Swedish Agency for Marine and Water Management

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Swedish Fleet Capacity Report 2017

The EU Member States are according to Article 22 of EC Regulation 1380/2013[1] required to each year submit a report on the balance between the fishing capacity of their fleets and their fishing opportunities. Article 22 indicates what information is to be included in the report. The supplementary guidelines (COM(2014)545) have been followed. These guidelines contains recommendations for technical, biological and socio-economic indicators and states that an assessment of whether an imbalance exists in a fleet segment should be based on an overall assessment of the individual indicators. The data presented in this report is segmented in accordance with the Data Collection Regulation (EC) No 1004/2017.

Section A. Description of the Swedish fishing fleet

Table 1 provides a general description of the Swedish fishing fleet for the period 2009-17. During this period, the number of vessels declined by 20%. In 2017, there were 1211 vessels, of which 911 were used for active fishing. The overall tonnage declined by 13,5 thousand tonnes (corresponding to 32% compared to 2009) during the period, and engine power declined by 48,5 thousand kW (corresponding to 23% compared to 2009).

Table 1. The Swedish fishing fleet

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of vessels (units)	1 471	1 415	1 359	1 322	1 299	1 266	1 298	1 255	1211
of which inactive (units)	339	351	328	303	315	288	296	281	300
Proportion of inactive vessels	0,23	0,25	0,24	0,23	0,24	0,23	0,23	0,22	0,25
Average age (years)	31,5	31,4	30,6	31,5	32,2	32,8	33,3	34,0	34,9
Average length (m)	10,5	10,5	10,1	10,0	10,0	9,9	9,8	9,9	9,7
Tonnage of vessel (1000 GT)	41,7	38,6	32,9	29,5	30,5	29,0	30,8	31,9	28,2
Engine power (1000 kW)	207,9	196,4	178,2	169,1	170,7	163,9	167,9	170,6	159,4

Table 2 gives an overview of the development of the fleet (number of vessels, gross tonnage and kilowatts) between the years 2009 and 2017 for active as well as inactive vessels. The compiled figures show that capacity has generally decreased over the past seven years in terms of the number of vessels, gross tonnage and kilowatts. The decrease has been more marked in some segments.

1 Amending Council Regulation (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulation (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC.

Table 2. Development of the fleet (active and inactive vessels) in the period 2009-2017.

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Vessels per segment, active fleet	Passive gear < 10 m	663	634	613	607	584	595	624	610	565
	Passive gear 10 - 12 m	155	142	141	147	145	136	134	128	115
	Passive gear > 12 m	22	20	22	20	16	16	14	13	9
	Active gear < 12 m	72	72	80	77	76	79	78	75	80
	Active gear 12 – 18 m	102	92	82	77	72	69	71	73	71
	Active gear 18 – 24 m	59	49	44	46	46	41	41	39	38
	Active gear > 24 m	59	55	49	45	45	42	40	37	33
Vessels per segment, inactive fleet	< 10 m	280	274	281	272	276	246	250	236	254
	10 - 12 m	28	41	33	25	29	30	33	30	33
	> 12 m	31	36	14	6	10	12	13	14	13
Gross tonnage per segment, active fleet	Passive gear < 10 m	2051	1947	1926	1945	1841	1827	1837	1789	1 030
	Passive gear 10 - 12 m	1722	1610	1593	1643	1620	1514	1505	1440	2 568
	Passive gear > 12 m	612	520	640	499	436	419	362	340	4 469
	Active gear < 12 m	814	810	874	882	892	931	946	916	14 787
	Active gear 12 – 18 m	3762	3378	2955	2734	2599	2469	2515	2565	1 667
	Active gear 18 – 24 m	6327	5229	5131	5465	5485	4880	4860	4591	1 287
	Active gear > 24 m	20895	19525	16967	15244	15995	14917	16068	15390	243
Gross tonnage per segment,	< 10 m	580	616	626	598	645	556	536	496	563
	10 - 12 m	272	369	284	229	265	311	307	295	324
	> 12 m	4669	4618	1944	291	695	1217	1890	4038	1 235
kW per segment, active fleet	Passive gear < 10 m	33792	32868	33020	33307	32641	32747	33 821	33 461	31 620
	Passive gear 10 - 12 m	20078	18965	18540	19961	20015	19081	18 566	18 455	17 194
	Passive gear > 12 m	4080	3539	4181	3354	3103	2745	2 426	2 296	1 556
	Active gear < 12 m	11024	11089	12459	12234	12115	12860	12 629	12 032	13 366
	Active gear 12 – 18 m	24695	22309	20044	18692	17475	17083	17 471	17 705	17 451
	Active gear 18 – 24 m	22846	18454	16920	17930	17533	16007	16 025	15 236	14 922
	Active gear > 24 m	62483	57560	50956	46270	47769	43798	46239	44883	43 684
kW per segment, inactive fleet	< 10 m	10327	11268	11434	11981	12580	11440	11010	10188	11 134
	10 - 12 m	3909	5192	4693	3573	4190	4050	4745	4370	4 176
	> 12 m	14659	15179	5900	1763	3279	4060	4983	12020	4 278

The development of landed weight and landed value for the segments over the period 2009-17 are displayed in Table 3. The total weight landed by the Swedish fleet in 2017 was 221 750 thousand tonnes of seafood, with a landed value of 127.540 € million. The total weight and the value of landings vary over the period analysed due to quotas, especially the pelagic species since they are the major part of the landings. In 2012 and 2014, the catches were exceptionally low due to low quotas. It can further be observed that the vessels with active gears account for the main part of the landed value and the landed weight. During the time period 2009-17, the vessels with active gears annually accounted for 96-98% of the total catch measured in weight, and 84-90% of the total catch value. Thus, the vessels with passive gears only accounts for 2-4% of the total catch measured in weight, and 10-16% of the total catch value. The share of passive vessels production is decreasing in both value and weight.

Table 3. Landed weight and value per segment for the years 2009-17.

	Year	Passive gear < 10 m	Passive gear 10 - 12 m	Passive gear > 12 m	Active gear < 12 m	Active gear 12 – 18 m	Active gear 18 – 24 m	Active gear > 24 m	Total
Landed weight (1000 t)	2009	3185	3430	1235	1751	8508	17399	163790	199298
	2010	2633	2766	1172	1400	7540	15520	173369	204400
	2011	2323	2772	902	1444	6705	15471	143726	173343
	2012	2308	2870	851	1504	6252	15368	107306	136459
	2013	2194	2280	812	1694	6446	15410	148785	177622
	2014	2421	2257	457	2181	6456	14366	137964	166103
	2015	2440	1992	426	3288	6737	15542	172240	202665
	2016	2161	2295	386	2885	7106	14434	168403	197671
	2017	1846	1673	241	3070	5138	14756	195024	221750
Landed value (million €)	2009	8.284	5.121	1.618	3.688	12.450	15.252	49.784	96.196
	2010	8.411	5.137	1.828	4.635	13.261	17.198	58.542	109.011
	2011	8.763	5.610	1.853	5.332	14.533	20.376	66.333	122.801
	2012	9.126	6.622	1.679	5.910	15.699	21.775	59.938	120.751
	2013	9.205	5.541	1.660	6.348	14.804	18.912	68.837	125.307
	2014	8.839	5.400	0.835	5.843	13.809	16.611	54.583	105.920
	2015	9.060	5.930	0.769	7.246	15.071	17.944	59.941	115.960
	2016	8.591	6.327	0.785	6.327	16.082	18.481	68.313	125.082
	2017	7.712	5.072	0.344	6.579	16.342	18.426	73.065	127.540

Section B. Effort reduction schemes

B1. Permits for cod catching gears in Skagerrak, Kattegatt and the North Sea

From January 1 2017 a permission for cod catching gears in Skagerrak, Kattegatt and the North Sea, was introduced and replaced the previous “effort permission” and “permission for fishing for Norway lobster using bottom trawlers equipped with a sorting grid” (as they were removed when the effort day system was abolished). Within the new system of individual fishing opportunities that are temporarily transferable, it is not possible to allow new permits of the cod catching gears during the year. For 2017, only those who fulfilled the requirements for a new permission of the previous “effort permit” and “permit for fishing for Norway lobster using bottom trawlers equipped with a sorting grid and had these permits in the period before, were issued new permits for 2017.

B.2 Permits for fishing cod in the Baltic Sea

A special permit is required for vessels longer than 8 meters equipped with cod-catching gears (trawl or passive gears) in the Baltic Sea. In 2017, permits for trawl were only issued to commercial fishermen who have fished with cod-catching gear in the previous year. However, three new permits for cod fishing with passive gears were accepted in order to support the small scale fishery and strengthen the development around the Baltic sea.

B.3 Permits for fishing for northern prawn

Due to the stock situation for northern prawn, no new fishing permits for northern prawn were issued for 2017.

Section C. Entry/exit schemes

In order to counteract an increase in capacity in the fleet, entry and exit schemes are applied in accordance with EU requirements. These rules specify that the entry of new capacity is only possible if at least the same capacity is offset. The requirement of exit capacity is 100 or 110% depending on the segment and the home port. For the pelagic segment, for example, the capacity withdrawal requirement is 110% for the west and south coasts and 100% for the east coast. The 110% capacity withdrawal requirement also applies to the entry of other types of trawlers and vessels over 12 m on the west and south coasts. For regional reasons a lower withdrawal rate of 100% is applied to vessels which only fish in the Baltic. For vessels under 12 m using passive gear, the withdrawal requirement is 100% in all coastal areas. The different withdrawal requirements were intended to benefit regions where fishing is in decline or where the fishing sector is of local or regional significance.

Thus, the vessel capacity entered in the Swedish fishing fleet during the year is offset by the exit of at least the equivalent amount of vessel capacity. Withdrawal is a condition for fishermen to be granted a fishing licence, and vessels may only be used for commercial sea fishing if they have a licence.

The capacity limits for Sweden is, that can be found in Annex II in REGULATION (EU) No 1380/2013, is, 43 386 bt and 210 829 kW. As can be seen in table 1, Sweden is well below this limit.

Section D. General fleet management: strengths and weaknesses

A current major challenge concerning fleet management is the adjustment to the landing obligation in EU, which is gradually introduced between 2015 and 2019. The obligation to land all catches of quota species requires for example a system to allocate fishing opportunities that as far as possible helps facilitates this and creates conditions for the Swedish fleet to comply with the new regulation. A system to allocate fishing opportunities that is compatible with the landing obligation must for example consider the challenge of choke species and allow some flexibility so that it is possible to match catches and fishing opportunities. Therefore, a new system to allocate fishing opportunities was introduced from January 2017. The new system replaced the previous system which was based on weekly or monthly catch limits in the North Sea, in which the possibility to transfer fishing possibilities was lacking. The new system is based on a yearly allocation of individual fishing opportunities. The fishing opportunities may, with some limitations, be transferred between individual fishermen during the year. The first year with this new system is currently being evaluated.

Section E. General administrative procedures

New system to allocate demersal fishing opportunities and related administrative adjustments:

As mentioned above, a new system to allocate fishing opportunities was introduced on January 1 2017 for the Swedsih demersal fisheries. As the new system is based on annual individual fishing opportunities that may be transferred between fishermen during the year, its introduction required substantial adjustments in the administrative procedures. These adjustments include for example adjustments in the quota deduction system and the introduction of an e-service where the fishermen can administrate their applications for transfers of fishing opportunities.

Maximum allowed levels of fishing opportunities:

In the new system of annual individually allocated fishing opportunities in the demersal fisheries, some limitations to the possibility to transfer fishing opportunities among fishermen was introduced as a part of the system. For example, it is not possible for an individual licence/permit holder to have a quantity of a certain species/quota that exceeds a certain maximum level. The purpose of this regulation is to avoid that fishing opportunities get concentrated on too few actors.

Management of cod quota (western Baltic Sea, ICES area 22-24) in 2017:

Due to the substantial reduction in the TAC for cod in area 22-24 during 2017, the Swedish trawl segment got a zero allocation of cod in the beginning of 2017. The Swedish share of the TAC corresponded to an amount that only covered the last years catches in passive gears. However, cod catches in passive gears were lower than expected during 2017. Therefore, a share of the quota was transferred to the trawl segment during the autumn 2017, in order to facilitate a utilization of the quota.

Section F. Balance Indicators

F1. Biological indicators

In accordance with the guidelines, two biological indicators are considered: the sustainable harvest indicator (SHI) and the stock at risk indicator (SAR). These two indicators are accessible at http://stecf.jrc.ec.europa.eu/reports/balance and the values for the indicators calculated for Sweden are presented in Table A1 in the Appendix.

Sustainable harvest indicator (SHI)

The SHI indicator, $F_{estimated}/F_{target}$, is measure of whether the economic activity of a fleet segment is, on average, less or more dependent on overfished stocks. A value less than one is usually considered as indicating a sustainable exploitation of the stock and a value higher than one is usually considered as a sign of overfishing of the stock. Since the values of the different stocks are weighted together, some stocks may be overestimated even where the value is low. It is a shortcoming of the indicator that it covers only stocks for which fisheries management is based on target levels expressed as fish mortality (other targets are used for other species). To give a measure of this shortfall, 'share of catch covered by the analyses' has been included in Table A1.

For most Swedish fleet segments, the SHI indicator for 2016 (the latest year when it is available) is around one, but sometimes slightly more. It can be noted that most of the segments with active gear have values of SHI which do not significantly exceed one (several of them are even well below one), while the high values of the SHI are mainly found among the segments with passive gears. In order to relate the SHI-indicator to the segments share of total catches, it should be noted that the passive gears accounted for 2-4% of the total catch measured in weight during the time period 2008-15. It should further be noted that the share of the catch covered by the analysis typically is low. If this share is less than 40%, the indicator is not considered reliable (these value are within brackets in Table A1). In addition to these factors, there are several uncertainties and shortcomings connected with the SHI-indicator which are discussed in the report STECF-15-02[2].

Stock at risk indicator (SAR)

A further, complementary, biological indicator is the stock at risk indicator. This indicator is a measure of how many stocks affected by the fleet segment's activities are biologically vulnerable. According to the guidelines, there is a potential capacity imbalance if a fleet segment takes more than 10% of its catches from high-risk stock or if the fleet segment takes more than 10% of its total catch from the stock. According to the calculation method presented in the guidelines, the stock at risk indicator has a value of 1 if a fleet segment takes more than 10% of its catches from a high-risk stock or if the fleet segment takes more than 10% of its total catch from the stock. A comparison of this indicator for the various segments in the Swedish fleet is presented in Table A2.

For most Swedish segments, no impact on stocks at risk can be observed for 2015 (the latest year that it is available for).

F2. Economic indicators

Return on Investment / Return On Fixed Tangible Assets' (ROFTA)

The indicator for Return on Investment, or 'Return On Fixed Tangible Assets' (ROFTA), is presented in Table 4. This indicator shows the return on fixed tangible assets and should be greater than zero. It should also be compared with (and be

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[2] Scientific, Technical and Economic Committee for Fisheries (STECF) – Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-15-02). 2015.
Publications Office of the European Union, Luxembourg, EUR 27134 EN, JRC 94933, 147 pp.

greater than) long-term risk-free interest. It should be noted that labour costs do not include owners' withdrawals from sole proprietorships, implying an undervaluation. At the same time, it should be recalled that the total revenue includes not only the total landed value, but also revenue from trading fishing rights as well as other revenues, meaning that the indicator is overvalued.

Table 4. Return on fixed tangible assets (ROFTA) 2009-2016

Value for one calendar year (%)	2009	2010	2011	2012	2013	2014	2015	2016	Trend
Passive gear < 10 m	-25	-38	-29	-36	-44	-53	- 38	-33	decreasing
Passive gear 10 - 12 m	-13	-7	-10	-9	1	-17	- 6	-3	decreasing
Passive gear > 12 m	-11	-9	16	66	18	7	- 17	59	decreasing
Active gear < 12 m	-8	-17	-6	-3	-6	-11	15	8	increasing
Active gear 12 – 18 m	-4	24	4	8	5	8	21	14	Increasing
Active gear 18 – 24 m	3	62	28	12	4	1	50	60	increasing
Active gear > 24 m	5	22	6	4	20	14	10	23	increasing
Long-term risk-free interest (%)	0.9	1.0	1.0	1.0	1.0				

1) Labour costs do not include owners' withdrawals from sole proprietorships

All segments using active gears and the segment using passive gears longer than 12 meters achieve a positive return on invested capital. For these segments, the ROFTA exceeds long-term risk-free interest. However, it should again be noted that total revenue includes all revenue and not just landed value. As a complement to Table 4, Table 5 provides an overview of total revenue in the various segments over the period 2009-2016.

Table 5. Total revenue over time 2009-2016

Value for one calendar year (in EUR 1000)	2009	2010	2011	2012	2013	2014	2015	2016
Passive gear < 10 m	10540	10477	13546	11398	10736	10274	11 228	11321
Passive gear 10 - 12 m	6306	6501	7204	7632	7408	5972	6 688	6994
Passive gear > 12 m	1753	2090	2073	1828	1772	1020	816	1290
Active gear < 12 m	4153	5332	5948	6712	6818	5967	8 222	6681
Active gear 12 – 18 m	13773	14683	15063	16886	15760	14578	15 292	16082
Active gear 18 – 24 m	16777	21361	22744	22530	19988	16728	19 090	21452
Active gear > 24 m	66430	91696	67863	61102	81382	57470	68 035	71918
Total	119733	152140	134441	128089	143865	112011	129 370	135738

Ratio of current revenue to break-even revenue

The other economic indicator ‘current revenue against break-even revenue’ points to economic overcapacity if its value is below 1 since this means that current revenue does not cover costs (i.e. fishing is not economically viable).

Table 6. Current revenue against break-even revenue 2009-2016

Value for one calendar year (%)	2009	2010	2011	2012	2013	2014	2015	2016	Trend
Passive gear < 10 m	0,0	- 0,3	0,0	- 0,2	- 0,5	- 0,7	-0.3	-0,2	decreasing
Passive gear 10 - 12 m	0,4	0,7	0,6	0,7	0,8	0,4	0.8	0,9	no trend
Passive gear > 12 m	0,6	0,7	1,5	2,9	1,4	1,2	0.5	3,2	decreasing
Active gear < 12 m	0,6	0,4	0,7	0,8	1,0	0,5	1.6	1,7	increasing
Active gear 12 – 18 m	0,8	1,8	1,1	1,3	1,1	1,2	1.6	1,5	increasing
Active gear 18 – 24 m	1,1	2,7	1,8	1,3	1,1	1,0	2.4	2,8	increasing
Active gear > 24 m	1,1	1,9	1,2	1,1	1,8	1,5	1.5	2,3	increasing

As can be seen in Table 6, all segments using active gears and the segment using passive gears longer than 12 meters display a break-even revenue greater than 1 for 2016.

The economic indicators reported in Tables 4 and 6 therefore seem to, at a first sight, indicate a degree of overcapacity for the passive segments with vessels shorter than 12 meters. However, it should be recalled from Table 3 that these segments account for a very small share of the total Swedish catches and therefore does not use the accessible fish resources to any major extent. Additionally, increased seal populations along the Swedish coastline are heavily affecting both income, by taking and eating fish directly from the gears, and costs, by destroying gears as well as creating extra work. Moreover, the operators within these segments are often engaged in part-time fishing, whereby fishing is not sole source of income of the operator. Low GVA estimates also signal that there are other reasons for fishing than just profit, such as part-time employment or a way of life. It should further be noted that there are considerable differences within the segments.

F3. Vessel use indicators

Share of inactive vessels

The share of inactive vessels may be regarded as unutilised capacity and is therefore considered as an indicator of vessel use. The share of inactive vessels was 25% in 2017 (see Table 1). The guideline states that a threshold level of 20% should be considered. Thus, the overall share of inactive vessels exceeds the critical value. However, to be able to make a meaningful assessment of this indicator it is necessary to consider how the inactive vessels are distributed among different segments. Therefore, Table 7 displays the number of inactive vessels stratified by length (<10 meters, 10-12 meters, and >12 meters) and Table 8 shows the share of inactive vessels for vessels below and over 12m. As can be seen in

Table 7, the majority of the inactive vessels are shorter than 12 meters. In Table 3, it can be noted that this part of the fleet account for a very small share of the total catches. When considering only vessels longer than 12 meters, the share of inactive vessels was only 8% in 2017, which is well below the critical level of 20%.

Table 7. Number of inactive vessels by length group.

	Number of inactive vessels per year								
Segment	2009	2010	2011	2012	2013	2014	2015	2016	2017
<10m	280	274	281	272	276	246	242	236	254
10-12m	28	41	33	25	29	30	29	30	33
>12m	31	36	14	6	10	12	13	14	13
Total sum	339	351	328	303	315	288	284	280	300

Table 8. Share of inactive vessels for vessels shorter and longer than 12 meter.

	Share of inactive vessels per year								
Segment	2009	2010	2011	2012	2013	2014	2015	2016	2017
<12m	0,26	0,27	0,27	0,26	0,27	0,25	0,25	0,25	0,27
>12m	0,11	0,14	0,07	0,03	0,05	0,07	0,07	0,08	0,08

Average days at sea to maximum days

A further indicator of vessel use is the ratio of average days at sea to maximum days at sea. According to the guidelines, a value continually below 0.7 indicates structural overcapacity. The values presented in Table 9 lie above the critical threshold for vessels greater than 18 m. However, values below the critical value are observed for the other segments.

When interpreting this indicator, it is important to note that the number of possible fishing days is strongly affected by factors such as available quotas, fishing seasons, geographical conditions, weather and management scheme. This means that it is necessary to interpret this indicator with caution. Especially the last mentioned factor implies that this indicator does not have a meaningful interpretation for Swedish conditions. In the North Sea, Skagerrak and Kattegat, the national Swedish management scheme contained restrictions on the weekly allowed catches per vessel for cod, plaice, saithe, nephrops, haddock, and mackerel. This weekly allowed catch per vessel thus restricts the possible effort per vessel in addition to the kilowatt day system.

According to the figures presented in Table 3, the passive and active segments under 18 meter together accounted for 10% of the total catches in 2017 (of which passive and active vessles under 12 meters accounted for 4,2%). Thus, the segments showing critical values the days at sea-indicator account for a small share of the total catches.

It should also be noted that there is sometimes a large spread within each segment.

Table 9. Average days at sea to maximum days at sea ratio (2017)

	Current effort		Maximum Effort		Exploited capacity (share)	
Segment	**Number of vessels**	**Average Days**	**Days**	**Days***	**Share**	**Share***
Passive <10m	565	62	220	122	0,28	0,51
Passive 10-12m	115	68	220	142	0,31	0,48
Passive >12m	9	93	220	104	0,42	0,89
Active 10-12 m	80	58	220	123	0,26	0,47
Active 12-18 m	71	91	220	147	0,41	0,62
Active 18-24 m	38	151	220	180	0,69	0,84
Active >24m	33	205	220	238	0,93	0,86

* Estimated on the basis of 90% percentile

Executive summary and conclusions

An assessment of whether an imbalance exists in a fleet segment should be based on an overall assessment of technical, biological and socio-economic indicators.

With regard to the *economic indicators*, return on investment and current revenue to break-even revenue, values below the critical values can be observed for the segments with vessels fishing with passive gears under 12 meters. As can be seen from the figures presented in Table 3, these segments account for a very small share of the landed catch. They often involve part-time fishing.

The *vessel use indicator* average days at sea to maximum days at sea ratio, displays values at critical levels for vessels shorter than 18m. It is important to recall from the statistics presented in section A that these segments represent a small share of total catches.

The other vessel use indicator, *share of inactive vessels*, displayed an overall value of 25% for all segments in 2017, which is above the critical threshold of 20% stated by the guidelines. As was illustrated in Table 7, the majority (96%) of the inactive vessels are shorter than 12 meters. When considering only vessels longer than 12 meters, the share of inactive vessels was 8% in 2017, which is well below the critical level.

The *biological indicator SHI* (sustainable harvest indicator), available until 2015, is for most Swedish fleet segments around one but in some cases above one. It is important to note that most of the segments with active gear have values of SHI which do not significantly exceed one (several of them are even well below one), while the high values of the SHI indicator are mainly found among the segments with passive gears. One factor to consider when interpreting the SHI indicator is the segments’ share of total catches. During the time period 2009-17, the passive gears annually accounted for 2-4% of the total catch weight. Furthermore, in the report *Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet* *capacity and fishing opportunities (STECF-15-02)[3],* STECF comment on the uncertainties connected with the interpretation connected with the SHI-indicator: *"…a SHI value greater than one, only indicates a fleets reliance on stocks that are over exploited, not how much they contribute to the overall fishing mortality, which may be of more interest to managers*" (STECF-15-02, p 13).

The other biological indicator, *stocks at risk (SAR)*, which is available until 2015 shows that most Swedish segments are not fishing for stocks at risk.

It should be noted that the biological indicators are connected with shortcomings and uncertainties, especially the SHI indicator. This is discussed in the report STECF-15-02 were particularly the uncertainties connected with the SHI-indicator are underlined; *"…if Member States' assessment of whether a fleet segment is out of balance with fishing opportunities was based primarily on the SHI, their assessments may be questionable and any associated action plan may be inappropriate or undesirable."* (STECF 15-02, p 10).

As has been shown above, the segments displaying critical values for the economic indicators account for a very small share of the total catches and thus do not use the accessible fish resources to any major extent. Moreover, the operators within these segments are often engaged in part-time fishing, whereby fishing is not the sole source of income. These segments do also, in some cases, have SHI-indicators above one. Levels of the SHI-indicator that exceeds one can however also be observed for some of the segments over 12 m. Again the, uncertainties and shortcomings connected with this indicator must be kept in mind.

A current major challenge is the adoption to the landing obligation. In terms of balance between capacity an fishing opportunities, the landing obligation adds a new dimension since it implies that the most critical choke species will be decisive for the possibility to utilize the other quotas and since all catches (also the part with lower economic value) must be landed (this will be partly be compensated for by quota uplifts). In order to create better conditions for the Swedish fleet to comply with the obligation to land all catches of quota species, a new system to allocate fishing opportunities was introduced on January 1 2017. The new system replaced the previous system, based on weekly or monthly catch limits in the North Sea, Kattegat and Skagerrak. in which the possibility to transfer fishing possibilities was lacking. The new system is based on yearly allocation of individual fishing opportunities. The fishing opportunities may, with some limitations, be transferred between individual fishermen during the year.

It should lastly be pointed out that the breakdown by segment used under the Data Collection Framework and in the indicators described is different from the national breakdown by segment used in the national system for the entry and exit of vessel capacity, which also affects the conclusions allowed to be drawn (any conclusions regarding whether overcapacity exists, and in which segments, largely depends on how the segmentation is made). Moreover, the indicators and methods of calculation used allow for further interpretations and discussion, which limits the possibility to make comparisons with other Member States.

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[3] Scientific, Technical and Economic Committee for Fisheries (STECF) – Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-15-02). 2015.
Publications Office of the European Union, Luxembourg, EUR 27134 EN, JRC 94933, 147 pp.

Appendix A1: Biological indicators (available at https://stecf.jrc.ec.europa.eu/reports/balance, STECF 17-18 - Balance capacity - Indicator table)

		Total number of vessels								SAR							Status 2015 according to guidelines	SHI									Status 2015 according to guidelines
Fishing tech	Vessel length	2009	2010	2011	2012	2013	2014	2015	2016	2009	2010	2011	2012	2013	2014	2015		2009	2010	2011	2012	2013	2014	2015	2016	Trend (5%)	
DFN	VL0010	256	235	236	229	221	240	253	257	1	1	1	1	1	1	1	out of balance	1,7	2,1	1,8	2,0	1,9	1,9	1,9	1,9	no trend	
FPO	VL0010	356	352	331	321	310	304	312	298	1	1	2	2	2	1	1	out of balance	0,6	0,6	0,6	1,1	0,8	0,5	0,4	0,5	decreasing	in balance
HOK	VL0010	25	16	18	23	21	16	17	19	0	0	0	1	0	-1	0	in balance	1,7	2,3	1,3	1,3	1,3	1,3	1,2	1,2	no trend	
PGO	VL0010	2	1		1		1	1	2	1	1		-1					0,6	0,3							-	
PGP	VL0010	24	30	28	33	32	34	41	33	0	0	1	0	0	0	0	in balance	1,1	1,2	1,2	1,1	1,1	1,2	1,2	1,2	no trend	out of balance
DFN	VL1012	106	97	90	91	96	92	89	84	2	1	3	1	1	1	1	out of balance	2,4	2,5	2,4	2,4	2,6	2,5	2,5	2,2	no trend	out of balance
FPO	VL1012	28	28	28	33	32	28	34	32	0	0	1	0	0	0	0	in balance	0,6	0,5	0,6	1,1	0,8	0,5	0,4	0,5	decreasing	in balance
HOK	VL1012	17	14	21	15	13	11	9	12	1	1	1	1	1	0	0	in balance	2,7	1,9	2,1	2,5	2,7	1,2	1,3	1,3	decreasing	out of balance
PGO	VL1012				1																					-	
PGP	VL1012	4	3	2	7	4	5	2		0	-1	1	1	-1	0	-1	no SAR found	1,4	1,2	1,2	1,2	1,1	1,3	1,3		no trend	out of balance
DFN	VL1218	15	14	13	13	13	12	12	11	1	1	2	1	1	1	1	out of balance	2,1	2,0	2,0	2,1	2,1	2,7	2,8	3,0	increasing	out of balance
FPO	VL1218	3	3	4	3	1	2	1	1	0	0	-1	-1	-1	0	-1	no SAR found	0,6	0,5	0,5	1,1	0,7	0,4	0,3	0,4	decreasing	in balance
HOK	VL1218	3	3	4	4	2	2	1	1	2	1	2	2	1	1	0	in balance	2,2	1,9	3,7	2,2	4,1	3,8	3,7		increasing	
HOK	VL1824	1		1						2		1						1,6								-	
DRB	VL0010	2	2	1				1		0	-1	-1				-1	no SAR found									-	
DRB	VL1012		1								-1															-	

DTS	VL0010	9	15	21	22	20	20	22	22	0	0	0	1	0	0	0	in balance	0,5	0,6	0,6	1,1	0,9	0,7	0,7	0,7	no trend	in balance
DTS	VL1012	53	48	48	49	50	53	49	49	0	1	0	0	0	0	0	in balance	0,6	0,6	0,6	1,1	0,9	0,6	0,6	0,6	decreasing	in balance
PMP	VL0010	3	3	5	2	4	3			1	1	1	0	-1	0			1,4	0,9	1,0	1,0	0,9	0,9			-	
PMP	VL1012	2	1	2	2	1		1		0	0	1	0	0		-1	no SAR found	0,9	0,6	0,8	1,1	1,2		1,3		-	out of balance
PS	VL0010	2	1	2	1		1	1		-1	-1	-1	-1		-1	-1	no SAR found	1,3	1,2	0,6	1,1		1,3	1,3		increasing	out of balance
PS	VL1012	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	no SAR found	0,8	0,9	0,7	0,5	0,5	0,6	0,8	0,9	no trend	in balance
TM	VL1012						1	3	3						-1	-1	no SAR found						0,7	0,8	0,9	increasing	in balance
DTS	VL1218	100	89	80	75	71	67	68	71	0	0	0	0	0	0	0	in balance	0,8	0,7	0,9	1,2	1,1	1,0	0,9	0,8	no trend	in balance
PMP	VL1218				1			1					0			-1	no SAR found				0,9			1,0		-	
PS	VL1218	2	3	2	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	no SAR found	0,8	0,9	0,7	0,5	0,5	0,6	0,8	0,9	no trend	in balance
TM	VL1218						1	1	1						0	0	in balance						1,1	1,2	1,2	increasing	out of balance
DTS	VL1824	58	49	43	46	43	37	37	36	0	0	1	1	0	0	0	in balance	1,0	0,9	1,3	1,3	1,1	1,2	1,2	1,1	no trend	out of balance
TM	VL1824	1		1		3	4	4	3	0		-1		0	-1	-1	no SAR found	1,3		0,8		1,0	0,9	0,9	0,9	no trend	in balance
DTS	VL2440	31	31	31	28	26	24	21	17	0	0	0	0	2	0	0	in balance	1,0	0,9	1,1	1,2	1,1	1,3	1,1	1,2	no trend	out of balance
MGP	VL2440		1			1	1				1			0					0,7			0,8				-	
MGP	VL40XX		1	1		1					1	0		0					0,8	0,8		0,9				-	
PS	VL2440			1	1							1	-1							0,9	0,8					-	
PS	VL40XX						1	1	2						0	0	in balance						0,8	0,8	0,8	no trend	in balance
TM	VL2440	15	11	9	9	9	9	8	9	1	1	0	0	1	1	0	in balance	1,0	0,9	0,9	0,8	0,9	1,0	1,0	0,9	no trend	in balance
TM	VL40XX	13	11	7	7	8	7	10	9	0	1	0	0	1	1	0	in balance	1,0	1,0	0,9	0,8	0,9	0,9	0,9	0,8	no trend	in balance

1) TBB=Beam trawl, DTS=Demersal trawl and demersal seiner, PTS=Pelagic trawls and seiners, DRB=Dredges, MGP=Polyvalent mobile gears, MGO=Other mobile gears, PG=Passive gears, HOK=Gears using hooks, DFN=Drift nets and fixed nets, FPO=Pots and traps, PGP=Polyvalent passive gears, PMP=Combining mobile and passive gears.