

Swedish Fleet Capacity Report 2020 (final¹)

Introduction

According to Article 22 of EC Regulation 1380/2013², the EU Member States should annually submit a report on the balance between the fishing capacity of their fleets and their fishing opportunities. Article 22 indicates what type of information and indicators that should be included in the report and the supplementary guidelines (COM(2014)545³) provides details on the technical, biological and economic indicators. The guideline states that an assessment of whether 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 1004/2017⁴.

It should be noted that Sweden submitted a preliminary fleet report for the year 2020 on March 31, 2021, together with an action plan. The action plan proposed measures for reducing identified overcapacity among vessels previously targeting cod in the Baltic Sea. The present report contains updated data and is the final fleet report for Sweden for 2020. Since an action plan was already submitted this year, a new action plan is not attached with this report.

It is important to note that for the economic and technical indicators, the Swedish fleet segments are not identified by specific gears, but designated by active/passive gear groups and by length group. Since the biological indicators are calculated for specific gears, this implies a mismatch in segmentation between the economic/technical indicators and the biological indicators. This was noted in STECF 20-11⁵ (p 186). It is the secrecy of the Swedish economic data that prevents segmentation by specific gears; there would be too few vessels in many of the segments to allow for such a detailed segmentation.

¹ Sweden submitted a preliminary fleet report and action plan on March 31, 2021. The present report contains updated data and is the final report for 2020.

² 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

³ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL 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

⁴ Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008

⁵ 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-20-11). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27163-5, doi:10.2760/414107, JRC123057.

Description of the Swedish fleet

Table 1 provides a general description of the Swedish fishing fleet for the period 2012-2020. During this period, the number of vessels declined by 23%. In 2020, there were 1042 vessels, of which 816 were used for active fishing. Inactive vessels are defined as vessels that did not fish at any time in the year. The overall tonnage declined by around 4 thousand tonnes (corresponding to around 13 % compared to 2012) over the period, and engine power declined by around 33 thousand kW (corresponding to around 19 % compared to 2012).

Table 1 The Swedish fishing fleet 2012-20.

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of vessels	1358	1354	1328	1298	1254	1207	1175	1136	1042
of which inactive vessels	310	336	308	296	280	297	288	279	226
Share inactive vessels	0,23	0,25	0,23	0,23	0,22	0,25	0,25	0,24	0,22
Average age (years), active vessels	32,0	32,6	33,5	34,1	35,0	35,3	35,9	36,5	36,7
Average length (m), active vessels	10,9	10,8	10,7	10,6	10,4	10,3	10,3	10,4	10,3
Tonnage of vessel (1000 GT)	31,3	30,7	31,4	30,8	31,9	28,2	28,0	27,8	27,3
Engine power (1000 kW)	177,1	174,5	171,1	167,9	170,6	159,3	153,6	152,0	144,1

Figures 1-3 below and Table A1 in the Appendix gives an overview of the development of the fleet (number of vessels, gross tonnage and kilowatts) over the years 2012 and 2020. Figure 1 shows that the segment “passive gear < 10m” is the largest in terms of number of vessels. In terms of gross tonnage and kW, the segment “Active gear < 24 m” is the largest. The compiled figures in Table A1 show that capacity has generally decreased over the past eight years in terms of the number of vessels, gross tonnage and kilowatts.

Figure 1 Number of vessels per segment (active fleet) for the years 2012-2020.

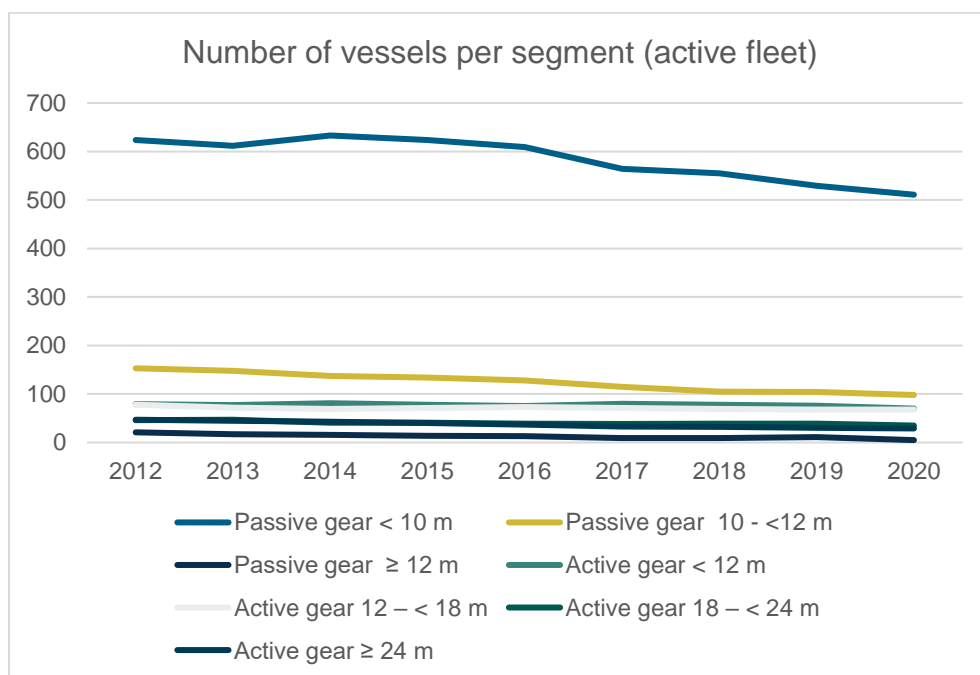


Figure 2 Gross tonnage per segment (active fleet) for the years 2012-2020.

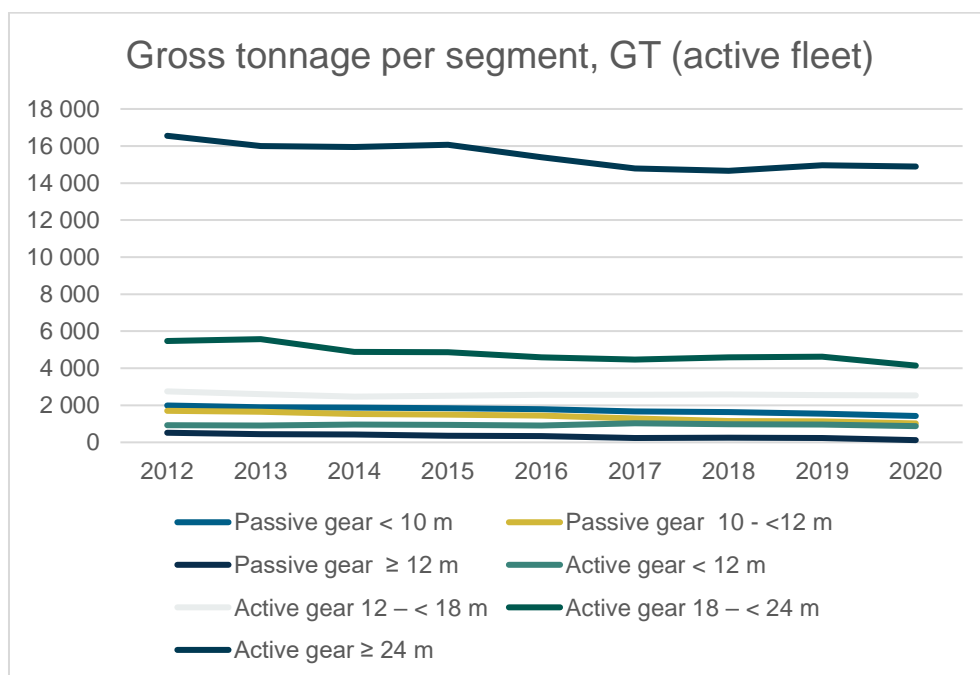
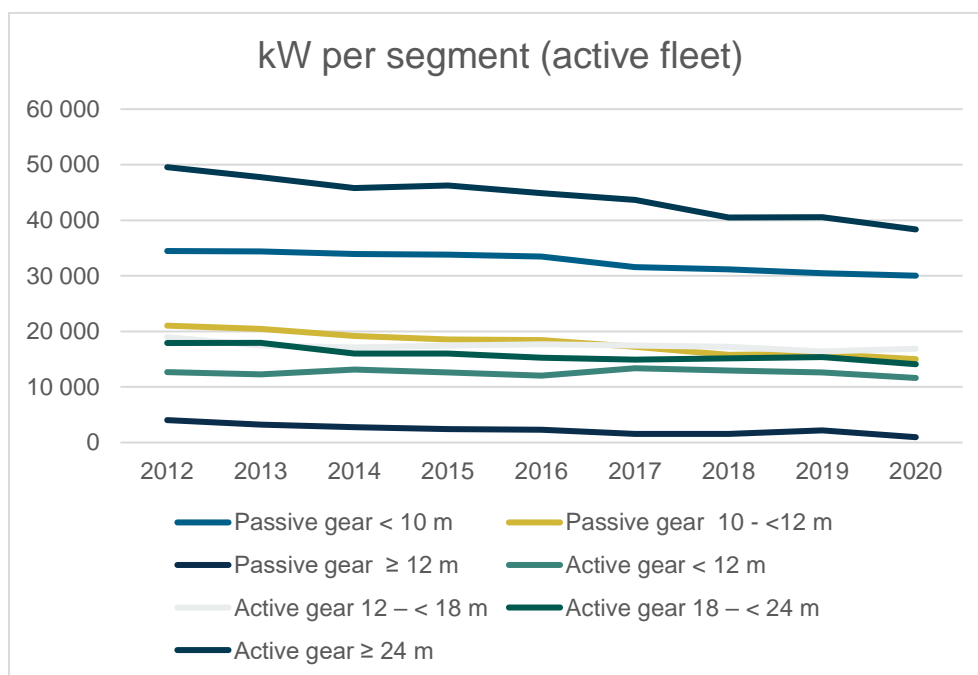


Figure 3 kW per segment (active fleet) for the years 2012-2020.



The development of landed weight and landed value for the segments over the period 2012-20 are displayed in figures 4-5 below and in Table A2 in Appendix. The total weight landed by the Swedish fleet in 2020 was 170 854 thousand tonnes of seafood, with a landed value of 114 907 € million. The total weight and the value of landings vary over the period analysed due to for example variation in quotas, especially the pelagic species since they are the major part of the landings. It can further be observed that vessels with active gears account for the main part of the landed value and the landed weight. During the time period 2012-2020, the vessels with active gears annually accounted for 96-99% of the total catch measured in weight, and 86-90% of the total catch value. Thus, the vessels with passive gears only accounts for 1-4% of the total catch measured in weight, and 10-14% of the total catch value. The share of passive vessels production shows a downward trend in both value and weight.

Figure 4 Landed weight per segment (active fleet) for the years 2012-2020.

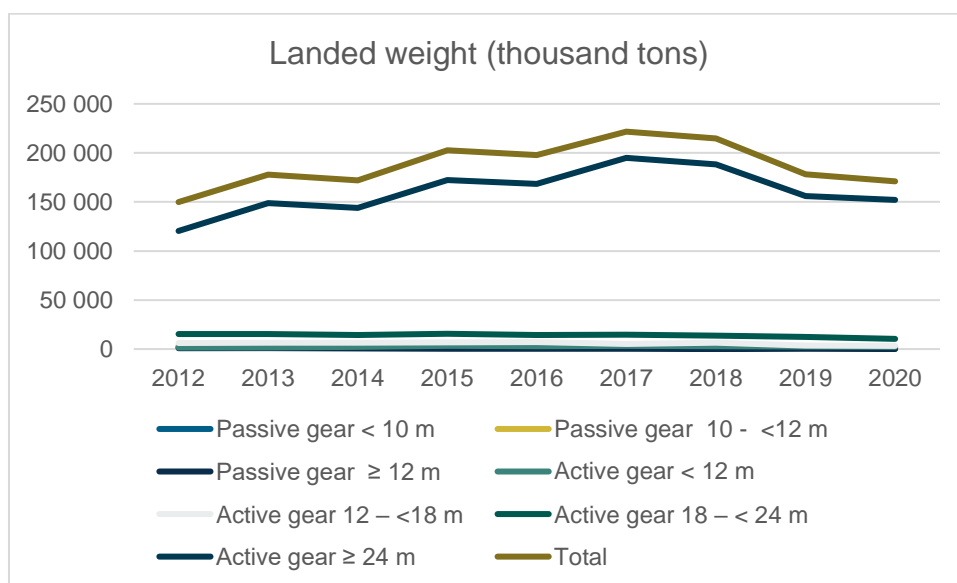
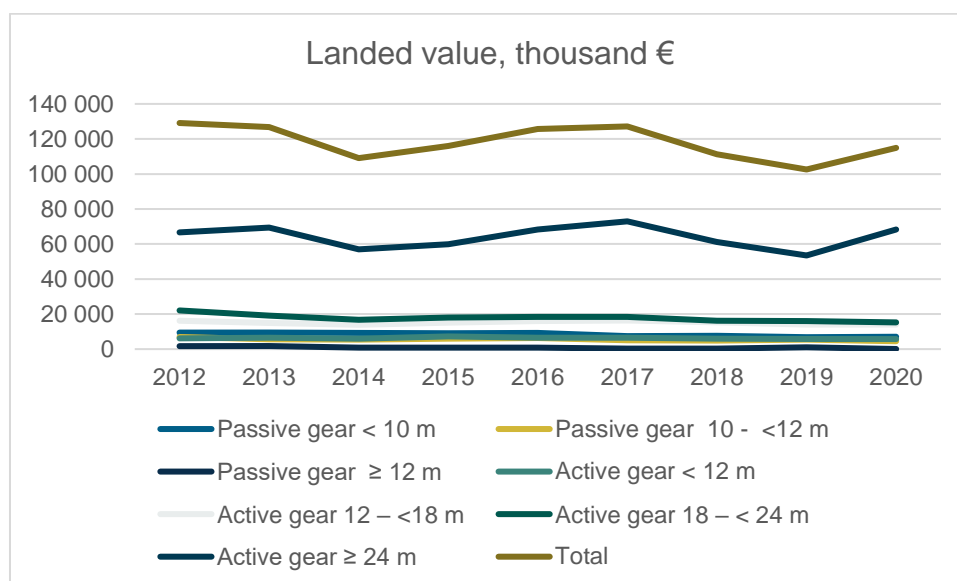


Figure 5 Landed value per segment (active fleet) for the years 2012-2020.

Effort reduction schemes

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. Separate fishing permits were introduced for fishing with cod-catching gear in the subareas for the western and eastern Baltic Sea in 2018 (prior to 2018 there was one common permit for the whole Baltic Sea).

On July 23, 2019, the European Commission decided to ban commercial fishing for cod in ICES sub divisions 24-26 as an emergency measure to protect the eastern stock of cod in the Baltic Sea. The decision to stop cod fishing applied during the period 24 July to 31 December 2019. Similar measures were adopted by the Council in the 2020 and the 2021 fishing opportunities to ensure continued protection of the eastern stock of cod. ICES predicts the stock to continue to be under biological reference points for the coming years even at no fishing. Thus, the recovery of the stock will at best take some time.

License holders who during the year only had a fishing permit for cod trawling equipment in the Baltic Sea were during 2019, 2020 and 2021 given the opportunity to apply to fish for Nephrops. with bottom trawl equipped with a sorting grid in the North Sea, as a consequence of the ban of commercial fishing for cod in ICES sub-areas 24-26.

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

A special permit is required for cod-catching gears (including passive gears with vessels 10 meters and longer) in Skagerrak, Kattegatt and the North Sea. Within the system of annual individually allocated demersal fishing opportunities applied since 2017, applications for new permits are tested each year.

As mentioned above license holders who during the years 2019, 2020 and 2021 only had a fishing permit for cod trawling equipment in the Baltic Sea were given the opportunity to apply to fish for nephrops with bottom trawl provided with sorting grid in the North Sea, because of the ban of commercial fishing for cod in ICES sub-areas 24-26. Three license holders who had a trawl fishing permit for cod catching gear in the Baltic Sea were granted a fishing permit for nephrops with a

bottom trawl with a sorting grid in 2019. In 2020, two license holders who had a trawl fishing permit for cod catching gear in the Baltic Sea were granted a fishing permit for nephrops with a bottom trawl with a sorting grid. They did however not use their permits and did not thus not fish in the Skagerrak, Kattegatt and the North Sea neither in 2019 nor in 2020.

Other than that, no new permits were accepted for cod catching gears in Skagerrak, Kattegatt and the North Sea in 2020 (as in 2019) due to the scientific catch estimations (considering mixed-fisheries) and the level of the Swedish fish quotas.

Permits for fishing for northern prawn

Due to the stock situation for northern prawn, no new fishing permits for northern prawn were issued for 2020. The number of permit holders in this fishery has been constant at 62 for many years.

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. 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 laid down in Annex II of Regulation (EU) No 1380/2013 is 43 386 GT and 210 829 kW. As can be seen in table 1, the capacity in the Swedish fleet was around 144 100 kW and 27 300 GT in 2020. Sweden is thus well below the capacity limits.

General fleet management: strenghts and weaknesses

New system with annual individual fishing opportunities in the demersal fisheries from 2017

With background of the needs created by the landing obligation, the Swedish Agency for Marine and Water Management (SwAM) in 2017 introduced a system with individual annual fishing opportunities that can be temporarily transferred between fishermen during the year. The individual allocations are, with some exceptions and adjustments, based on reported catches during the reference period 2011-14. The design of the system pays particular attention to small-scale coastal fisheries fishing with passive gears for which unallocated quotas are reserved. The new system means increased flexibility and better possibilities for individual fishermen to adjust their fishing opportunities during the year, which probably gives them better possibilities to comply with the landing obligation. The first year with the new system was evaluated by SwAM in 2018. The evaluation showed, among other things, that the number of quota transfers was high already the first year. At the same time trade frictions existed (e.g. difficulties to find someone who could transfer fishing opportunities). There are also other challenges connected with the system. Although the system allows for increased flexibility, quotas may still be limiting at the individual level. Given economic incentives to maximize the value of the own fishing opportunities, this may affect compliance as it creates incentives for high-grading and discard of unwanted by-catches. Another concern is that since the fishing opportunities are only annual, fishermen face uncertainty about what fishing opportunities and income they will have the coming years. A further challenge is that various "lock-in" effects can be observed in the present system. In 2020, SwAM reported on a government assignment to evaluate system with individual annual fishing opportunities in the demersal fisheries and to suggest improvements. SwAM considers that transferable fishing rights, with a longer validity than hitherto, should also be introduced in demersal fisheries. With the right design, and in combination with regulations and control measures, SwAM considers that such a system can contribute to a simpler and more transparent system to allocate fishing opportunities, increased opportunities for more profitable fishing and better opportunities for fishermen to adjust

their individual fishing opportunities. A simpler and easier-to-understand system would also create better conditions for adapting the system to other tools in an ecosystem-based management. In case the system would be adjusted to allow for longer-term fishing rights, the design of such system is of critical importance in order to avoid unwanted effects. SwAM does however at the moment not have the legal mandate to implement such a system in the demersal fisheries.

The pelagic system was extended for 10 years

During 2019, the SwAM decided to renew the transferable fishing rights for the pelagic fisheries for another 10 years. The new ten year period started in 2020. The pelagic quotas have been allocated between fishing rights, annual pelagic fishing opportunities, regional fishing opportunities and coastal quotas since 2009. The changes that were introduced from 2020 mainly concern the size of the coastal quotas, the introduction of transferable fishing rights for herring and sprat in ICES sub-areas 30-31 (the Bothnian Sea and the Gulf of Bothnia) and the introduction of regional allocation in the same sub-areas.

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 Swedish 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 (Fiskerätt) where the fishermen can administrate their applications for transfers of fishing opportunities. During 2019 and 2020, SwAM developed an automatised procedure for the calculation of the individual allocations.

Maximum allowed levels of fishing opportunities

In the system of annual individually allocated fishing opportunities introduced in 2017 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. For example, no license holder may have fishing opportunities of nephrops in Skagerrak/Kattegatt corresponding to more than 6% of the total individually allocated quantity of the nephrops quota.

Balance indicators

Biological indicators

The current fleet report guidelines (COM(2014)545⁶) states that two biological indicators should be considered: the sustainable harvest indicator (SHI) and the stock at risk indicator (SAR). The Commission arranges the calculation of these indicator values which are based on DCF (Data Collection Framework) data and assessments by ICES and STECF. The calculated values, which are not updated every year, are provided to the member states to be included in their national fleet

⁶ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL 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

reports.⁷ Values of the indicators are now available until 2018 and are summarized in Table A3 in the Appendix.

As commented in the introduction, the biological indicators are calculated at a more detailed segmentation level (by specific gear type) compared to the Swedish economic fleet data for which segmentation is done by active/passive gears and vessel length group. This implies that the economic/technical and biological indicators are not directly comparable for Sweden. However, secrecy of the Swedish economic data prevents a more detailed segmentation for the economic data (there would be too few vessels in each segment).

Sustainable harvest indicator (SHI)

The SHI indicator reflects “the extent to which a fleet segment is dependent on overfished stocks”. “Overfished” means in this context that a stock is fished above F_{msy} (the fishing mortality rate corresponding to maximum sustainable yield). The indicator is a weighted average of the ratio F/F_{msy} , where F is the fishing mortality and F_{msy} is the fishing mortality corresponding to MSY (maximum sustainable yield). This ratio calculated for the different stocks that the segment makes catches from, which are then weighted together to one single indicator using the value of landings as weight. A value less than one is considered as an indication of a sustainable exploitation of the stock and a value higher than one is as a sign of overfishing of the stock. The indicator covers only stocks for which fisheries management is based on target levels expressed as fish mortality (other targets are used for other species), which is a shortfall of this indicator.

Among the Swedish fleet segments using active gears, the SHI indicator for 2018 is above one for some segments with gear types purse seiners (PS) and pelagic trawlers (TM), but generally not for demersal trawler (DTS) with the exception of “DTS VL24-40”. High values of the SHI in 2018 are also found among some 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 1-4% of the total catch measured in weight during the time period 2012-20. In addition to these factors, there are several uncertainties and shortcomings connected with the SHI-indicator which are discussed in STECF reports, for example in STECF-15-02⁸ (p 40-41) and STECF-18-14⁹ (p 221-223).

Stock at risk indicator (SAR)

A further, complementary, biological indicator is the stock at risk (SAR) 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 higher than 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 A1. It can be noted the indicator has a value of 1 or higher for 12 segments (both active and passive gears). Note that it is all the segments that was possible to measure according to STECF-20-11¹⁰

⁷ They are accessible at: <http://stecf.jrc.ec.europa.eu/reports/balance>

⁸ 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.

⁹ 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-18-14). Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79397-4, doi:10.2760/166887, JRC114767.

¹⁰ 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

(p 182). As for the SHI-indicator, STECF has highlighted various issues also with regards to the SAR-indicator in their reports, for example in STECF-15-02¹¹ (p 45-46) and STECF-18-14¹² (p 223-225).

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 2. This indicator shows the return on fixed tangible 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, contributing to overvaluation. Values below one are found among segments using passive gear and are the segments not as economic sustainable.

Table 2. Return on fixed tangible assets (ROFTA) 2012-2019

Value for one calendar year (%)	2012	2013	2014	2015	2016	2017	2018	2019
Passive gear < 10 m	-43,2	-48,8	-53,1	-49,0	-51,9	-61,1	-51,1	-52,6
Passive gear 10 - < 12 m	-7,6	-14,2	-6,5	7,9	0,3	-6,8	-1,3	1,2
Passive gear ≥ 12 m	7,1	-4,9	-24,0	-20,5	-18,7	-30,4	-33,3	51,1
Active gear < 12 m	6,1	17,7	6,0	17,5	42,1	7,5	23,8	34,2
Active gear 12 – < 18 m	26,5	23,8	40,0	54,7	72,9	81,5	77,1	20,4
Active gear 18 – < 24 m	6,4	9,0	4,4	6,1	10,7	11,9	19,3	27,6
Active gear ≥ 24 m	35,6	39,8	20,3	21,9	56,1	45,9	9,2	24,5
Long-term risk-free interest (%)	1.0	1.0	1.0					

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

All segments with active gears achieve a positive return on invested capital over time. For 2019, return on invested capital is also positive for the segments of vessels using passive gears over 10 meter, but not for passive gears under 10 meters. It should again be noted that total revenue includes all revenue and not just landed value. As a complement to Table 2, Table 3 provides an overview of total revenue in the various segments over the period 2012-2019.

opportunities (STECF-20-11). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27163-5, doi:10.2760/414107, JRC123057.

¹¹ 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.

¹² 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-18-14). Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79397-4, doi:10.2760/166887, JRC114767.

Table 3. Total revenue over time 2012-2019 (thousand €)

	2012	2013	2014	2015	2016	2017	2018	2019
Passive gear < 10 m	10 443	10 263	10 191	9 844	9 899	7 953	7 245	7 897
Passive gear 10 - < 12 m	7 625	6 244	6 085	6 592	6 838	5 462	5 835	6 044
Passive gear ≥ 12 m	2 024	1 719	860	779	795	351	1 078	1 446
Active gear < 12 m	6 585	7 320	6 604	8 124	7 668	7 342	6 557	6 875
Active gear 12 – < 18 m	17 411	16 088	15 071	16 435	17 753	18 021	15 541	14 707
Active gear 18 – < 24 m	23 493	20 486	18 027	18 870	19 027	19 316	16 916	19 953
Active gear ≥ 24 m	76 597	75 211	64 019	63 456	69 606	76 278	56 807	68 930
Total	144 179	137 330	120 858	124 099	131 585	134 722	109 979	125 851

Rate 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).

The segments with active gears display a ratio of current revenue to break-even revenue greater than 1 in 2019 and has done so in the previous years. Among the segments using passive gears it is only those under 10 meters that show a value less than 1 in 2019 (and this has been the case for a long period). The segment with passive gears larger than 12 meter has improved its value since 2018.

Table 4. Current revenue against break-even revenue 2012-2019.

Value for one calendar year (%)	2012	2013	2014	2015	2016	2017	2018	2019
Passive gear < 10 m	-0,3	-0,4	-0,4	-0,3	-0,3	-0,7	-0,4	-0,32
Passive gear 10 - < 12 m	0,7	0,5	0,8	1,2	1,0	0,8	1,0	1,0
Passive gear ≥ 12 m	1,2	0,8	0,3	0,4	0,4	0,1	-0,1	2,6
Active gear < 12 m	1,2	1,5	1,1	1,6	2,4	1,3	1,8	1,9
Active gear 12 – < 18 m	1,7	1,6	2,0	2,4	2,7	3,1	3,0	1,5
Active gear 18 – < 24 m	1,2	1,2	1,1	1,2	1,3	1,4	1,5	1,8
Active gear ≥ 24 m	2,3	2,3	1,7	1,9	3,0	2,8	1,4	2,0

The economic indicators reported in Tables 2 and 4 seem to indicate a degree of overestablishment in the segments with passive gears. 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 a major extent. Moreover, the operators within these segments are often engaged in part-time fishing, whereby fishing is not sole source of income of the operator. It should also be noted that there are considerable differences within the segments.

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, as shown in Table 1, 22% in 2020. The guideline states that the critical threshold level is 20%. Thus, the overall share of inactive vessels exceeds the critical value. To be able to make a meaningful assessment of this indicator it is however necessary to consider how the inactive vessels are distributed among different length segments. Therefore, Table 5 displays the number of inactive vessels stratified by length (<10 meters, 10-12 meters, and >12 meters) and Table 6 shows the share of inactive vessels for vessels below and over 12 meters. As can be seen in Table 5, the majority of the inactive vessels are vessels shorter than 12 meters. When considering only vessels longer than 12 meters, the share of inactive vessels was 12% in 2020 and increased since 2019. This value is however still well below the critical level of 20%.

Table 5. Number of inactive vessels by length group.

Segment	Number of inactive vessels per year									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	
<10m	278	296	263	250	236	251	243	229	183	
10-<12m	25	30	31	33	30	33	33	35	24	
≥12m	7	10	14	13	14	13	12	15	19	
Total sum	310	336	308	296	280	297	288	279	226	

Table 6. Share of inactive vessels for vessels shorter and longer than 12 meter.

Segment	Share of inactive vessels per year									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	
<12m	0,26	0,28	0,26	0,25	0,25	0,27	0,27	0,27	0,23	
≥12m	0,04	0,05	0,08	0,07	0,08	0,08	0,07	0,09	0,12	

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. The maximum possible days at sea can be calculated using either a theoretical number of days or using the observed actual maximum achieved days at sea. The latter, which is presented in Table 7, is based on the 90% percentile.

According to the guidelines, a value continually below 0.7 indicates structural overcapacity. In previous years, the values of this indicator lied above the critical threshold for the segments of vessels greater than 18 m, whereas values below 0.7 were observed for the segments of vessels shorter than 18 meters. In 2019 and 2020, however, values below the critical level are also observed for segments of vessels above 18 meters. One exception is the segment of vessels with passive gears larger than 12 meters that shows a value greater than 0.7 in 2020.

One possible explanation for the lower average values in 2019 and 2020 is the emergency measures decided by the Commission at the end of July 2019 to ban commercial fishing for cod in most of the Baltic Sea until the end of the year and the prohibition of targeted cod fishing from 1

January 2020. The segments that contain cod vessels will thus have a low number of days at sea in 2019 and 2020 resulting in a low average days at sea. This in turn implies a low value of the indicator, which is the case for many segment in 2019 and 2020 as shown in Table 7.

It should also be noted that the Guidelines for the analysis of the balance between fishing capacity and fishing opportunities¹³ states that “The chosen indicator should be presented and assessed for a period of several years in order to show whether the ratios are stable over time” (p 15). The lower values for vessels longer than 18 meters are observed in 2019 and 2020.

It is furthermore 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. The last mentioned factor implies that fishermen with individual quotas are restricted by their allocation of quota. This means that it is necessary to interpret this indicator with caution. Further, there is sometimes a large spread within each segment which is important to have in mind.

Table 7. Average days at sea to maximum days at sea ratio (year 2018-2020)

Year	Segment	Current effort		Maximum Effort, observed days*	Exploited capacity (share*)
		Number of vessels	Average Days		
2020	Passive gear < 10 m	511	58	118	0,49
	Passive gear 10 - < 12 m	98	70	169	0,41
	Passive gear ≥ 12 m	5	56	77	0,73
	Active gear < 12 m	70	49	119,5	0,41
	Active gear 12 – < 18 m	68	81	151	0,54
	Active gear 18 – < 24 m	35	123	191	0,64
	Active gear ≥ 24 m	29	143	253	0,56
2019	Passive gear < 10 m	528	59	128	0,46
	Passive gear 10 - < 12 m	104	72	161	0,45
	Passive gear ≥ 12 m	11	49	101	0,48
	Active gear < 12 m	76	48	113	0,42
	Active gear 12 – < 18 m	68	76	159	0,48
	Active gear 18 – < 24 m	39	125	203	0,62
	Active gear ≥ 24 m	30	141	244,5	0,58
2018	Passive gear < 10 m	555	60	126	0,47
	Passive gear 10 - < 12 m	105	74	158	0,47
	Passive gear ≥ 12 m	9	87	148	0,78
	Active gear < 12 m	78	57	132	0,43
	Active gear 12 – < 18 m	69	95	160	0,59
	Active gear 18 – < 24 m	39	146	189	0,77
	Active gear ≥ 24 m	32	184	215	0,86

* Estimated on the basis of 90% percentile

¹³ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL 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

Executive summary and conclusions

In accordance with the guidelines, this report contains technical, biological and economic indicators in order to assess whether balance between capacity and fishing opportunities exist in the Swedish fishing fleet. Several issues have been highlighted by STECF regarding these indicators and to what extent the technical and economic indicators are relevant for small scale segments (see for example STECF-18-14¹⁴), which we consider in our conclusions.

With regard to the economic indicators, return on investment and current revenue to break-even revenue, values below the critical thresholds can be observed over time for the segments of vessels using passive gears. The first technical indicator/vessel use indicator, average days at sea to maximum days at sea ratio, displays values at critical levels for almost all segments in 2020 and 2019, with an exception for vessels using passive gears larger than 12 meters in 2020. In the previous years, however, the indicator did not show critical values for vessels longer than 18 m. This may partly be due to the emergency measures in the Baltic Sea in July 2019 and ban of directed cod fishery since 2020. The other vessel use indicator, share of inactive vessels, was 22% in 2020 (average whole fleet), which is above the critical threshold of 20%. However, when considering only vessels longer than 12 meters, the share of inactive vessels was 12% in 2020.

When interpreting the critical levels that can be observed over time for the economic and technical indicators for the small scale segments using passive gears, it is necessary to keep in mind that these segments account for a very small share of the total catches. They do thus not use the accessible fish resources to any major extent. Moreover, the operators within these segments are often engaged in part-time fishing. These issues have also been raised by STECF in their different reports. In for example STECF-18-14¹⁵ (p 226), it is recognized that assessment of economic and technical indicators is challenging for the small scale fleet segments. For example, economic indicators presume that fishing activity is the main activity of the fleet segment being assessed which is often not the case for small scale fishing fleets. This means that the critical values observed for the small scale segments using passive gears not necessarily should be interpreted a sign of imbalance.

Catches of cod in the Baltic Sea, both among those fishing with active and passive gear, have significantly decreased in recent years, which is probably due to difficulties in obtaining profitability in the fishery (which in turn is due to the poor condition of the stock). In 2019, an emergency measure was introduced when fishing for cod in the southern Baltic was stopped. Targeted cod fisheries in has since 1 January 2020 been prohibited in order to continue the protection of the eastern Baltic Sea cod stock. In addition, there is a closure which means that all fishing in the cod's core areas is prohibited for different periods in 2020 (and in 2021). The fishing stop affects the fishermen who fish for cod in the Baltic Sea but also vessels fishing for herring in the affected areas. In the current situation with cod fishing stops in the Baltic Sea, it is probably difficult for most of the cod fishing vessels affected by the stop to replace this fishing with other fishing, although there are some opportunities. Yet the outlook for these fishermen do not look bright and even though alternative options are introduced they are still severely suffering from the fishing stops.

The current situation with cod fishing stops in the Baltic Sea has led to a difficult situation for most of the cod fishing vessels that are affected by the fishing stop. They have a hard time replacing the "lost" fishing opportunities with other fishing opportunities, even if there are some possibilities. The vessels that have mainly targeted cod in the Baltic Sea thus contributes to an overcapacity of the

¹⁴ 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-18-14). Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79397-4, doi:10.2760/166887, JRC114767.

¹⁵ 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-18-14). Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79397-4, doi:10.2760/166887, JRC114767.

Swedish fleet which was illustrated by critical levels of their economic indicators presented in an action plan submitted on March 31, 2021 (together with a preliminary version of the Swedish fleet capacity report for 2020). Measures for reducing this fleet capacity, in the form of permanent cessation, were proposed in the action plan. One remark with regard to the action plan submitted on March 31, 2021, is that updated calculations show that 19 vessels are entitled to the proposed measure of permanent cessation. They have been identified by looking at their level of fishing activity as well as their economic dependences on cod landings. This means that two additional vessels, as compared to the number presented in the action plan, are entitled to the proposed measure. The two additional vessels both belongs to the segment DFNVL1012 (vessels using passive gears with a length between 10 and 12 meters). They have a total energy power of 170 kW and a total tonnage of 24 GT and this has been unchanged over the period 2015-19.

As discussed in the preliminary fleet report for 2020 and in the action plan, it should be noted that the measures suggested in the action plan will not imply that all indicators for all segments will turn to uncritical levels. The suggested measure is however important to remove up to 19 vessels that have had a majority of their income from cod in the Baltic Sea. They thereby contributes to an imbalance between fishing capacity and fishing opportunities in the Swedish fishing fleet.

As noted above and in earlier fleet reports, the critical levels for the small scale segments using passive gears should not necessarily be interpreted as overcapacity. In those segments, it is probably common with part-time fishing. This means that fishing capacity is not fully utilized but at the same time does not entail the risk of overfishing. These segments also represent a very small share of total catches.

It was further commented in the action plan submitted on March 31 that the quota for western Baltic herring has decreased sharply in recent years. In 2021, the Swedish quota for western Baltic herring will be allocated to the small-scale fisheries. Those who have individual fishing rights will thus not be allocated any quota in 2021. Extra quantities of herring have been reserved for the nearby coastal quotas for compensating the lower level of the western Baltic small-scale quota. The impact for those with individual fishing rights probably varies among vessels depending on their individual composition of fishing rights of different quotas. Economic indicators for the 12 vessels with individual fishing rights for western Baltic herring shows that they overall perform well, with some individual variation. Economic data is however only available until 2019 and the results might change when economic data for 2020 and later years is available.

The biological indicators are available until 2018. The biological indicator SHI (sustainable harvest indicator) is for some Swedish fleet segments above one. The high values of the SHI indicator are mainly found among the segments with passive gears, but also for some segments with pelagic trawlers and purse seiners. One factor to consider when interpreting the SHI indicator is the segments' share of total catches. Furthermore, in STECF-15-02¹⁶, 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-15-02¹⁷, p 13). The other biological indicator, stocks at risk (SAR) shows that 12 segments have a value above one (all segments for which the indicator was possible to calculate), including segments with both active and passive gears.

¹⁶ 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.

¹⁷ 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.

As noted by STECF 20-11¹⁸, p 186, and as commented in the introduction of this report, the segmentation level used for the biological indicators are at a more detailed level as compared to the economic and technical indicators. The segmentation level used for the biological indicators is by specific gear type and vessel length whereas for the economic and technical indicators segmentation is by active/passive gears and vessel length. The reason for not using the more detailed segmentation level also for the economic/technical indicators is that this would conflict with the secrecy of the economic data, as there would be too few vessels in each segment. It however means that the segments are not directly comparable for economic/technical and biological indicators. One possible option to avoid a future mismatch in segments is to calculate the biological indicators at the same level as the economic/technical level. That would however require further investigation since valuable information might get lost.

It should finally be noted that the segmentation used (which is in accordance with the Data Collection Framework) affects the conclusions allowed to be drawn. Any conclusion regarding whether imbalance exist in various segments depends not only on what indicators are used but also on how the segmentation is done. 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.

¹⁸ 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-20-11). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27163-5, doi:10.2760/414107, JRC123057.

Attachment: Tables

Table A1 Development of the fleet (active and inactive vessels) in the period 2012-2020.

		2012	2013	2014	2015	2016	2017	2018	2019	2020
Vessels per segment, active fleet	Passive gear < 10 m	624	612	633	624	609	564	555	529	511
	Passive gear 10 - <12 m	153	148	137	134	128	115	105	104	98
	Passive gear ≥ 12 m	21	17	16	14	13	9	9	11	5
	Active gear < 12 m	79	77	81	78	75	80	78	76	70
	Active gear 12 – < 18 m	78	72	69	71	73	71	69	68	68
	Active gear 18 – < 24 m	46	47	41	41	39	38	39	39	35
	Active gear ≥ 24 m	29	47	45	43	40	37	33	32	30
Vessels per segment, inactive fleet	< 10 m	278	296	263	250	236	251	243	229	183
	10 - < 12 m	25	30	31	33	30	33	33	35	24
	≥ 12 m	7	10	14	13	14	13	12	15	19
Gross tonnage per segment, active fleet	Passive gear < 10 m	1 991	1 899	1 875	1 837	1 789	1 665	1 630	1 551	1425
	Passive gear 10 - <12 m	1 703	1 653	1 528	1 505	1 440	1 287	1 151	1 130	1022
	Passive gear ≥ 12 m	518	450	419	362	340	243	244	242	120
	Active gear < 12 m	922	916	958	946	916	1 030	983	959	876
	Active gear 12 – < 18 m	2 753	2 599	2 469	2 515	2 565	2 568	2 589	2 547	2 538
	Active gear 18 – < 24 m	5 465	5 573	4 880	4 860	4 591	4 469	4 597	4 628	4 144
	Active gear ≥ 24 m	16 550	15 995	15 940	16 068	15 390	14 787	14 661	14 969	14 900
Gross tonnage per segment, inactive	< 10 m	607	652	574	536	495	555	519	514	446
	10 - < 12 m	229	271	320	307	295	324	347	388	304
	≥ 12 m	602	695	2 478	1 890	4 038	1 235	1 288	846	1 480
kW per segment, active fleet	Passive gear < 10 m	34 465	34 365	33 956	33 821	33 456	31 582	31 186	30 497	30024
	Passive gear 10 - <12 m	21 033	20 442	19 191	18 566	18 455	17 194	15 766	15 980	15 002
	Passive gear ≥ 12 m	4 034	3 214	2 745	2 426	2 296	1 556	1 575	2 166	959
	Active gear < 12 m	12 682	12 288	13 140	12 629	12 032	13 366	12 957	12 622	11 621
	Active gear 12 – < 18 m	18 953	17 475	17 083	17 471	17 705	17 451	17 200	16 398	16 858
	Active gear 18 – < 24 m	17 930	17 938	16 007	16 025	15 236	14 922	15 143	15 367	14 093
	Active gear ≥ 24 m	49 550	47 769	45 798	46 239	44 883	43 684	40 475	40 562	38 350
kW per segment, inactive fleet	< 10 m	12 290	13 243	11 910	11 010	10 177	11 021	11 087	10 489	7 648
	10 - < 12 m	3 573	4 501	4 087	4 745	4 370	4 176	3 993	4 480	3 767
	≥ 12 m	2 543	3 279	7 221	4 983	12 020	4 278	4 183	4 323	5 969

Table A2 Landed weight and value per segment for the years 2012-2020.

	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 (thousand tons)	2012	2 335	3 043	851	1 509	6 325	15 369	120 414	149 846
	2013	2 246	2 334	816	1 701	6 446	15 420	148 786	177 749
	2014	2 513	2 266	457	2 248	6 446	14 366	143 805	172 100
	2015	2 442	1 992	426	3 288	6 737	15 570	172 240	202 695
	2016	2 321	2 296	386	2 894	7 109	14 437	168 403	197 846
	2017	1 849	1 675	241	3 074	5 139	14 755	194 930	221 663
	2018	1 703	1 867	125	2 864	6 367	13 606	188 151	214 682
	2019	1 492	1 737	290	2 619	3 604	12 335	155 938	178 014
	2020	1 339	1 555	21	2 245	3 230	10 396	152 068	170 854
Landed value (thousand €)	2012	9 356	6 947	1 702	6 074	16 217	22 083	66 728	129 106
	2013	9 470	5 663	1 686	6 442	14 939	19 184	69 469	126 854
	2014	9 218	5 466	841	5 960	13 900	16 734	57 015	109 135
	2015	9 072	5 930	770	7 246	15 071	17 968	59 941	115 996
	2016	9 175	6 333	786	6 534	16 091	18 484	68 313	125 716
	2017	7 485	5 001	344	6 585	16 343	18 430	72 964	127 152
	2018	7 526	4 908	233	5 903	15 216	16 235	61 251	111 273
	2019	6 817	5 410	1 072	5 858	13 938	15 999	53 474	102 566
	2020	7 016	4 504	80	5 738	14 085	15 263	68 222	114 907

Table A3 Biological indicators (available at <https://stecf.jrc.ec.europa.eu/reports/balance>, STECF 2020-11 - Balance Indicators Table 2020)

Fishing tech	Vessel length	Total number of vessels											SAR										Status 2018*	SHI										Status 2018*				
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		2018	Trend (5%) 2014/18		
DFN	VL0010	267	267	239	239	239	238	252	253	258	224	216		1	1		2			1	2	2	out of balance	2,52	2,01	2,62	2,08	2,31	2,79	2,59	2,44	2,60	2,05	1,79	decreasing			
FPO	VL0010	364	372	367	346	326	321	328	312	298	305	290	2	2	2	2	2	1	1	1	1	1	out of balance	0,52	0,53	0,53	0,52	1,09	0,75	0,41	0,28	0,41	0,33	0,46	no trend			
PGO	VL0010	1	2	1		1		2	1	2	2	4	1	1																			0,32		-			
PGP	VL0010	30	25	33	32	35	32	34	41	32	21	19			1		1								1,22	0,63	0,68	1,12	0,73	0,81	0,68	0,58	0,70	0,62	0,54	no trend		
HOK	VL0010	31	26	16	20	23	21	17	17	19	13	26				1					1	1	out of balance	2,00	1,84	3,79	0,52	1,30	2,68	1,19	1,12	1,09	1,07	1,86	increasing			
DFN	VL1012	108	109	98	91	94	99	93	89	84	72	64	1	2	2	1	3	1	1	2	3	3	out of balance	2,98	2,70	2,97	2,69	2,62	3,05	2,82	2,93	2,63	2,19	1,86	decreasing	out of balance		
FPO	VL1012	30	28	29	29	34	32	28	34	32	35	32	1		1	1	1	1	1		1	1	out of balance	0,50	0,50	0,49	0,50	1,07	0,73	0,40	0,28	0,42	0,32	0,47	no trend	in balance		
PGO	VL1012	1				1																			0,81											-		
PGP	VL1012	1	4	3	2	7	4	5	2	1	1	1				1	1		1		1					1,01	0,78	0,45	1,10	0,74		0,79					-	
HOK	VL1012	19	18	15	23	17	13	11	9	11	7	8			1	2				1	2	2	out of balance	3,78	3,99	2,72	2,63	3,23	4,09	0,88	1,60	1,94	2,52	2,32	increasing			
DFN	VL1218	19	15	15	13	13	14	12	12	11	7	8	1	2	2	1	3				1	2	2	out of balance	3,33	2,65	2,89	2,87	2,65	3,03	3,25	3,28	3,61	2,99	2,33	decreasing	out of balance	
DFN	VL2440	1																																		-		
FPO	VL1218	4	3	3	4	3	1	2	1	1	1	1													0,50	0,49	0,49	0,49	1,08	0,73	0,39	0,26	0,39	0,32	0,46	no trend	in balance	

