# Annual report on Italy's efforts during 2019 to achieve a sustainable balance between fishing capacity and fishing opportunities

(in accordance with Article 22 of Regulation (EU) No 1380/2013)

# A. Introduction

This report has been prepared in accordance with Article 22 of Regulation (EU) No 1380/2013 of the European Commission [sic] on the Common Fisheries Policy (CFP) and assesses the balance between the fishing capacity of the Italian fleet and fishing opportunities for 2018.

The data used to calculate the indicators are from the National Data Collection Programme (DCR/DCF), updated to 2018. The reported assessments of the status of resources in Italian GSAs were carried out by the GFCM, STECF and ICCAT working groups.

The report presents the annual capacity assessment of the national fleet, highlighting any structural overcapacity, as well as short- and long-term profitability, of each segment subject to assessment.

More specifically, please note the following points:

1. the report includes tuna catch data for the various segments of the relevant fleet, see Table B1;

2. as in previous years and taking the provisions of EU guidelines into account[1], in order to evaluate the exploitation of fish stocks by the various fleet segments, we used the SHI (Sustainable Harvest Indicator) index calculated on the basis of the $F_C/F_{MSY}$ ratio. With regard to economic indicators, we continued to use RoFTA (Return of Fixed Tangible Assets) and the CR/BER ratio (Current Revenue/Break-Even Revenue), in addition to the activity and usage indicators, IVI (Inactive Vessel Indicator) and VUI (Vessel Use Indicator);

3. the annual calculation of the SHI index was carried out considering all current fishing mortality values ($F_C$) and the related $F_{MSY}$ available for all stocks analysed from 2016 to 2018 in the various Italian GSAs. Where the up-to-date $F_C/F_{MSY}$ ratio was not available, we considered the value from previous years.

Having achieved the objectives it had set itself with the completion of the permanent cessation plans launched in previous years, in 2019 the Italian administration focused more decisively on controlling fishing effort through the management of fishing days. A number of measures have been issued with the aim of controlling or reducing fishing effort in an attempt to reduce the exploitation rate from the current level to a level compatible with the sustainability standards laid down by the new Common Fisheries Policy (Article 2 of Regulation (EU) No 1380/2013).

These measures include Decree No 173 of 30 April 2019, which, in addition to defining the fishing stop for 2019, introduces additional stop days subdivided by GSA and by length category. Similarly, Decree No 53 of 13 February 2019, which defines the 30-day fishing stop for sardine fishing in the Adriatic Sea (20 February–21 March 2019) and, lastly, Ministerial Decree No 13128 of 30 December 2019, which increases the additional days for 2020, remodelling them also in line with the status of the resources of individual GSAs.

The introduction of an area subject to a fishing effort scheme (also Ministerial Decree 173 of 30 April 2019), which regulates the capture of demersal species in GSAs 9, 10 and 11 (WestMed) by drawing up a list of authorised vessels and introducing the obligation to use the e-logbook for catches, should also be mentioned.

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[1] COM (2014) 545 final. 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.

## A.1 Description of the fishing fleet

The Italian fishing fleet entered in the Fisheries Licence Register as at 31 December 2019 amounted to 11 984 vessels. The total registered gross tonnage expressed in GT amounted to 145 678 GT, while engine power was 929 144 kW. Compared with 2018, the size of the fleet, and the related fishing capacity, in terms of GT and engine power, remained almost unchanged. A comparison with 2018 reveals that the number of vessels decreased by 0.40%, GT fell by 0.31%, while engine power declined by 0.12% (Table 1).

*Table 1 – Fishing fleet entered in the Fisheries Licence Register 2018–2019.*

| Year | Vessels | GT | kW |
|------|---------|-----|-----|
| 2018 | 12 032 | 146 134 | 930 235 |
| 2019 | 11 984 | 145 678 | 929 144 |
| **Change %** | **-0.40%** | **-0.31%** | **-0.12%** |

The situation regarding the fleet operating outside the Mediterranean in 2019 is the same as the previous year and consists of eight trawling vessels operating in FAO area 34_3 (Eastern Central Atlantic) and one purse-seining vessel operating in area 51_7 (Western Indian Ocean). Of course, the GT and kW of these nine vessels remain unchanged, standing at 6 236 GT and 13 064 kW (Table 2).

*Table 2 – Fishing fleet operating outside the Mediterranean 2018-2019.*

| Year | Vessels | GT | kW |
|------|---------|-----|-----|
| 2018 | 9 | 6 236 | 13 064 |
| 2019 | 9 | 6 236 | 13 064 |
| **Change %** | **0%** | **0%** | **0%** |

In 2019, the Mediterranean fleet (i.e. the difference between the fishing fleet entered in the Fisheries Licence Register and that operating outside the Mediterranean) consisted of 11 975 vessels, amounting to 139 442 GT and 916 080 kW of engine power (Table 3). The reduction in fishing capacity from the previous year was marginal.

*Table 3 – Fishing fleet operating in the Mediterranean 2018-2019.*

| Year | Vessels | GT | kW |
|------|---------|-----|-----|
| 2018 | 12 023 | 139 898 | 917 171 |
| 2019 | 11 975 | 139 442 | 916 080 |
| **% change** | **-0.40%** | **-0.33%** | **-0.12%** |

## A.2 Description of the fishing fleets in relation to fisheries.

During 2019, the subdivision of the fishing fleet by fishing techniques[2] confirms the structure recorded in previous years. With 8 132 vessels, small-scale fishing (PGP < 12 m) represents by far the largest segment in terms of the number of vessels, accounting alone for 67.9% of the total fleet. However, the weight is significantly lower in dimensional terms, standing at 10.2% of GT and 23.5% of engine power. With 2 086 vessels (17.4% of the national total), the fleet operating with trawled gears (DTS and TBB) is the second largest in terms of numbers and the largest in dimensional terms. This technique accounts for 58.8% of national GT and 46.2% of national engine power.

The hydraulic dredgers (DRB) segment consists of 705 productive vessels, equivalent to 5.9% of the national fleet, 6.4% of the tonnage and 8.2% of national engine power.

The purse-seining (PS) segment, which includes boats authorised for bluefin tuna fishing, consists of 365 vessels and represents a substantial proportion (7.9%) of the total national tonnage. The group of vessels using a longline as their main technique consists of 234 vessels (2 % of the Italian fleet) and represents approximately 4% of national tonnage and engine power.

The polyvalent passive segment (PGP > 12 m) consists of 345 vessels (2.9% of the national total), with a total tonnage of 5 468 GT (3.8% of the national total).

Lastly, the fleet equipped with pair-trawling (TM) gear represents less than 1% of vessels and 4.9% of total Italian GT.

The fleet operating outside the Mediterranean, as in the previous year, consists of nine vessels. Eight of these are equipped with trawling gear and one with purse-seining gear, and together amount to 6 236 GT and an engine power of 13 064 KW (Table 4).

*Table 4 Fleet by fishing technique, 2019.*

| Fishing technique | Vessels | GT | KW | % Vessels | % GT | % kW |
|---|---|---|---|---|---|---|
| Bottom trawling and rapido trawling (DTS and TBB) | 2 086 | 85 600 | 429 279 | 17.4% | 58.8% | 46.2% |
| Hydraulic dredgers (DRB) | 705 | 9 316 | 76 371 | 5.9% | 6.4% | 8.2% |
| Pair trawling (TM) | 108 | 7 174 | 36 681 | 0.9% | 4.9% | 3.9% |
| Purse-seining (PS) | 365 | 11 472 | 59 797 | 3.0% | 7.9% | 6.4% |
| Longline (HOK) | 234 | 5 530 | 40 656 | 2.0% | 3.8% | 4.4% |
| Small-scale fishing (PGP < 12 m) | 8 132 | 14 882 | 218 729 | 67.9% | 10.2% | 23.5% |
| Polyvalent passive (PGP> 12 m) | 345 | 5 468 | 54 568 | 2.9% | 3.8% | 5.9% |
| **Mediterranean fleet** | 11 975 | 139 442 | 916 080 | 99.9% | 95.7% | 98.6% |
| Bottom trawling (DTS) | 8 | 4 099 | 9 374 | 0.1% | 2.8% | 1.0% |
| Purse-seining (PS) | 1 | 2 137 | 3 690 | 0.0% | 1.5% | 0.4% |
| **Long-distance fleet** | 9 | 6 236 | 13 064 | 0.1% | 4.3% | 1.4% |
| **ITALY** | **11 984** | **145 678** | **929 144** | **100.0%** | **100.0%** | **100.0%** |

With reference to geographical distribution by GSA, it should be noted that most of the Italian fleet (2 941 vessels) is concentrated in GSA 17 (Northern Adriatic) (Table 5). The fleets included in this area, which includes the coastal zone from Molise to Friuli Venezia Giulia and covers more than 700 km, are a historical core of the Italian fisheries sector, comprising all possible fishing techniques. The number of vessels in GSA 17 corresponds to 24.5% of the total Italian fleet and in dimensional terms it represents almost 30% of GT and engine power.

In terms of the number of vessels, the Northern Adriatic area is followed by the fleet operating in the Southern and Central Tyrrhenian Sea (GSA 10), which includes the regional areas of Campania, the

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[2] The segmentation of the fleet in this report is based on identification of the main gear, as laid down by Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy, and by Commission Regulation (EC) No 26/2004 of 30 December 2003 on the Community fishing fleet register, Annex I 'Definition of data and description of a registration'.

Tyrrhenian coast of Calabria and Northern Sicily. This fleet comprises 2 458 vessels, equal to 21% of the total fleet, accounting, in dimensional terms, for 12.5% of GT and 14.4% of engine power.

In terms of the number of vessels, GSA 9, GSA 19 and GSA 11 are next. The fleets in these areas account for between 13.6% and 11.2% of the national total number of vessels, while in terms of GT, they account for between 9.7% and 7.1%.

With 1 134 vessels, the fleet operating along the southern coast of Sicily (GSA 16) accounts for less than 10% in terms of the number of vessels. However, this low figure is offset by the considerable size of the vessels, which is 26.7 GT on average (more than double the national average for vessels operating in the Mediterranean, which is equal to 11.6 GT) (Table 6).

Finally, the fleet of GSA 18, which includes the Northern part of Apulia, accounts for 8.2% of the total number of vessels and almost 10% with regard to capacity expressed in GT and engine power.

*Table 5 – Fleet by GSA, 2019.*

| GSA | Vessels | GT | KW | % Vessels | % GT | % KW |
|---|---|---|---|---|---|---|
| GSA 9 – Ligurian Sea and Northern Tyrrhenian Sea | 1 665 | 15 299 | 122 123 | 13.6% | 9.7% | 12.6% |
| GSA 10 – Southern and Central Tyrrhenian Sea | 2 458 | 15 908 | 125 933 | 21.0% | 12.5% | 14.4% |
| GSA 11 – Sardinia | 1 399 | 10 356 | 82 627 | 11.2% | 7.1% | 8.6% |
| GSA 16 – Southern Sicily | 1 134 | 30 238 | 128 850 | 9.4% | 19.3% | 13.2% |
| GSA 17 – Northern Adriatic Sea | 2 941 | 43 864 | 283 964 | 24.5% | 29.4% | 29.9% |
| GSA 18 – Southern Adriatic Sea | 953 | 12 682 | 84 247 | 8.2% | 9.6% | 9.9% |
| GSA 19 – Western Ionian Sea | 1 425 | 11 095 | 88 336 | 12.1% | 8.1% | 9.9% |
| **Mediterranean fleet** | **11 975** | **139 442** | **916 080** | **99.9%** | **95.7%** | **98.6%** |
| **Long-distance fleet** | **9** | **6 236** | **13 064** | **0.1%** | **4.3%** | **1.4%** |
| **ITALY** | **11 984** | **145 678** | **929 144** | **100.0%** | **100.0%** | **100.0%** |

*Table 6 – Average vessel size by GSA, 2019.*

| GSA | Average GT | Average kW |
|---|---|---|
| GSA 9 – Ligurian Sea and Northern Tyrrhenian Sea | 9.2 | 73.3 |
| GSA 10 – Southern and Central Tyrrhenian Sea | 6.5 | 51.2 |
| GSA 11 - Sardinia | 7.4 | 59.1 |
| GSA 16 – Southern Sicily | 26.7 | 113.6 |
| GSA 17 – Northern Adriatic Sea | 14.9 | 96.6 |
| GSA 18 – Southern Adriatic Sea | 13.3 | 88.4 |
| GSA 19 – Western Ionian Sea | 7.8 | 62.0 |
| **Mediterranean fleet** | **11.6** | **76.5** |
| **Long-distance fleet** | **692.9** | **1 451.6** |
| **ITALY** | **12.2** | **77.5** |

*Changes over time*

Taking 2004 as a base reference year, there is a clear and steady decline in the size of the fleet, which fell from 14 873 vessels in 2004 to 11 984 in 2019, so an overall loss of nearly 2 900 fishing boats. This significant decline (-19.4%) has mainly affected vessels of above average size. Total GT decreased by 27.4% and total kW by 23.4% (Table 7). As a result, the average GT of the fleet fell from 13.5 to 11.6 GT. The major downsizing of the production structure is a result of the measures laid down by the Common Fisheries Policy, which supported and encouraged the spontaneous exit of fishing vessels through specific permanent cessation measures. The trend of the fleet's structural variables in the last year is shown in Table 8.

*Table 7 – change in fishing capacity, 2004/2019.*

| Year | Number of vessels | GT | kW |
|------|---|---|---|
| 2004 | 14 873 | 200 561 | 1 212 532 |
| 2019 | 11 984 | 145 678 | 929 144 |
| **Change %** | **-19.4%** | **-27.4%** | **-23.4%** |

*Table 8 – Changes in the fleet, GT and kW, by fishing technique – 2018/2019.*

| Fishing technique | Vessels | | | GT | | | KW | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2019 | % | 2018 | 2019 | % | 2018 | 2019 | % |
| Bottom trawling and rapido trawling (DTS and TBB) | 2 127 | 2 086 | -1.9% | 85 777 | 85 600 | -0.2% | 430 013 | 429 279 | -0.2% |
| Hydraulic dredgers (DRB) | 705 | 705 | 0.0% | 9 317 | 9 316 | 0.0% | 76 386 | 76 371 | 0.0% |
| Pair trawling (TM) | 122 | 108 | -11.5% | 8 391 | 7 174 | -14.5% | 40 659 | 36 681 | -9.8% |
| Purse-seining (PS) | 328 | 365 | 11.3% | 11 183 | 11 472 | 2.6% | 58 177 | 59 797 | 2.8% |
| Longline (HOK) | 234 | 234 | 0.0% | 5 926 | 5 530 | -6.7% | 43 727 | 40 656 | -7.0% |
| Polyvalent passive and small-scale fishing (PGP) | 8 507 | 8 477 | -0.4% | 19 304 | 20 350 | 5.4% | 268 211 | 273 297 | 1.9% |
| **Mediterranean fleet** | **12 023** | 11 975 | **-0.4%** | **139 898** | **139 442** | **-0.3%** | **917 171** | **916 080** | **-0.1%** |
| **Long-distance fleet** | **9** | 9 | **0.0%** | **6 236** | **6 236** | **0.0%** | **13 064** | **13 064** | **0.0%** |
| **ITALY** | **12 032** | **11 984** | **-0.4%** | **146 134** | **145 678** | **-0.3%** | **930 235** | **929 144** | **-0.1%** |

The decline in the number of vessels in the fleet has continued at a very slow pace in recent years. Between 2004 and 2012, there was a decline of 15 percentage points, whereas between 2013 and 2019, the trend slowed down and 'only' 5% of vessels were withdrawn from the fleet (Fig. 1).

*Fig. 1 – Fishing fleet trend between 2004 and 2019.*
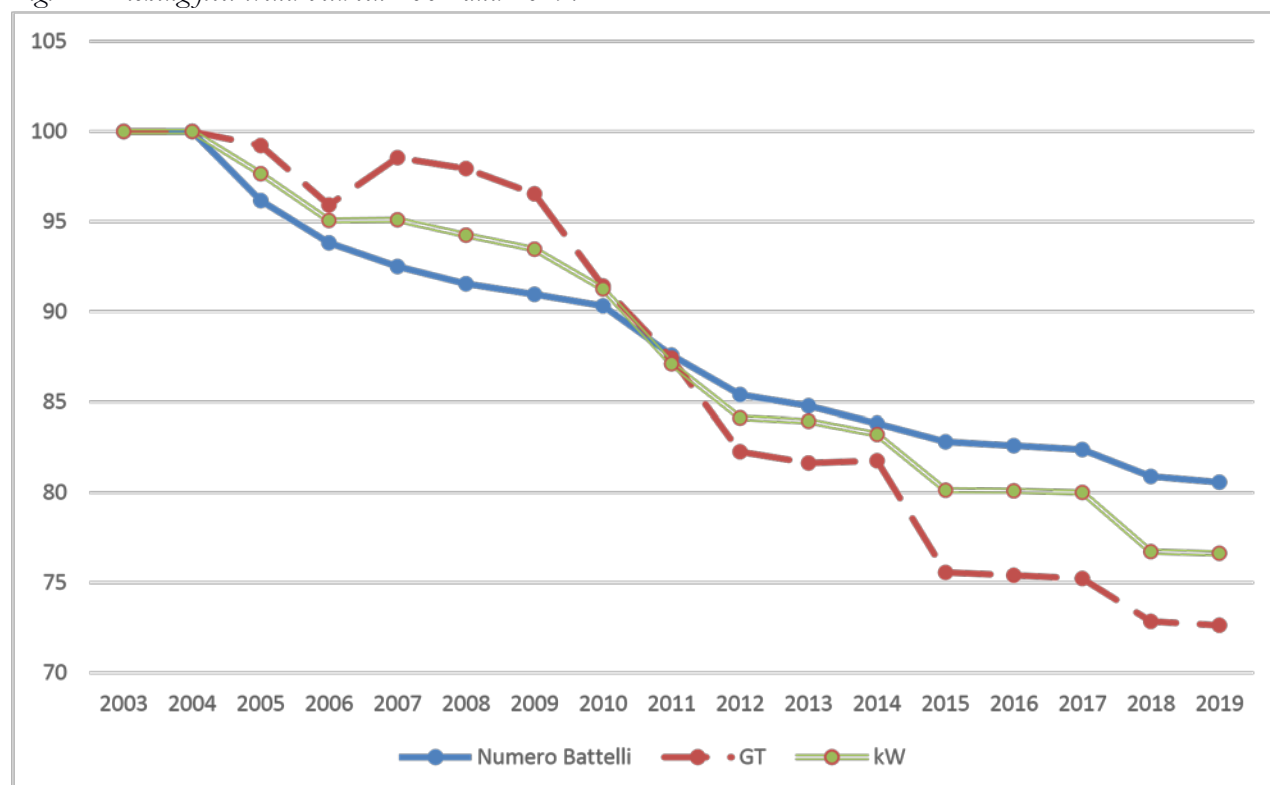


As well as fishing capacity, the number of days at sea of the Italian fishing fleet also fell in 2019, compared with the previous year (-10%). This decrease affected all GSAs, although to different extents in terms of percentage (Table 9).

*Table 9 – Days at sea of the Italian fishing fleet, 2018-2019.*

| GSA | 2018 | 2019 | Difference | Difference % |
|---|---|---|---|---|
| 9 | 177 873 | 150 467 | - 27 405 | -15% |
| 10 | 294 537 | 258 953 | - 35 584 | -12% |
| 11 | 138 105 | 122 054 | - 16 051 | -12% |
| 16 | 142 566 | 137 021 | - 5 545 | -4% |
| 19 | 211 815 | 189 021 | - 22 794 | -11% |
| 17/18 | 411 830 | 385 796 | - 26 035 | -6% |
| Total | 1 376 727 | 1 243 313 | - 133 414 | -10% |

## A3. Production

The volume of fishery products landed by the Italian fleet in 2019[3] equalled 176 738 tonnes, with a corresponding economic value of EUR 891.7 million (Table 8 and Table 9). The bottom trawling segment (including rapido trawling) predominates, accounting for a little over 66 000 tonnes, or 37% of total production. This segment's economic contribution was even more significant, owing to the high commercial value of the composition of the catch, where red shrimp and Norway lobster, target species par excellence, fetch unit prices of more than EUR 20 per kg. Overall revenue was more than EUR 480 million, equal to 54% of the turnover of the Italian fleet as a whole. The pair trawling segment is the second largest producer with a little less than 36 000 tonnes (20% of the total). However, the lower commercial value of target species, especially small pelagic fish, led to a relatively smaller financial return of EUR 68 million, or 8% of the total value of national landings Purse-seining vessels recorded landings of just under 26 000 tonnes (15% of the total) with an economic value of around EUR 81 million (9% of the total). Small-scale fishing vessels landed almost 21 000 tonnes (12% of the national total), with a value of EUR 150 million (17% of the national total). Longline vessels caught a little over 4 000 tonnes of fish (2% of the total), with a value of almost EUR 24 million (3%). Lastly, vessels with polyvalent passive gears saw landings of slightly more than 4 000 tonnes (2%), corresponding to a revenue of EUR 31 million (3% of the total).

*Table 8 – Catch by fishing technique, 2019.*

| Fishing technique | Catch (t) | Catch % |
|---|---|---|
| Bottom trawling and rapido trawling (DTS and TBB) | 66 244 | 37% |
| Hydraulic dredgers (DRB) | 19 810 | 11% |
| Pair trawling (TM) | 35 814 | 20% |
| Purse-seining (PS) | 25 817 | 15% |
| Longline (HOK) | 4 102 | 2% |
| Small-scale fishing (PGP < 12 m) | 20 870 | 12% |
| Polyvalent passive (PGP> 12 m) | 4 081 | 2% |
| Total | 176 738 | 100% |

*Table 9 – Revenue by fishing technique, 2019.*

| Fishing technique | Revenue (million €) | Revenue % |
|---|---|---|
| Bottom trawling and rapido trawling (DTS and TBB) | 480.1 | 54% |
| Hydraulic dredgers (DRB) | 57.3 | 6% |
| Pair trawling (TM) | 68.3 | 8% |
| Purse-seining (PS) | 81.3 | 9% |

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[3] The figure includes production of bluefin tuna (BFT) intended for cages, but does not include the production of the fleet operating outside the strait, which is reported separately.

| | | |
|---|---:|---:|
| Longline (HOK) | 24.1 | 3% |
| Small-scale fishing (PGP < 12 m) | 149.8 | 17% |
| Polyvalent passive (PGP> 12 m) | 30.8 | 3% |
| **Total** | **891.7** | **100%** |

In 2019, the long-distance fleet caught more than 6 000 tons of fish (3.5% of the catch of the Italian fleet as a whole), equating to revenues of almost EUR 12 million (1.3% of the national total). The vast majority of the catch of the fleet operating outside the Mediterranean is caught in the Indian Ocean. The remainder comes from the East-Central Atlantic (Table 10).

*Table 10 – Catch and revenue of the long-distance fleet, 2019.*

| Region | FAO catch area | Catch (t) | Revenue (million €) |
|---|---:|---:|---:|
| **CECAF** | 34.3.1.3 | 512 | 2.67 |
| **CECAF** | 34.3.3 | 634 | 2.81 |
| **IOTC** | 51.5 | 2 196 | 2.66 |
| **IOTC** | 51.6 | 498 | 0.62 |
| **IOTC** | 51.7 | 2 209 | 2.93 |
| **TOTAL** | | **6 048** | **11.69** |

Examination of the geographical distribution of production, shows that the Northern Adriatic and the Strait of Sicily play a predominant role, similar to what is stated with regard to the fleet. The first area, with more than 80 000 tonnes, accounts for 46% of landings, with an economic value EUR 298 million, representing 34% of the total national. In Southern Sicily, the volume of landings (more than 20 000 tonnes) amounts to 12%, while revenues of EUR 146 million represent 16% of the national total. Production is significant in GSAs 10 and 18, where landings (approximately 19 000 tonnes) are only slightly smaller than those in Southern Sicily. However, the high proportion of pelagic species in the composition of the catch reduces the economic value, so turnover, particularly for GSA 18, is significantly lower than that of GSA 16 (Tables B2 and B3).

The composition of the national catch is structurally concentrated on anchovies and sardines, which together represented more than 30% of landings in 2019. Anchovies alone, with landings of slightly more than 31 000 tonnes (-14.4% compared with 2018), account for almost 18% of the total national catch. With more than 23 000 tonnes (-10.8% compared with 2018), sardines are the second largest species, accounting for 13% of the weight of national landings. These two species are followed by landings of clams and deepwater pink shrimp. Almost 19 000 tonnes of clams were landed in 2019 (+0.1% compared with 2018), while 9 000 tonnes of deepwater pink shrimp were landed (-8.3% compared with 2018). Other noteworthy species include hake, with 7 000 tonnes (3.5% compared with 2018), red mullet, with 4 972 tonnes (-26.4% compared with 2018), cuttlefish, with 4 698 tonnes (-21.1%) and spot-tail mantis shrimp, with 3 949 tonnes (-17.6%) (Table B4).

Examination of the economic value of landings of the top 20 species considered shows that anchovies are in first place, with a value of EUR 71.2 million, accounting for 8% of the total. Next is deepwater pink shrimp, with EUR 61.6 million (6.9% of total revenue), followed by red shrimp, with EUR 52.9 million, and clams, with EUR 51.4 million (Table B5). Comparison with 2018 shows the 5.5% increase in the economic value of anchovies and the 8.6% increase in that of deepwater pink shrimp. Conversely, revenues from fishing for cuttlefish decreased by 35.7%, those of hake by 8.7% and those of red shrimp by 1.3%.

In 2019, the average landing price of the national fleet was EUR 5.09/kg (Fig. 2). This result represents a significant increase compared with the average price recorded in the previous year (EUR 4.86/kg). In addition, the average price in 2019 is the highest recorded since 2011 and, with the exception of 2018,

follows the trend of continuous growth seen since 2014. The increase in sale prices has enabled the sector to partially offset the losses resulting from the smaller quantities landed.

*Fig. 2 – Changes in average price between 2004 and 2019.*
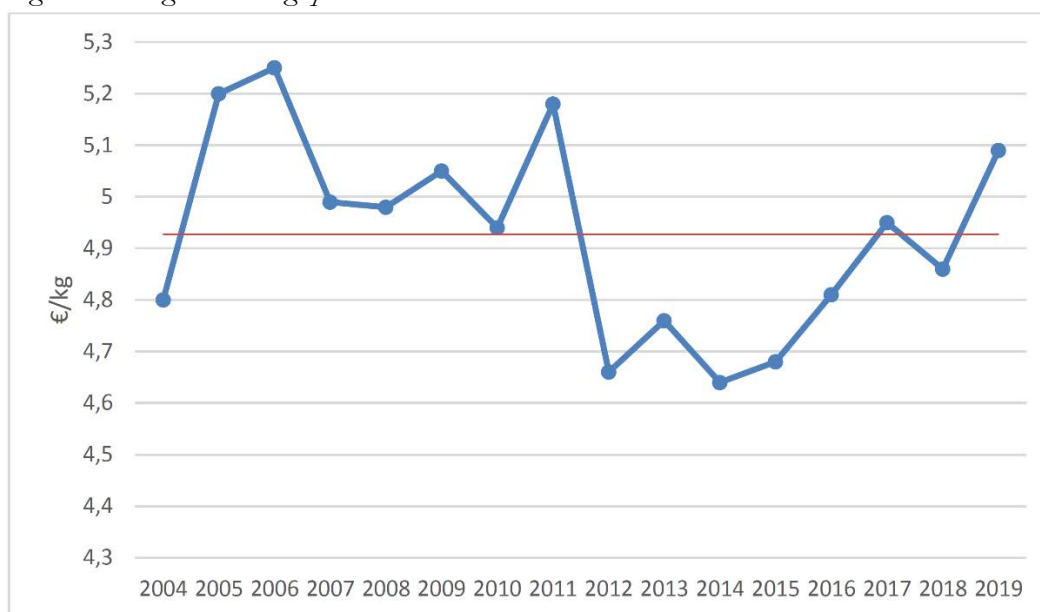


### Changes over time
By comparing the volume of landings by the fishing technique segments in the two-year period 2018-2019, a downward trend can be observed. Bottom trawling, the most productive segment, saw a decline of 15 percentage points. Small-scale fishing landings also declined (-6%), as did pair trawling landings (10%). Conversely, hydraulic dredgers saw increased catches (+1%), as did purse-seiners (+4%) and longline vessels (+9%). The overall balance shows an 8% decrease in landings (Table 11).

*Table 11 – Production trend in terms of quantity and by fishing technique, with regard to the Mediterranean only.*

| | Catch (t) | | |
| --- | --- | --- | --- |
| **Fishing technique** | **2018** | **2019** | **Change %** **%** |
| Bottom trawling and rapido trawling (DTS and TBB) | 77 694 | 66 244 | -15% |
| Hydraulic dredgers (DRB) | 19 682 | 19 810 | +1% |
| Pair trawling (TM) | 39 848 | 35 814 | -10% |
| Purse-seining (PS) | 24 751 | 25 817 | +4% |
| Longline (HOK) | 3758 | 4 102 | +9% |
| Small-scale fishing (PGP) | 26 523 | 24 951 | -6% |
| **Total** | **192 256** | **176 738** | **-8%** |

In economic terms, the revenues of the fleet decreased by six percentage points. This is essentially due to the sharp decline in the economic value of bottom trawling (-14%), which alone offsets the increases, which are sometimes even relatively very significant, seen in other segments (Table 12).

*Table 12 – Production trend in economic value, by fishing technique.*

| Fishing technique | Revenue (million €) | | Change % % |
| --- | --- | --- | --- |
| | 2018 | 2019 | |
| Bottom trawling and rapido trawling (DTS and TBB) | 555.8 | 480.1 | -14% |
| Hydraulic dredgers (DRB) | 57.9 | 57.3 | -1% |
| Pair trawling (TM) | 56.4 | 68.3 | +21% |
| Purse-seining (PS) | 75.1 | 81.3 | +8% |
| Longline (HOK) | 24 | 24.1 | 0% |
| Small-scale fishing (PGP) | 188.9 | 180.6 | -4% |
| **Total** | **944.2** | **887.4** | **-6%** |

The trend of landings and revenues taking 2004 as a base year shows that, after the gradual and persistent decline seen until 2013–2014, the trend has stabilised, although at levels that are clearly lower than in the initial years of analysis. Moreover, catches and revenues fell slightly again in 2019 (Fig. 3).

*Fig. 3 – Production trend between 2004 and 2019 (base year 2004).*
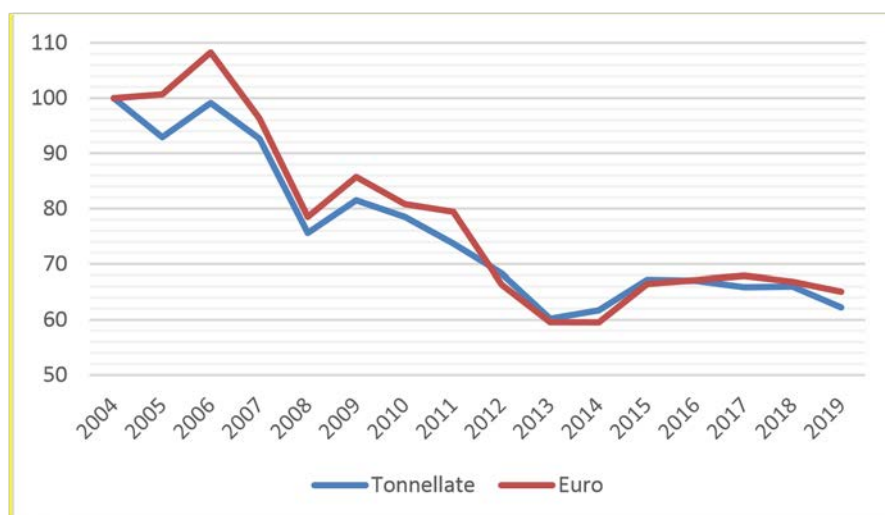
## B. Impact on fishing capacity of fishing effort reduction schemes adopted under multiannual management or recovery plans or, if appropriate, under national schemes.

During 2019, the Italian administration continued with the plan to reduce fishing days proposed in last year's report. The plan, implemented by Executive Decree No 26510 of 28 December 2018, further increased the temporary stop days, already planned across Italy, adapting them proportionally to the overfishing situation of each GSA.

By analysing VMS data, it is possible to obtain the fishing days of the fleet equipped with this tracking system and, by crossing fishing data with engine power data, it is possible to obtain estimated effort in Number of Fishing Days × kW. Studying the trend of the bottom trawling fishing effort in the period 2015–2019 (the blue line on the graph below represents the linear data trend), shows a clear gradual decline, with obvious long-term effects. This decline has been accentuated by the strategies to further reduce fishing days implemented in 2019.

*Fig. 4 – Changes over time in fishing days by GSA between 2015 and 2019*
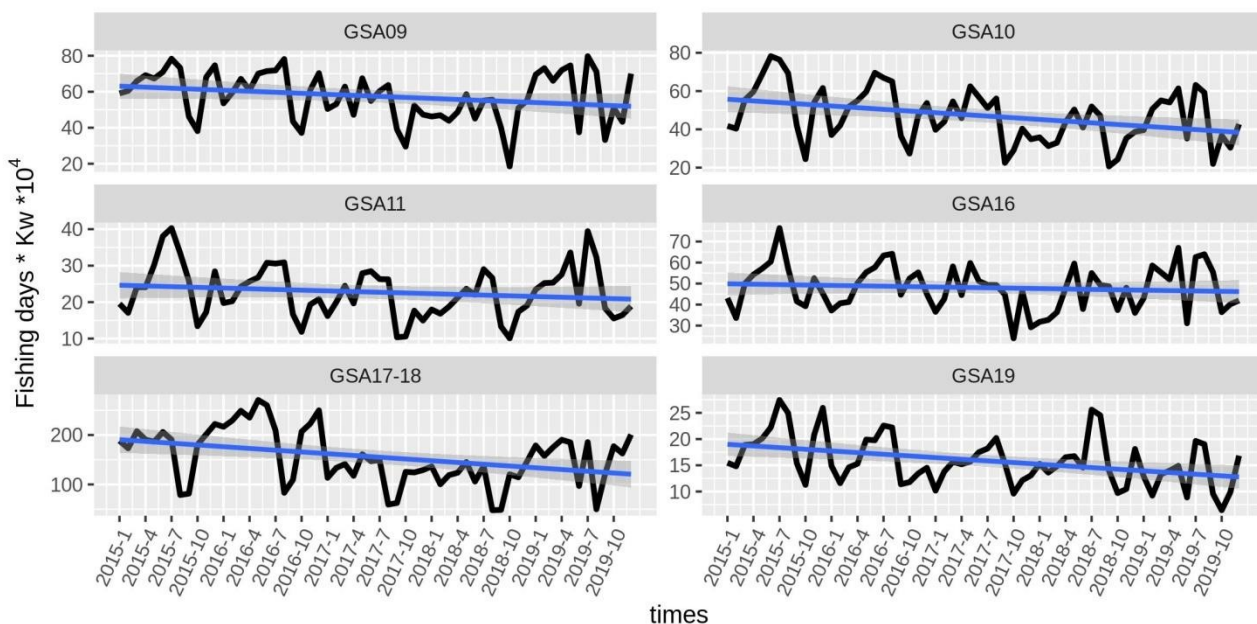


A similar result is obtained by using VMS data to monitor the zone in the Pomo Pit in which there is a total fishing ban (zone A). In accordance with the provisions of Recommendation GFCM/41/2017/3 on the establishment of a Fisheries Restricted Area in the Jabuka/Pomo Pit in the Adriatic Sea, Ministerial Decree No 466 of 1 June 2017, which entered into force on 1 September 2017, established a well-defined and controlled biological protection area, consisting of three zones: one totally closed to fishing for demersal fish and two zones where fishing effort is regulated (http://www.fao.org/gfcm/data/maps/fras). In zone A, any professional and recreational deep fishing activity is prohibited. Zone B is subject to a temporary closed season from 1 September to 31 October each year. In other months, fishing is permitted for no more than two days per week for those vessels specifically authorised by member countries in connection with historical use of the area. Zone C is subject to a temporary closed season from 1 September to 31 October each year. In other months, fishing is permitted for those vessels specifically authorised in connection with historical use of the area and identified by a specific list issued by the Italian administration The following figure shows the Number of Fishing Days × kW recorded by VMS in the zone and

in the fishing ban period (yellow band), which shows substantial compliance with the measure in force.

*Fig. 5 – Changes over time in fishing days in zone A of the Pomo Pit between 2015 and 2019*
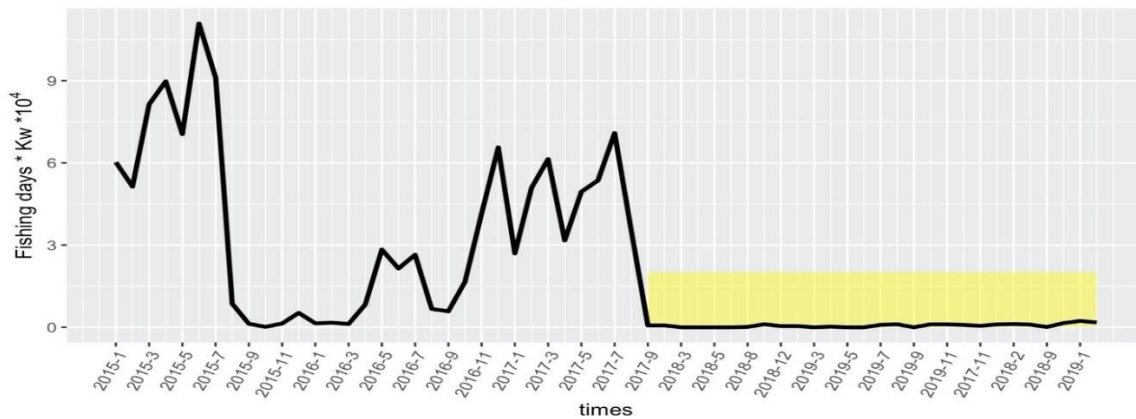


Lastly, it should be mentioned that three new Fisheries Restricted Areas (FRAs) have been adopted in the Strait of Sicily, intended to protect juvenile hake and deepwater pink shrimp, implemented with Regulation (EU) 2019/982 of the European Parliament and of the Council of 5 June 2019 amending Regulation (EU) No 1343/2011 on certain provisions for fishing in the GFCM Agreement area (http://www.fao.org/gfcm/data/maps/fras). The Regulation, which entered into force on 10 July 2019, prohibits trawling in the three Fisheries Restricted Areas, which are closed to trawling with the recommendation of CGPM/42/2018/5 on a multiannual management plan for bottom trawl fisheries exploiting demersal stocks in the Strait of Sicily (geographical subareas 12 to 16), repealing Recommendations GFCM/39/2015/2 and GFCM/40/2016/4.

In the first six months of application, these closures to bottom trawling led to a significant reduction in fishing effort in these areas in which juvenile fish proliferate, as is apparent in the following graphs, which show the Number of Fishing Days × kW in zones FRA GFCM1 (East of Adventure Bank), FRA GFCM2 (West of Gela Basin) and FRA GFCM3 (East of Malta Bank).

*Fig. 6 – Changes over time in fishing days in the Strait of Sicily FRA between 2015 and 2019.*
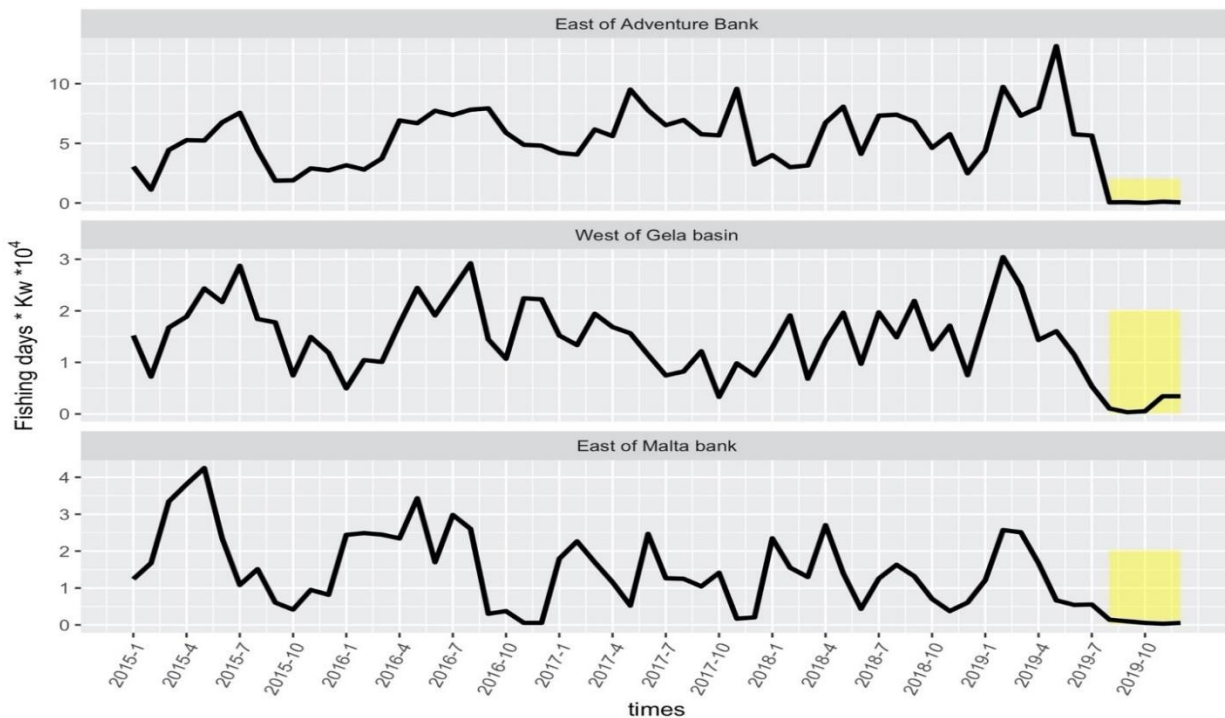
## C. Information on compliance with the entry/exit scheme and with the level of reference

Compliance with the entry/exit scheme and with the reference level as at 31 December 2019 was assessed taking account of the situation of the consolidated fleet in May 2020. As laid down by Article 22(7) of Regulation (EU) No 1380/2013, the fishing capacity of the Italian fleet has never exceeded the limits laid down in Annex II to the same EU Regulation (as shown in the table below).

*Table 13 – Calculation table for compliance with the entry/exit scheme and with the reference level.*

|  |  | GT | kW |
|---|---|---|---|
| Reference level of Regulation No 1380/2013 | GT–kW | **173 506** | **1 070 028** |
| Aided exits 2014-2019 | GT$_a$ - kW$_a$ | 17 358 | 85 042 |
| Ceiling as at 31/12/2019 | GT-kW | 156 148 | 984 986 |
| Situation as at 31/12/2019 | GT-kW | **145 678** | **929 144** |
| **Difference** |  | 10 470 | 55 842 |

## D. Summary report on strengths and weaknesses of the fleet management system.

In continuation of the actions already undertaken to protect certain stocks particularly at risk, taking previous experience and the collected data into account, the Italian administration issued measures aimed at reducing fishing effort by reducing fishing activity with space- and time-related cessations and by drawing up lists of vessels that are expressly authorised to carry out specific fishing activities.

In this regard, the main regulatory measures are presented below:

- Undersecretarial Decree No 53 of 13 February 2019. 30-day fishing stop for sardine fishing in the Adriatic Sea (20 February–21 March 2019);
- Executive Decree No 9913 of 17 June 2019 – Adoption of the National management plan for the management of fishing activities with hydraulic dredges and boat rakes;
- Undersecretarial Decree No 172 of 30 April 2019. Defines the management measures for small pelagic stocks in the Adriatic Sea;
- Undersecretarial Decree No 173 of 30 April 2019. Fishing stop for 2019 with the introduction of additional stop days subdivided by GSA and by length category;
- Ministerial Decree No 235 of 30 May 2019. Allocation of quotas of bluefin tuna to fixed tuna traps;
- Ministerial Decree No 403 of 25 July 2019. National provisions on the annual closure period for the European eel species;
- Ministerial Decree No 399 of 25 July 2019. Amendments to Ministerial Decree No 173 of 30 April 2019 on the fishing stop;
- Ministerial Decree No 407 of 26 July 2019. Defines the management measures for small pelagic fish in the Adriatic Sea, including the fishing stop for anchovies and the fishing stop for sardines;
- Circular of 26 July 2019 on small pelagic fish;
- Ministerial Decree No 12690 of 5 August 2019. Bluefin tuna closed season;
- Ministerial Decree of 14 November 2019 (transparent goby – Ministerial Decree of 14 December 2017);

- Ministerial Decree No 13128 of 30 December 2019, Ministerial Decree on the fishing stop for 2020 with the introduction of additional stop days subdivided by GSA and by length category;

- Ministerial Decree No 13130 of 30 December 2019. Prohibits fishing, keeping and landing of sea cucumbers from 1 January 2010 to 31 December 2020;

- Regulation (EU) 2019/982 of the European Parliament and of the Council of 5 June 2019 amending Regulation (EU) No 1343/2011 on certain provisions for fishing in the GFCM (General Fisheries Commission for the Mediterranean) Agreement area.

## E. Information on changes in administrative procedures relevant to the management of the fleet

There have been no changes to administrative procedures relating to fleet management in the last year.

## F. Application of balance indicators

The following pages set out a detailed examination of the proposed indicators by Geographical Sub-Area (GSA) with the aim of identifying the overall trends by fishing technique and LOA category. The data used to calculate the indicators are from the National Data Collection Programme (DCR/DCF).

The choice to provide information by GSA addresses the need to capture geographical differences in terms of economic and social performance and the overall status of the resources that reflect on the state of fisheries and on differing levels of fishing capacity.

## F.1 Biological sustainability indicators(SHI)

The SHI (Sustainable Harvest Indicator) index was used to identify fleet segments with overcapacity. It is worth noting that, owing to the lack of reference points based on biomass for most of the stocks exploited by the Italian fleet, it was not possible to estimate SAR based on criterion 'a' of the EU guidelines. Stocks under criteria 'b', 'c' and 'd' of these guidelines always represent a small part of the catch by weight.

The $F_C/F_{MSY}$ ratios were used for the annual calculation of SHI for all stocks analysed between 2016 and 2018 in the various Italian GSAs. The details are set out in Annex B (Table B6).

Where the estimated $F_C/F_{MSY}$ ratio was not up to date, the 2017 of 2016 values were assumed to be constant for 2018 and for 2017 and 2018, respectively. The $F_C/F_{MSY}$ values prior to 2016 were used for the whole three-year period where new assessments were unavailable. Fish stocks for which there is a new assessment that did not provide $F_C/F_{MSY}$ values considered expected by the STECF and SAC-GFCM working groups were excluded from the SHI calculation. Finally, it should be noted that the assessments made within the SAC-GFCM have not yet been validated in plenary by the SAC and that the $F_C/F_{MSY}$ values are available only for 2018. These values were used also in SHI calculations for 2016 and 2017.

For the selection of fleet segments that show an imbalance, segments with SHI indicator values above 1 and a threshold above 40% for at least in two years out of three in the 2016-2018 period were considered. Out of 41 segments with a threshold above 40% for at least two years out of three, 32 are imbalanced (Table 14). It should be noted that the improvement observed in the estimated SHI index in this report, compared with the previous year's report, is probably partly related to the new assessments performed in the STECF and GFCM using different analytical models. These new models, known as 'Statistical Catch at Age (SCAA)', provide estimates of fishing mortality that are generally lower than the models used in previous years (e.g. 'eXtended Survival Analysis (XSA)').

*Table 14 – List of fleet segments and related SHI in the period 2016–2018.*

| GSA | TECHNIQUE | VESSEL | SHI_LV 2016 | SHI_LV 2017 | SHI_LV 2018 |
|---|---|---|---|---|---|
| 9 | DTS | VL1218 | 0.94 | 1.01 | 1.46 |
| 9 | DTS | VL1824 | | 0.94 | 1.34 |
| 9 | DTS | VL2440 | 0.82 | 0.82 | |
| 9 | PGP | VL1218 | 1.19 | 1.13 | 1.33 |
| 10 | DTS | VL1218 | 1.24 | 1.43 | 1.66 |
| 10 | DTS | VL1824 | 1.29 | 1.47 | 1.69 |
| 10 | HOK | VL1218 | 1.06 | 1.59 | 2.32 |
| 10 | PS | VL40XX | 0.34 | 0.34 | 0.34 |
| 11 | DTS | VL2440 | 2.33 | 2.58 | 2.62 |
| 16 | DTS | VL1824 | 1.78 | 1.81 | 1.76 |
| 16 | HOK | VL1218 | 0.80 | 0.75 | 0.69 |
| 16 | HOK | VL1824 | 0.66 | 0.67 | 0.53 |
| 16 | PS | VL40XX | 0.34 | 0.34 | 0.34 |
| 17 | DTS | VL0612 | 1.80 | 1.51 | 1.66 |
| 17 | DTS | VL1218 | 1.67 | 1.55 | 1.51 |
| 17 | DTS | VL1824 | 2.04 | 1.91 | 1.74 |
| 17 | DTS | VL2440 | 2.27 | 1.98 | 1.74 |
| 17 | PGP | VL0006 | 1.26 | 1.19 | 1.15 |
| 17 | PGP | VL0612 | 2.08 | 1.76 | 1.89 |
| 17 | PGP | VL1218 | 2.77 | 2.07 | 0.69 |
| 17 | PS | VL1218 | 1.66 | 1.61 | 1.51 |
| 17 | PS | VL2440 | 2.22 | 2.23 | 2.22 |
| 17 | PS | VL40XX | 0.43 | 0.48 | 0.43 |
| 17 | TBB | VL1218 | 1.12 | 1.05 | 1.10 |
| 17 | TBB | VL1824 | 1.80 | 1.67 | 1.56 |
| 17 | TBB | VL2440 | 1.48 | 1.32 | 1.61 |
| 17 | TM | VL1218 | 1.99 | 2.10 | 2.03 |
| 17 | TM | VL1824 | 2.04 | 2.01 | 1.73 |
| 17 | TM | VL2440 | 2.31 | 2.32 | 3.08 |
| 18 | DTS | VL0612 | 1.88 | 2.03 | |
| 18 | DTS | VL1824 | 2.34 | 2.19 | 1.99 |
| 18 | DTS | VL2440 | 2.63 | 2.42 | 2.44 |
| 18 | HOK | VL1218 | 3.28 | 2.94 | 3.40 |
| 18 | PS | VL2440 | 2.23 | 2.21 | 2.21 |
| 18 | TM | VL2440 | 2.07 | 2.19 | 2.22 |
| 19 | DTS | VL1218 | 2.02 | 2.12 | 2.50 |
| 19 | DTS | VL1824 | 1.44 | 1.63 | 1.83 |
| 19 | HOK | VL1218 | 1.27 | 1.16 | 1.16 |
| 19 | HOK | VL1824 | 1.01 | 1.03 | 1.08 |
| 19 | PS | VL2440 | 0.34 | 0.34 | 0.34 |
| 19 | PS | VL40XX | 0.34 | 0.34 | 0.34 |

## F.2 Economic indicators

Following the methodology proposed in the guidelines, two economic indicators have been calculated: RoFTA (long-term return) and the CR/BER ratio of current revenue to break-even revenue (short-term return).

- RoFTA

RoFTA is the return per unit (as a percentage) on fixed tangible assets invested in the fisheries sector. RoFTA has been compared to the arithmetic mean of the long-term harmonised interest rate of the previous five years (2014–2018)[4]. Annex B shows the values of the indicator for all fleet segments by GSA, while the table below shows the list of fleet segments with an indicator value lower than the Target Reference Point in 2018.

*Table 15 – List of fleet segments with a RoFTA value lower than the TRP in 2018*

| | | | ROFTA | | |
|---|---|---|---|---|---|
| GSA | Fishing technique | Length category | 2016 | 2017 | 2018 |
| 9 | DRB | VL1218 | 0.07 | -0.21 | -0.24 |
| 10 | DRB | VL1218 | -0.02 | -0.27 | -0.11 |
| 18 | DRB | VL1218 | 0.22 | -0.21 | -0.13 |
| 17 | DTS | VL0612 | 0.27 | 0.29 | -0.13 |
| 11 | DTS | VL1218 | 0.31 | 0.72 | -0.09 |
| 18 | DTS | VL1824 | -0.02 | 0.01 | 0.00 |
| 9 | DTS | VL2440 | 0.05 | -0.12 | -0.04 |
| 18 | DTS | VL2440 | -0.11 | 0.03 | -0.06 |
| 19 | HOK | VL1218 | 0.30 | 0.15 | -0.03 |
| 10 | HOK | VL1824 | | | -0.01 |
| 16 | HOK | VL1824 | 0.15 | 0.29 | -0.01 |
| 19 | HOK | VL1824 | -0.04 | 0.06 | -0.08 |
| 10 | PGP | VL1218 | 0.08 | 0.24 | -0.05 |
| 11 | PGP | VL1218 | 0.19 | 0.31 | -0.12 |
| 19 | PGP | VL1218 | 0.07 | 0.00 | -0.06 |
| 10 | PS | VL2440 | -0.06 | 0.12 | -0.09 |
| 17 | PS | VL2440 | 0.06 | 0.09 | -0.07 |
| 19 | PS | VL2440 | 0.15 | 0.69 | -0.17 |
| 17 | TBB | VL2440 | -0.09 | 0.19 | 0.00 |

Nationally, analysis of profitability indicators and of the main components of the income statement confirms the upward trend of growth in revenue, added value and profit recorded in 2017, compared with the same values for 2014–2016.

Revenues, equal to EUR 967.6 million, increased by 1.8% compared with 2017. With regard to costs incurred by vessels, there was a slight increase for all items compared with 2017. The cost of fuel has increased as a result of the recovery in fuel prices; fuel purchase costs continue to account for the largest proportion of operating costs (54% for the fleet, rising to 61% for the bottom trawler segment), followed by a considerable distance by other variable costs, which also include commercial, repair and maintenance costs and other fixed costs.

The total number of employees in the sector is estimated at 25 759, which is stable compared to 2017.

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[4] ECB source: http://www.ecb.int/stats/money/long/html/index.en.html

In terms of fishing systems, the most positive performance was recorded for bottom trawling, pair trawling and hydraulic dredges; in particular, bottom trawlers saw an increase in revenues of more than 10%; the increase in operating costs partially ate into gross profit which, however, showed an increase of 3%. The economic performance of small-scale fishing (-13% gross profit), purse-seining (-26% gross profit) and longlines (-42%) was negative.

With regard to individual fleet segments, in 2018, out of a total of 84 segments, 19 show an indicator value less than TRP. These include trawlers of a length category of more than 24 metres operating in GSAs 9 and 18. For the first time, bottom trawlers operating in GSA 16 are not included among the segments with a RoFTA lower than the target reference point. With regard to passive gears, there was negative performance for vessels of LOA > 12 metres in GSA 10, GSA 19 and GSA 11. The performance of longlines was particularly negative. The drop in returns for this production segment is attributable both to the reduction in turnover and the increase in operating costs, particularly other variable costs.

Hydraulic trawlers in the Tyrrhenian Sea and those in the districts of GSA 18 show long-term economic inefficiency, which is indicative of an imbalance. Conversely, the performance of hydraulic dredgers operating in GSA 17, which account for the largest share in terms of turnover and profit at national level by far, is positive. The derogation from the minimum size has made it possible to reduce daily fishing hours with a positive effect on operating costs and, therefore, on profitability.

- CR/BER

Break-even revenue (BER) means the revenue needed to cover both fixed and variable costs, therefore making neither a loss nor a profit. Current revenue (CR) is the total operating revenue of the fleet segment, which consists of the profits from landings and non-fishing activities. The calculation of the ratio does not take account of the opportunity cost; the calculated indicator therefore provides an illustration of short-term financial viability.

Annex B shows the values of the indicator for all fleet segments by GSA, while the following table shows the list of fleet segments with an indicator value lower than 1 for the last available year.

*Table 16 – List of fleet segments with a CR/BER value of less than 1 in 2018.*

| GSA | Fishing technique | Length category | CR/BER | | |
|---|---|---|---|---|---|
| | | | 2016 | 2017 | 2018 |
| 9 | DRB | VL1218 | 1.26 | 0.27 | 0.17 |
| 10 | DRB | VL1218 | 1.00 | 0.01 | 0.66 |
| 18 | DRB | VL1218 | 1.88 | 0.23 | 0.52 |
| 17 | DTS | VL0612 | 1.47 | 1.77 | 0.36 |
| 11 | DTS | VL1218 | 2.17 | 3.46 | 0.83 |
| 9 | DTS | VL2440 | 1.22 | 0.60 | 0.91 |
| 18 | DTS | VL2440 | 0.64 | 1.14 | 0.84 |
| 19 | HOK | VL1218 | 2.04 | 1.54 | -0.35 |
| 19 | HOK | VL1824 | 0.91 | 1.24 | 0.78 |
| 10 | PGP | VL1218 | 1.40 | 1.81 | 0.82 |
| 11 | PGP | VL1218 | 1.70 | 1.98 | 0.69 |
| 19 | PGP | VL1218 | 1.37 | 0.99 | 0.80 |
| 10 | PS | VL2440 | 0.79 | 1.61 | 0.60 |
| 17 | PS | VL2440 | 1.25 | 1.34 | 0.79 |

In 2018, out of a total of 84 fleet segments, 14 showed an indicator value lower than 1. Only one segment has a negative CR/BER ratio: longliners in GSA 19, which were characterised by a sharp decline in average production per vessel and on a daily basis in 2018. The indicator shows a decline in relation to the previous

two years, with an increase in the number of segments with a break-even point of less than 1. In particular, in addition to longliners, this also includes DTS1218 in GSA 11 and DTS0612 in GSA 17 and DTS2440 in GSA 18.


## F.3 Vessel use indicators


In order to assess how intensively the fleet is being utilised, the Guidelines on balance indicators (COM(2014) 545) recommend two different indicators intended to measure fleet inactivity (Inactive Vessel Indicator) and vessel utilisation (Vessel Use Indicator).

The first indicator describes the percentage of inactive vessels of the total fleet in terms of number of vessels, tonnage (GT) and engine power (kW).

The second indicator, on the other hand, considers the activity levels of vessels that have carried out fishing activities at least once during the year, taking into account the seasonal nature of fishing activities and other restrictions. For each fleet segment, this is given by the ratio between observed fishing effort (the average number of days at sea per vessel) and the maximum identified effort (the maximum days at sea observed in one fleet segment).

According to the 'traffic light signalling system' an indicator greater than 0.9 is observed only for fleet segments that record a broadly consistent level of activity, which can be marked with a green light. Values below 0.7 were potentially considered as indices of under-utilisation, which in turn may indicate a technical overcapacity (red light).

Indicator figures between the indicated limit values are highlighted in yellow and show a relatively stable situation, demonstrating that the available technical capacity is moderately exploited on the whole. The details are set out in Table 21.


- IVI


The indicator measuring the level of fleet inactivity (Inactive Vessel Indicator) shows a balanced overall situation in that the inactivity values of the fleet remain below the threshold value of 20% for all fleet segments and these values remained essentially stable during the period under review.

In 2019, on the whole, the proportion of inactive vessels amounted to 9.1% of the total number, 5.6% in terms of capacity (GT) and 6% in terms of engine power (kW) (Table B8).

Compared with the previous year, the indicator value increased slightly in terms of the number of vessels, and decreased more markedly in terms of GT and kW. This indicates greater inactivity of larger vessels (i.e. those with an LOA greater than 18 metres) compared with 2018. On the other hand, the inactivity percentage for smaller vessels remained stable.

As usual, in addition to the greater 'sensitivity' of these vessels to weather and sea conditions, this situation can also be attributed to the obsolescence identified in vessels falling in this category. On average, the age of vessels with an LOA of less than 6 metres is 40 years, compared with a national average of 34 years. Such characteristics require expensive maintenance work, which results in prolonged vessel inactivity in many cases.

On the whole, it can be stated that the activity indicator remained at 'physiological' levels during 2019, as it is normal to expect 10% of vessels in a fleet segment to be inactive due to repairs, adjustments, conversions or transfers in progress.

*Fig. 5 – Inactive Vessel Indicator by LOA category, 2014-2019.*
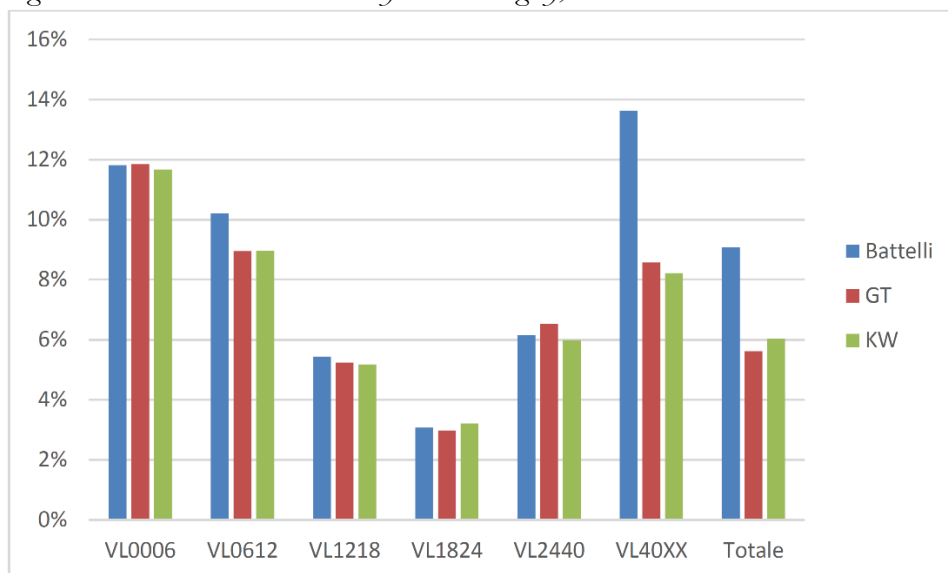


- VUI

The second indicator that measures the rate of utilisation of fishing capacity (Vessel Use Indicator), shows a range of different situations and the picture that emerges is one of a fair degree of variability by fishing segments and by geographical areas.

In 2018, out of a total of 83 available fleet segments of 88 total segments (GSA/fishing technique/LOA category), 12 (14.46%) recorded a consistent activity level (green indicator), which tends to indicate full utilisation of fishing capacity, 51 segments (61.45%) reported a moderate rate of utilisation (yellow indicator) and, lastly, 20 (24.10%) of the examined segments showed indicators pointing to a potential technical under-utilisation of vessels (red indicator) (Table 17 and Table B9).

In 2019, time analysis of the indicator shows a general deterioration compared with the previous three years, such that segments in the 'green zone' have essentially returned to the level of 2014, while those in the 'yellow zone' have almost doubled over the same period. Also compared with 2014, the number of underused vessels practically halved (48% vs 24%).

*Table 17 – Vessel Use Indicator by LOA category, 2014–2019.*

| Indicator | Number of cases as a percentage per year | | | | | |
|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Full utilisation | 15.2% | 10.0% | 18.3% | 32.9% | 30.7% | 14.46% |
| Moderate utilisation | 36.7% | 36.3% | 41.5% | 34.2% | 43.2% | 61.45% |
| Under-utilisation | 48.1% | 53.8% | 40.2% | 32.9% | 26.1% | 24.10% |

With regard to fishing techniques, it is interesting to note that the green indicator for the fleet equipped with pair-trawling gear shows a good level of utilisation of fishing capacity in this segment. This is undoubtedly related to the management policies affecting the fishing of small pelagic fish, which, apart from establishing quantitative restrictions with daily quotas per boat, regulated according to market demand and the ecological characteristics of resources, also introduce limits on fishing days (GFCM 40/2016/3 – Ministerial Decree of 26 January 2016 (Fig. 6).

The bottom trawler segment and the polyvalent passive segment are dominated by the yellow indicator, which shows moderate utilisation of fishing capacity, while the red indicator is frequent in small-scale fishing and remains stable over time. This situation, which indicates a highly variable level of activity, is not directly attributable to under-utilisation of capacity, but it is linked to the natural, technical and social conditions that are characteristic of this fishing segment. For small-scale fishing, it is necessary to consider several specific aspects of the fleet:

1. it is frequently the case that fishing boats with passive gear in the 0/10-metre category are owned by older people who carry out only limited activities;
2. some vessels in the 0/10-metre segment belong to the same owners of larger vessels, who use small fishing boats to deal with any times of crisis in the segment in which the large boat operates.

*Fig. 6 – Vessel Use Indicator by fishing technique, 2019.*
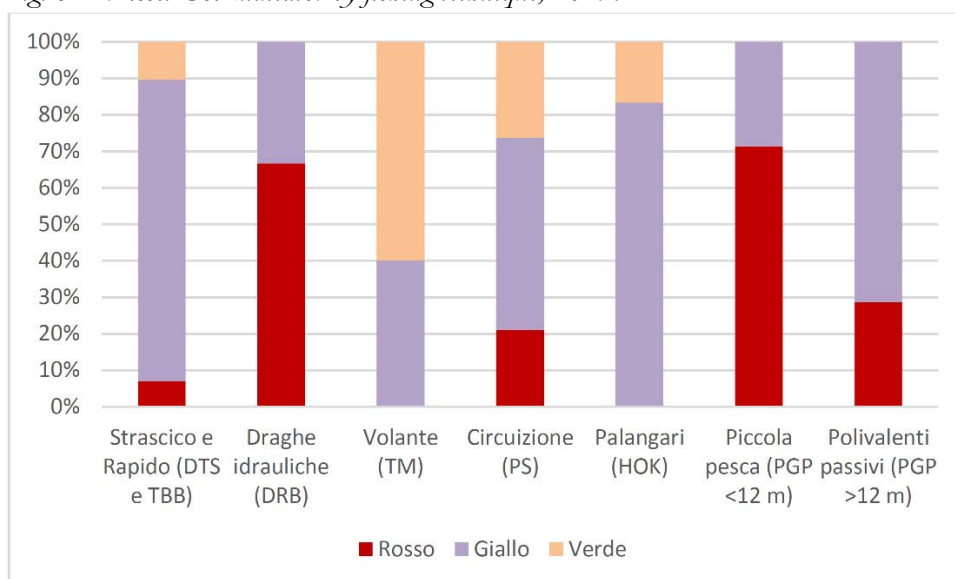


## G. Conclusions: achievement of a balance between the fishing fleet and fishing opportunities

The biological, economic, social and technical indicators proposed in the European Commission's guidelines are the tools with which management measures have been implemented to achieve a complete balance between fishing capacity and fishing opportunities over time.

The indicators used are as follows:

- Sustainable Harvest Indicator (SHI),
- Return of Fixed Tangible Assets (RoFTA)
- Current revenue/Break-Even Revenue (CR/BER)
- Inactive Vessel Indicator (IVI)
- Vessel Utilisation Indicator (VUI)

The indicators were calculated taking account the results of the National Data Collection Programme (DCR/DCF), presenting an examination of these indicators by Geographical Sub-Area (GSA) with the aim of identifying the overall trends in terms of fishing techniques and LOA categories.

**SHI**

The $F_C/F_{MSY}$ ratios were used for the annual calculation of SHI for all stocks analysed between 2016 and 2018 in the various Italian GSAs. The details are set out in Annex B (Table B6).
For the selection of fleet segments that show an imbalance, segments with SHI indicator values above 1 and a threshold above 40% for at least in two years out of three in the 2016-2018 period were considered. Out of 41 segments with a threshold above 40% for at least two years out of three, 32 are imbalanced (Table 14). It should be noted that the improvement observed in the estimated SHI index in this report, compared with the previous year's report, is probably partly related to the new assessments performed in the STECF and GFCM using different analytical models. These new models, known as 'Statistical Catch at

Age (SCAA)', provide estimates of fishing mortality that are generally lower than the models used in previous years (e.g. 'eXtended Survival Analysis (XSA)').

## RoFTA

Nationally, analysis of profitability indicators and of the main components of the income statement confirms the upward trend of growth in revenue, added value and profit recorded in 2017, compared with the same values for 2014–2016.

Revenues, equal to EUR 967.6 million, increased by 1.8% compared with 2017. With regard to costs incurred by vessels, there was a slight increase for all items compared with 2017. The cost of fuel has increased as a result of the recovery in fuel prices. The total number of employees in the sector is estimated at 25 759, which is stable compared with 2017.

With regard to individual fleet segments, in 2018, out of a total of 84 segments, 19 show an indicator value less than TRP. These include trawlers of a length category of more than 24 metres operating in GSAs 9 and 18. For the first time, bottom trawlers operating in GSA 16 are not included among the segments with a RoFTA lower than the target reference point. With regard to passive gears, there was negative performance for vessels of LOA > 12 metres in GSA 10, GSA 19 and GSA 11. The performance of longlines was particularly negative. The drop in returns for this production segment is attributable both to the reduction in turnover and the increase in operating costs, particularly other variable costs.

Annex B shows the indicator values for all fleet segments by GSA, while table 15 shows the list of fleet segments with an indicator value lower than the Target Reference Point in 2018.

## CR/BER

The indicator shows a decline in relation to the previous two years, with an increase in the number of segments with a break-even point of less than 1. In particular, in addition to longliners, this also includes DTS1218 in GSA 11 and DTS0612 in GSA 17 and DTS2440 in GSA 18.

In 2018, out of a total of 84 fleet segments, 14 showed an indicator value lower than 1. Only one segment has a negative CR/BER ratio: longliners in GSA 19, which were characterised by a sharp decline in average production per vessel and on a daily basis in 2018.

Annex B shows the values of the indicator for all fleet segments by GSA, while the table 16 shows the list of fleet segments with an indicator value lower than 1 for the last available year.

## IVI

The indicator measuring the level of fleet inactivity (Inactive Vessel Indicator) shows a balanced overall situation in that the inactivity values of the fleet remain below the threshold value of 20% for all fleet segments and these values remained essentially stable during the period under review.

Compared with the previous year, the indicator value increased slightly in terms of the number of vessels, and decreased more markedly in terms of GT and kW. This indicates greater inactivity of larger vessels (i.e. those with an LOA greater than 18 metres) compared with 2018. On the other hand, the inactivity percentage for smaller vessels remained stable.

On the whole, it can be stated that the activity indicator remained at 'physiological' levels during 2019, as it is normal to expect 10% of vessels in a fleet segment to be inactive due to repairs, adjustments, conversions or transfers in progress.

## VUI

In 2018, out of a total of 83 available fleet segments of 88 total segments (GSA/fishing technique/LOA category), 12 (14.46%) recorded a consistent activity level (green indicator), which tends to indicate full utilisation of fishing capacity, 51 segments (61.45%) reported a moderate rate of utilisation (yellow

indicator) and, lastly, 20 (24.10%) of the examined segments showed indicators pointing to a potential technical under-utilisation of vessels (red indicator) (Table 17 and Table B9).

In 2019, time analysis of the indicator shows a general deterioration compared with the previous three years, such that segments in the 'green zone' have essentially returned to the level of 2014, while those in the 'yellow zone' have almost doubled over the same period. Also compared with 2014, the number of underused vessels practically halved (48% vs 24%).

With regard to fishing techniques, it is interesting to note that the green indicator for the fleet equipped with pair-trawling gear shows a good level of utilisation of fishing capacity in this segment. This is undoubtedly related to the management policies affecting the fishing of small pelagic fish, which, apart from establishing quantitative restrictions with daily quotas per boat, regulated according to market demand and the ecological characteristics of resources, also introduce limits on fishing days (GFCM 40/2016/3 – Ministerial Decree of 26 January 2016 (Fig. 6).

In 2019, the Italian administration issued a number of measures in order to help achieve a balance between fishing capacities and opportunities.

Of these, the most important ones are the following:

- Undersecretarial Decree No 53 of 13 February 2019. 30-day fishing stop for sardine fishing in the Adriatic Sea (20 February–21 March 2019);

- Undersecretarial Decree No 172 of 30 April 2019. Defines the management measures for small pelagic stocks in the Adriatic Sea;

- Undersecretarial Decree No 173 of 30 April 2019. Fishing stop for 2019 with the introduction of additional stop days subdivided by GSA and by length category;

- Ministerial Decree No 407 of 26 July 2019. Defines the management measures for small pelagic fish in the Adriatic Sea, including the fishing stop for anchovies and the fishing stop for sardines;

- Ministerial Decree No 13128 of 30 December 2019, Ministerial Decree on the fishing stop for 2020 with the introduction of additional stop days subdivided by GSA and by length category;

- Regulation (EU) 2019/982 of the European Parliament and of the Council of 5 June 2019 amending Regulation (EU) No 1343/2011 on certain provisions for fishing in the GFCM (General Fisheries Commission for the Mediterranean) Agreement area.

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# Annex A

## Action plan setting out adjustment objectives and the tools to achieve a balance for fleet segments for which an imbalance has been demonstrated

The Italian Action Plan, taking the EU guidelines into account, aims to significantly reduce current ($F_C$) fishing mortality through the synergistic effect of a series of different measures. It should be pointed out, as shown in Table 14, that there are still 32 segments in imbalance, and 14 of these, more or less distributed across Italy, concern the bottom trawling fleet. The main target of the activities proposed in this action plan is therefore to reduce the fishing effort for demersal species, in the certainty that the proposed actions, such as the increase in stop days and the introduction of new protected marine areas (especially nursery areas), will have a positive impact on all other suffering species.

## Increase in fishing stop days.

The overall objective of the Administration is the recovery of stocks within safe biological limits by 2020 by improving spawning stock biomass (SSB) by reducing the exploitation rate (weighted for the target species pool) from the current level to a level compatible with the sustainability standards of the new Common Fisheries Policy (Article 2 of Regulation (EU) No 1380/2013).

With the achievement of the objectives set out in the decommissioning plans for fishing vessels, which applied to fishing capacity to regulate fishing effort, the Administration's main objective is now focused on management of days of activity. Accordingly, also for 2020, with Ministerial Decree No 13128 of 30 December 2019, in addition to the usual temporary stop days, the additional inactivity days introduced in 2019 will be increased (Table A1).

**Table A1** *Additional fishing stop days for 2019 and 2020.*

| GSA | LOA CATEGORY | Additional days 2019 | Additional days 2020 |
|---|---|---|---|
| GSA 9 | LOA<=12 | 9 | 16 |
| | LOA>12 | 18 | 31 |
| GSA 10 | LOA<=12 | 12 | 20 |
| | LOA>12 | 15 | 26 |
| GSA 11 | LOA<=24 | 13 | 22 |
| | LOA>24 | 17 | 31 |
| GSA 16 | LOA<=12 | 7 | 12 |
| | 12<LOA<=24 | 8 | 15 |
| | LOA>24 | 12 | 22 |
| GSA 17 to Ancona | LOA<=12 | 7 | 9 |
| | 12<LOA<=24 | 10 | 15 |
| | LOA>24 | 13 | 21 |
| GSA 17 and GSA 18 | LOA<=12 | 7 | 14 |
| | 12<LOA<=24 | 10 | 20 |
| | LOA>24 | 13 | 26 |
| GSA 19 | LOA<=18 | 16 | 28 |
| | LOA>18 | 15 | 26 |

## Introduction of the obligation to use the e-logbook

One of the cornerstones of proper fishing effort management is the accuracy of catch and effort data, on which the mathematical models for calculating the various biological and economic indicators are based. In this regard, the Administration is aiming to gradually extend the use of e-logbooks, starting with vessels that carry out activities with a greater expected impact on resources. For these purposes, in the same Ministerial Decree No 13128 of 30 December 2019, the obligation to electronically transmit catches is imposed on all those vessels that will carry out fishing activities in the effort area identified by GSAs 9, 10 and 11 (WestMed). It is estimated that more than 1 000 vessels will have adapt to the new catch declaration procedures, regardless of their LOA.

## Introduction of protected areas in GSA 9, 10 and 11.

Decree No 1714 of 23 January 2020 identified the areas with a ban on professional fishing using bottom trawling, pair-trawling and dredging for molluscs. In implementation of the provisions of Article 6(1) of Ministerial Decree No 3128 of 30 December 2019, areas identified as 'nursery zones' for juvenile hake in GSAs 9, 10 and 11 (WestMed) have been defined and placed under a fishing complete ban. In total, there are five zones closed to bottom trawling:

- Zone A – Along the Argentario coast;
- Zone B – In the Gulf of Gaeta;
- Zone C – Zone identified along the coast of Tuscany;
- Zone D –Gulf of Patti;
- Zone E – Gulf of Castellammare.

## Measures for small pelagic fish in the Adriatic Sea.

With regard to anchovies and sardines, in particular with regard to GSA 17 and 18, on the basis of the conclusions of the SAC at its twentieth session held in June 2018 in Morocco, the GFCM-FAO concluded that both stocks are overfished with an F/Fmsy of 2.23 and 2.77, respectively, and with Recommendation GFCM/42/2018/8 it again recommended reducing fishing mortality through a series of measures restricting fleet activity from 2019 to 2021. These measures were adopted in Italy by the MIPAAF Decree of 26 July 2019 and are now in force.

## Monitoring of the implementation of Regulation (EU) 982/2019.

Regulation (EU) 982/2019, amending Regulation (EU) No 1343/2011, entered into force on 10 July 2019 and introduced 3 new FRAs (Fisheries Restricted Areas), closing them to bottom trawling.

In these areas, with a high concentration of juvenile hake and deepwater pink shrimp, identified as FRA GFCM1, East of Adventure Bank, FRA GFCM2, West of Gela Basin, and FRA GFCM3, East of Malta Bank, a significant decrease in fishing effort has been recorded already in the first six months of application. In 2020, the administration intends to step up efforts to control and monitor fishing activities in these areas, which are particularly important for safeguarding juveniles.

## Monitoring of fishing activities in the Pomo Pit.

A similar monitoring activity will be applied in the total fishing ban area (zone A) of the Pomo Pit. In accordance with the provisions of Recommendation GFCM/41/2017/3 on the establishment of a Fisheries Restricted Area in the Jabuka/Pomo Pit in the Adriatic Sea, and of our Ministerial Decree No 466 of 1 June 2017, which entered into force on 1 September 2017, compliance with the provisions of the aforementioned legislation will continue to be monitored.

# Annex B

# Reference tables

*Table B1 – Catch of bluefin tuna by fishing technique, 2019*

| FISHING TECHNIQUE | No | GT | KG |
|---|---|---|---|
| PURSE-SEINING | 17 | 3 971 | 3 140 000 |
| KG | 33 | 1 106 | 566 058 |
| FIXED TUNA TRAP | 5 | | 352 518 |
| By-catch | | | 207 294 |
| Sports/Recreational Fishing | | | 20 098 |
| **TOTAL CATCH** | | | **4 285 969** |

*Table B2 – Catches and revenues by GSA, 2019.*

| Fishing technique | Catch (t) | Catch % |
|---|---|---|
| GSA 9 – Ligurian Sea and Northern Tyrrhenian Sea | 17 321 | 10% |
| GSA 10 – Southern and Central Tyrrhenian Sea | 19 393 | 11% |
| GSA 11 - Sardinia | 8 277 | 5% |
| GSA 16 – Southern Sicily | 20 221 | 12% |
| GSA 17 – Northern Adriatic Sea | 80 065 | 46% |
| GSA 18 – Southern Adriatic Sea | 18 675 | 11% |
| GSA 19 – Western Ionian Sea | 10 375 | 6% |
| **Total** | **174 327** | **100%** |

*Table B3 – Catches and revenues by GSA, 2019.*

| Fishing technique | Revenue (million €) | Revenue % |
|---|---|---|
| GSA 9 – Ligurian Sea and Northern Tyrrhenian Sea | 102.6 | 12% |
| GSA 10 – Southern and Central Tyrrhenian Sea | 112.5 | 13% |
| GSA 11 - Sardinia | 64.3 | 7% |
| GSA 16 – Southern Sicily | 145.7 | 16% |
| GSA 17 – Northern Adriatic Sea | 298.1 | 34% |
| GSA 18 – Southern Adriatic Sea | 91.8 | 10% |
| GSA 19 – Western Ionian Sea | 72.4 | 8% |
| **Total** | **887.4** | **100%** |

*Table B4 – 2019 production, top 20 species by quantity.*

| Species code | Species | Catch (t) | % of total for Italy |
|---|---|---|---|
| ANE | Engraulis encrasicolus | 31 068 | 17.58% |
| PIL | Sardina pilchardus | 23 317 | 13.19% |
| SVE | Chamelea gallina | 18 706 | 10.58% |
| DPS | Parapenaeus longirostris | 9 011 | 5.10% |
| HKE | Merluccius merluccius | 7 040 | 3.98% |
| MUT | Mullus barbatus | 4 972 | 2.81% |
| CTC | Sepia officinalis | 4 698 | 2.66% |
| HKE | Squilla mantis | 3 949 | 2.23% |
| BFT | Thunnus thynnus | 3 913 | 2.21% |
| OCC | Octopus vulgaris | 3 813 | 2.16% |
| SQM | Illex coindetii | 2 774 | 1.57% |
| EOI | Eledone cirrhosa | 2 493 | 1.41% |
| SWO | Xiphias gladius | 2 475 | 1.40% |
| ARS | Aristaeomorpha foliacea | 2 246 | 1.27% |
| MUL | Mugilidae | 2 209 | 1.25% |
| EDT | Eledone moschata | 2 070 | 1.17% |
| SOL | Solea solea | 1 986 | 1.12% |
| BOY | Bolinus brandaris | 1 768 | 1.00% |
| HOM | Trachurus trachurus | 1 669 | 0.94% |
| BOG | Boops boops | 1 611 | 0.91% |
| **20 species total** | | **131 788** | **74.57%** |
| **Total for Italy** | | **176 738** | **100.00%** |

*Table B5 – 2019 production, top 20 species by value.*

| Species code | Species | Revenue (million €) | % of total for Italy |
|---|---|---|---|
| ANE | Engraulis encrasicolus | 71.2 | 8.02% |
| DPS | Parapenaeus longirostris | 61.6 | 6.94% |
| ARS | Aristaeomorpha foliacea | 52.9 | 5.96% |
| SVE | Chamelea gallina | 51.4 | 5.79% |
| HKE | Merluccius merluccius | 49.1 | 5.53% |
| CTC | Sepia officinalis | 48.2 | 5.43% |
| BFT | Thunnus thynnus | 40.3 | 4.54% |
| OCC | Octopus vulgaris | 33.8 | 3.81% |
| PIL | Sardina pilchardus | 30.3 | 3.41% |
| NEP | Nephrops norvegicus | 30 | 3.38% |
| ARA | Aristeus antennatus | 29.5 | 3.32% |
| HKE | Squilla mantis | 24.9 | 2.81% |
| SWO | Xiphias gladius | 24.1 | 2.72% |
| MUT | Mullus barbatus | 23.9 | 2.69% |
| SOL | Solea solea | 21.8 | 2.46% |

| TGS | Penaeus kerathurus | 20.1 | 2.27% |
|---|---|---|---|
| EOI | Eledone cirrhosa | 14.8 | 1.67% |
| SQR | Loligo vulgaris | 14.4 | 1.62% |
| SQM | Illex coindetii | 13.8 | 1.56% |
| MUR | Mullus surmuletus | 13.3 | 1.50% |
| **20 species total** | | **669.4** | **75.43%** |
| **Total for Italy** | | **887.4** | **100.00%** |

*Table B6 – Stock assessments carried out over the last three years in Italian GSAs. The status of stocks by year (2016-2018) is reported as the ratio of current F ($F_C$) to F at maximum sustainable yield F ($F_{MSY}$). Source: ICCAT 2016; 2017a;2017b; GFCM2020a; 2020b; STECF2015;2016; 2019a; 2019b.*

| GSA | SPECIES | F/FMSY 2016 | F/FMSY 2017 | F/FMSY 2018 |
|---|---|---|---|---|
| 9 | Blue whiting | 1.16 | 1.16 | 1.16 |
| | Norway lobster | 0.75 | 1.00 | 1.55 |
| | Red mullet | 2.34 | 2.48 | 2.72 |
| | Sardine | 0.13 | 0.13 | 0.14 |
| | Striped red mullet | 1.11 | 1.11 | 1.11 |
| 10 | Red mullet | 1.49 | 1.34 | 1.17 |
| 11 | Norway lobster | 2.05 | 2.05 | 2.05 |
| 17 | Common cuttlefish | 0.87 | 0.87 | 0.87 |
| | Common cuttlefish | 1.02 | 1.02 | 1.02 |
| | Spot-tail mantis shrimp | 1.16 | 1.16 | 1.16 |
| 19 | Hake | 2.40 | 2.40 | 2.40 |
| | Red mullet | 1.25 | 1.25 | 1.25 |
| 12-16 | Deepwater pink shrimp | 1.52 | 1.52 | 1.52 |
| | Hake | 1.65 | 1.65 | 1.65 |
| 15-16 | Red mullet | 0.76 | 0.76 | 0.76 |
| 17-18 | Anchovy | 2.23 | 2.23 | 2.23 |
| | Hake | 3.46 | 2.85 | 2.68 |
| | Norway lobster | 1.51 | 1.47 | 1.58 |
| | Red mullet | 1.85 | 1.61 | 1.41 |
| | Sardine | 2.07 | 2.07 | 2.07 |
| 17-18-19 | Deepwater pink shrimp | 2.76 | 3.06 | 4.27 |
| 18-19 | Giant red shrimp | 1.10 | 1.10 | 1.10 |
| 9-10-11 | Blue and red shrimps | 1.56 | 2.23 | 3.72 |
| | Deepwater pink shrimp | 0.92 | 0.87 | 0.95 |
| | Giant red shrimp | 1.04 | 1.58 | 3.04 |

| | | | 3.27 | 3.14 | 3.64 |
|---|---|---|---|---|---|
| | Hake | | 3.27 | 3.14 | 3.64 |
| All | Albacore | | 0.83 | 0.83 | 0.83 |
| | Bluefin tuna | | 0.34 | 0.34 | 0.34 |
| | Swordfish | | 1.85 | 1.85 | 1.85 |

*Table B7 – ROFTA and CR/BER for fishing segments, 2016, 2017 and 2018*

| GSA | Fishing technique | LOA category | 2016 ROFTA | 2016 CR/BER | 2017 ROFTA | 2017 CR/BER | 2018 ROFTA | 2018 CR/BER |
|---|---|---|---|---|---|---|---|---|
| 9 | DRB | VL1218 | 0.07 | 1.26 | -0.21 | 0.27 | -0.24 | 0.17 |
| 10 | DRB | VL1218 | -0.02 | 1.00 | -0.27 | 0.01 | -0.11 | 0.66 |
| 17 | DRB | VL1218 | 0.13 | 1.44 | 0.05 | 1.20 | 0.17 | 1.54 |
| 18 | DRB | VL1218 | 0.22 | 1.88 | -0.21 | 0.23 | -0.13 | 0.52 |
| 9 | DTS | VL0612 | 0.01 | 1.08 | 0.16 | 1.44 | 0.22 | 1.73 |
| 16 | DTS | VL0612 | 0.33 | 2.07 | 0.09 | 1.33 | 0.44 | 2.42 |
| 17 | DTS | VL0612 | 0.27 | 1.47 | 0.29 | 1.77 | -0.13 | 0.36 |
| 18 | DTS | VL0612 | 1.01 | 4.39 | 0.74 | 3.01 | 0.20 | 1.68 |
| 9 | DTS | VL1218 | 0.70 | 3.26 | 0.62 | 3.02 | 1.45 | 5.29 |
| 10 | DTS | VL1218 | 0.16 | 1.61 | 0.35 | 2.11 | 0.42 | 2.21 |
| 11 | DTS | VL1218 | 0.31 | 2.17 | 0.72 | 3.46 | -0.09 | 0.83 |
| 16 | DTS | VL1218 | 0.30 | 1.93 | 0.78 | 2.90 | 0.94 | 3.16 |
| 17 | DTS | VL1218 | 0.44 | 2.16 | 0.52 | 2.52 | 0.96 | 2.84 |
| 18 | DTS | VL1218 | 1.21 | 5.47 | 0.60 | 3.05 | 1.10 | 4.45 |
| 19 | DTS | VL1218 | 0.25 | 1.87 | 0.62 | 3.08 | 0.32 | 2.22 |
| 9 | DTS | VL1824 | 0.27 | 2.04 | 0.11 | 1.33 | 0.24 | 1.87 |
| 10 | DTS | VL1824 | 0.11 | 1.38 | 0.14 | 1.48 | 0.12 | 1.50 |
| 11 | DTS | VL1824 | 0.04 | 1.20 | 0.11 | 1.46 | 0.11 | 1.45 |
| 16 | DTS | VL1824 | 0.18 | 1.63 | 0.07 | 1.28 | 0.01 | 1.08 |
| 17 | DTS | VL1824 | 0.03 | 1.13 | 0.16 | 1.56 | 0.09 | 1.33 |
| 18 | DTS | VL1824 | -0.02 | 0.96 | 0.01 | 1.05 | 0.00 | 1.03 |
| 19 | DTS | VL1824 | 0.06 | 1.25 | 0.19 | 1.69 | 0.35 | 2.19 |
| 9 | DTS | VL2440 | 0.05 | 1.22 | -0.12 | 0.60 | -0.04 | 0.91 |
| 11 | DTS | VL2440 | -0.03 | 0.94 | 0.00 | 1.03 | 0.00 | 1.07 |
| 16 | DTS | VL2440 | 0.01 | 1.08 | 0.28 | 1.93 | 0.34 | 2.21 |
| 17 | DTS | VL2440 | -0.09 | 0.66 | -0.03 | 0.86 | 0.14 | 1.49 |
| 18 | DTS | VL2440 | -0.11 | 0.64 | 0.03 | 1.14 | -0.06 | 0.84 |
| 10 | HOK | VL1218 | -0.02 | 0.97 | 0.65 | 3.07 | 0.05 | 1.23 |
| 16 | HOK | VL1218 | 0.37 | 2.19 | 0.57 | 2.54 | 0.13 | 1.45 |
| 18 | HOK | VL1218 | 1.37 | 3.53 | 1.04 | 4.18 | 0.05 | 1.23 |
| 19 | HOK | VL1218 | 0.30 | 2.04 | 0.15 | 1.54 | -0.03 | -0.35 |
| 10 | HOK | VL1824 | | | | | -0.01 | 1.00 |
| 16 | HOK | VL1824 | 0.15 | 1.56 | 0.29 | 1.96 | -0.01 | 1.01 |
| 19 | HOK | VL1824 | -0.04 | 0.91 | 0.06 | 1.24 | -0.08 | 0.78 |
| 9 | PGP | VL0006 | 1.32 | 4.01 | 1.04 | 2.66 | 1.31 | 3.91 |
| 10 | PGP | VL0006 | 0.86 | 3.02 | 0.90 | 2.68 | 0.63 | 2.51 |
| 11 | PGP | VL0006 | 0.59 | 2.51 | 0.71 | 2.73 | 0.93 | 2.63 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 16 | PGP | VL0006 | 0.29 | 1.60 | 0.79 | 2.55 | 0.81 | 2.73 |
| 17 | PGP | VL0006 | 0.37 | 1.98 | 0.52 | 0.68 | 0.35 | 1.79 |
| 18 | PGP | VL0006 | 1.75 | 4.72 | 1.27 | 2.79 | 1.51 | 3.71 |
| 19 | PGP | VL0006 | 1.08 | 3.75 | 1.03 | 3.43 | 0.88 | 3.42 |
| 9 | PGP | VL0612 | 0.18 | 1.55 | 0.15 | 1.43 | 0.16 | 1.45 |
| 10 | PGP | VL0612 | 0.19 | 1.63 | 0.22 | 1.66 | 0.16 | 1.51 |
| 11 | PGP | VL0612 | 0.21 | 1.71 | 0.17 | 1.53 | 0.08 | 1.28 |
| 16 | PGP | VL0612 | 0.18 | 1.53 | 0.31 | 1.84 | 0.20 | 1.65 |
| 17 | PGP | VL0612 | 0.36 | 2.04 | 0.62 | 2.60 | 0.39 | 2.03 |
| 18 | PGP | VL0612 | 0.07 | 1.24 | -0.01 | 1.01 | 0.09 | 1.39 |
| 19 | PGP | VL0612 | 0.19 | 1.73 | 0.17 | 1.58 | 0.08 | 1.33 |
| 9 | PGP | VL1218 | 0.21 | 1.72 | 0.02 | 1.12 | 0.20 | 1.70 |
| 10 | PGP | VL1218 | 0.08 | 1.40 | 0.24 | 1.81 | -0.05 | 0.82 |
| 11 | PGP | VL1218 | 0.19 | 1.70 | 0.31 | 1.98 | -0.12 | 0.69 |
| 16 | PGP | VL1218 | 0.47 | 2.63 | 0.62 | 2.73 | 0.03 | 1.16 |
| 17 | PGP | VL1218 | 0.34 | 2.16 | 0.24 | 1.67 | 0.77 | 3.81 |
| 18 | PGP | VL1218 | | | | | 0.03 | 1.14 |
| 19 | PGP | VL1218 | 0.07 | 1.37 | 0.00 | 0.99 | -0.06 | 0.80 |
| 9 | PS | VL0612 | | | | | 0.92 | 3.69 |
| 10 | PS | VL0612 | | | 0.62 | 2.89 | 0.73 | 3.68 |
| 9 | PS | VL1218 | 0.48 | 2.21 | 1.23 | 5.33 | 0.30 | 1.50 |
| 10 | PS | VL1218 | 0.93 | 3.65 | 0.93 | 3.77 | 0.30 | 2.19 |
| 16 | PS | VL1218 | 0.36 | 2.26 | 0.63 | 2.67 | 0.30 | 1.86 |
| 17 | PS | VL1218 | 2.26 | 6.37 | 0.72 | 3.05 | 1.34 | 4.86 |
| 19 | PS | VL1218 | 0.24 | 1.81 | 0.61 | 2.90 | 0.02 | 1.36 |
| 9 | PS | VL1824 | 0.47 | 2.51 | 0.48 | 2.47 | 0.67 | 2.76 |
| 10 | PS | VL1824 | 0.35 | 2.09 | 0.28 | 1.94 | 0.17 | 3.12 |
| 11 | PS | VL1824 | | | 0.61 | 2.90 | 1.01 | 4.18 |
| 16 | PS | VL1824 | 0.20 | 1.65 | 0.66 | 2.62 | 0.18 | 1.51 |
| 9 | PS | VL2440 | 0.32 | 2.10 | | | 0.50 | 2.63 |
| 10 | PS | VL2440 | -0.06 | 0.79 | 0.12 | 1.61 | -0.09 | 0.60 |
| 17 | PS | VL2440 | 0.06 | 1.25 | 0.09 | 1.34 | -0.07 | 0.79 |
| 18 | PS | VL2440 | 0.08 | 1.33 | 0.13 | 1.50 | 0.98 | 5.43 |
| 19 | PS | VL2440 | 0.15 | 1.83 | 0.69 | 4.64 | -0.17 | 3 |
| 10 | PS | VL40XX | 0.34 | 2.57 | 0.62 | 3.65 | 0.35 | 2.07 |
| 16 | PS | VL40XX | 0.92 | 3.16 | 0.77 | 4.28 | 1.54 | 6.14 |
| 17 | PS | VL40XX | 0.82 | 3.19 | 0.53 | 2.94 | 2.08 | 10.17 |
| 19 | PS | VL40XX | 0.38 | 2.14 | 1.19 | 5.03 | 1.66 | 8.31 |
| 17 | TBB | VL1218 | 0.56 | 2.37 | 0.66 | 2.63 | 0.55 | 1.74 |
| 17 | TBB | VL1824 | 0.13 | 1.47 | 0.01 | 1.05 | 0.20 | 1.50 |
| 17 | TBB | VL2440 | -0.09 | 0.74 | 0.19 | 1.69 | 0.00 | 1.02 |
| 17 | TM | VL1218 | 1.87 | 3.71 | 1.31 | 2.18 | 1.71 | 2.15 |
| 16 | TM | VL1824 | 0.15 | 1.48 | 0.25 | 1.74 | 0.32 | 1.88 |
| 17 | TM | VL1824 | 0.17 | 1.46 | 0.50 | 2.05 | 1.21 | 3.15 |
| 18 | TM | VL1824 | | | | | 0.05 | 1.12 |
| 17 | TM | VL2440 | 0.10 | 1.44 | 0.18 | 1.58 | 0.45 | 2.41 |
| 18 | TM | VL2440 | 0.08 | 1.35 | 0.68 | 3.08 | 0.36 | 2.20 |

*Table B8 – Inactive Vessel Indicators by LOA category, 2014-2019.*

| Inactive Vessel Indicator | | | | | | |
|---|---|---|---|---|---|---|
| **VESSELS** | | | | | | |
| **Length category** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
| VL0006 | 13.5% | 13.4% | 13.1% | 12.1% | 12.0% | 11.8% |
| VL0612 | 9.5% | 9.6% | 10.3% | 10.1% | 10.2% | 10.2% |
| VL1218 | 4.7% | 4.6% | 1.8% | 1.9% | 2.3% | 5.4% |
| VL1824 | 3.5% | 3.6% | 3.1% | 2.7% | 8.4% | 3.1% |
| VL2440 | 4.5% | 3.2% | 8.2% | 8.8% | 11.9% | 6.1% |
| VL40XX | 28.6% | 7.7% | 15.4% | 7.1% | 4.8% | 13.6% |
| **Total** | **8.9%** | **8.8%** | **8.5%** | **8.3%** | **8.8%** | **9.1%** |
| **GT** | | | | | | |
| **Length category** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
| VL0006 | 13.5% | 13.5% | 13.1% | 12.1% | 12.0% | 11.9% |
| VL0612 | 9.0% | 9.2% | 10.9% | 8.5% | 9.0% | 9% |
| VL1218 | 4.8% | 4.5% | 2.4% | 3.1% | 4.0% | 5.2% |
| VL1824 | 3.5% | 3.5% | 2.7% | 2.3% | 8.6% | 3% |
| VL2440 | 5.5% | 3.7% | 8.8% | 8.5% | 11.9% | 6.5% |
| VL40XX | 23.2% | 8.2% | 16.4% | 5.4% | 2.0% | 8.6% |
| **Total** | **5.5%** | **4.6%** | **5.2%** | **4.8%** | **7.9%** | **5.6%** |
| **KW** | | | | | | |
| **Length category** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
| VL0006 | 13.0% | 13.0% | 12.3% | 11.9% | 11.6% | 11.7% |
| VL0612 | 9.4% | 9.5% | 10.9% | 8.8% | 9.2% | 9% |
| VL1218 | 5.0% | 4.8% | 2.1% | 2.9% | 3.1% | 5.2% |
| VL1824 | 3.5% | 3.6% | 2.7% | 2.6% | 9.0% | 3.2% |
| VL2440 | 4.9% | 3.2% | 8.2% | 8.0% | 11.3% | 6% |
| VL40XX | 20.4% | 7.3% | 21.8% | 5.9% | 2.7% | 8.2% |
| **Total** | **6.1%** | **5.6%** | **5.4%** | **5.1%** | **7.2%** | **6%** |

*Table B9 – Vessel Use Indicators by GSA, fishing technique, LOA category, 2014-2019.*

| | | | Vessel Use Indicator | | | | | |
|---|---|---|---|---|---|---|---|---|
| LOA199 | GSA | SIS199 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| VL1218 | 9 | DRB | 0.84 | 0.31 | 0.84 | 0.92 | 0.85 | 0.34 |
| VL0612 | 9 | DTS | 0.8 | 0.52 | 0.54 | 0.63 | 0.6 | 0.62 |
| VL1218 | 9 | DTS | 0.77 | 0.79 | 0.74 | 0.76 | 0.76 | 0.78 |
| VL1824 | 9 | DTS | 0.88 | 0.89 | 0.86 | 0.8 | 0.86 | 0.85 |
| VL2440 | 9 | DTS | 0.94 | 0.85 | 0.89 | 0.92 | 0.91 | 0.89 |
| VL0006 | 9 | PGP | 0.37 | 0.44 | 0.42 | 0.45 | 0.57 | 0.56 |
| VL0612 | 9 | PGP | 0.41 | 0.46 | 0.39 | 0.48 | 0.5 | 0.48 |
| VL1218 | 9 | PGP | 0.42 | 0.48 | 0.52 | 0.52 | 0.59 | 0.54 |
| VL1218 | 9 | PS | 0.46 | 0.52 | 0.47 | 0.72 | 0.62 | 0.56 |
| VL1824 | 9 | PS | 0.89 | 0.98 | 0.96 | 0.99 | 0.92 | 0.96 |
| VL2440 | 9 | PS | 0.94 | 0.91 | 0.97 | | 0.91 | 0.94 |
| VL1218 | 10 | DRB | 0.79 | 0.77 | 0.65 | 0.38 | 0.65 | |
| VL0612 | 10 | DTS | 0.74 | 0.55 | 0.62 | | | 0.55 |
| VL1218 | 10 | DTS | 0.69 | 0.66 | 0.72 | 0.74 | 0.7 | 0.7 |
| VL1824 | 10 | DTS | 0.77 | 0.62 | 0.81 | 0.77 | 0.74 | 0.73 |
| VL2440 | 10 | DTS | | | | | | 0.91 |
| VL1218 | 10 | HOK | 0.77 | 0.75 | 0.58 | 0.79 | 0.68 | 0.73 |
| VL0006 | 10 | PGP | 0.46 | 0.55 | 0.59 | 0.48 | 0.61 | 0.59 |
| VL0612 | 10 | PGP | 0.5 | 0.54 | 0.57 | 0.54 | 0.58 | 0.52 |
| VL1218 | 10 | PGP | 0.4 | 0.65 | 0.51 | 0.61 | 0.69 | 0.7 |
| VL0612 | 10 | PS | | | | 1 | 1 | 0.89 |
| VL1218 | 10 | PS | 0.59 | 0.64 | 0.66 | 0.75 | 0.68 | 0.71 |
| VL1824 | 10 | PS | 0.48 | 0.63 | 0.79 | 0.73 | 0.68 | 0.75 |
| VL2440 | 10 | PS | | 0.33 | 1 | 0.52 | 0.63 | 0.7 |
| VL40XX | 10 | PS | 1.56 | 0.29 | 0.8 | 0.7 | 0.84 | 0.44 |
| VL1218 | 11 | DTS | 0.64 | 0.76 | 0.54 | 0.71 | 0.63 | 0.69 |
| VL1824 | 11 | DTS | 0.72 | 0.68 | 0.72 | 0.63 | 0.74 | 0.71 |
| VL2440 | 11 | DTS | 0.72 | 0.81 | 0.8 | 0.75 | 0.75 | 0.86 |
| VL0006 | 11 | PGP | 0.62 | 0.62 | 0.61 | 0.6 | 0.73 | 0.56 |
| VL0612 | 11 | PGP | 0.6 | 0.56 | 0.43 | 0.53 | 0.52 | 0.48 |
| VL1218 | 11 | PGP | 0.66 | 0.52 | 0.64 | 0.58 | 0.69 | 0.68 |
| VL1824 | 11 | PS | | | | 0.91 | 0.91 | 0.96 |
| VL0612 | 16 | DTS | 0.81 | 0.73 | 0.67 | 0.86 | 0.95 | 0.75 |
| VL1218 | 16 | DTS | 0.64 | 0.65 | 0.71 | 0.7 | 0.7 | 0.71 |
| VL1824 | 16 | DTS | 0.8 | 0.63 | 0.73 | 0.67 | 0.6 | 0.77 |
| VL2440 | 16 | DTS | 0.73 | 0.68 | 0.79 | 0.75 | 0.74 | 0.73 |
| VL1218 | 16 | HOK | 0.54 | 0.73 | 0.71 | 0.98 | 0.78 | 0.81 |
| VL1824 | 16 | HOK | 0.76 | 0.83 | 0.89 | 0.73 | 0.86 | 0.92 |
| VL0006 | 16 | PGP | 0.47 | 0.68 | 0.75 | 0.65 | 0.67 | 0.69 |
| VL0612 | 16 | PGP | 0.42 | 0.62 | 0.63 | 0.58 | 0.64 | 0.57 |
| VL1218 | 16 | PGP | 0.72 | 0.84 | 0.77 | 0.74 | 0.7 | 0.52 |
| VL1218 | 16 | PS | | 0.82 | 0.77 | 0.93 | 0.91 | 0.94 |
| VL1824 | 16 | PS | 0.88 | 0.82 | 0.99 | 0.94 | 0.92 | 0.79 |
| VL2440 | 16 | PS | | 0.64 | 0.5 | | 1 | 0.83 |
| VL40XX | 16 | PS | 1 | | 1 | 1 | 1 | |
| VL1824 | 16 | TM | 0.99 | 0.78 | 0.93 | 0.99 | 0.99 | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| VL1218 | 17 | DRB | 0.55 | 0.63 | 0.59 | 0.42 | 0.6 | 0.6 |
| VL0612 | 17 | DTS | 0.35 | 0.4 | 0.41 | 0.8 | 0.7 | 0.66 |
| VL1218 | 17 | DTS | 0.67 | 0.54 | 0.51 | 0.56 | 0.59 | 0.58 |
| VL1824 | 17 | DTS | 0.84 | 0.81 | 0.72 | 0.7 | 0.71 | 0.7 |
| VL2440 | 17 | DTS | 0.9 | 0.55 | 0.77 | 0.76 | 0.7 | 0.76 |
| VL0006 | 17 | PGP | 0.38 | 0.38 | 0.32 | 0.33 | 0.34 | 0.45 |
| VL0612 | 17 | PGP | 0.34 | 0.42 | 0.37 | 0.42 | 0.4 | 0.39 |
| VL1218 | 17 | PGP | 0.33 | 0.49 | 0.68 | 0.88 | 0.8 | 0.78 |
| VL1824 | 17 | PGP | | | | | 1 | 0.76 |
| VL1218 | 17 | PS | 0.8 | 0.86 | 0.88 | 0.94 | 0.89 | 0.52 |
| VL2440 | 17 | PS | 0.55 | 0.73 | 0.91 | 0.94 | 0.91 | 0.88 |
| VL40XX | 17 | PS | | 4.3 | 1 | 1 | 1 | |
| VL1218 | 17 | TBB | 0.65 | 0.95 | 0.86 | 0.86 | 1.09 | 0.92 |
| VL1824 | 17 | TBB | 0.87 | 0.88 | 0.89 | 0.75 | 0.77 | 0.84 |
| VL2440 | 17 | TBB | 0.95 | 0.94 | 0.98 | 0.92 | 0.92 | 0.91 |
| VL1218 | 17 | TM | 0.77 | 0.79 | 0.9 | 0.91 | 0.97 | 1 |
| VL1824 | 17 | TM | 0.95 | 0.87 | 0.93 | 0.96 | 0.93 | 0.88 |
| VL2440 | 17 | TM | 0.93 | 0.93 | 1 | 1 | 0.97 | 0.94 |
| VL1218 | 18 | DRB | 0.45 | 0.56 | 0.9 | 0.92 | 0.89 | 0.87 |
| VL0612 | 18 | DTS | 0.68 | 0.75 | 0.78 | 0.95 | 0.88 | 0.86 |
| VL1218 | 18 | DTS | 0.62 | 0.66 | 0.77 | 0.6 | 0.66 | 0.69 |
| VL1824 | 18 | DTS | 0.69 | 0.91 | 0.87 | 0.65 | 0.74 | 0.85 |
| VL2440 | 18 | DTS | 0.7 | 0.91 | 0.91 | 0.92 | 0.94 | 0.9 |
| VL1218 | 18 | HOK | 0.86 | 0.73 | 0.9 | 0.98 | 0.99 | 0.85 |
| VL0006 | 18 | PGP | 0.67 | 0.54 | 0.52 | 0.66 | 0.68 | 0.57 |
| VL0612 | 18 | PGP | 0.75 | 0.66 | 0.48 | 0.59 | 0.69 | 0.74 |
| VL2440 | 18 | PS | 0.94 | 0.74 | 0.82 | 0.91 | 0.87 | 0.62 |
| VL40XX | 18 | PS | | | | | | 0.78 |
| VL2440 | 18 | TM | 0.94 | 0.9 | 0.89 | 1 | 0.92 | 0.89 |
| VL1218 | 19 | DTS | 0.82 | 0.85 | 0.78 | 0.85 | 0.78 | 0.82 |
| VL1824 | 19 | DTS | 0.75 | 0.71 | 0.73 | 0.72 | 0.73 | 0.68 |
| VL2440 | 19 | DTS | | | | | | 0.87 |
| VL1218 | 19 | HOK | 0.7 | 0.72 | 0.77 | 0.93 | 0.8 | 0.81 |
| VL1824 | 19 | HOK | 0.72 | 0.62 | 0.8 | 0.82 | 0.74 | 0.77 |
| VL0006 | 19 | PGP | 0.58 | 0.64 | 0.68 | 0.67 | 0.69 | 0.63 |
| VL0612 | 19 | PGP | 0.63 | 0.69 | 0.64 | 0.61 | 0.65 | 0.63 |
| VL1218 | 19 | PGP | 0.68 | 0.76 | 0.59 | 0.83 | 0.88 | 0.79 |
| VL1218 | 19 | PS | 0.86 | 0.61 | 0.76 | 0.93 | 0.79 | 0.72 |
| VL2440 | 19 | PS | 1.27 | 0.33 | 0.67 | 0.71 | 0.7 | 0.56 |
| VL40XX | 19 | PS | 1.56 | | 1 | 1 | 1 | 0.94 |