

Date:
31-05-2019

Swedish Fleet Capacity Report 2018

According to Article 22 of EC Regulation 1380/2013¹, 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)545) 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 1004/2017.

Section A. Description of the Swedish fishing fleet

Table 1 provides a general description of the Swedish fishing fleet for the period 2010-18. During this period, the number of vessels declined by 20%. In 2018, there were 1177 vessels, of which 887 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 11,5 thousand tonnes (corresponding to 29% compared to 2010) during the period, and engine power declined by 49,2 thousand kW (corresponding to 24% compared to 2010).

Table 1. The Swedish fishing fleet

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Number of vessels (units) | 1474 | 1408 | 1358 | 1354 | 1328 | 1298 | 1254 | 1209 | 1177 |
| of which inactive (units) | 378 | 343 | 310 | 336 | 308 | 296 | 280 | 298 | 290 |
| Share of inactive vessels | 0,26 | 0,24 | 0,23 | 0,25 | 0,23 | 0,23 | 0,22 | 0,25 | 0,25 |
| Average age (years), active vessels | 30,7 | 31,1 | 32,0 | 32,6 | 33,5 | 34,1 | 35,0 | 35,3 | 35,8 |
| Average length (m), active vessels | 11,2 | 11,0 | 10,9 | 10,8 | 10,7 | 10,6 | 10,4 | 10,4 | 10,3 |
| Tonnage of vessel (1000 GT) | 39,6 | 34,6 | 31,3 | 30,7 | 31,4 | 30,8 | 31,9 | 28,2 | 28,0 |
| Engine power (1000 kW) | 202,8 | 186,4 | 177,1 | 174,5 | 171,1 | 167,9 | 170,6 | 159,3 | 153,6 |

Table 2 gives an overview of the development of the fleet (number of vessels, gross tonnage and kilowatts) between the years 2010 and 2018 for active as well as inactive vessels. The compiled figures show that capacity has generally decreased over the past eight 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 2010-2018.

| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Vessels per segment, active fleet | Passive gear < 10 m | 656 | 637 | 624 | 612 | 633 | 624 | 609 | 565 | 555 |
| | Passive gear 10 - <12 m | 145 | 145 | 153 | 148 | 137 | 134 | 128 | 115 | 105 |
| | Passive gear ≥ 12 m | 21 | 23 | 21 | 17 | 16 | 14 | 13 | 9 | 9 |
| | Active gear < 12 m | 75 | 82 | 79 | 77 | 81 | 78 | 75 | 80 | 78 |
| | Active gear 12 – < 18 m | 92 | 82 | 78 | 72 | 69 | 71 | 73 | 71 | 69 |
| | Active gear 18 – < 24 m | 51 | 45 | 46 | 47 | 41 | 41 | 39 | 38 | 39 |
| | Active gear ≥ 24 m | 56 | 51 | 47 | 45 | 43 | 40 | 37 | 33 | 32 |
| Vessels per segment, inactive fleet | < 10 m | 298 | 291 | 278 | 296 | 263 | 250 | 236 | 252 | 245 |
| | 10 - < 12 m | 44 | 36 | 25 | 30 | 31 | 33 | 30 | 33 | 33 |
| | ≥ 12 m | 36 | 16 | 7 | 10 | 14 | 13 | 14 | 13 | 12 |
| Gross tonnage per segment, active fleet | Passive gear < 10 m | 2 025 | 1 996 | 1 991 | 1 899 | 1 875 | 1 837 | 1 789 | 1 666 | 1 630 |
| | Passive gear 10 - <12 m | 1 638 | 1 634 | 1 703 | 1 653 | 1 528 | 1 505 | 1 440 | 1 287 | 1 151 |
| | Passive gear ≥ 12 m | 545 | 662 | 518 | 450 | 419 | 362 | 340 | 243 | 244 |
| | Active gear < 12 m | 846 | 906 | 922 | 916 | 958 | 946 | 916 | 1 030 | 983 |
| | Active gear 12 – < 18 m | 3 384 | 2 955 | 2 753 | 2 599 | 2 469 | 2 515 | 2 565 | 2 568 | 2 589 |
| | Active gear 18 – < 24 m | 5 642 | 5 303 | 5 465 | 5 573 | 4 880 | 4 860 | 4 591 | 4 469 | 4 597 |
| | Active gear ≥ 24 m | 19 758 | 18 020 | 16 550 | 15 995 | 15 940 | 16 068 | 15 390 | 14 787 | 14 661 |
| Gross tonnage per segment, | < 10 m | 702 | 666 | 607 | 652 | 574 | 536 | 495 | 557 | 524 |
| | 10 - < 12 m | 395 | 326 | 229 | 271 | 320 | 307 | 295 | 324 | 347 |
| | ≥ 12 m | 4 618 | 2 149 | 602 | 695 | 2 478 | 1 890 | 4 038 | 1 235 | 1 288 |
| kW per segment, active fleet | Passive gear < 10 m | 34 579 | 34 532 | 34 465 | 34 365 | 33 956 | 33 821 | 33 456 | 31 615 | 31 186 |
| | Passive gear 10 - <12 m | 19 421 | 19 182 | 21 033 | 20 442 | 19 191 | 18 566 | 18 455 | 17 194 | 15 766 |
| | Passive gear ≥ 12 m | 3 714 | 4 313 | 4 034 | 3 214 | 2 745 | 2 426 | 2 296 | 1 556 | 1 575 |
| | Active gear < 12 m | 11 749 | 12 788 | 12 682 | 12 288 | 13 140 | 12 629 | 12 032 | 13 366 | 12 957 |
| | Active gear 12 – < 18 m | 22 309 | 20 044 | 18 953 | 17 475 | 17 083 | 17 471 | 17 705 | 17 451 | 17 200 |
| | Active gear 18 – < 24 m | 19 437 | 17 400 | 17 930 | 17 938 | 16 007 | 16 025 | 15 236 | 14 922 | 15 143 |
| | Active gear ≥ 24 m | 57 780 | 53 627 | 49 550 | 47 769 | 45 798 | 46 239 | 44 883 | 43 684 | 40 475 |
| kW per segment, inactive fleet | < 10 m | 13 113 | 12 668 | 12 290 | 13 243 | 11 910 | 11 010 | 10 177 | 11 028 | 11 121 |
| | 10 - < 12 m | 5 502 | 5 025 | 3 573 | 4 501 | 4 087 | 4 745 | 4 370 | 4 176 | 3 993 |
| | ≥ 12 m | 15 179 | 6 856 | 2 543 | 3 279 | 7 221 | 4 983 | 12 020 | 4 278 | 4 183 |

The development of landed weight and landed value for the segments over the period 2010-18 are displayed in Table 3. The total weight landed by the Swedish fleet in 2018 was 214 682 thousand tonnes of seafood, with a landed value of 111.273 € 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. 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 2010-18, the vessels with active gears annually accounted for 96-98% of the total catch measured in weight, and 86-90% of the total catch value. Thus, the vessels with passive gears only accounts for 2-4% of the total catch measured in weight, and 10-14% of the total catch value. The share of passive vessels production shows a downward trend in both value and weight.

Table 3. Landed weight and value per segment for the years 2010-18.

| | 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) | 2010 | 2 664 | 2 821 | 1 201 | 1 419 | 7 538 | 15 872 | 173 465 | 204 979 |
| | 2011 | 2 348 | 2 797 | 1 032 | 1 458 | 6 704 | 15 471 | 147 756 | 177 565 |
| | 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 |
| Landed value (thousand €) | 2010 | 8 856 | 5 439 | 1 937 | 4 999 | 13 749 | 18 798 | 60 821 | 114 599 |
| | 2011 | 9 085 | 5 820 | 2 264 | 5 621 | 14 863 | 20 842 | 69 314 | 127 808 |
| | 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 |

Section B. Effort reduction schemes

B1. 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, applications for new permits are tested each year. Prior to 2018, four new establishments were granted within the permission of cod catching gears in Skagerrak, Kattegatt and the North Sea, all of which only for fishing with passive gears. No new permit was accepted for trawl or for trawl with grid due to the scientific catch estimations and the level of the Swedish fish quotas.

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. Prior to 2018, separate fishing permits were introduced for fishing with cod-catching gear in the subareas for the western and eastern Baltic Sea. Separate permits were assessed, among other things, to increase the possibility of granting new establishments if the stock situation allows it in a sub-division, but not in the other. Nine new permits within the fishery with passive cod catching gear for fishing in the eastern cod stock was granted in 2018.

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 2018. The number of permit holders in this fishery has for the last years been constant.

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. 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, Sweden is well below this limit.

Section D. General fleet management: strengths and weaknesses

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 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 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.

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 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.

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.

Section F. Balance Indicators

F1. Biological indicators

In accordance with the current guidelines (COM(2014) 545), 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 and assessments by ICAs and STECF. The calculated values are then provided to the member states to be included in their national fleet reports. The calculated values are accessible at <http://stecf.jrc.ec.europa.eu/reports/balance> and the values for the indicators calculated for Sweden are summarized in Table A1 in the Appendix. Since last year's fleet capacity report, no additional year has been added to the calculation (indicator values are available until 2016). Therefore, the indicators in Table A1 was presented and discussed already in last years report. STECF has raised several issues with the current indicators that we shortly mentioned below.

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). As noted by STECF (STECF-18-14, p 221), values greater than 1 thus may reflect that the MSY-goal (which according to the CFP should be achieved by 2020) is not yet achieved and that some quotas are still set at a higher level than F_{msy} as a result of political decisions.

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.

For most Swedish fleet segments, the SHI indicator for 2016 is around one, but sometimes slightly more. It can be noted that most segments with active gears 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 2009-16. 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 various STECF reports, for example in STECF-15-02² and STECF-18-14.

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 2016.

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 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

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.

includes not only the total landed value, but also revenue from trading fishing rights as well as other revenues, contributing to overvaluation.

Table 4. Return on fixed tangible assets (ROFTA) 2010-2017

| Value for one calendar year (%) | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Passive gear < 10 m | -44,8 | -50,2 | -43,2 | -48,8 | -53,1 | -49,0 | -51,9 | -61,1 |
| Passive gear 10 - < 12 m | -13,6 | -14,2 | -7,6 | -14,2 | -6,5 | 7,9 | 0,3 | -6,8 |
| Passive gear ≥ 12 m | 10,4 | -7,6 | 7,1 | -4,9 | -24,0 | -20,5 | -18,7 | -30,4 |
| Active gear < 12 m | 20,4 | 23,1 | 6,1 | 17,7 | 6,0 | 17,5 | 42,1 | 7,5 |
| Active gear 12 – < 18 m | 23,8 | 38,3 | 26,5 | 23,8 | 40,0 | 54,7 | 72,9 | 81,5 |
| Active gear 18 – < 24 m | 8,0 | 5,6 | 6,4 | 9,0 | 4,4 | 6,1 | 10,7 | 11,9 |
| Active gear ≥ 24 m | 10,9 | 25,3 | 35,6 | 39,8 | 20,3 | 21,9 | 56,1 | 45,9 |
| Long-term risk-free interest (%) | 1.0 | 1.0 | 1.0 | 1.0 | | | | |

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

All segments using active gears achieve a positive return on invested capital. 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 2010-2017.

Table 5. Total revenue over time 2010-2017 (thousand €)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Passive gear < 10 m | 9 708 | 9 903 | 10 443 | 10 263 | 10 191 | 9 844 | 9 899 | 7 953 |
| Passive gear 10 - < 12 m | 6 051 | 6 308 | 7 625 | 6 244 | 6 085 | 6 592 | 6 838 | 5 462 |
| Passive gear ≥ 12 m | 2 262 | 2 285 | 2 024 | 1 719 | 860 | 779 | 795 | 351 |
| Active gear < 12 m | 5 863 | 6 413 | 6 585 | 7 320 | 6 604 | 8 124 | 7 668 | 7 342 |
| Active gear 12 – < 18 m | 15 200 | 16 693 | 17 411 | 16 088 | 15 071 | 16 435 | 17 753 | 18 021 |
| Active gear 18 – < 24 m | 19 624 | 21 968 | 23 493 | 20 486 | 18 027 | 18 870 | 19 027 | 19 316 |
| Active gear ≥ 24 m | 64 368 | 73 653 | 76 597 | 75 211 | 64 019 | 63 456 | 69 606 | 76 278 |
| Total | 123 076 | 137 222 | 144 179 | 137 330 | 120 858 | 124 099 | 131 585 | 134 722 |

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 2010-2017.

| Value for one calendar year (%) | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------------------------------|------|------|------|------|------|------|------|------|
| Passive gear < 10 m | -0,3 | -0,6 | -0,3 | -0,4 | -0,4 | -0,3 | -0,3 | -0,7 |
| Passive gear 10 - < 12 m | 0,6 | 0,5 | 0,7 | 0,5 | 0,8 | 1,2 | 1,0 | 0,8 |
| Passive gear ≥ 12 m | 1,3 | 0,7 | 1,2 | 0,8 | 0,3 | 0,4 | 0,4 | 0,1 |
| Active gear < 12 m | 1,7 | 1,7 | 1,2 | 1,5 | 1,1 | 1,6 | 2,4 | 1,3 |
| Active gear 12 – < 18 m | 1,7 | 2,1 | 1,7 | 1,6 | 2,0 | 2,4 | 2,7 | 3,1 |
| Active gear 18 – < 24 m | 1,2 | 1,1 | 1,2 | 1,2 | 1,1 | 1,2 | 1,3 | 1,4 |
| Active gear ≥ 24 m | 1,3 | 1,9 | 2,3 | 2,3 | 1,7 | 1,9 | 3,0 | 2,8 |

As can be seen in Table 6, all segments using active gears display a break-even revenue greater than 1 for 2017.

The economic indicators reported in Tables 4 and 6 therefore seem to, at a first sight, 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. There might also be further reasons such as costs caused by the seal population (damages on gears and catches).

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 2018 (see Table 1). The guideline states that the critical threshold level is 20%. 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 2018, 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 | | | | | | | | |
|-----------|-------------------------------------|------|------|------|------|------|------|------|------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| <10m | 298 | 291 | 278 | 296 | 263 | 250 | 236 | 252 | 245 |
| 10-<12m | 44 | 36 | 25 | 30 | 31 | 33 | 30 | 33 | 33 |
| ≥12m | 36 | 16 | 7 | 10 | 14 | 13 | 14 | 13 | 12 |
| Total sum | 378 | 343 | 310 | 336 | 308 | 296 | 280 | 298 | 290 |

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

| Segment | Share of inactive vessels per year | | | | | | | | |
|---------|------------------------------------|------|------|------|------|------|------|------|------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| <12m | 0,28 | 0,27 | 0,26 | 0,28 | 0,26 | 0,25 | 0,25 | 0,27 | 0,27 |
| ≥12m | 0,16 | 0,08 | 0,04 | 0,06 | 0,08 | 0,08 | 0,09 | 0,09 | 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. The last mentioned factor implies that fishermen with individual quotas (which are annual in the demersal fisheries and has a ten years duration in in the pelagic fishery) are restricted by their allocation of quota.

According to the figures presented in Table 3, the passive and active segments under 18 meter together accounted for less than 10% of the total catches in 2018. 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 (2018)

| Segment | Current effort | | Maximum Effort | | Exploited capacity (share) | |
|--------------------------|-------------------|--------------|----------------|-------|----------------------------|--------|
| | Number of vessels | Average Days | Days | Days* | Share | Share* |
| Passive gear < 10 m | 555 | 60 | 220 | 126 | 0,27 | 0,47 |
| Passive gear 10 - < 12 m | 105 | 74 | 220 | 158 | 0,34 | 0,47 |
| Passive gear ≥ 12 m | 9 | 87 | 220 | 148 | 0,39 | 0,58 |
| Active gear < 12 m | 78 | 57 | 220 | 132 | 0,26 | 0,43 |
| Active gear 12 – < 18 m | 69 | 95 | 220 | 160 | 0,43 | 0,59 |
| Active gear 18 – < 24 m | 39 | 146 | 220 | 189 | 0,66 | 0,77 |
| Active gear ≥ 24 m | 32 | 184 | 220 | 215 | 0,84 | 0,86 |

* Estimated on the basis of 90% percentile

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 has been raised by STECF regarding these indicators and to what extent the technical and economic indicators are relevant for small scale segments, which we consider in our conclusions (see for example STECF-18-14).

With regard to the **economic indicators**, *return on investment* and *current revenue to break-even revenue*, values below the according to the guidelines critical threshold can be observed for the segments with vessels fishing with 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 vessels shorter than 18m. The other vessel use indicator, *share of inactive vessels*, was 25% in 2018 (average whole fleet), which is above the critical threshold of 20%. However, when looking at only vessels longer than 12 meters, the share of inactive vessels was 8% in 2018, which is well below the critical level.

In sum, no critical values for the economic and technical indicators can be observed for the segments using active gears (one exception is the indicator *average days at sea to maximum days at sea ratio*, which show a critical value also for vessels between 12-18 meters fishing with active gears). However, critical levels can be observed for the economic and technical indicators for the small scale segments fishing with passive gear. It is necessary to keep in mind that these segments account for a very small share of the total catches and thus do not use the accessible fish resources to any major extent (see figures in Table 3). Moreover, the operators within these segments are often engaged in part-time fishing.

The issues mentioned above have also been raised by STECF in their different reports. In for example STECF-18-14 (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.

The biological indicators are available until 2016 and was therefore discussed already in last year's report. The *biological indicator SHI* (sustainable harvest indicator) is for most Swedish fleet segments around one but in some cases above one. It can be noted that most segments with active gears 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 2010-18, the passive gears annually accounted for 2-4% of the total catch weight. Furthermore, in *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)* 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 that has been raised in for example STECF-15-02 and STECF-18-14. In STECF-15-02, it is noted that: "*...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).

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.

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.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|-----|-----|-----|-----|-----|-----|-----|-----|------------|----------------|----------------|
| 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 | | | | | | | | -1 | no SAR found | | | | | | | 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.