14	-0,34	-0,21	-0,45	increasing		out of balance
	VL0612	-1,42	-1,94	-0,02	-0,71	0,03	-0,17	-0,12	increasing		out of balance
PMP	VL0006	-2,55	0,33	0,60	3,61	0,00	-1,75	-1,67	decreasing		out of balance
	VL0612	-0,54	-1,43	3,53	-1,09	-0,46	0,66	-0,83	no significant trend		out of balance
PS	VL0612	-0,83	0,99	0,64	0,09	-0,20	0,96	2,85	increasing		in balance
	VL1218	-0,16	0,90	0,96	-0,50	0,16	0,83	1,27	increasing		in balance
	VL1824	0,38	1,13	1,22	1,06	0,87	1,56	1,16	increasing		in balance
	VL2440	0,37	0,97	0,78	0,53	0,59	0,65	1,15	increasing		in balance
Total		-0,05	0,67	0,92	0,49	0,51	1,44	1,59	increasing		in balance

Table 15.2. Return on Fixed Tangible Assets (RoFTA, %) (Long-term profitability) for 2012-2018.

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 (2013-2018) average risk free long term interest rate. Average long-term interest rate for Croatia: 2018 - *2,17*; 2013-2018 - *3,21* (Source: ECB).
Comments on balance (status in 2018): RoFTA ≥ TRP "in balance"; > 0 RoFTA ≤ TRP "not sufficiently profitable" and RoFTA < 0 "out of balance".
Trend analysed for the period 2012-2018, 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 2012-2018	Status 2018
		2012	2013	2014	2015	2016	2017	2018			
DFN	VL0006	-16,4	-6,0	-9,1	-25,2	-16,4	-5,4	14,5	increasing		in balance
	VL0612	-12,4	-6,1	-0,6	-5,6	-10,9	9,0	27,0	increasing		in balance
	VL1218	-20,4	-3,9	-2,7	-9,3	-23,3	-7,0	0,4	increasing		not sufficiently profitable
DRB	VL0612	9,5	12,6	12,7	17,9	11,6	-1,2	-1,0	decreasing		out of balance
	VL1218	-30,7	-4,5	6,5	14,8	-2,5	-14,2	-19,5	increasing		out of balance
DTS	VL0612	-14,4	-8,7	-8,6	-5,6	-8,2	12,5	-7,3	increasing		out of balance
	VL1218	-15,0	-3,4	0,5	-7,1	-3,6	5,6	1,7	increasing		not sufficiently profitable
	VL1824	-13,5	-8,6	-6,1	-6,2	-3,8	-2,7	6,5	increasing		in balance
	VL2440	-12,0	-9,3	-9,3	-7,0	-7,7	-5,1	-2,9	increasing		out of balance
FPO	VL0006	-14,7	-1,3	257,2	-30,6	14,4	-27,0	-21,4	decreasing		out of balance
	VL0612	-16,1	-30,8	-20,0	-5,4	-4,3	15,5	14,7	increasing		in balance
HOK	VL0006	-43,5	-58,7	89,3	-39,2	-50,9	152,5	-23,2	increasing		out of balance
	VL0612	-18,7	2,4	-1,7	-2,1	9,1	39,1	5,2	increasing		in balance
MGO	VL0006	-10,1	24,4	30,8	2,3	6,4	117,6	210,4	increasing		in balance
	VL0612	-16,0	-6,6	-15,0	-8,5	-1,7	0,3	-3,8	increasing		out of balance
PGP	VL0006	-167,5	-105,3	-79,4	-9,4	-11,0	-8,9	-10,7	increasing		out of balance
	VL0612	-30,9	-35,3	-10,8	-17,4	-7,2	-8,1	-8,0	increasing		out of balance
PMP	VL0006	-273,3	-17,8	-27,0	26,7	-10,2	-18,2	-26,0	increasing		out of balance
	VL0612	-16,4	-30,2	24,0	-18,9	-16,6	-3,4	-19,5	increasing		out of balance
PS	VL0612	-19,4	-0,1	-3,4	-9,0	-11,0	-0,3	15,2	increasing		in balance
	VL1218	-20,9	-1,3	-0,5	-15,5	-9,0	-2,0	2,6	increasing		not sufficiently profitable
	VL1824	-8,0	1,6	2,7	0,7	-1,4	5,1	1,7	increasing		not sufficiently profitable
	VL2440	-7,8	-0,3	-2,8	-5,5	-4,3	-3,2	1,4	increasing		not sufficiently profitable
Total		-12,8	-3,7	-0,9	-5,6	-5,1	4,0	5,5	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 2019 shows that small scale fleet segments, with 5.677 vessels cover about 72% of vessels in the fleet and only 3,07% of total landing. Average length of these vessels is only 5,71 m and average age of 38 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 68% of days at sea of small-scale fleet, similar as in landing weight (71%) and landing value (67%). Although HOKVL0612 covers about 8% of the small-scale fleet, it is significant both in small-scale fleet landing value and total landing value (Table 6, Table 16). Regarding average vessel age, youngest vessels are in MGOVL0006 and in small segments PGO and PMP.

On the other hand, even though PGPVL006 and PGPVL0612 cover almost 66% 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 8% DAS, 4,78% of landing weight and 7,96% of landing value, PMPVL006, PMPVL0612, PMPVL1218 (0,67% vessels, 1,78% DAS, 2,54% landing weight and 1,65% landing values) and HOKVL0006 (between 1 and 2% in each variable). HOKVL0612 covers a significant part in landing weight and value, predominantly consisted of Bluefin tuna, hake and swordfish (Table 7).

Table 16. Fleet segments that form small-scale fisheries and their share in landing weigh, landing value and days at sea in 2019.

Fleet segment	% Number of vessels	Average age of vessel	Average age of licence holder	% Days as sea	% Landing weight	% Landing value
DFNVL0006	5,9%	36,56	48	16,90%	11,06%	9,12%
DFNVL0612	11,9%	36,74	47	35,27%	33,95%	34,87%
DFNVL1218	0,3%	33,95	51	0,66%	1,44%	1,58%
FPOVL0006	0,8%	33,63	47	1,74%	0,86%	1,19%
FPOVL0612	2,0%	35,21	50	6,12%	3,92%	6,77%
HOKVL0006	1,6%	34,58	49	2,12%	1,12%	1,10%
HOKVL0612	4,3%	30,65	48	8,46%	15,59%	17,45%
HOKVL1218	0,1%	21,71	53	0,12%	0,61%	0,84%
MGOVL0006	4,7%	26,68	44	11,83%	17,85%	17,12%
MGOVL0612	1,0%	31,90	46	2,80%	6,30%	4,20%
MGOVL1218	0,0%	56,50	46	0,1%	0,13%	0,09%
PGOVL0006	0,1%	27,29	37	0,17%	0,11%	0,02%
PGOVL0612	0,0%	27,00	38	0,03%	0,01%	0,01%
PGPVL0006	51,8%	39,51	65	8,90%	2,91%	1,82%
PGPVL0612	14,7%	41,07	65	2,99%	1,62%	1,70%
PGPVL1218	0,0%	40,00	47	0,00%	0,00%	0,00%
PMPVL0006	0,4%	25,67	45	0,87%	0,48%	0,46%
PMPVL0612	0,3%	27,94	45	0,83%	1,82%	1,49%
PMPVL1218	0,0%	45,00	53	0,08%	0,23%	0,16%
Total	-	37,81	59	-	-	-

The average age of vessels licence holder in small-scale fleet is 59. Small-scale fleet segment with youngest licence holders is PGO with average licence holders age of 37, although only 8 vessels fall into this segment. Together with MGO and PMP this group consists of younger population (the youngest vessels licence holder is 23 years old) with gears suitable also for other activities as tourism or transport. The oldest segment is PGP in general, with 44% of vessels of small scale fleet (average vessel age of 40) and average vessels licence holders' age of 65.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 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 as it is 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, 105 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.

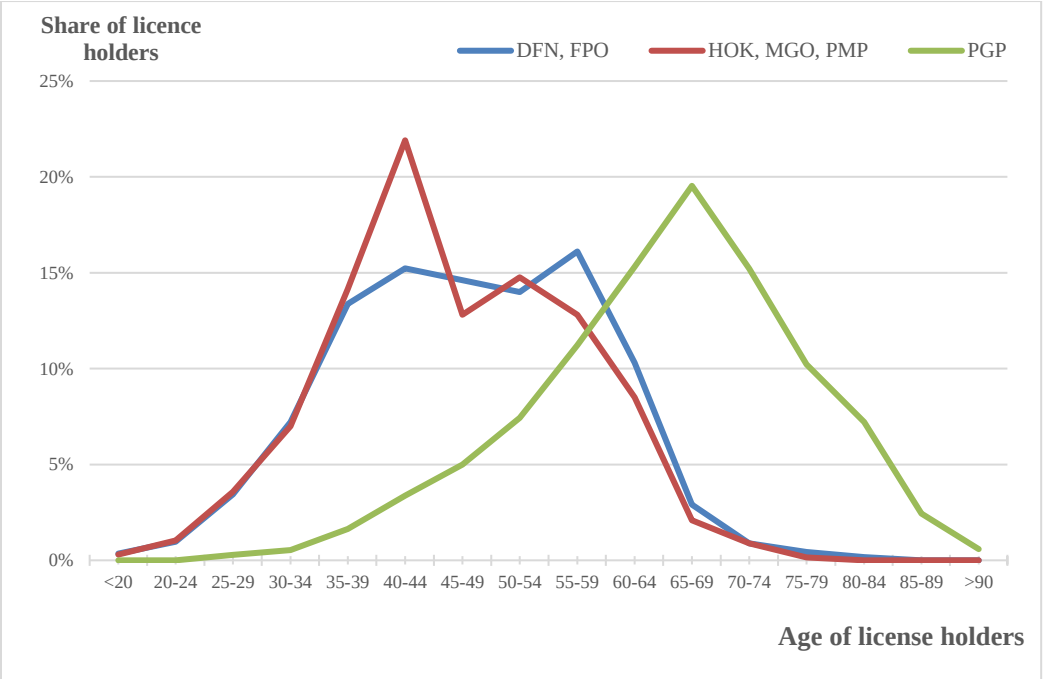

Figure 2. Share of licence holders by age (5-years age groups) for small-scale fleet in 2019.

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 2019 show that on average vessels from fleet segment HOK have 67 days at sea during the year while vessel in fleet segment DFN have in average 109 days at sea.

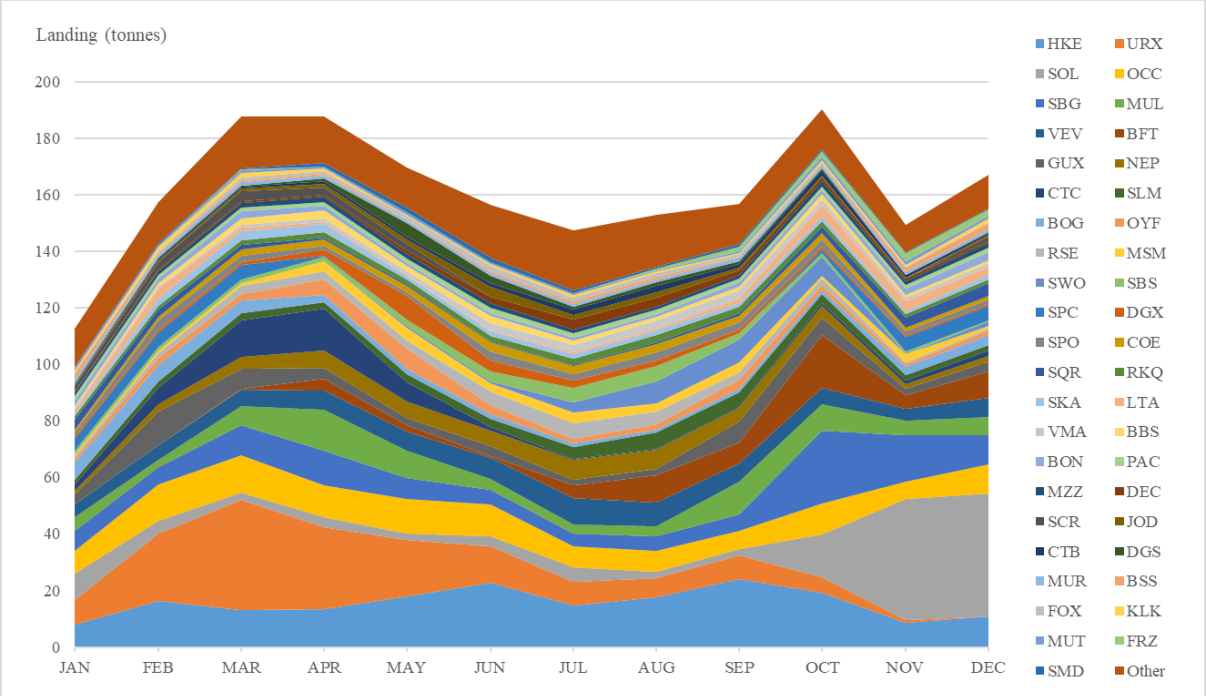

Figure 3. Landing composition in the small-scale fisheries in 2019.

In 2019, the total value of landings of small-scale fishery was €12,25 million, covering 21,12% of total value of landings. The catch is highly diverse, with 43 species covering 90% of landing (Figure 4), 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 4). 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 and 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.

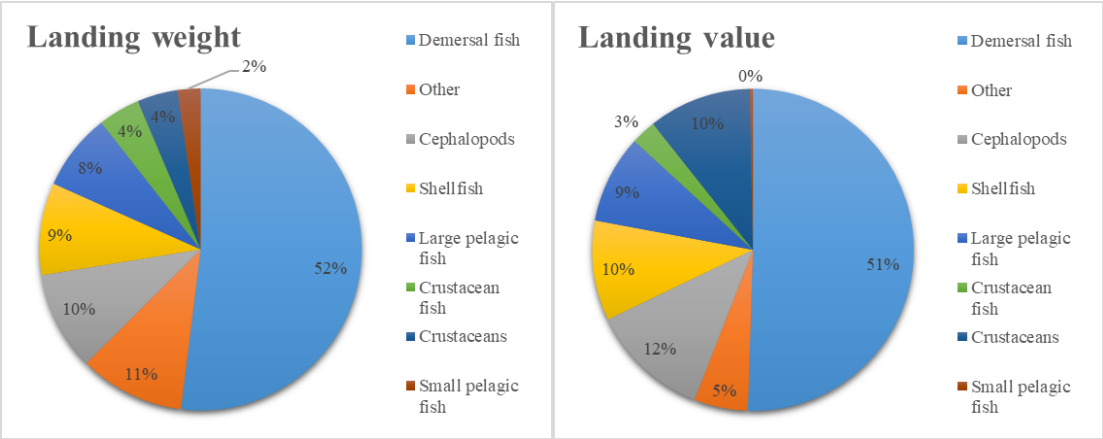

Figure 4. Target assemblages of small-scale fisheries in 2019.

Table 17. Characteristics of small-scale fisheries in 2019.

Fleet segment	Number of vessels	Days at sea	Landing (kg) per DAS
DFNVL0006	340	106,34	5,94
DFNVL0612	673	112,13	8,73
DFNVL1218	19	73,89	19,85
FPOVL0006	46	80,98	4,48
FPOVL0612	114	113,55	5,81
HOKVL0006	91	49,79	4,79
HOKVL0612	243	74,52	16,70
HOKVL1218	7	38,14	44,00
MGOVL0006	266	95,19	13,68
MGOVL0612	59	101,51	20,39
MGOVL1218	2	109	11,21
PGOVL0006	7	53,14	5,83
PGOVL0612	1	65	1,80
PGPVL0006	2938	6,48	2,96
PGPVL0612	832	7,70	4,91
PGPVL1218	1	0	0
PMPVL0006	21	88,86	5,01
PMPVL0612	16	110,38	20,04
PMPVL1218	1	172	0

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. More than 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 5). Also, 74% of total landing of Norway lobster from small scale fleet was landed by FPO vessels from Primorje-Gorski kotar County (Table 18). Around 36% of vessels from the HOK fleet segment are situated in Split-Dalmatia County while 44% of total landed volume of swordfish and 53% of hake was landed by vessels from this county. Tradition of gillnet fishing of the Istria region, especially targeting common sole is reflected in share of gillnets in Istria county (30of total number of vessels in DFN fleet segment) so as in share of landed volume of common sole (94% of total landing of common sole landed by vessels from Istria county, 97% with gillnets).

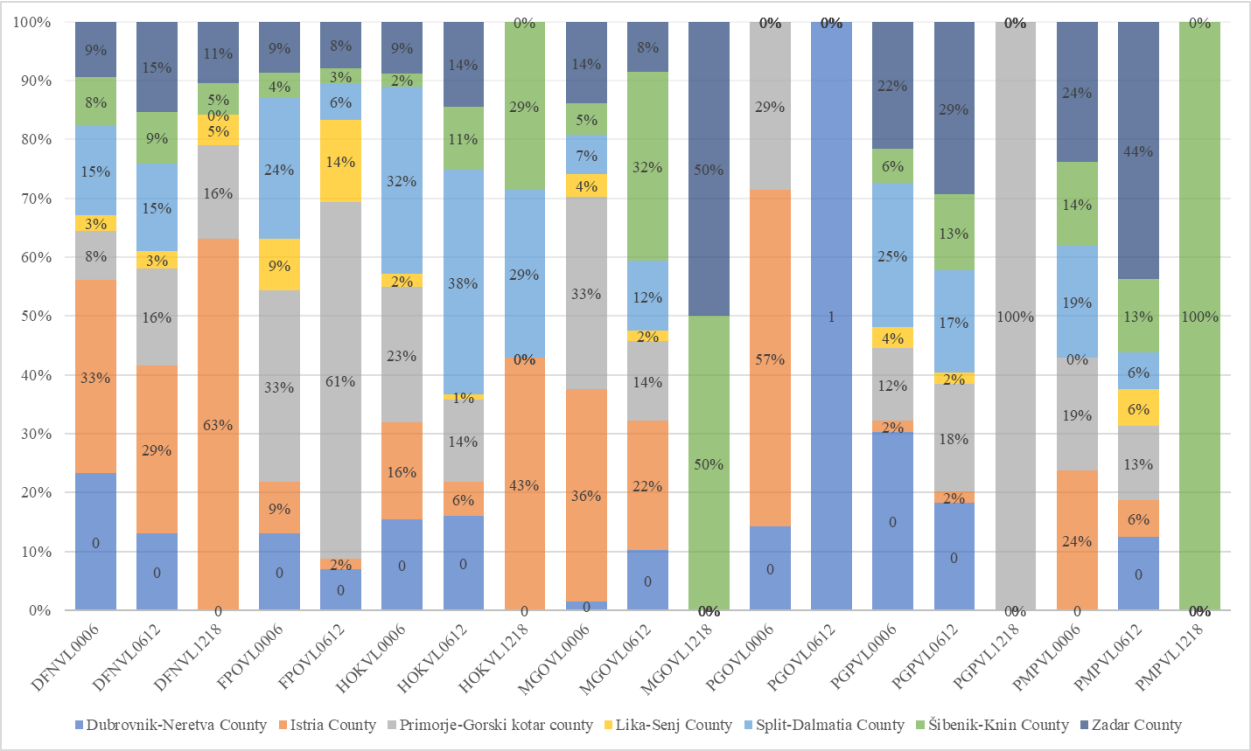

Figure 5. Distribution of the fleet segments of the small scale fleet by counties in 2019.

Table 18. Distribution of landing volume of selected species for small scale fleet by counties in 2019.

County	*Solea solea*	*Nephrops norvegicus*	*Xiphias gladius*	*Merluccius merluccius*
Dubrovnik-Neretva County	1%	0%	**44%**	10%
Istria County	**94%**	1%	1%	1%
Primorje-Gorski kotar County	2%	**74%**	0%	18%
Lika-Senj County	0%	19%	0%	4%
Split-Dalmatia County	0%	0%	**44%**	**53%**
Šibenik-Knin County	0%	0%	9%	5%
Zadar County	3%	6%	2%	9%

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 19 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 according to the balance status determined for each indicator as presented in Chapter 6. Imbalance has been assessed in PS segments where like in previous years Croatia considers that purse seiners above 12 m LoA 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. Capacity reduction, effort management and catch control by applying catch limits implemented over the past years show improvement in balance, and Croatia intends to continue with the measures provided within the framework of the structural funds in the future period. This particularly 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 2019, in accordance with the latest stock assessment, all DTS segments should be considered out of balance, and at the same time showing signs of overcapacity but with positive economic indicators. Establishment of the FRA area of Jabuka/Pomo Pit with a special marine management area including a no-take zone, coupled with capacity reduction and effort management are expected to have impact on this fleet in the coming years. Following capacity and effort reductions of this fleet in the previous years with the support of the EMFF, Croatia considers that these measures should be continued in the future.

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 thus, in addition to positive economic indicators for these segments, Croatia overall considers these segments to be in balance. However, Croatia will continue to closely monitor the situation.

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 FPOVL0612 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 28 fleet segments, of which 23 are active segments, 16 are considered to be in balance and 7 segments out of balance with their fishing opportunities. Segments in balance are considered to be DFN, DRB, FPO, HOK, MGO, PMP and PSVL0612.

PGPVL0006 and PGPVL0612 mainly consists of vessels which 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 (as indicated in the table). Therefore, in case of clustered fleet segments, overall status is determined according to the overall status of the specified main fleet segment.

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 19).

Table 19. Overview of results of most recent available values of balance indicators and overall status assessment.

Fleet segment		No vessels	VUR	VUR220	SHI	CR/BER	RoFTA,%	OVERALL STATUS	Basis for assessment
		2019	2019	2019	2018	2018	2018		
DFN	VL0006	340	0,32	0,48	0,33	2,28	14,54	in balance	Economic indicators indicate high profitability with an increasing trend.
DFN	VL0612	673	0,36	0,51	0,96	3,78	27,05	in balance	Economic indicators indicate high profitability with an increasing trend.
DFN	VL1218	19	0,64	0,34	1,47	1,04	0,40	in balance	Economic indicators indicate sufficient profitability with an increasing trend.
DRB	VL0612	12	0,86	0,43	1,02	0,88	-1,00	in balance	Status is determined according to positive SHI.
DRB	VL1218	16	0,79	0,49	0,78	-1,15	-19,47	in balance	Status is determined according to positive SHI. Includes DRBVL2440 and MGPVL1218.
DTS	VL0612	145	0,43	0,42	1,03	0,18	-7,34	out of balance	SHI indicates high dependency on overfished stocks. Includes DTSVL0006.
DTS	VL1218	155	0,51	0,50	1,29	1,18	1,70	out of balance	SHI indicates high dependency on overfished stocks.
DTS	VL1824	29	0,69	0,80	2,14	1,85	6,49	out of balance	SHI indicates high dependency on overfished stocks.
DTS	VL2440	9	1,00	0,93	2,13	0,67	-2,90	out of balance	SHI indicates high dependency on overfished stocks.
FPO	VL0006	46	0,50	0,37	0,92	-0,54	-21,40	in balance	Status is determined according to positive SHI.
FPO	VL0612	114	0,44	0,52	1,24	2,16	14,66	in balance	Economic indicators indicate high profitability with an increasing trend.
HOK	VL0006	91	0,33	0,23	0,39	-1,05	-23,21	in balance	Increasing trend of economic indicators with no dependency on overfished stocks.
HOK	VL0612	250	0,28	0,33	0,55	1,59	5,16	in balance	Economic indicators indicate high profitability with an increasing trend. Includes HOK VL1218.
MGO	VL0006	266	0,29	0,43	0,01	15,30	210,36	in balance	Economic indicators indicate high profitability with an increasing trend.
MGO	VL0612	61	0,40	0,46	0,01	0,70	-3,81	in balance	Status is determined according to positive SHI. Includes MGOVL1218.
PGP	VL0006	2938	0,04	0,03	0,31	-0,45	-10,74	in balance	Mostly vessels falling in the specific category for personal needs managed separately from the main commercial fleet, through gear and catch restrictions. PGPVL0612 includes PGPVL1218.
PGP	VL0612	833	0,05	0,03	0,26	-0,12	-7,96	in balance	
PMP	VL0006	28	0,59	0,36	0,14	-1,67	-25,98	in balance	Status is determined according to positive SHI. Includes PGOVL0006.
PMP	VL0612	18	0,75	0,51	0,34	-0,83	-19,47	in balance	Status is determined according to positive SHI. Includes PGOVL0612 and PMPVL1218.
PS	VL0612	28	0,61	0,56	0,70	2,85	15,24	in balance	Positive SHI and economic indicators indicate high profitability with increasing trend.
PS	VL1218	37	0,61	0,51	1,42	1,27	2,61	out of balance	SHI indicates high dependency on overfished stocks.
PS	VL1824	41	0,81	0,74	1,46	1,16	1,70	out of balance	SHI indicates high dependency on overfished stocks.
PS	VL2440	62	0,79	0,74	1,51	1,15	1,43	out of balance	SHI indicates high dependency on overfished stocks.

8. ACTION PLAN

Based on the Overall status of the analysed fleet segments we present Action plan concerning imbalanced segments. Presented Action plan is continuation of Action plan from 2018 and 2019, which is now updated. 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. 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.

The effects of temporary and permanent cessation of fishing activities implemented under the EMFF, as well as spatio-temporal closures implemented on a national level in accordance with management plans, have yielded results which can be seen through the reduction of fishing days in PS and DTS fleets. In 2019, effort (expressed as fishing days) in the PS fleet was reduced by 18%, compared to baseline year 2014 (baseline year according to management plan) (Table 9.1). In turn, catch of priority species sardine and anchovy in purse seine net "srdelara" was reduced by 25% compared to 2014 (Table 8). Effort was reduced in the DTS fleet by 9% in 2019 compared to 2015 (baseline year according to management plan) (Table 9.2) which has resulted in the reduction of catch of demersal species in the bottom trawl net by 9% as well (Table 9.3).

According to Chapter 7 and overall status of the fleet it is clear that imbalance in PS segments needs 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 (2020 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 30 days 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 8 and 9 months in 2020 and 2021 respectfully 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);
- Maintaining 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;
- Control of exploitation so as to ensure that the catches remain within catch limitations pursuant the GFCM emergency measures for 2019-2021;
- Possible additional measures directed to protection of younger age classes through spatio-temporal restrictions in channel areas if needed; and
- 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.

Although DTS segments were assessed as balanced in 2017, in line with the latest stock assessment, their status has changed in 2018 and also confirmed in 2019 as negative. Due to their importance and

possible future negative trends, they have been assessed as out of balance. Croatia plans to implement additional measures and plans to continue with implementation of temporary cessation of fishing activities funded 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 with public aid. Revision of criteria for issuing authorisations has started in 2017 and finished in 2018 which resulted with additional decrease of capacity. The plan is to maintain the authorised capacity stable in 2020 and 2021. One of the most important measures is the implementation of FRA area in Jabuka/Pomo 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. Improvement can be observed in the catch composition of concerned fleets in 2019 and 2020, which should be reflected in the indicators in forthcoming Fleet reports and overall assessments of balance of the concerned fleets. In addition, Croatia in 2020 implemented a new MP for demersal fishery in Adriatic adopted on the GFCM level which sets more restrictive measures in terms of effort management (including effort limitations in number of fishing days) and spatial management At the same time further improvements are being made in the control framework. Such improvements should also have effect to marketing with positive effect on fleet economics.

Fleet segment		Measure	Targets	Time-frame
PS	VL1218 VL1824 VL2440	▪ Limitation of effort (whole period) ▪ Time and spatial regulation (whole period) pursuant to GFCM and national legal framework (including temporary closures of 30 days in sardine and anchovy spawning period as well as spatio-temporal regulation in channel areas) ▪ Temporary cessation (depending on the measures and the criteria for financing from public aid in the new programming period) ▪ Respecting the provision of decrease of catch level in comparison to 2014 level (5% per year 2019-2021) pursuant to GFCM emergency measures for 2019-2021 ▪ Improvement of survey and stock assessment (cont.)	▪ Improvement of SHI (Improvement of stock status of target species following GFCM emergency measures for 2019-2021 and improvement of recruitment through time-spatial regulation) ▪ Improvement of economic performances (Further increase of average price at first sale with impact on economic indicators, aiming to maintain the level as assessed in this Fleet report)	By the end of 2021
DTS	VL0006 VL0612 VL1218 VL1824 VL2440	▪ Implementation of new MP (2020 onwards) ▪ Maintaining authorised capacity ▪ Limitation and reduction of fishing effort (2020 onwards) ▪ Time and spatial regulation (whole period) pursuant to GFCM and national legal framework (including temporary closure of 30 days) ▪ Temporary cessation for at least 30 days (2020 onwards) ▪ Prolongation of Jabuka FRA and possible implementation of additional no-take zones (depending on scientific recommendation) ▪ Improvement in MSC (cont.)	▪ Improvement of SHI (Improvement of stock status of target species following GFCM MP and improvement of recruitment through time-spatial regulation and FRA implementation) ▪ Improvement of economic performances (Further increase of average price at first sale through improvement of catch composition (benefits of FRA) with impact on economic indicators aiming to achieve positive trends over 2020-21 period)	By the end of 2021

ANNEX I. Calculation of indicators on the balance between fleet capacity and fishing opportunities

A) Calculation of Vessel Utilisation Indicator

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

Year	Fleet segment		No vessels	Days at sea	Observed Average Maximum Days at Sea	Average days at sea per vessel	VUR	VUR220
2012	DFN	VL0006	327	25.964	264	79	0,30	0,36
2012	DFN	VL0612	757	68.953	281	91	0,32	0,41
2012	DFN	VL1218	29	1.574	97	54	0,56	0,25
2012	DRB	VL0612	10	1.061	106	106	1,00	0,48
2012	DRB	VL1218	11	1.102	107	100	0,93	0,46
2012	DTS	VL0612	211	16.692	193	79	0,41	0,36
2012	DTS	VL1218	211	18.780	217	89	0,41	0,40
2012	DTS	VL1824	43	5.427	220	126	0,57	0,57
2012	DTS	VL2440	19	3.055	245	161	0,66	0,73
2012	FPO	VL0006	41	2.832	130	69	0,53	0,31
2012	FPO	VL0612	119	9.949	178	84	0,47	0,38
2012	HOK	VL0006	84	3.628	114	43	0,38	0,20
2012	HOK	VL0612	232	14.098	185	61	0,33	0,28
2012	MGO	VL0006	276	15.756	212	57	0,27	0,26
2012	MGO	VL0612	79	5.945	172	75	0,44	0,34
2012	PGP	VL0006	14	700	30	50	1,65	0,23
2012	PGP	VL0612	25	1.905	131	76	0,58	0,35
2012	PMP	VL0006	45	2.557	131	57	0,43	0,26
2012	PMP	VL0612	63	4.650	182	74	0,41	0,34
2012	PS	VL0612	41	3.528	179	86	0,48	0,39
2012	PS	VL1218	42	5.978	240	142	0,59	0,65
2012	PS	VL1824	57	9.234	251	162	0,64	0,74
2012	PS	VL2440	72	12.136	251	169	0,67	0,77
2013	DFN	VL0006	327	26.332	259	81	0,31	0,37
2013	DFN	VL0612	735	65.688	281	89	0,32	0,41
2013	DFN	VL1218	23	1.201	86	52	0,61	0,24
2013	DRB	VL0612	13	1.200	117	92	0,79	0,42
2013	DRB	VL1218	19	1.943	136	102	0,75	0,46
2013	DTS	VL0612	202	15.687	194	78	0,40	0,35
2013	DTS	VL1218	204	18.520	218	91	0,42	0,41
2013	DTS	VL1824	41	6.145	238	150	0,63	0,68
2013	DTS	VL2440	16	3.236	275	202	0,74	0,92
2013	FPO	VL0006	42	2.915	133	69	0,52	0,32
2013	FPO	VL0612	118	10.539	238	89	0,38	0,41
2013	HOK	VL0006	103	4.074	146	40	0,27	0,18
2013	HOK	VL0612	263	15.338	194	58	0,30	0,27
2013	MGO	VL0006	277	17.433	219	63	0,29	0,29
2013	MGO	VL0612	79	6.467	181	82	0,45	0,37
2013	PGP	VL0006	18	1.056	72	59	0,81	0,27
2013	PGP	VL0612	26	2.126	151	82	0,54	0,37
2013	PMP	VL0006	39	2.634	144	68	0,47	0,31
2013	PMP	VL0612	55	4.986	187	91	0,49	0,41
2013	PS	VL0612	40	4.358	208	109	0,52	0,50
2013	PS	VL1218	45	6.424	242	143	0,59	0,65
2013	PS	VL1824	54	9.160	253	170	0,67	0,77
2013	PS	VL2440	68	12.892	260	190	0,73	0,86
2014	DFN	VL0006	320	26.673	269	83	0,31	0,38
2014	DFN	VL0612	692	65.520	296	95	0,32	0,43
2014	DFN	VL1218	21	1.108	80	53	0,66	0,24
2014	DRB	VL0612	15	1.487	124	99	0,80	0,45
2014	DRB	VL1218	18	2.421	164	135	0,82	0,61
2014	DTS	VL0612	192	15.901	203	83	0,41	0,38
2014	DTS	VL1218	200	18.726	228	94	0,41	0,43
2014	DTS	VL1824	41	6.247	230	152	0,66	0,69
2014	DTS	VL2440	16	3.261	265	204	0,77	0,93
2014	FPO	VL0006	42	2.837	135	68	0,50	0,31
2014	FPO	VL0612	111	9.942	191	90	0,47	0,41

Year	Fleet segment		No vessels	Days at sea	Observed Average Maximum Days at Sea	Average days at sea per vessel	VUR	VUR220
2014	HOK	VL0006	101	4.396	136	44	0,32	0,20
2014	HOK	VL0612	259	15.245	175	59	0,34	0,27
2014	MGO	VL0006	270	17.356	220	64	0,29	0,29
2014	MGO	VL0612	72	6.591	192	92	0,48	0,42
2014	PGP	VL0006	21	1.054	66	50	0,77	0,23
2014	PGP	VL0612	29	1.986	128	68	0,54	0,31
2014	PMP	VL0006	26	2.111	138	81	0,59	0,37
2014	PMP	VL0612	64	5.149	168	80	0,48	0,37
2014	PS	VL0612	42	4.134	191	98	0,52	0,45
2014	PS	VL1218	41	5.917	235	144	0,61	0,66
2014	PS	VL1824	53	9.876	254	186	0,73	0,85
2014	PS	VL2440	70	13.298	251	190	0,76	0,86
2015	DFN	VL0006	328	26.670	281	81	0,29	0,37
2015	DFN	VL0612	713	67.090	283	94	0,33	0,43
2015	DFN	VL1218	21	1.232	94	59	0,63	0,27
2015	DRB	VL0612	18	1.991	156	111	0,71	0,50
2015	DRB	VL1218	29	3.885	193	134	0,69	0,61
2015	DTS	VL0612	180	15.310	211	85	0,40	0,39
2015	DTS	VL1218	191	18.561	217	97	0,45	0,44
2015	DTS	VL1824	40	5.394	222	135	0,61	0,61
2015	DTS	VL2440	17	3.462	265	204	0,77	0,93
2015	FPO	VL0006	44	3.241	154	74	0,48	0,33
2015	FPO	VL0612	109	10.375	198	95	0,48	0,43
2015	HOK	VL0006	100	4.283	147	43	0,29	0,19
2015	HOK	VL0612	235	13.158	162	56	0,35	0,25
2015	MGO	VL0006	273	19.498	272	71	0,26	0,32
2015	MGO	VL0612	82	7.636	200	93	0,47	0,42
2015	PGP	VL0006	62	1.564	102	25	0,25	0,11
2015	PGP	VL0612	92	4.475	177	49	0,27	0,22
2015	PMP	VL0006	36	1.850	104	51	0,49	0,23
2015	PMP	VL0612	52	3.422	126	66	0,52	0,30
2015	PS	VL0612	40	3.737	162	93	0,58	0,42
2015	PS	VL1218	38	5.053	199	133	0,67	0,60
2015	PS	VL1824	52	8.033	204	154	0,76	0,70
2015	PS	VL2440	71	12.072	205	170	0,83	0,77
2016	DFN	VL0006	327	25.551	275	78	0,28	0,36
2016	DFN	VL0612	664	60.079	285	90	0,32	0,41
2016	DFN	VL1218	16	870	74	54	0,74	0,25
2016	DRB	VL0612	20	1.751	130	88	0,67	0,40
2016	DRB	VL1218	33	3.820	176	116	0,66	0,53
2016	DTS	VL0612	159	13.592	204	85	0,42	0,39
2016	DTS	VL1218	180	17.950	221	100	0,45	0,45
2016	DTS	VL1824	34	5.546	252	163	0,65	0,74
2016	DTS	VL2440	14	2.575	231	184	0,80	0,84
2016	FPO	VL0006	49	3.314	156	68	0,43	0,31
2016	FPO	VL0612	123	10.418	186	85	0,46	0,38
2016	HOK	VL0006	85	3.665	132	43	0,33	0,20
2016	HOK	VL0612	243	14.796	166	61	0,37	0,28
2016	MGO	VL0006	266	19.403	257	73	0,28	0,33
2016	MGO	VL0612	76	6.363	191	84	0,44	0,38
2016	PGP	VL0006	2.123	4.721	154	2	0,01	0,01
2016	PGP	VL0612	623	4.226	142	7	0,05	0,03
2016	PMP	VL0006	39	2.376	130	61	0,47	0,28
2016	PMP	VL0612	63	5.023	159	80	0,50	0,36
2016	PS	VL0612	34	3.174	172	93	0,54	0,42
2016	PS	VL1218	35	4.496	207	128	0,62	0,58
2016	PS	VL1824	48	8.409	217	175	0,81	0,80
2016	PS	VL2440	70	12.688	216	181	0,84	0,82
2017	DFN	VL0006	313	27.154	266	87	0,33	0,39
2017	DFN	VL0612	667	62.683	283	94	0,33	0,43
2017	DFN	VL1218	18	1.314	105	73	0,69	0,33
2017	DRB	VL0612	13	1.325	121	102	0,84	0,46
2017	DRB	VL1218	30	3.560	168	119	0,71	0,54
2017	DTS	VL0612	166	16.332	213	98	0,46	0,45

Year	Fleet segment		No vessels	Days at sea	Observed Average Maximum Days at Sea	Average days at sea per vessel	VUR	VUR220
2017	DTS	VL1218	169	18.731	233	111	0,48	0,50
2017	DTS	VL1824	30	4.981	252	166	0,66	0,75
2017	DTS	VL2440	13	2.240	207	172	0,83	0,78
2017	FPO	VL0006	43	3.088	156	72	0,46	0,33
2017	FPO	VL0612	112	10.540	191	94	0,49	0,43
2017	HOK	VL0006	81	3.745	142	46	0,33	0,21
2017	HOK	VL0612	233	15.254	181	65	0,36	0,30
2017	MGO	VL0006	268	18.784	247	70	0,28	0,32
2017	MGO	VL0612	72	6.611	212	92	0,43	0,42
2017	PGP	VL0006	2.786	3.901	146	1	0,01	0,01
2017	PGP	VL0612	780	3.841	148	5	0,03	0,02
2017	PMP	VL0006	29	1.561	111	54	0,48	0,24
2017	PMP	VL0612	41	3.900	146	95	0,65	0,43
2017	PS	VL0612	35	3.413	189	98	0,52	0,44
2017	PS	VL1218	31	4.052	192	131	0,68	0,59
2017	PS	VL1824	49	7.856	210	160	0,76	0,73
2017	PS	VL2440	73	11.578	210	159	0,75	0,72
2018	DFN	VL0006	325	30.902	296	95	0,32	0,43
2018	DFN	VL0612	664	71.008	311	107	0,34	0,49
2018	DFN	VL1218	19	1.121	92	59	0,64	0,27
2018	DRB	VL0612	13	1.323	122	102	0,83	0,46
2018	DRB	VL1218	20	2.119	150	106	0,71	0,48
2018	DTS	VL0612	150	14.520	221	97	0,44	0,44
2018	DTS	VL1218	163	19.603	235	120	0,51	0,55
2018	DTS	VL1824	28	4.622	263	165	0,63	0,75
2018	DTS	VL2440	9	1.894	210	210	1,00	0,96
2018	FPO	VL0006	51	3.904	168	77	0,46	0,35
2018	FPO	VL0612	107	12.182	240	114	0,47	0,52
2018	HOK	VL0006	100	4.488	152	45	0,30	0,20
2018	HOK	VL0612	246	17.423	215	71	0,33	0,32
2018	MGO	VL0006	266	21.902	296	82	0,28	0,37
2018	MGO	VL0612	63	5.680	218	90	0,41	0,41
2018	PGP	VL0006	2.816	11.993	131	4	0,03	0,02
2018	PGP	VL0612	794	5.776	148	7	0,05	0,03
2018	PMP	VL0006	29	2.266	152	78	0,51	0,36
2018	PMP	VL0612	34	3.039	156	89	0,57	0,41
2018	PS	VL0612	27	3.331	205	123	0,60	0,56
2018	PS	VL1218	34	4.315	190	127	0,67	0,58
2018	PS	VL1824	43	6.864	197	160	0,81	0,73
2018	PS	VL2440	62	10.342	201	167	0,83	0,76
2019	DFN	VL0006	340	36.157	328	106	0,32	0,48
2019	DFN	VL0612	673	75.463	313	112	0,36	0,51
2019	DFN	VL1218	19	1.404	115	74	0,64	0,34
2019	DRB	VL0612	12	1.131	110	94	0,86	0,43
2019	DRB	VL1218	16	1.717	135	107	0,79	0,49
2019	DTS	VL0612	145	13.396	216	92	0,43	0,42
2019	DTS	VL1218	155	17.118	218	110	0,51	0,50
2019	DTS	VL1824	29	5.097	255	176	0,69	0,80
2019	DTS	VL2440	9	1.839	204	204	1,00	0,93
2019	FPO	VL0006	46	3.725	163	81	0,50	0,37
2019	FPO	VL0612	114	13.087	262	115	0,44	0,52
2019	HOK	VL0006	91	4.531	150	50	0,33	0,23
2019	HOK	VL0612	250	18.376	262	74	0,28	0,33
2019	MGO	VL0006	266	25.321	328	95	0,29	0,43
2019	MGO	VL0612	61	6.207	256	102	0,40	0,46
2019	PGP	VL0006	2.938	19.048	157	6	0,04	0,03
2019	PGP	VL0612	833	6.407	148	8	0,05	0,03
2019	PMP	VL0006	28	2.238	137	80	0,59	0,36
2019	PMP	VL0612	18	2.003	149	111	0,75	0,51
2019	PS	VL0612	28	3.439	202	123	0,61	0,56
2019	PS	VL1218	37	4.120	182	111	0,61	0,51
2019	PS	VL1824	41	6.633	200	162	0,81	0,74
2019	PS	VL2440	62	10.105	207	163	0,79	0,74

B) Overview of SHI per fleet segment for 2018

Fleet segment (FS)		ASSESSED SPECIES Landing Value (EUR) in 2018										Total FS Landing Value (EUR)	Share, %	SHI
		ANE	CTC	DPS	HKE	MTS	MUT	NEP	PIL	SOL	Total			
DFN	VL0006	62,94	64.736,58	136,38	37.741,52	292,34	54.754,42	1.057,50	109,06	37.468,73	196.359,47	968.020,55	20,3	0,33
DFN	VL0612	182,90	161.222,74	50,24	189.329,71	1.137,10	65.966,76	12.341,57	1.620,47	1.159.369,45	1.591.220,96	4.298.442,98	37,0	0,96
DFN	VL1218	-	5.007,02	9.246,66	14.523,27	-	787,70	35,97	5.912,75	95.867,32	131.380,69	255.733,28	51,4	1,47
DRB	VL0612	-	21.750,76	-	721,53	6,98	57,19	-	-	104.226,17	126.762,62	311.841,69	40,6	1,02
DRB	VL1218	-	55.513,03	10,64	4.097,62	696,14	-	37,41	-	166.108,39	226.463,23	677.903,24	33,4	0,78
DTS	VL0612	538,07	47.830,71	175.584,16	551.846,86	5.631,80	19.855,14	347.263,85	1.204,37	31.102,11	1.180.857,08	2.842.875,40	41,5	1,03
DTS	VL1218	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	47,2	1,29
DTS	VL1824	-	2.758,32	968.541,61	867.067,33	609,45	-	966.094,57	-	4.503,31	2.809.574,58	3.748.809,58	74,9	2,14
DTS	VL2440	-	302,78	641.768,37	494.814,24	4,99	-	654.366,87	-	382,70	1.791.639,95	2.400.560,25	74,6	2,13
FPO	VL0006	-	1.860,33	24,55	1.920,60	1,66	5.335,13	82.118,13	7,47	189,70	91.457,56	155.777,51	58,7	0,92
FPO	VL0612	35,98	2.122,31	-	19.334,60	-	44,27	609.901,07	17,09	668,07	632.123,40	814.038,76	77,7	1,24
HOK	VL0006	5,55	1.823,56	-	23.458,70	30,75	423,73	-	10,80	44,21	25.797,31	167.454,27	15,4	0,39
HOK	VL0612	14,53	8.119,54	13,64	412.277,98	58,18	1.230,15	-	113,55	3.465,74	425.293,31	2.056.669,05	20,7	0,55
MGO	VL0006	1,65	11.719,31	-	313,81	140,97	1.994,15	63,31	3,21	2.157,63	16.394,03	2.032.807,68	0,8	0,01
MGO	VL0612	-	2.471,62	-	1.126,84	9,97	406,76	-	-	148,46	4.163,66	437.865,74	1,0	0,01
PGP	VL0006	2,25	1.263,68	-	11.812,44	20,78	8.465,72	66,18	4,39	354,08	21.989,52	145.080,49	15,2	0,31
PGP	VL0612	2,57	4.374,75	0,82	7.083,90	52,20	1.947,11	364,73	5,00	2.476,66	16.307,73	122.462,65	13,3	0,26
PMP	VL0006	7,80	2.315,93	-	2.019,32	6,65	2.697,17	-	17,30	1.006,24	8.070,41	95.471,20	8,5	0,14
PMP	VL0612	6,94	7.881,11	-	3.774,18	-	1.922,20	2.254,57	170,94	16.382,66	32.392,59	200.738,40	16,1	0,34
PS	VL0612	91.675,96	126,40	-	409,32	-	12.613,49	43,16	97.618,03	24,74	202.511,10	437.114,67	46,3	0,70
PS	VL1218	1.145.861,98	-	796,47	758,45	-	1.336,32	43,16	1.759.879,98	-	2.908.676,36	3.184.079,92	91,4	1,42
PS	VL1824	4.073.370,70	-	-	-	-	4.246,56	-	5.306.008,07	-	9.383.625,33	9.873.438,01	95,0	1,46
PS	VL2440	6.173.350,46	-	-	-	-	7.709,10	-	12.331.846,08	-	18.512.905,64	19.311.080,35	95,9	1,51
TOTAL		11.486.854,81	526.876,22	2.489.194,12	3.980.621,82	21.981,64	192.170,12	3.332.195,12	19.527.871,81	1.785.348,28	43.343.113,94	60.907.641,88	71,2	1,33
Current values (F_{curr})		0,75	0,15	2,15	0,48	1,33	0,58	0,71	0,75	0,68				
Ref. point (F_{MSY} or $F_{0.1}$)		0,57	0,33	0,50	0,18	0,43	0,41	0,45	0,44	0,23				
F_{curr}/F_{unique}		1,32	0,43	4,30	2,68	3,09	1,41	1,56	1,71	2,96				
Reference		SAC, 2019	SAC, 2019	STECF 19-16	STECF 19-16	STECF 19-16	STECF 19-16	STECF 19-16	SAC, 2019	STECF 19-16				

Sources:

STECF EWG 19-16 (demersal species), STECF EWG 17-15 (part 1) (small pelagic species)

GFCM 2019. Report of the twenty-first session of the Scientific Advisory Committee On Fisheries (SAC)

GFCM 2019. Working Group on Stock Assessment of Demersal Species (WGSAD) benchmark session for the assessment of European hake in GSAs 17-18.

C) Calculation of CR/BER and RoFTA

Values of variables are expressed in million euro.

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2012	DFN	VL0006	0,60	0,00	0,19	0,31	0,34	0,16	0,05	0,07	0,10	3,75	0,50	0,72	0,60	-2,65	-0,61	-0,23	-16,4%
2012	DFN	VL0612	3,16	1,18	0,69	2,10	1,71	0,44	1,15	0,50	0,83	24,93	2,79	4,63	4,33	-40,50	-3,09	-0,11	-12,4%
2012	DFN	VL1218	0,34	0,00	0,07	0,26	0,26	0,02	0,19	0,10	0,01	2,78	0,33	0,58	0,34	-0,48	-0,57	-0,71	-20,4%
2012	DRB	VL0612	0,33	0,03	0,06	0,06	0,05	0,00	0,11	0,02	0,01	0,62	0,12	0,19	0,37	0,25	0,06	1,49	9,5%
2012	DRB	VL1218	0,20	0,00	0,02	0,10	0,13	0,01	0,19	0,06	0,02	1,03	0,12	0,40	0,20	-0,12	-0,32	-1,63	-30,7%
2012	DTS	VL0612	2,51	0,26	0,23	0,99	0,96	0,10	1,59	0,27	0,30	11,61	1,22	3,22	2,77	-7,45	-1,68	-0,37	-14,4%
2012	DTS	VL1218	6,02	0,27	0,72	2,04	1,43	0,12	4,13	0,64	0,69	23,06	2,76	7,00	6,30	-24,58	-3,47	-0,26	-15,0%
2012	DTS	VL1824	2,82	0,14	0,22	1,16	0,59	0,05	2,22	0,34	0,21	13,51	1,39	3,41	2,97	-9,38	-1,83	-0,32	-13,5%
2012	DTS	VL2440	2,92	0,22	0,18	1,06	0,54	0,05	2,14	0,30	0,27	11,75	1,24	3,30	3,13	-23,49	-1,40	-0,13	-12,0%
2012	FPO	VL0006	0,09	0,00	0,01	0,04	0,04	0,03	0,02	0,00	0,02	0,49	0,05	0,11	0,09	-0,18	-0,07	-0,49	-14,7%
2012	FPO	VL0612	0,47	0,00	0,02	0,27	0,31	0,00	0,17	0,09	0,11	3,19	0,29	0,69	0,47	-0,63	-0,51	-0,75	-16,1%
2012	HOK	VL0006	0,09	0,00	0,01	0,07	0,17	0,17	0,01	0,04	0,00	0,85	0,08	0,38	0,09	-0,02	-0,37	-3,83	-43,5%
2012	HOK	VL0612	0,93	0,80	0,30	0,93	0,35	0,13	0,52	0,68	0,78	10,59	1,24	2,47	1,73	-2,90	-1,98	-0,60	-18,7%
2012	MGO	VL0006	0,85	0,19	0,26	0,21	0,37	0,08	0,01	0,13	0,23	2,50	0,47	0,82	1,04	2,22	-0,25	0,47	-10,1%
2012	MGO	VL0612	0,30	0,00	0,02	0,28	0,11	0,02	0,13	0,04	0,16	2,93	0,30	0,46	0,30	-0,55	-0,47	-0,54	-16,0%
2012	PGP	VL0006	0,03	0,00	0,06	0,01	0,04	0,04	0,00	0,01	0,01	0,09	0,07	0,11	0,03	-0,03	-0,14	-1,09	-167,5%
2012	PGP	VL0612	0,12	0,00	0,01	0,04	0,07	0,07	0,03	0,02	0,00	0,40	0,05	0,19	0,12	-0,08	-0,12	-1,42	-30,9%
2012	PMP	VL0006	0,09	0,00	0,24	0,02	0,04	0,04	0,00	0,15	0,54	0,34	0,26	0,76	0,09	-0,04	-0,93	-2,55	-273,3%
2012	PMP	VL0612	0,37	0,14	0,03	0,21	0,32	0,13	0,13	0,04	0,03	2,23	0,24	0,65	0,52	-0,95	-0,37	-0,54	-16,4%
2012	PS	VL0612	0,25	0,00	0,04	0,23	0,16	0,05	0,13	0,06	0,08	2,57	0,27	0,48	0,25	-0,30	-0,50	-0,83	-19,4%
2012	PS	VL1218	2,46	0,17	0,63	0,78	1,21	0,05	0,63	0,74	0,22	7,81	1,41	2,86	2,63	-16,69	-1,63	-0,16	-20,9%
2012	PS	VL1824	7,82	0,18	0,88	2,29	2,67	0,00	2,05	0,85	1,22	24,55	3,17	6,79	8,00	20,97	-1,96	0,38	-8,0%
2012	PS	VL2440	15,04	1,81	1,67	5,30	6,03	0,00	4,38	1,58	2,29	56,12	6,96	14,27	16,85	45,56	-4,39	0,37	-7,8%
2012	**Total**	**Total**	**47,83**	**5,40**	**6,59**	**18,76**	**17,90**	**1,74**	**19,97**	**6,75**	**8,12**	**207,71**	**25,35**	**54,49**	**53,23**	**-1.070,63**	**-26,61**	**-0,05**	-12,8%

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2013	DFN	VL0006	0,68	0,07	0,10	0,29	0,23	0,15	0,04	0,09	0,07	3,73	0,39	0,58	0,75	1,77	-0,22	0,42	-6,0%
2013	DFN	VL0612	3,62	1,60	0,71	1,84	1,32	0,44	1,03	0,53	0,82	24,15	2,55	4,14	5,23	12,33	-1,47	0,42	-6,1%
2013	DFN	VL1218	0,26	0,16	0,04	0,15	0,12	0,01	0,09	0,03	0,04	1,80	0,19	0,30	0,42	0,66	-0,07	0,63	-3,9%
2013	DRB	VL0612	0,44	0,07	0,04	0,06	0,11	0,01	0,11	0,05	0,02	0,77	0,10	0,31	0,51	0,26	0,10	1,94	12,6%
2013	DRB	VL1218	0,73	0,01	0,06	0,24	0,14	0,01	0,30	0,06	0,06	2,93	0,31	0,57	0,75	1,29	-0,13	0,58	-4,5%
2013	DTS	VL0612	2,85	0,65	0,28	0,88	0,89	0,20	1,41	0,41	0,45	11,66	1,16	3,36	3,50	28,49	-1,02	0,12	-8,7%
2013	DTS	VL1218	6,63	2,19	0,53	1,83	1,48	0,28	3,93	0,69	0,86	23,15	2,36	7,24	8,82	13,20	-0,78	0,67	-3,4%
2013	DTS	VL1824	3,86	0,23	0,31	0,99	0,66	0,04	2,59	0,33	0,28	13,15	1,30	3,91	4,08	31,33	-1,13	0,13	-8,6%
2013	DTS	VL2440	3,66	0,22	0,16	0,86	0,91	0,02	2,30	0,23	0,38	10,45	1,02	3,83	3,88	91,61	-0,97	0,04	-9,3%
2013	FPO	VL0006	0,14	0,01	0,02	0,04	0,02	0,01	0,01	0,02	0,03	0,49	0,05	0,10	0,14	0,16	-0,01	0,88	-1,3%
2013	FPO	VL0612	0,58	0,00	0,06	0,24	0,66	0,28	0,16	0,08	0,07	3,16	0,30	1,25	0,58	-0,26	-0,97	-2,25	-30,8%
2013	HOK	VL0006	0,12	0,00	0,01	0,07	0,30	0,27	0,00	0,02	0,02	0,96	0,08	0,61	0,12	-0,02	-0,56	-5,99	-58,7%
2013	HOK	VL0612	1,26	3,26	0,19	1,01	0,76	0,30	0,56	0,37	1,03	12,75	1,20	3,03	4,52	3,61	0,30	1,25	2,4%
2013	MGO	VL0006	1,31	0,47	0,29	0,18	0,30	0,10	0,01	0,11	0,24	2,32	0,47	0,74	1,78	0,80	0,56	2,21	24,4%
2013	MGO	VL0612	0,45	0,00	0,05	0,24	0,12	0,05	0,11	0,05	0,02	2,77	0,29	0,34	0,45	1,23	-0,18	0,36	-6,6%
2013	PGP	VL0006	0,07	0,00	0,08	0,01	0,04	0,04	0,01	0,02	0,02	0,12	0,09	0,11	0,07	-0,14	-0,13	-0,50	-105,3%
2013	PGP	VL0612	0,18	0,00	0,02	0,04	0,08	0,08	0,04	0,04	0,05	0,44	0,05	0,28	0,18	-0,09	-0,15	-1,94	-35,3%
2013	PMP	VL0006	0,08	0,00	0,06	0,02	0,03	0,00	0,00	0,01	0,01	0,29	0,08	0,06	0,08	0,25	-0,05	0,33	-17,8%
2013	PMP	VL0612	0,36	0,00	0,10	0,21	0,16	0,08	0,19	0,18	0,19	2,44	0,30	0,80	0,36	-0,26	-0,74	-1,43	-30,2%
2013	PS	VL0612	0,64	0,00	0,01	0,22	0,15	0,00	0,15	0,06	0,03	2,71	0,24	0,40	0,64	0,64	-0,00	0,99	-0,1%
2013	PS	VL1218	3,26	0,26	0,28	0,80	1,17	0,03	0,65	0,36	0,34	8,66	1,08	2,55	3,52	3,91	-0,11	0,90	-1,3%
2013	PS	VL1824	9,66	0,82	0,88	2,01	2,85	0,00	1,80	0,78	1,78	23,87	2,88	7,21	10,48	9,24	0,39	1,13	1,6%
2013	PS	VL2440	19,78	2,41	1,57	4,58	6,64	0,00	4,33	1,73	3,53	53,75	6,15	16,22	22,19	22,86	-0,18	0,97	-0,3%
2013	**Total**	**Total**	**60,62**	**12,42**	**5,82**	**16,82**	**19,15**	**2,40**	**19,83**	**6,22**	**10,34**	**206,50**	**22,64**	**57,94**	**73,04**	**109,53**	**-7,54**	**0,67**	**-3,7%**

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2014	DFN	VL0006	0,63	0,25	0,14	0,27	0,34	0,26	0,04	0,10	0,05	3,60	0,41	0,79	0,87	4,10	-0,33	0,21	-9,1%
2014	DFN	VL0612	3,40	3,29	0,61	1,72	1,59	0,67	0,95	0,68	0,60	23,01	2,33	4,50	6,69	7,10	-0,13	0,94	-0,6%
2014	DFN	VL1218	0,25	0,23	0,05	0,14	0,13	0,02	0,08	0,08	0,02	1,62	0,19	0,33	0,47	0,62	-0,04	0,77	-2,7%
2014	DRB	VL0612	0,59	0,00	0,04	0,08	0,12	0,01	0,17	0,03	0,03	0,95	0,12	0,35	0,59	0,29	0,12	2,03	12,7%
2014	DRB	VL1218	1,18	0,02	0,06	0,16	0,28	0,02	0,38	0,07	0,11	1,84	0,21	0,86	1,19	0,76	0,12	1,57	6,5%
2014	DTS	VL0612	3,18	0,14	0,28	0,86	0,70	0,30	1,50	0,40	0,26	11,52	1,14	3,16	3,32	24,74	-0,99	0,13	-8,6%
2014	DTS	VL1218	6,82	2,78	0,73	1,77	1,70	0,42	3,70	0,64	0,54	22,91	2,50	7,00	9,60	9,22	0,10	1,04	0,5%
2014	DTS	VL1824	3,68	0,59	0,19	0,99	0,80	0,09	2,34	0,31	0,38	13,45	1,18	3,92	4,27	14,25	-0,83	0,30	-6,1%
2014	DTS	VL2440	3,69	0,07	0,27	0,84	0,86	0,04	2,29	0,19	0,25	10,42	1,11	3,62	3,76	29,76	-0,97	0,13	-9,3%
2014	FPO	VL0006	0,13	1,34	0,03	0,04	0,08	0,03	0,02	0,02	0,01	0,49	0,06	0,15	1,47	0,07	1,26	21,54	257,2%
2014	FPO	VL0612	0,67	0,00	0,12	0,22	0,37	0,22	0,18	0,08	0,06	2,93	0,35	0,91	0,67	-0,96	-0,59	-0,70	-20,0%
2014	HOK	VL0006	0,16	1,09	0,02	0,07	0,13	0,11	0,01	0,04	0,01	0,98	0,09	0,29	1,26	0,12	0,87	10,89	89,3%
2014	HOK	VL0612	1,27	1,74	0,20	0,99	0,64	0,37	0,51	0,31	0,21	12,73	1,19	2,04	3,00	3,70	-0,22	0,81	-1,7%
2014	MGO	VL0006	1,85	0,70	0,26	0,17	0,53	0,11	0,00	0,49	0,27	2,28	0,44	1,41	2,55	0,98	0,70	2,61	30,8%
2014	MGO	VL0612	0,49	0,10	0,11	0,20	0,18	0,09	0,12	0,09	0,15	2,30	0,31	0,63	0,59	-4,57	-0,35	-0,13	-15,0%
2014	PGP	VL0006	0,07	0,00	0,04	0,01	0,04	0,04	0,00	0,01	0,02	0,13	0,06	0,11	0,07	-0,08	-0,10	-0,81	-79,4%
2014	PGP	VL0612	0,13	0,00	0,01	0,04	0,02	0,02	0,04	0,02	0,03	0,52	0,06	0,13	0,13	-5,86	-0,06	-0,02	-10,8%
2014	PMP	VL0006	0,14	0,00	0,13	0,02	0,02	0,00	0,00	0,01	0,02	0,21	0,14	0,05	0,14	0,23	-0,06	0,60	-27,0%
2014	PMP	VL0612	0,44	0,90	0,04	0,22	0,17	0,01	0,13	0,08	0,03	2,78	0,26	0,41	1,34	0,38	0,67	3,53	24,0%
2014	PS	VL0612	0,64	0,02	0,05	0,24	0,17	0,02	0,14	0,12	0,03	3,02	0,29	0,48	0,66	1,04	-0,10	0,64	-3,4%
2014	PS	VL1218	3,23	0,07	0,34	0,69	0,91	0,05	0,63	0,46	0,26	7,81	1,03	2,31	3,30	3,42	-0,04	0,96	-0,5%
2014	PS	VL1824	9,68	0,99	0,98	1,93	3,25	0,01	1,85	0,68	1,33	23,30	2,91	7,12	10,67	8,74	0,64	1,22	2,7%
2014	PS	VL2440	19,42	1,35	2,32	4,62	7,07	0,00	4,18	1,55	2,59	55,28	6,95	15,39	20,77	26,80	-1,56	0,78	-2,8%
2014	**Total**	**Total**	**61,73**	**15,68**	**7,03**	**16,27**	**20,10**	**2,92**	**19,24**	**6,47**	**7,24**	**204,08**	**23,30**	**55,97**	**77,41**	**84,14**	**-1,87**	**0,92**	**-0,9%**

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2015	DFN	VL0006	0,77	0,08	0,17	0,27	0,65	0,40	0,03	0,13	0,13	3,69	0,45	1,33	0,84	-0,78	-0,93	-1,08	-25,2%
2015	DFN	VL0612	4,21	1,18	0,62	1,69	1,39	0,77	0,77	0,88	0,58	23,28	2,31	4,38	5,39	12,36	-1,30	0,44	-5,6%
2015	DFN	VL1218	0,33	0,18	0,05	0,12	0,24	0,03	0,06	0,05	0,10	1,47	0,17	0,48	0,52	2,69	-0,14	0,19	-9,3%
2015	DRB	VL0612	0,89	0,00	0,02	0,10	0,16	0,04	0,19	0,06	0,07	1,36	0,12	0,52	0,89	0,30	0,24	2,97	17,9%
2015	DRB	VL1218	2,15	0,00	0,11	0,24	0,51	0,03	0,47	0,16	0,17	3,03	0,34	1,35	2,15	0,93	0,45	2,30	14,8%
2015	DTS	VL0612	2,72	0,03	0,24	0,77	0,57	0,22	1,02	0,29	0,25	10,72	1,01	2,34	2,74	6,84	-0,60	0,40	-5,6%
2015	DTS	VL1218	6,24	0,65	0,63	1,65	1,51	0,35	2,72	0,90	0,69	22,16	2,28	6,17	6,88	21,97	-1,57	0,31	-7,1%
2015	DTS	VL1824	2,92	0,26	0,21	0,92	0,67	0,14	1,41	0,48	0,17	13,02	1,13	2,86	3,18	11,26	-0,81	0,28	-6,2%
2015	DTS	VL2440	3,51	0,06	0,26	0,84	0,88	0,02	1,80	0,34	0,20	10,95	1,10	3,24	3,58	11,64	-0,76	0,31	-7,0%
2015	FPO	VL0006	0,15	0,00	0,00	0,04	0,12	0,12	0,01	0,01	0,02	0,52	0,04	0,27	0,15	-0,05	-0,16	-3,10	-30,6%
2015	FPO	VL0612	0,76	0,01	0,18	0,21	0,17	0,09	0,12	0,06	0,08	2,87	0,39	0,53	0,76	1,26	-0,16	0,60	-5,4%
2015	HOK	VL0006	0,15	0,00	0,02	0,07	0,28	0,09	0,00	0,04	0,03	0,95	0,09	0,44	0,15	-0,05	-0,37	-3,28	-39,2%
2015	HOK	VL0612	1,22	1,42	0,19	0,79	0,63	0,28	0,33	0,36	0,30	10,63	0,98	1,89	2,64	3,42	-0,22	0,77	-2,1%
2015	MGO	VL0006	2,03	0,00	0,47	0,18	0,69	0,14	0,00	0,13	0,36	2,47	0,65	1,32	2,03	1,86	0,06	1,09	2,3%
2015	MGO	VL0612	0,51	0,29	0,10	0,25	0,26	0,11	0,10	0,15	0,10	3,04	0,35	0,71	0,81	3,08	-0,26	0,26	-8,5%
2015	PGP	VL0006	0,03	0,00	0,00	0,03	0,01	0,01	0,00	0,01	0,00	0,40	0,03	0,03	0,03	-0,20	-0,04	-0,14	-9,4%
2015	PGP	VL0612	0,24	0,00	0,03	0,09	0,08	0,08	0,04	0,06	0,08	1,19	0,12	0,33	0,24	-0,34	-0,21	-0,71	-17,4%
2015	PMP	VL0006	0,17	0,00	0,01	0,02	0,04	0,00	0,00	0,01	0,01	0,28	0,03	0,06	0,17	0,05	0,07	3,61	26,7%
2015	PMP	VL0612	0,27	0,00	0,02	0,15	0,26	0,05	0,09	0,04	0,01	1,92	0,17	0,45	0,27	-0,24	-0,36	-1,09	-18,9%
2015	PS	VL0612	0,56	0,09	0,07	0,22	0,24	0,04	0,12	0,19	0,04	2,92	0,29	0,62	0,65	7,43	-0,26	0,09	-9,0%
2015	PS	VL1218	2,83	0,02	0,11	0,61	0,87	0,01	0,41	0,59	1,33	7,02	0,73	3,21	2,85	-5,70	-1,09	-0,50	-15,5%
2015	PS	VL1824	9,42	0,67	0,89	1,85	3,46	0,00	1,28	1,12	1,34	23,12	2,74	7,20	10,09	9,56	0,15	1,06	0,7%
2015	PS	VL2440	18,97	1,61	2,08	4,68	8,41	0,00	3,07	2,72	2,78	58,04	6,76	16,98	20,57	38,67	-3,16	0,53	-5,5%
2015	**Total**	**Total**	**61,03**	**6,54**	**6,49**	**15,79**	**22,09**	**2,97**	**14,06**	**8,78**	**8,82**	**205,06**	**22,28**	**56,72**	**67,57**	**138,71**	**-11,43**	**0,49**	**-5,6%**

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2016	DFN	VL0006	0,68	0,03	0,15	0,26	0,40	0,22	0,08	0,11	0,10	3,69	0,41	0,91	0,72	-1,51	-0,61	-0,47	-16,4%
2016	DFN	VL0612	3,49	1,25	0,91	1,52	1,54	0,59	0,69	0,86	1,01	21,88	2,43	4,68	4,73	239,78	-2,38	0,02	-10,9%
2016	DFN	VL1218	0,19	0,02	0,03	0,09	0,16	0,00	0,05	0,06	0,08	1,15	0,13	0,36	0,21	-0,19	-0,27	-1,10	-23,3%
2016	DRB	VL0612	0,62	0,00	0,02	0,10	0,16	0,00	0,15	0,01	0,01	1,41	0,12	0,33	0,62	0,26	0,16	2,34	11,6%
2016	DRB	VL1218	1,76	0,00	0,09	0,25	0,58	0,06	0,46	0,15	0,26	3,45	0,34	1,51	1,76	2,36	-0,09	0,75	-2,5%
2016	DTS	VL0612	2,73	0,09	0,25	0,73	0,87	0,32	0,95	0,21	0,38	10,77	0,98	2,72	2,82	29,19	-0,89	0,10	-8,2%
2016	DTS	VL1218	5,67	1,01	0,53	1,47	1,57	0,25	2,36	0,59	0,66	20,76	2,00	5,43	6,68	10,64	-0,74	0,63	-3,6%
2016	DTS	VL1824	3,39	0,43	0,19	0,87	0,82	0,07	1,69	0,27	0,38	12,84	1,06	3,25	3,82	7,07	-0,49	0,54	-3,8%
2016	DTS	VL2440	2,55	0,09	0,15	0,61	0,73	0,06	1,21	0,22	0,28	8,19	0,76	2,51	2,64	15,22	-0,63	0,17	-7,7%
2016	FPO	VL0006	0,17	0,12	0,02	0,04	0,05	0,04	0,03	0,02	0,01	0,56	0,06	0,15	0,29	0,12	0,08	2,31	14,4%
2016	FPO	VL0612	0,75	0,17	0,15	0,22	0,24	0,07	0,12	0,14	0,11	3,16	0,38	0,67	0,91	1,43	-0,13	0,64	-4,3%
2016	HOK	VL0006	0,13	0,03	0,04	0,05	0,21	0,20	0,03	0,02	0,00	0,79	0,10	0,46	0,15	-0,05	-0,40	-3,17	-50,9%
2016	HOK	VL0612	2,21	1,83	0,25	0,79	0,69	0,21	0,38	0,41	0,29	11,06	1,04	1,98	4,03	2,04	1,01	1,97	9,1%
2016	MGO	VL0006	2,22	0,80	0,53	0,17	0,78	0,32	0,15	0,21	0,70	2,48	0,70	2,16	3,02	2,46	0,16	1,23	6,4%
2016	MGO	VL0612	0,41	0,92	0,58	0,24	0,16	0,03	0,11	0,10	0,17	2,95	0,82	0,57	1,33	1,42	-0,05	0,94	-1,7%
2016	PGP	VL0006	0,06	0,00	0,07	0,85	0,06	0,06	0,01	0,21	0,04	11,14	0,92	0,37	0,06	-0,18	-1,23	-0,34	-11,0%
2016	PGP	VL0612	0,18	0,03	0,02	0,50	0,05	0,05	0,03	0,04	0,02	6,98	0,52	0,19	0,20	6,46	-0,50	0,03	-7,2%
2016	PMP	VL0006	0,12	0,00	0,01	0,02	0,08	0,01	0,01	0,01	0,01	0,30	0,03	0,12	0,12	107,46	-0,03	0,00	-10,2%
2016	PMP	VL0612	0,29	0,10	0,05	0,12	0,19	0,02	0,08	0,13	0,05	1,49	0,17	0,47	0,39	-0,85	-0,25	-0,46	-16,6%
2016	PS	VL0612	0,33	0,20	0,04	0,18	0,24	0,03	0,09	0,15	0,07	2,39	0,22	0,58	0,53	-2,65	-0,26	-0,20	-11,0%
2016	PS	VL1218	2,33	0,00	0,16	0,55	1,04	0,02	0,38	0,54	0,24	6,61	0,71	2,21	2,33	14,20	-0,60	0,16	-9,0%
2016	PS	VL1824	8,86	0,44	0,75	1,65	3,62	0,01	1,29	1,00	1,29	21,83	2,40	7,21	9,30	10,67	-0,31	0,87	-1,4%
2016	PS	VL2440	18,95	0,15	1,67	4,42	8,65	0,00	3,06	2,05	1,75	57,46	6,09	15,50	19,10	32,32	-2,49	0,59	-4,3%
2016	**Total**	**Total**	**58,07**	**7,72**	**6,68**	**15,69**	**22,88**	**2,64**	**13,41**	**7,50**	**7,92**	**213,35**	**22,37**	**54,35**	**65,79**	**128,58**	**-10,92**	**0,51**	**-5,1%**

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2017	DFN	VL0006	0,80	0,52	0,28	0,23	0,41	0,25	0,09	0,12	0,12	3,47	0,51	1,00	1,32	2,09	-0,19	0,63	-5,4%
2017	DFN	VL0612	3,69	4,45	0,51	1,43	1,47	0,61	0,82	0,62	0,71	21,95	1,93	4,23	8,14	4,03	1,97	2,02	9,0%
2017	DFN	VL1218	0,29	0,14	0,07	0,10	0,15	0,02	0,07	0,06	0,05	1,41	0,17	0,35	0,42	0,99	-0,10	0,43	-7,0%
2017	DRB	VL0612	0,31	0,00	0,02	0,06	0,08	0,01	0,11	0,01	0,03	0,89	0,08	0,24	0,31	0,36	-0,01	0,87	-1,2%
2017	DRB	VL1218	1,25	0,02	0,12	0,22	0,61	0,07	0,44	0,14	0,14	3,25	0,34	1,39	1,27	-3,56	-0,46	-0,36	-14,2%
2017	DTS	VL0612	2,91	2,22	0,25	0,68	0,78	0,25	1,21	0,31	0,28	10,83	0,94	2,84	5,13	2,09	1,35	2,45	12,5%
2017	DTS	VL1218	5,72	3,09	0,45	1,32	1,63	0,49	2,73	0,49	0,58	20,16	1,77	5,92	8,81	5,39	1,12	1,63	5,6%
2017	DTS	VL1824	3,37	0,29	0,15	0,75	0,80	0,10	1,74	0,10	0,34	11,87	0,90	3,08	3,67	5,66	-0,32	0,65	-2,7%
2017	DTS	VL2440	2,48	0,00	0,11	0,47	0,57	0,09	1,14	0,19	0,28	6,88	0,57	2,26	2,48	6,36	-0,35	0,39	-5,1%
2017	FPO	VL0006	0,14	0,00	0,03	0,03	0,09	0,07	0,03	0,02	0,01	0,50	0,06	0,22	0,14	-0,12	-0,14	-1,17	-27,0%
2017	FPO	VL0612	0,75	0,79	0,15	0,18	0,24	0,11	0,15	0,10	0,18	2,82	0,33	0,78	1,54	0,66	0,44	2,32	15,5%
2017	HOK	VL0006	0,12	1,31	0,01	0,05	0,07	0,05	0,03	0,02	0,05	0,75	0,06	0,22	1,42	0,07	1,15	20,10	152,5%
2017	HOK	VL0612	1,51	5,88	0,19	0,72	0,75	0,23	0,41	0,30	0,54	10,89	0,91	2,22	7,39	1,30	4,26	5,67	39,1%
2017	MGO	VL0006	1,93	3,85	0,33	0,16	0,70	0,17	0,15	0,16	1,35	2,35	0,48	2,54	5,79	0,85	2,77	6,77	117,6%
2017	MGO	VL0612	0,45	0,57	0,09	0,20	0,30	0,04	0,13	0,12	0,15	2,62	0,28	0,73	1,02	1,00	0,01	1,03	0,3%
2017	PGP	VL0006	0,04	0,00	0,03	1,05	0,08	0,08	0,01	0,07	0,02	14,68	1,08	0,26	0,04	-0,18	-1,31	-0,21	-8,9%
2017	PGP	VL0612	0,12	0,00	0,02	0,58	0,08	0,08	0,02	0,03	0,01	8,58	0,60	0,22	0,12	-0,72	-0,70	-0,17	-8,1%
2017	PMP	VL0006	0,06	0,00	0,00	0,01	0,05	0,02	0,01	0,00	0,01	0,21	0,01	0,08	0,06	-0,03	-0,04	-1,75	-18,2%
2017	PMP	VL0612	0,25	0,14	0,03	0,08	0,14	0,03	0,07	0,04	0,04	1,11	0,11	0,31	0,38	0,58	-0,04	0,66	-3,4%
2017	PS	VL0612	0,39	0,30	0,03	0,16	0,21	0,07	0,09	0,10	0,04	2,27	0,19	0,52	0,69	0,72	-0,01	0,96	-0,3%
2017	PS	VL1218	2,44	0,10	0,18	0,45	1,00	0,12	0,39	0,30	0,19	5,64	0,63	2,01	2,54	3,07	-0,11	0,83	-2,0%
2017	PS	VL1824	9,62	0,60	0,45	1,55	3,73	0,07	1,56	0,82	0,93	21,92	2,00	7,10	10,22	6,56	1,12	1,56	5,1%
2017	PS	VL2440	17,67	1,37	1,20	4,29	8,54	0,05	3,41	1,67	1,80	59,71	5,49	15,47	19,04	29,28	-1,92	0,65	-3,2%
2017	**Total**	**Total**	**56,31**	**25,64**	**4,68**	**14,77**	**22,45**	**3,07**	**14,81**	**5,79**	**7,86**	**214,73**	**19,46**	**53,99**	**81,95**	**57,03**	**8,50**	**1,44**	**4,0%**

Year	Fleet segment		Income from landings	Other income	Non variable costs	Annual depreciation	Crew wage	Unpaid labour	Energy costs	Repair costs	Other variable costs	Depreciated replacement value	Fixed costs	Variable costs	CR	BER	Net profit	CR/BER	RoFTA, %
2018	DFN	VL0006	0,97	1,11	0,17	0,24	0,40	0,25	0,11	0,14	0,23	3,60	0,41	1,14	2,08	0,91	0,52	2,28	14,5%
2018	DFN	VL0612	4,30	9,37	0,73	1,43	2,01	0,92	1,00	0,69	0,91	22,12	2,15	5,53	13,67	3,62	5,98	3,78	27,0%
2018	DFN	VL1218	0,26	0,36	0,03	0,11	0,23	0,05	0,08	0,03	0,08	1,54	0,14	0,46	0,61	0,59	0,01	1,04	0,4%
2018	DRB	VL0612	0,31	0,00	0,01	0,05	0,08	0,03	0,11	0,01	0,01	0,79	0,07	0,25	0,31	0,35	-0,01	0,88	-1,0%
2018	DRB	VL1218	0,68	0,03	0,05	0,13	0,31	0,05	0,27	0,05	0,24	2,00	0,18	0,92	0,71	-0,62	-0,39	-1,15	-19,5%
2018	DTS	VL0612	2,84	0,45	0,26	0,62	0,88	0,36	1,26	0,29	0,34	9,89	0,88	3,13	3,29	18,68	-0,73	0,18	-7,3%
2018	DTS	VL1218	6,37	2,59	0,51	1,20	1,82	0,46	3,33	0,50	0,82	18,49	1,72	6,93	8,96	7,57	0,31	1,18	1,7%
2018	DTS	VL1824	3,75	1,01	0,15	0,69	0,80	0,09	1,91	0,24	0,18	10,95	0,84	3,21	4,76	2,58	0,71	1,85	6,5%
2018	DTS	VL2440	2,40	0,00	0,09	0,34	0,47	0,01	1,19	0,28	0,16	4,98	0,43	2,12	2,40	3,61	-0,14	0,67	-2,9%
2018	FPO	VL0006	0,16	0,00	0,04	0,04	0,07	0,06	0,03	0,02	0,02	0,58	0,08	0,20	0,16	-0,29	-0,12	-0,54	-21,4%
2018	FPO	VL0612	0,81	0,77	0,17	0,18	0,27	0,13	0,17	0,09	0,18	2,75	0,35	0,84	1,58	0,73	0,40	2,16	14,7%
2018	HOK	VL0006	0,17	0,00	0,05	0,06	0,15	0,03	0,03	0,04	0,03	0,92	0,10	0,28	0,17	-0,16	-0,21	-1,05	-23,2%
2018	HOK	VL0612	2,06	2,65	0,25	0,77	1,11	0,36	0,52	0,43	0,66	11,68	1,02	3,09	4,71	2,96	0,60	1,59	5,2%
2018	MGO	VL0006	2,03	5,06	0,20	0,16	0,66	0,26	0,18	0,19	0,32	2,44	0,36	1,61	7,09	0,46	5,12	15,30	210,4%
2018	MGO	VL0612	0,44	0,60	0,12	0,17	0,17	0,07	0,09	0,16	0,34	2,28	0,29	0,83	1,03	1,47	-0,09	0,70	-3,8%
2018	PGP	VL0006	0,15	0,00	0,04	1,06	0,22	0,22	0,03	0,10	0,07	14,86	1,10	0,64	0,15	-0,32	-1,60	-0,45	-10,7%
2018	PGP	VL0612	0,12	0,09	0,04	0,58	0,07	0,07	0,02	0,08	0,04	8,69	0,62	0,28	0,21	-1,76	-0,69	-0,12	-8,0%
2018	PMP	VL0006	0,10	0,00	0,01	0,01	0,05	0,04	0,02	0,01	0,01	0,23	0,02	0,13	0,10	-0,06	-0,06	-1,67	-26,0%
2018	PMP	VL0612	0,20	0,00	0,03	0,07	0,13	0,05	0,06	0,03	0,02	0,92	0,10	0,28	0,20	-0,24	-0,18	-0,83	-19,5%
2018	PS	VL0612	0,44	0,47	0,03	0,14	0,18	0,04	0,10	0,07	0,03	2,08	0,17	0,42	0,90	0,32	0,32	2,85	15,2%
2018	PS	VL1218	3,18	0,26	0,12	0,47	1,13	0,11	0,56	0,62	0,27	6,01	0,59	2,70	3,44	2,72	0,16	1,27	2,6%
2018	PS	VL1824	9,87	0,68	0,72	1,42	4,02	0,02	1,57	1,56	0,90	19,87	2,14	8,07	10,55	9,11	0,34	1,16	1,7%
2018	PS	VL2440	19,31	2,20	1,18	3,80	8,85	0,02	3,80	1,70	1,41	53,05	4,98	15,76	21,51	18,66	0,76	1,15	1,4%
2018	**Total**	**Total**	**60,91**	**27,69**	**5,01**	**13,74**	**24,09**	**3,71**	**16,45**	**7,32**	**7,25**	**200,71**	**18,75**	**58,82**	**88,60**	**55,80**	**11,02**	**1,59**	**5,5%**