

Date:
31-05-2017

Ref./Diariennr.: 1965-17

Swedish Fleet Capacity Report 2016

The EU Member States are according to Article 22 of EC Regulation 1380/2013¹ required to annually submit a report on the balance between the fishing capacity of their fleets and their fishing opportunities. Article 22 indicates what information to be included in the report. For the 2013 fleet capacity report, the Commission provided supplementary guidelines (COM(2014)545). As far as we are aware no new guidelines have been provided for the 2016 report. The 2013 guidelines are therefore followed. The guideline 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 665/2008.

Section A. Description of the Swedish fishing fleet

Table 1 provides a general description of the Swedish fishing fleet for the period 2008-16. During this period, the number of vessels declined by 20%. In 2016, there were 1 255 vessels, of which 974 were used for active fishing. The overall tonnage declined by 12 thousand tonnes (corresponding to 26% compared to 2008) during the period, and engine power declined by 44 thousand kW (corresponding to 21% compared to 2008).

Table 1. The Swedish fishing fleet

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of vessels (units)	1 507	1 471	1 415	1 359	1 322	1 299	1 266	1 298	1 255
of which inactive (units)	359	339	351	328	303	315	288	296	281
Proportion of inactive vessels	0,24	0,23	0,25	0,24	0,23	0,24	0,23	0,23	0,22
Average age (years)	30,9	31,5	31,4	30,6	31,5	32,2	32,8	33,3	34,0
Average length (m)	10,6	10,5	10,5	10,1	10,0	10,0	9,9	9,8	9,9
Tonnage of vessel (1000 GT)	43,0	41,7	38,6	32,9	29,5	30,5	29,0	30,8	31,9
Engine power (1000 kW)	211,8	207,9	196,4	178,2	169,1	170,7	163,9	167,9	170,6

Table 2 gives an overview of the development of the fleet (number of vessels, gross tonnage and kilowatts) between the years 2008 and 2016 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 2008-2015.

		2008	2009	2010	2011	2012	2013	2014	2015	2016
Vessels per segment, active fleet	Passive gear < 10 m	665	663	634	613	607	584	595	624	609
	Passive gear 10 - 12 m	154	155	142	141	147	145	136	134	128
	Passive gear > 12 m	27	22	20	22	20	16	16	14	13
	Active gear < 12 m	73	72	72	80	77	76	79	78	75
	Active gear 12 – 18 m	109	102	92	82	77	72	69	71	73
	Active gear 18 – 24 m	58	59	49	44	46	46	41	41	39
	Active gear > 24 m	62	59	55	49	45	45	42	40	37
Vessels per segment, inactive fleet	< 10 m	295	280	274	281	272	276	246	250	237
	10 - 12 m	38	28	41	33	25	29	30	33	30
	> 12 m	26	31	36	14	6	10	12	13	14
Gross tonnage per segment, active fleet	Passive gear < 10 m	2036	2051	1947	1926	1945	1841	1827	1837	1789
	Passive gear 10 - 12 m	1722	1722	1610	1593	1643	1620	1514	1505	1440
	Passive gear > 12 m	1219	612	520	640	499	436	419	362	340
	Active gear < 12 m	772	814	810	874	882	892	931	946	916
	Active gear 12 – 18 m	4009	3762	3378	2955	2734	2599	2469	2515	2565
	Active gear 18 – 24 m	5969	6327	5229	5131	5465	5485	4880	4860	4591
	Active gear > 24 m	21703	20895	19525	16967	15244	15995	14917	16068	15390
Gross tonnage per segment, inactive fleet	< 10 m	635	580	616	626	598	645	556	536	496
	10 - 12 m	364	272	369	284	229	265	311	307	295
	> 12 m	4604	4669	4618	1944	291	695	1217	1890	4038
kW per segment, active fleet	Passive gear < 10 m	33364	33792	32868	33020	33307	32641	32747	33 821	33 461
	Passive gear 10 - 12 m	20343	20078	18965	18540	19961	20015	19081	18 566	18 455
	Passive gear > 12 m	5939	4080	3539	4181	3354	3103	2745	2 426	2 296
	Active gear < 12 m	10437	11024	11089	12459	12234	12115	12860	12 629	12 032
	Active gear 12 – 18 m	26519	24695	22309	20044	18692	17475	17083	17 471	17 705
	Active gear 18 – 24 m	21872	22846	18454	16920	17930	17533	16007	16 025	15 236
	Active gear > 24 m	64112	62483	57560	50956	46270	47769	43798	46239	44883
kW per segment, inactive fleet	< 10 m	10992	10327	11268	11434	11981	12580	11440	11010	10188
	10 - 12 m	4416	3909	5192	4693	3573	4190	4050	4745	4370
	> 12 m	13818	14659	15179	5900	1763	3279	4060	4983	12020

The development of landed weight and landed value for the segments over the period 2008-16 are displayed in Table 3. The total weight landed by the Swedish fleet in 2016 was 197 250 thousand tonnes of seafood, with a landed value of €123.772 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. The highest landed value, €131 million, was achieved in 2013. 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 2008-16, the vessels with active gears annually accounted for 96-98% of the total catch measured in weight, and 84-87% of the total catch value. Thus, the vessels with

passive gears only accounts for 2-4% of the total catch measured in weight, and 13-16% 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 2008-15.

	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)	2008	3409	3156	1050	1229	10480	14485	179391	213201
	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	2154	2296	386	2885	7106	14429	167993	197250
Landed value (million €)	2008	9.721	6.212	2.123	3.635	14.891	17.275	57.920	111.778
	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	8.546	6.329	0.785	6.486	16.073	18.419	67.132	123.772

Section B. Effort reduction schemes

Under the multiannual management and recovery plans for a number of stocks in the North Sea, Skagerrak, Kattegat and the Baltic Sea, the fishing effort has been gradually reduced. These plans contained rules for the establishment of total allowable catches (TAC) and fishing effort levels. The plans that were mainly of interest to Swedish fishing with respect to limiting fishing efforts are the plans for cod stocks in the Baltic (Council Regulation (EC) No 1098/2007) and for cod stocks in the North Sea, Skagerrak and Kattegat (Council Regulation (EC) No 1342/2008).

B1. The kilowatt day systems in Skagerrak, Kattegat and the North Sea

Until 2017, Sweden was allocated a maximum level of fishing effort, measured in kilowatt days, for various gear groups in Skagerrak, Kattegat and the North Sea. The EU's cod recovery plan included restrictions on the use of gear that can catch cod by stipulating the maximum permitted fishing effort. Sweden's kilowatt day allocation for 2016 was distributed at vessel level according to reported fishing during a reference period. The kilowatt day system was abolished from 2017.

Special permits were therefore needed for vessels of length overall 10 metres or more which have gear belonging to one of the gear groups listed in point 1 of Annex I to Regulation (EC) No 1342/2008. As regards the 'effort licence' for Skagerrak, Kattegat and the North Sea, only those vessels holding a licence in the

previous year were able to obtain a renewed licence for the following year. The Fishing Effort Regulation does not allow for the creation of new licences for vessels.

Kilowatt days were possible to be redistributed between fishing vessels. This could be temporary or permanent. The effort system has led to significant reductions in the fishing effort of individual vessels. In order to make restructuring between vessels easier, the opportunities to redistribute kilowatt days between fishing vessels have increased.

So far vessel capacity within the system has fallen by just under 40% as compared to 2009.

B2. Fishing for Norway lobster using bottom trawlers equipped with a sorting grid

The rules of the cod recovery plan did not apply to fishing for Norway lobster using bottom trawlers equipped with grids. Sweden had however national restrictions on this type of fishing. The fishing effort is regulated by a national system of kilowatt days.

B.3 Permission for fishing cod in the Baltic Sea

Within the EU's multiannual plan for cod fishing in the Baltic Sea (Council Regulation (EC) 1098/2007), a special permit was required for vessels longer than 8 m equipped with cod-catching gears. In order to prevent establishment in cod fishing, permits were only issued to commercial fishermen who have fished with cod-catching gear in the previous year.

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.

Section D. General fleet management: strengths and weaknesses

The entry-exit scheme: The entry-exit scheme for vessel capacity in gross tonnes and kilowatts has resulted in a continued reduction in fleet capacity. The kilowatt day system, which was introduced as a result of the cod recovery plan for the North Sea, Skagerrak and Kattegat, has continued to provide an incentive for further structural change within cod fishing on the Swedish west coast as it restricts the vessels' fishing effort. Furthermore, the system of individual transferable fishing rights within the pelagic segment has had a major impact on the structural change within this segment.

Adjustments to landing obligation: A major challenge with regards to fleet management is the adjustment to the landing obligation, which is gradually introduced between 2015 and 2019. An obligation to land all catches of quota species requires a system to allocate fishing opportunities that as far as possible help facilitates this obligation and creates conditions for the Swedish fleet to comply with it. A system 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 developed and proposed during 2016. From 1 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 yearly allocation of individual fishing opportunities. The fishing opportunities may, with some limitations, be transferred between individual fishermen during the year.

Section E. General administrative procedures

During 2016, the *Pandalus* fishery was administrated through monthly rations. A possibility to temporarily redistribute the ration from one vessel to another vessel (under certain conditions) was introduced during 2015. The intention was to facilitate a more efficient capital use in the *Pandalus* fishery which in turn will imply higher profitability for individual fishing firms and thereby reduced incentives for illegal discards.

Section F. Balance Indicators

F1. Biological indicators

In accordance with the 2013 guidelines, two biological indicators are considered: the sustainable harvest indicator (SHI) and the stock at risk indicator. These two indicators have been obtained on behalf of the STECF by an external contractor (for the 2014 report) and are accessible at <http://stecf.jrc.ec.europa.eu/reports/balance>. The values for the indicators calculated for Sweden (for the 2014 report) are summarized in Tables A1 and A2 in the Appendix, and will be amended when new estimates for 2015 and 2016 is accessible.

Sustainable harvest indicator (SHI)

The SHI indicator, $F_{\text{estimated}}/F_{\text{target}}$, is a 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 is around one, but sometimes slightly more. 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 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 to be reliable (these values 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-15-02².

Stock at risk indicator

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. These were estimated in 2015 and the indicators will be amended when new estimates are accessible.

For most Swedish segments, no impact on stocks at risk can be observed for 2014. Moreover, the total impact on stocks at risk shows a falling trend after 2011.

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

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.

assets and should be greater than zero. It should also be compared with (and be 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) 2008-2015

Value for one calendar year (%)	2008	2009	2010	2011	2012	2013	2014	2015	Trend
Passive gear < 10 m	-23	-25	-38	-29	-36	-44	-53	-38	decreasing
Passive gear 10 - 12 m	-10	-13	-7	-10	-9	1	-17	-7	decreasing
Passive gear > 12 m	-6	-11	-9	16	66	18	7	-17	decreasing
Active gear < 12 m	-7	-8	-17	-6	-3	-6	-11	20	decreasing
Active gear 12 – 18 m	2	-4	24	4	8	5	8	26	no trend
Active gear 18 – 24 m	19	3	62	28	12	4	1	60	decreasing
Active gear > 24 m	0	5	22	6	4	20	14	18	no trend
Long-term risk-free interest (%)	0.9	0.9	1.0	1.0	1.0	1.0			

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

All active segments achieve a good or at least 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 2008-2015.

Table 5. Total revenue over time 2008-2015

Value for one calendar year (in EUR 1000)	2008	2009	2010	2011	2012	2013	2014	2015
Passive gear < 10 m	13049	10540	10477	13546	11398	10736	10274	11 228
Passive gear 10 - 12 m	8106	6306	6501	7204	7632	7408	5972	6 688
Passive gear > 12 m	2357	1753	2090	2073	1828	1772	1020	816
Active gear < 12 m	4122	4153	5332	5948	6712	6818	5967	8 222
Active gear 12 – 18 m	16140	13773	14683	15063	16886	15760	14578	15 292
Active gear 18 – 24 m	18609	16777	21361	22744	22530	19988	16728	19 090
Active gear > 24 m	63268	66430	91696	67863	61102	81382	57470	68 035
Total	125651	119733	152140	134441	128089	143865	112011	129 370

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 2008-2015

Value for one calendar year (%)	2008	2009	2010	2011	2012	2013	2014	2015	Trend
Passive gear < 10 m	0,1	0,0	- 0,3	0,0	- 0,2	- 0,5	- 0,7	-0.3	Decreasing
Passive gear 10 - 12 m	0,6	0,4	0,7	0,6	0,7	0,8	0,4	0.8	no trend
Passive gear > 12 m	0,8	0,6	0,7	1,5	2,9	1,4	1,2	0.5	Decreasing
Active gear < 12 m	0,6	0,6	0,4	0,7	0,8	1,0	0,5	1.7	no trend
Active gear 12 – 18 m	1,0	0,8	1,8	1,1	1,3	1,1	1,3	1.8	no trend
Active gear 18 – 24 m	1,6	1,1	2,7	1,8	1,3	1,1	1,0	2.6	no trend
Active gear > 24 m	1,0	1,1	1,9	1,2	1,1	1,8	1,6	1.9	no trend

As can be seen in Table 6, all segments of vessels fishing with active gears 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 structural overcapacity for the passive segments. However, it should be recalled from Table 3 that these segments (vessels of less than 12m that fish with passive gear) accounts for a very small share (around 3-4% during 2008-2016) 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 22% in 2016 (see Table 1). The guideline states that a threshold level of 20% should be considered. Thus, the share of inactive vessels slightly 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 2016, which is well below the critical level of 20%.

Table 7. Number of inactive vessels by length group.

Segment	Number of inactive vessels per year								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
<10m	295	280	274	281	272	276	246	242	237
10-12m	38	28	41	33	25	29	30	29	30
>12m	26	31	36	14	6	10	12	13	14
Total sum	359	339	351	328	303	315	288	284	281

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

Segment	Share of inactive vessels per year								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
<12m	0,27	0,26	0,27	0,27	0,26	0,27	0,25	0,25	0,24
>12m	0,09	0,11	0,14	0,07	0,03	0,05	0,07	0,07	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 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.

With regard to the vessels that fish with passive gears, it is important to underline that these accounted for 2,5% of the total Swedish catch in 2016 (see Table 3) and often involve operators engaged in part-time fishing. The passive segments and the active segment under 12 meter together accounted for 4.0% of the total catches in 2016 and the passive segments and the active segment under 18 meter together accounted for 7.4% of the total catches in 2016. Thus, the segments showing critical values only 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 (2016)

Segment	Current effort		Maximum Effort		Exploited capacity (share)	
	Number of vessels	Average Days	Days	Days*	Share	Share*
Passive <10m	609	64	220	131	0,29	0,49
Passive 10-12m	128	70	220	154	0,32	0,46
Passive >12m	13	101	220	150	0,46	0,67
Active 10-12 m	75	62	220	129	0,28	0,48
Active 12-18 m	73	96	220	152	0,44	0,63
Active 18-24 m	39	159	220	191	0,72	0,83
Active >24m	37	174	220	199	0,79	0,88

* 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. As can be seen from the figures presented in table 3, these segments account for a very small share of the landed catch (and often involve part-time fishing).

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

The other vessel use indicator, *share of inactive vessels*, displayed an overall value of 22% for all segments in 2016, which is slightly above the critical threshold of 20%. As was illustrated in Table 7, the majority (95%) of the inactive vessels are shorter than 12 meters. When considering only vessels longer than 12 meters, the share of inactive vessels is 8% in 2016, which is well below the critical level of 20%.

The *biological indicator SHI* (sustainable harvest indicator), available until 2014 and to be updated when new data is available, 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 2008-14, 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*, which also is available until 2014 and will be updated when new data is available, 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 where 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 and 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 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 developed and proposed during 2016. The new system replaced the previous system, based on weekly or monthly catch limits in the North Sea, in which the possibility to transfer fishing possibilities was lacking. The new system was introduced on January 1, 2017, and 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

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.

calculation used allow for further interpretations and discussion, which limits the possibility to make comparisons with other Member States.

Appendix A: Biological indicators

Table A1. Sustainable harvest indicator, SHI

Fleet segment name	Fishing tech ¹	Vessel length group	Number of vessels 2013	Number of vessels 2014	Number of vessels 2015	SHI 2013	Share of catch covered by the analysis	SHI 2014	Share of catch covered by the analysis
Passive <10m	DFN	VL0010	221	240	242	2,16	37	2,05	39
Passive <10m	FPO	VL0010	310	304	301	0,78	39	0,78	47
Passive <10m	HOK	VL0010	21	16	17	1,03	33	0,99	10
Passive <10m	PGO	VL0010		1	1				
Passive <10m	PGP	VL0010	32	34	41	0,91	46	0,89	63
Passive 10-12m	DFN	VL1012	96	92	87	2,71	49	2,56	50
Passive 10-12m	FPO	VL1012	32	28	32	0,78	86	0,75	86
Passive 10-12m	HOK	VL1012	13	11	9	2,21	58	0,95	64
Passive 10-12m	PGP	VL1012	4	5	2	0,9	87	0,93	83
Passive >12m	DFN	VL1218	13	12	12	2,58	42	2,77	36
Passive >12m	FPO	VL1218	1	2	1	0,73	73	0,74	54
Passive >12m	HOK	VL1218	2	2	1	3,6	66	3,24	48
Active 10-12 m	DRB	VL0010			1				
Active 10-12 m	DTS	VL0010	20	20	22	0,79	74	0,8	81
Active 10-12 m	DTS	VL1012	50	53	49	0,78	45	0,78	52
Active 10-12 m	PMP	VL0010	4	3		0,76	49	0,86	61
Active 10-12 m	PMP	VL1012	1		1	0,87	72		
Active 10-12 m	PS	VL0010		1	1			0,87	100
Active 10-12 m	PS	VL1012	1	1	1	0,5	98	0,72	99
Active 10-12 m	TM	VL1012		1	1			0,77	100
Active 12-18 m	DTS	VL1218	71	67	68	0,92	44	0,92	45
Active 12-18 m	PMP	VL1218			1				
Active 12-18 m	PS	VL1218	1	1	1	0,5	99	0,72	100
Active 12-18 m	TM	VL1218		1	1			1,07	95
Active 18-24 m	DTS	VL1824	43	37	37	1,03	50	1,06	48
Active 18-24 m	TM	VL1824	3	4	4	1,14	93	1,06	100
Active >24m	DTS	VL2440	26	24	21	1,05	43	1,06	44
Active >24m	MGP	VL2440	1	1		1,01	96		
Active >24m	MGP	VL40XX	1			0,97	90		
Active >24m	PS	VL40XX		1	1			0,83	94
Active >24m	TM	VL2440	9	9	7	1,02	86	1,06	91
Active >24m	TM	VL40XX	8	7	10	1,04	83	1,04	91

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.

Table A2. Stock at risk indicator

Fleet segment name	Fishing tech	Vessel length group	No. vessels 2013	No. vessels 2014	No. vessels 2015	2008	2009	2010	2011	2012	2013	2014
Passive <10m	DFN	VL0010	221	240	242	0	0	0		0	0	1
Passive <10m	FPO	VL0010	310	304	301	1	1	1		2	2	2
Passive <10m	HOK	VL0010	21	16	17	0	0	0		0	0	0
Passive <10m	PGO	VL0010		1	1	2	0	1				
Passive <10m	PGP	VL0010	32	34	41	1	0	0		0	0	0
Passive 10-12m	DFN	VL1012	96	92	87	0	0	0		0	0	0
Passive 10-12m	FPO	VL1012	32	28	32	0	0	0		0	0	0
Passive 10-12m	HOK	VL1012	13	11	9	0	0	0		0	0	1
Passive 10-12m	PGP	VL1012	4	5	2		0			3	0	1
Passive >12m	DFN	VL1218	13	12	12	0	0	0		0	0	0
Passive >12m	FPO	VL1218	1	2	1	0	0	0				
Passive >12m	HOK	VL1218	2	2	1	2	1	1		1		
Active 10-12 m	DRB	VL0010			1	0	0					
Active 10-12 m	DTS	VL0010	20	20	22	0	0	0		2	1	1
Active 10-12 m	DTS	VL1012	50	53	49	0	0	0		0	0	0
Active 10-12 m	PMP	VL0010	4	3		2	2	1		0	0	0
Active 10-12 m	PMP	VL1012	1		1		0	0		0	0	
Active 10-12 m	PS	VL0010		1	1							
Active 10-12 m	PS	VL1012	1	1	1							
Active 10-12 m	TM	VL1012		1	1							
Active 12-18 m	DTS	VL1218	71	67	68	0	0	0		0	0	1
Active 12-18 m	PMP	VL1218			1							
Active 12-18 m	PS	VL1218	1	1	1							
Active 12-18 m	TM	VL1218		1	1							
Active 18-24 m	DTS	VL1824	43	37	37	0	0	0		0	0	2
Active 18-24 m	TM	VL1824	3	4	4	0	0				0	
Active >24m	DTS	VL2440	26	24	21	0	0	0		0	1	0
Active >24m	MGP	VL2440	1	1				1			0	
Active >24m	MGP	VL40XX	1					1			0	
Active >24m	PS	VL40XX		1	1							0
Active >24m	TM	VL2440	9	9	7	1	0	1		0	1	1
Active >24m	TM	VL40XX	8	7	10	0	0	1		0	1	1