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# Scientific, Technical and Economic Committee for Fisheries (STECF)

## The 2020 Annual Economic Report on the EU Fishing Fleet (STECF 20-06)

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## Abstract

In 2018, the EU fishing fleet numbered 81 199 vessels with a combined gross tonnage of 1.56 million tonnes and engine power of 6.3 million kilowatts. Based on data submitted by Member States under the EU MAP, there were 63 593 active vessels in 2018. Direct employment generated by the fleet amounted to 146 906 fishers, corresponding to 105 851 FTEs; on average earning EUR 24 287 in wages, annually. The EU fleet spent 6.5 million days-at-sea and consumed 2.3 billion litres of fuel to land 5.2 million tonnes of seafood with a reported value of EUR 7.7 billion. The Gross Value Added (GVA) and Gross Profit (all excl. subsidies and fishing rights) was estimated at EUR 4.3 billion and EUR 1.8 billion, respectively. GVA as a proportion of revenue was estimated at 55% and gross profit margin at 23%. With a total net profit of almost EUR 1 billion in 2018, 12% of the revenue was retained as profit. These results indicate a deterioration compared to 2017 while nowcast estimates suggest that the performance of the EU fishing fleet improved in 2019, rebounding back to levels seen in 2016, to then deteriorate in 2020 mainly due to the COVID-19 crisis. This publication includes: 1) a structural and economic overview of the EU fishing fleet in 2018 and trend analyses for the years 2008-2020 where possible (nowcasts for 2019 and 2020); a regional analysis of the EU fishing fleet by major sea basin, as well as, fleets operating in Other Fishing Regions; 3) a detailed structural and economic overview of each Member State fishing fleet, including qualitative economic performance assessments for 2018 and nowcasts for 2019 and 2020.

## SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) THE 2020 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET (STECF 20-06)

### Request to STECF

STECF is requested to review the outcomes of the STECF Expert Working Group meeting, evaluate the findings and make any appropriate comments and recommendations.

### STECF comments

#### Introduction

The AER is the most comprehensive source of economic and social data for scientific advice on the performance of the EU fishing fleet. It is increasingly used by scientific bodies, national administrations and international institutions. The main objective of the report is to obtain high quality interpretation of all data outputs to ensure the usefulness of the report for DG MARE's policy development, Member States and the fishing industry. The analysis is done at the EU, regional, national and fleet segment levels.

The STECF Expert Working Group EWG 20-06 (AER II) took place virtually from the 12 to the 16 of October 2020. This is a working group in a series of two: EWG 20-03 (AER I) with the objective to obtain and validate the national and regional data and EWG 20-06 (AER II) with the objective to produce the final Annual Economic Report on the EU Fishing Fleet.

The EWG was composed of 33 independent experts, 3 STECF members, and 2 from the European Commission's Joint Research Centre (JRC) (including a Chair).

#### Key findings

The STECF Expert Working Group (EWG) 20-06 was tasked to build upon the findings of EWG 20-03 for the analysis of economic data in fisheries, and the subsequent analysis and use of the EWG 20-06 data continued from EWG 20-03.

STECF notes that the main objective of EWG 20-06 was to produce the final EU Overview and Regional chapters with the economic data series available up to 2018 and a nowcasting exercise for 2019 and 2020. Potential improvements and refinements in the collection of economic data in EU fisheries have been also discussed.

STECF notes that estimates of recent economic performance of the EU fishing fleet are produced using 'nowcasting' techniques. For most variables, the same nowcasting methodology as in AER 2019 was used for fleet segments operating in the Northeast Atlantic (NAO), the Mediterranean and Black Sea (MBS), and other fishing regions (OFR).

Recalling that the opportunity cost of capital is the revenue forgone when investing capital in the fisheries sector and not in a risk-free investment, STECF acknowledges that net profit should better be computed using a deflated 3.5% capital long term rental rate (Carvalho et al 2020). STECF notes that given that this is a significant change compared to how net profit is currently calculated in the AER (using the 5 years bonds as a proxy of risk free interest rate), a comparison between the current procedure and the deflated 3.5% rate should be performed in order to understand the consequences of this change.

STECF commends the effort of the EWG to reduce the length of the report to provide more succinct and informative findings for Member States, policy makers and industry.

#### *Data issues*

STECF notes that although the coverage and quality of data submitted by Member States has improved over the years, it is still not possible to have a full overview of the economic situation of all EU fishing fleets due to lack of some data from some Member States, aggregation of segments and confidentiality issues. However, STECF notes an important improvement to have available data for Greece in the EU overview for 2018.

For the EU Outermost Fishing Regions STECF observes that there remain important data issues for the French outermost regions, with data missing prior to 2017, and some data gaps remaining after 2017; but progresses have been made as good quality of data has been reported for Guadeloupe.

For the data on long distance water fleets operating in Other Fishing Regions the main issue is not availability of the data, but how the economic data can be allocated to areas/RFMOS (ICCAT, IOTC, NAFO, CECAF, WECFC) when fleets move across areas. The AER II provides new regional data for 2018 in the ICCAT (Mediterranean and Black Sea), which is however, still incomplete. Also, there are some confidentiality issues relating to the number of vessels operating in particular fleets.

### *Covid-19 forecast impacts*

STECF notes that the AER II report does not include an impact assessment of the COVID-19 on the EU fisheries. Rather, it provides the usual forecast with an update of the socio-economic impact of the pandemic on the EU fishing fleet.

For the 2020 AER, the nowcasting methodology has been adjusted to account for the current and anticipated impacts of COVID-19. The main change to the nowcasting methodology due to COVID-19 is the introduction of a 'COVID-19 adjustment factor', which is based on four sources of data (an Aggregated Catch Data Report (ACDR) data on Member State landed weight; an Automatic Identification System (AIS) data on fishing vessel density by Member State Economic Exclusive Zone (EEZ); a survey sent out to the fishing industry and fishing experts co-ordinated by AER national experts; and Member States national data on landed weight, where reported). When discrepancies among the data sources were identified, all data sources were equally weighted. This adjustment only applies to 2020 and the methodology for 2019 remains unchanged. However, STECF notes that the 2020 nowcast methodology is based only on data from the first semester of the year, and that fishing effort of some of the segments may recover to similar levels as in 2019 during the second semester. This could result in an underestimation of the fishing activity of the fleets in 2020 and therefore, to an underestimation of the actual economic performance for 2020.

STECF notes that the adjustment factors were calculated at the fleet segment level, although for many Member States the adjustment factor is the same for all fleet segments (i.e. when surveys did not report on specific fleet segments and when MS monthly landings were not available by fleet segment). However, future reports can test the accuracy of these sources against 2020 current values and provide insight regarding their suitability for the nowcasting methodology.

STECF observes that each national chapter provides a section to describe the financial support measures proposed or implemented at Member States level in support of the COVID-19 before July 2020.

STECF notes that the European Commission requested information on impacts of the COVID-19 crises on fisheries and aquaculture for EWG 20-06 and EWG 20-12. For both reports similar methodologies should be applied as far as possible. STECF notes however that there will be differences between the two sectors as there will be more information available on the development of key variables in 2020 for fisheries than aquaculture, e.g. landings per month for fisheries vs. production data per month for aquaculture, which are not available.

### *Growth accounting*

STECF observes that a new indicator -Total Factor Productivity (TFP)- is also computed for EU fisheries in the period 2008-2018. It is made by producing an estimation of the TFP that summarizes all the capital (capital services) and labour productivity into a single number. STECF notes that TFP is computed to analyse the sources of GVA growth in the EU fleets. This growth accounting is performed for aggregated fleets in two EU main sea areas: North Atlantic Ocean (NAO) and the Mediterranean and Black Sea (MBS). A distinction is also made among large-scale fleets (LSF) and small-scale coastal fleets (SSCF) in each area, and whether targeting demersal or pelagic species (D/P) for the LSF. Higher TFP levels have been estimated in the SSCF than in LSF, which suggests that SSCF are more efficient in the use of their input factors than LSF. However, a deeper analysis is required to determine which factors cause this difference.

STECF notes that the TFP is an important and powerful contribution that can be interpreted as an economic efficiency indicator of the general fisheries policy success.

### **STECF conclusions**

STECF endorses the outcomes of the EWG 20-06 and concludes that the EWG answered the ToRs and that the current set of data has been validated and is fit for purpose.

STECF concludes that the clearer distinction of the TOR for the AER I and AER II meetings reduced the necessary effort for data checks in the second meeting. An advantage was that the data was already endorsed at the summer plenary and could not be changed for the second meeting. STECF concludes that it has not negatively influenced the quality of the report as only minor data issues were detected. It is important that in the coming years when the two meetings are again in April and June that also then after the data upload deadline (two weeks after AER I) no new data uploads will be possible.

STECF concludes that the current procedure to compute net profit should be changed towards computing using a deflated 3.5% capital long term rent rate, and sensitivity analyses should be conducted in order to understand the consequences of this change.

For the regional data and for the Outermost Regions some data issues are to be solved over the coming years. As for the Other Fishing Regions economic data and information are available but the allocation

of the data to the proper area/RFMO, using the proper approaches to allocate e.g. direct/indirect employment and income, also because the fleet moves between areas during the year, and companies are operating as integrated entities, is difficult. Noting that the distant water fleet is an important fleet and in addition that the main issue relates not so much to availability and quality of data but relates to the methodology used to allocate data to areas/RFMOs (ICCAT, IOTC, NAFO, CECAF), STECF concludes that for the methodology to allocation of data for the Other Fishing Regions, a separate contract is issued to structure the analysis and update the current methodology used.

In order to address the issues relating to the Outermost Regions it is concluded that further cooperation is ensured between different recurrent working groups dealing with fisheries data (AER I and II, Balance, FDI and EWG on social data), and hence different data sources/calls. Additional considerations on data issues are also discussed in outermost EWG 19-19.

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## EXECUTIVE SUMMARY

The 2020 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides a comprehensive overview of the latest information available on the structure and economic performance of the EU Member State fishing fleets.

Results indicate that the profitability of the EU fleet fell in 2018, registering a net profit of almost EUR 1 billion, down 23% from 2017. Lower catches and an increase in fuel prices partly explain this overall reduction. Thus, 2018 is a continuation of the decreasing trend observed in 2017. Nowcast estimates indicate that the performance of the fleet rebounded in 2019, while projections for 2020 show a contraction back to 2018 levels, chiefly brought on by the COVID-19 outbreak.

In 2018, the EU fishing fleet numbered 81 199 vessels with a combined gross tonnage (GT) of 1.56 million tonnes and engine power of 6.2 million kilowatts; 78% of these vessels were active. EU fleet capacity has continued to decrease at a similar rate as that observed in previous years. Direct employment generated by the sector, amounted to 146 906 fishers, corresponding to 105 851 FTEs. These values follow a similar trend as the capacity indicators. Almost 29% of the employed persons were estimated as being unpaid labour. Average annual wage per FTE was estimated at EUR 24 287, a reduction compared to 2017. Remarkable, is the big dispersion along the different Member States, ranging from EUR 1 400 for Cypriot fishers to EUR 135 500 for Belgian fishers. In both cases with a value lower than in 2017.

The EU fleet consumed 2.3 billion litres of fuel and 6.5 million days-at-sea to perform in 2018. This combination produced 5.2 million tonnes of seafood landings with a value of EUR 7.7 billion.

In 2018, the EU fishing fleet had an estimated depreciated replacement value (tangible asset value) of EUR 5.6 billion and in-year investments amounted to EUR 440 million. These figures represent that the EU has increased the value of the capital in 2018 compared to 2017, although in 2018, investments have decreased by almost 15%.

The amount of GVA and gross profit (all excl. subsidies) generated by the fleet in 2018 was EUR 4.3 billion and EUR 1.8 billion, respectively. GVA as a proportion of revenue was estimated at 55%, lower than in 2017 and gross profit margin at 23%, down from 26% in 2017 (the reduction is calculated excluding Greece). After accounting for capital costs, 12% of the revenue generated by the EU fleet was retained as net profit, again a drop from that obtained in 2017.

While overall the EU fleet was profitable, performance reduced compared to 2017. Three out of the 23 Member State fleets suffered net losses in 2018, namely: Cyprus, Finland, and Lithuania. Results also varied by scale of operation and fishing region.

The EU **small-scale coastal fleet (SSCF)** totalled 47 999 vessels in 2018, employing 73 605 fishers. This implies that the SSCF comprises 75% of the active fleet and 50% of the engaged crew. Collectively, the EU SSCF was profitable in 2018 but revenue and GVA decreased compared to 2017. However, profits in gross and net increased by more than 7% compared to 2017 (when Greece is not included). While the EU SSCF as a whole was profitable over the period analysed, results by MS fleets reveal that four SSCF suffered gross losses and eight net losses.

The EU **large-scale fleet (LSF)** totalled 15 344 vessels in 2018 and employed 67 116 fishers, 24% and 46% of the total EU, respectively. This fleet contributed 81% in landings and 72% to the value of these landings of the total EU. The LSF was profitable in 2018 but GVA decreased by 8%, gross profit by 13% and net profit by 19%. This a continuation of what was observed in 2017. So the negative trend appears to have consolidated. However, and in contrast with 2017, all the MS LSF made gross profits in 2018 and only two, Cyprus and Slovenia made net losses.

The EU **distant-water fleet (DWF)** numbered 250 vessels in 2018 and employed 6 186 fishers, less than 1% and 4% of the total EU. This fleet contributed 14% in landings and 13% to the value of these landings of the total EU. The reported GVA was of EUR 387 million. Gross profit was estimated at EUR 161 million (9% of the EU total) and net profit at EUR 60 million (6% of the EU total). Labour productivity (GVA per FTE) was estimated at EUR 52 634.

Member States' fleets operating in the **North Sea & Eastern Arctic (NSEA)** region in 2018 numbered 3 704 vessels, a slight increase of about 1% from 2017 with an estimated 7 918 FTE. The revenue generated was EUR 1.7 billion, 78% of which was provided by three Member States: United Kingdom, Denmark and the Netherlands. Belgium (-10%), the Netherlands (-5%), Spain (-36%), Portugal (-24%) and Sweden (-16%) suffered a decrease compared to 2017, while France (+11%), Lithuania (+80%) Denmark (+3%), the United Kingdom (+3%) and Germany (+9%) increased their revenues compared to 2017. GVA produced by the fleets was estimated at about EUR 996 million in 2018. This represented an overall decrease of 5% compared to the GVA generated in 2017. The fleets made EUR 506 million in



gross profit, an 8% decrease compared to 2017. The overall performance of the EU fleets operating in the NSEA was positive in 2018, an unchanged compared to the performance seen in 2017. By fishing activity, the SSCF of the NSEA generated EUR 91 million in revenue, a 9% increase relative to 2017, while the LSF generated EUR 1.6 billion in revenue, similar to 2017.

Four EU Member States fishing fleets were active in the **NAFO Convention region** in 2018 with 27 vessels: Estonia, Germany, Portugal and Spain. The last two, making up around 82% of the total EU landings. Although none of the EU national fleets are heavily dependent on the region, Portugal obtains 12% of the national fleet's total landings in value from the region. All the other Member States fleets show a dependency of less than 5%. The main target species are Atlantic redfish, accounting for 42% of the EU catch in 2018, followed by Greenland halibut (21%), Atlantic cod (15%) and great blue shark (9%). In 2018, with near EUR 93.2 million, they showed the lowest value of landings of all the time series. In addition, GVA and gross profit decreased by 10% and 21%, respectively.

Eight EU Member States were actively involved in **Baltic Sea** (BS) fisheries in 2018: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, and Sweden, while the Estonian, Finnish, Latvian and Polish fisheries are fully dependent on this region (the Dutch fleet shows some minor activity in the region). The fleet with 5 290 active vessels generated EUR 215 million in revenue, a decrease of 5% compared to 2017. GVA and gross profit, also decreased by 2%, and 15% respectively. However, overall, the EU Baltic Sea fleet was profitable in 2018, and conversely to other performance indicators, net profit improved compared to 2017, as a result of lower or even negative opportunity costs of capital for several fleet segments. While the SSCF had 92% of the vessels in 2018, total employment in the sector only amounted to 65% of the total FTE indicating the predominantly part-time nature of employment in this segment mostly reflected in Estonian and Finnish fleets with 0.2 FTE per person. SSCF in the Baltic only accounts for 7% of landed weight and 23% of the value and the profitability is presenting a continuous deteriorating scheme. The MS SSCF with a relatively low cod dependency i.e. Finland, Latvia, Estonia and Lithuania made positive gross profits while those with high dependency to cod, Sweden, Poland, Denmark and Germany suffered losses. The LSF generally performed better than its smaller counterparts. LSF total net profit in 2018 was positive and higher than in 2017 although individually some Member States faced a deterioration: Sweden (-47%), Denmark (-37%) and Poland (-12%). At the fleet segment level, the Swedish demersal trawl and seine 24-40m segment generated the highest landed value and net profit in 2018, probably because it is also active in the North Sea and so not limited by the Baltic Sea fishing quotas only.

The main Member State fleets in the **North Western Waters** (NWW) are the United Kingdom, French and Irish. Belgium, Denmark, Spain and the Netherlands also have quite a substantial amount of production from the area while Germany, Lithuania and Portugal have low activity. Overall, they account for 5 473 active vessels with 11 491 FTE. The most important species included, Atlantic mackerel, European hake, great Atlantic scallop, Norway lobster and blue whiting. Overall, the fleet was profitable, but deteriorated compared to 2017: GVA, gross profit and net profits reduced in 10%, 18% and 30%, respectively. All of the Member States fleets operating in the NWW generated gross and net profits. Only one—Lithuania, suffered net losses but the fleet's activity in the area was also low. TACs increased for several important stocks, such as haddock and anglerfish and generally fish prices remained stable or increased for some important species e.g. common sole and *Nephrops*.

The main fishing Member States in the **Southern Western Waters** (SWW) are Spain, France and Portugal (99% of the revenue in 2018). The most important species include hake, albacore, anchovy, sardine and common octopus. Overall, the fleet was profitable but generally deteriorated compared to 2017: revenue amounted to EUR 1.2 billion in 2018 and GVA was estimated at EUR 715 million, gross profit at EUR 183 million and net profit EUR 93 million, all lower than in 2017. The three main Member States fleets operating in the SWW generated gross and net profits. The SSCF accounted for 61% of the number of vessels and 50% of the days-at-sea, while LSF generated by far the highest landed weight, with 89% of the total and 77% of the value in 2018. TACs decreased for important stocks, such as hake, blue whiting and mackerel. Fish prices reduced generally (and particularly for anchovy and chub mackerel) and the increase in fuel prices resulted in higher energy costs, especially for pelagic fisheries.

The Greek fleet is included in the economic assessments for the **Mediterranean Sea** (MED) fisheries in 2018, however, comparisons with previous years are not possible due to incomplete time series data for this Member State. In 2018, after several years of continued improvement since 2015, the Mediterranean has reached a point of stagnation with respect to economic performance indicators analysed. Revenue increased while net profit decreased compared to 2017. Revenues benefited from an increase in landings and higher average fish prices; only Cyprus, Slovenia and Portugal suffered decreases. All Member State fleets reported positive GVA, gross and net profits in 2018, with the exception of Cyprus suffering net losses. Different trends were observed between LSF and SSCF. LSF continued to improve on all the economic performance indicators, due to higher landings of small pelagics and the positive trend in fish prices for some key species. SSCF registered a decreased trend in GVA and gross profit, mainly due to

a 4% reduction in the value of landings. The increase of the EU quota for bluefin tuna positively impacted the profitability of purse seiners and longliners involved in tuna fisheries.

Two EU Member States are involved in the **Black Sea (BKS)** fisheries: Bulgaria and Romania. The Bulgarian fleet makes up 90% of the fleet capacity in this region. Revenue generated in 2018 decreased by 10% compared to 2017, but 34% more than the average over the 2008-2017 period. GVA and gross profit followed similar trends with reductions of 17% and 18%, respectively, compared to 2017. Overall, the fleet was profitable but five of Bulgaria's SSCF segments and one segment from the LSF reported gross and net losses in 2018, probably due to the low fishing activity of many vessels. Weather conditions in the Black Sea, including strong winds and large temperature differences between winter and summer, significantly affect SSCF fishing activities. The Black Sea fishery is highly dependent on very few species and several commercially important stocks: sea snails, sprat, turbot, red mullet and mackerel. The main fishing gears used are set gillnets, pelagic trawls, purse and beach seine, pots and traps.

Although the main fishing grounds for the EU fishing fleet are located in FAO area 27 and FAO area 37, part of the EU fleet operates in fishing areas much further afield. For the sake of this report, these areas are collectively termed **Other Fishing Regions (OFR)** and are divided into two main groups: (1) **EU Outermost Region (OMR)** fleet operating in the EEZs of the Canary Islands (Spain); the Azores and Madeira (Portugal); and the French overseas regions and departments of Guyana, Antilles (Martinique and Guadeloupe), Reunion and Mayotte and, (2) the **EU long distant fisheries (LDF)** in fishing areas outside EU waters and in Areas Beyond National Jurisdiction (ABNJ), covered by Regional Fisheries Bodies (RFBs), such as, the Northwest Atlantic Fisheries Organization (NAFO), the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Indian Ocean Tuna Commission (IOTC), the North-East Atlantic Fisheries Commission (NEAFC) and the Fishery Committee for the Eastern Central Atlantic (CECAF); and fishing areas within the EEZ of third countries regulated under the framework of EU Sustainable Fisheries Partnership Agreements (SFPAs). Due to data limitations and time constraints, it was not possible to provide a complete analysis of the EU fleets operating in all the OFRs.

The economic performance of the **OMR fleets** deteriorated in 2018 compared to 2017. However, overall they were profitable. The profitability of the **Azorean** and **Madeiran** fleets has been positive and relatively stable over the period 2010-2018. For the fleet in the **Canaries**, composed of 590 active (mainly SSCF) vessels, as a whole generated gross and net losses. For the **French OMR** fleets, information is still incomplete, however, some improvement in terms of data quality and assessments was achieved in this year's report compared to previous editions. On the whole, fleets in French Guyana and Guadeloupe were profitable, generating gross and net profits, while fleets in Reunion suffered losses.

In 2018, the reported catch from Spain amounted to 54% of the total EU **ICCAT Atlantic** catches; France followed with 25% of the EU catch, Portugal 11% and Italy 5%. With over 54% of the landings in weight and 62% of the value, overall, the Spanish fleets generated around EUR 184 million in revenue, EUR 93 million in GVA and EUR 23 million in gross profits. Only two segments reported gross losses. However, the relatively poor situation of the Atlantic bigeye stock, it is possible that the overall TAC for tropical tuna might be reduced, which can have an impact on the profitability of these fleets in the future.

There were eight MS fleets with reported catch of **Mediterranean** stocks in the **ICCAT** in 2018, amounting to 22 381 tonnes; 5% more than in 2017. Bluefin tuna was by far the most important species caught by the EU fleets with more than half of the total catches. Of the selected fleets, the revenues, GVA and gross profits increased, even under a high operating cost increase environment.

A large part of the activity in the **Fishery Committee for the Eastern Central Atlantic (CECAF)** region is related to the tuna fishery, which is covered under the ICCAT section. Several mixed or multi-species agreements offer fishing opportunities in CECAF for demersal and pelagic species, tuna, cephalopods and shrimp, mainly involving trawlers, purse seiners and longliners. In 2018, there were 136 active vessels in the fishery, with a total volume of landings of 193 500 tonnes in weight and EUR 274 million in value. The highest number of vessels corresponds to Spain, with near 71% of the total (97 vessels), followed by Portugal with 14% (19) and France with 7% (9 purse seiners).

The **North East Atlantic Fisheries Commission (NECAF)** was not possible to be evaluated by the EWG 20-06, due to time constraints and data limitations.

Five EU member States were active in the **tuna fisheries in the Indian Ocean (IOTC)** in 2018: France, Italy, Portugal, Spain and the United Kingdom. Owing to data limitations stemming from confidentiality issues, it was not possible to produce a complete overview of the EU IOTC fleet. Yellowfin tuna and skipjack are the two main species fished in this area, both in terms of volume and value of landings. A considerable increase in skipjack landings was observed, representing over 60% of the total. The Spanish and French purse seiners were profitable, however, French longliners reported negative gross profits.

**Preliminary results for 2019<sup>1</sup>** indicate an 7% decrease in landed weight with a 2% increase in value for 2019. Nowcasts suggest that the deterioration seen in 2018 with respect to 2017 is reversed in 2019. The changes with respect to 2018 are quite substantial, with expected improvements in GVA (+9%), gross profit (+22%) and net profitability (+43%). This is mainly due to lower overall operating costs (e.g. -4% in fuel costs) and an opportunity cost of capital estimated at -EUR 19 million (from -EUR 1.1 million in 2018). It is expected that the EU fleet as a whole continued to be profitable with gross and net profit margins of 26% and 16%, respectively.

**Preliminary results for 2020<sup>1</sup>** are driven by COVID-19 pandemic. Overall, the nowcasting modified methodology (to cope with the COVID-19 induced activity reduction) indicates a decrease of 17% in landed value in 2020 compared to 2019 estimates; and around 15% less than in 2018. However, nowcasts for 2020 is complex to interpret. The lock down and subsequent economic crisis caused by the COVID-19, has presented a situation of weaker demand due to lower purchasing power, price stabilization, fuel costs reductions (26% drop), and a lower activity than in 2019. Overall, a similar reduction as that seen in the whole EU-27 economy is predicted, with around a 16% drop in GVA, slightly higher to the GDP reduction estimated by the EUROSTAT in the first semester of the year 2020, for the whole EU-27 economy (12%). It is predicted that the EU fleet as a whole continues to be profitable with ad net profit margin of 14%.

This year a new overall indicator - the total factor productivity (TFP) has also been tested. It provides an overview of the economic growth and was calculated for two supra regions FAO areas 27 and 37. Results show that both supra areas face productivity growth, however, the level of both differs. TFPs also differ when the scale of production is considered (a comparison is provided for the SSCF and LSF). Results are presented in the Annex 3 of this report on an exploratory basis.

This publication includes:

- 1) A structural and economic overview of the EU fishing fleet in 2018, with nowcasts for 2019 and 2020, and trend analyses for the years 2008-2019/20;
- 2) A regional analysis of the EU fishing fleet by major sea basin: Baltic Sea, North Sea & Eastern Arctic, North Atlantic (NAFO, NWW and SWW), Mediterranean Sea, Black Sea, as well as Other Fishing Regions, including the EU Outermost regions and the EU long distant fisheries in Other Regions;
- 3) A detailed structural and economic overview of each Member State fishing fleet, including qualitative economic performance assessments for 2018 and nowcasts for 2019 and forecasted results for 2020.

The 2020 AER Annex report further contains supplementary data tables providing the main results at the EU, regional and national levels, an outline of the methodology and nowcast model used to estimate economic indicators for 2019 and 2020, as well as a case study on Total Factor Productivity (TFP) analysis to determine GVA growth in the EU small and large-scale fleets operating predominately in the Mediterranean and Black Sea (FAO area 37) and the North Atlantic (FAO area 27).

The data used to compile all the various analyses contained within the reports were collected under the data collection framework, cf. Council Regulation (EC) No 199/2008 of 25 February 2008 for the years 2008 -2016 (DCF) and cf. Council Regulation (EC) No 2017/1004 of 17 May 2017, for the years 2017-2018/19 (EU\_MAP)

The 2020 AER supersedes all previous AERs. Comparisons across AER reports should not be made. This is mainly due to the inclusion of more Member State fleets and greater coverage of the data this year. Member States may have provided revised data submitted in previous calls, which is expected to have increased the coverage and quality of the data reported under the 2020 Data Collection Framework (DCF and EU-MAP).

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<sup>1</sup> Includes Greece. Excludes the United Kingdom

## EU 2018 MEMBER STATE FLEET SUMMARY REPORTS

The following paragraphs present the concise summary of each the national chapter containing results for the main economic performance indicators in 2018 and developments in relation to the previous year (2017):

**BELGIUM:** Overall a positive but deteriorated performance, operating at a net profit of EUR 4 million (-60%). Revenue decreased by 7%, amounting to EUR 82.2 million; GVA estimated at EUR 39.8 million (-14%) and gross profit EUR 11.8 million (-28%). The outcome for 2019 is expected to be more positive; 2020 will be a challenging year for the Belgian fishing fleet.

**BULGARIA:** Overall positive with slight deterioration. Revenue decreased by 11%, amounting to EUR 7.9 million; GVA EUR 5.6 million (-17%), gross profit EUR 4.5 million (-15%) and net profit decreased to EUR 4.3 million (-9%). Although there was an increase in landings in 2019, the value was lower due to a 40% decrease in the average price of sprat and -19% for rapa whelk compared to 2018.

**CROATIA:** Overall performance improved and positive since 2017. Revenue increased by 6%, amounting to EUR 86.7 million; GVA EUR 51.4 million (+6%), gross profit EUR 24.2 million (+5%) and net profit EUR 3.8 million (+312%). In 2019 and 2020 deterioration of economic performance is expected.

**CYPRUS:** In 2018 the economic performance deteriorated when compared to 2017 but improved when evaluated over the total times series. Revenue decreased by 32%, amounting to EUR 7.05 million; GVA EUR 2.6 million (-57%), gross profit EUR 1.6 million (-69%) and a net loss of -EUR 0.98 million (-140%). For 2019, the economic performance is expected to have improved compared to 2018 with higher gross profits (+10%) and a significant reduction in net losses. The economic performance is expected to deteriorate in 2020 mainly due to the COVID-19.

**DENMARK:** Overall improved performance. Revenue increased by 3%, amounting to EUR 462 million; GVA increased by 1%, amounting to EUR 305 million, gross profit increased by 2%, amounting to EUR 180 million and net profit decreased by 10%, amounting to EUR 93 million.

**ESTONIA:** Overall situation remained positive with some deterioration. Revenue stable, amounting to EUR 14.7 million; GVA EUR 9.5 million (-3%), gross profit EUR 4.7 million (+7%) and net profit EUR 2.7 million (same as 2017). According to the preliminary data the economic performance deteriorated in 2019 and is expected to deteriorate further in 2020. The outbreak of COVID-19 plays an important role in this.

**FINLAND:** Overall deteriorated performance. Revenue unchanged at EUR 35.8 million; GVA was EUR 15.9 million (-8%). Gross profit decreased (-15%) to EUR 9.3 million but was not high enough to cover the estimated capital costs of the fleet, in particular very high depreciation costs (possibly over-estimated), resulting in a net loss of -EUR 5.3 million (-35%). The Finnish fleet has suffered net losses throughout the period analysed while posting gross profits.

**FRANCE:** Performance down slightly in 2018. Revenue decreased by 1.5%, amounting to EUR 1.3 billion; GVA estimated at EUR 707 million (-6%), gross profit EUR 215 million (-13%) and net profit EUR 122 million (-12%) compared to 2017.

**GERMANY:** Overall highly improved economic performance operating at a net profit. Revenues increased to EUR 165 million (+7%), GVA was estimated at EUR 98.8 million (+18.3%), gross profit EUR 40.7 million (+36.1%) and net profit EUR 21.5 million (+820%) (all figures excluding the pelagic trawler fleet). Profitability severely reduced in 2019, as expected also for 2020.

**GREECE:** Economic indicators have improved, with the fleet posting a net profit in 2018; inefficient vessels in the SSCF with poor economic performance exited the sector or remained inactive, making room for the remaining vessels to improve their economic sustainability. The average wage per FTE had a decreasing trend in the previous years, but in 2018 had a slight increase.

**IRELAND:** Overall positive and with improved performance. Revenue (EUR 320 million) up 3%, GVA (EUR 170 million) up 4%, gross profit (EUR 72.2 million) up 13% and net profit up 21% (EUR 41 million).

**ITALY:** Overall deteriorated performance with revenue unchanged at EUR 950 million; GVA estimated at EUR 569million (-5%), gross profit EUR 299 million (-8%) and net profit EUR 139 million (-11%). In 2019, a reduction in fishing effort is expected resulting from the entry into force of the national management plans for demersal fisheries and the WestMed Plan. In 2020, due to COVID-19, a deterioration of all the economic indicators is expected.



**LATVIA:** Overall improved performance, the fleet operated at a profit. Revenue increased by 4%, amounting to EUR 21.9 million; GVA estimated at EUR 11.0 million (+21%), gross profit EUR 5.8 million (+12%) and net profit EUR 5.3 million (+EUR 2.4 million).

**LITHUANIA:** With an increased revenue (+7%), GVA was estimated at EUR 7.7 million (+50%) but the fleet continued to generate gross (-EUR 0.3 million, +94%) and net losses (-EUR 5.7 million, +47%). Revenue is foreseen to have increased by 38% in 2019, generating EUR 14.4 million in gross profit and a EUR 8.3 million net profit (equating to a 10% net profit margin). Concerning outlook for 2020, the main concern comes from substantial decline of sprat (-22%) and herring (-10%) TACs and continuous termination of cod fisheries in the Baltic Sea, as well as, impact of the COVID19 crisis, expectedly resulting in a net loss of EUR 1.4 million.

**MALTA:** Overall performance improved, moving from gross losses to profits but still operating at a negative net margin. Revenue increased 5%, amounting to EUR 10.9 million; GVA EUR 5.4 million (+27%), gross profit EUR 1.5 million (+869%) with a net loss of - EUR 0.2 million (+93%).

**NETHERLANDS:** Overall deterioration while still operating at a net profit of EUR 59 million in 2018 (-21% compared to EUR 75 million in 2017). The main cause is lower catch (in volume) of flatfish species and lower prices for shrimp (-50%). For 2019 it is expected that net profit decreased (-21%) to EUR 47 million, mainly due to lower landed value and weight (-22% for both).

**POLAND:** Overall performance remained positive. Revenue remained unchanged amounting to EUR 47.5 million; GVA estimated at EUR 25.7 million (-1%), gross profit EUR 6 million (-22%) and net profit EUR 1.5 million (-52%). In 2019, it is expected that outcomes again deteriorated following a decline in landings caused by lower Atlantic herring TAC and bans on Baltic cod implemented in July 2019.

**PORTUGAL:** Overall positive but deteriorated performance. Revenue decreased by 3%, amounting to EUR 383 million; GVA estimated at EUR 257 million (-4%), gross profit EUR 115 million (-6%) and net profit EUR 75.2 million (-2%).

**ROMANIA:** Overall performance improved. Revenue increased by 16%, amounting to EUR 4.5 million; GVA EUR 3.3 million (+10%), gross profit EUR 2.4 million (+8%) and net profit EUR 2.0 million (+14%).

**SLOVENIA:** Positive performance with mixed results. Revenue increased by 5%, amounting to EUR 2.3 million; GVA EUR 1.6 million (-2%), gross profit EUR 1 million (+15%) and net profit EUR 1 million (+17%).

**SPAIN:** Performance down in 2018. Compared to 2017, revenue (EUR 1.823 million) decreased by 10% while expenditures decreased by 2%; GVA decreased by 18% (EUR 940 million). However, results varied significantly by fishery, with revenue increasing in the Mediterranean Sea. An improved situation is expected for 2019 with some deterioration in 2020 due to COVID-19.

**SWEDEN:** Overall deterioration but mixed economic performance since 2017. Revenue decreased by 16%, amounting to EUR 113.2 million; GVA estimated at EUR 53.68 million (-27%), gross profit EUR 28.1 million (+8%) and net profit remained stable at EUR 10.2 million. For 2019 further decrease in economic performance is expected, yet for 2020 an economic recovery is expected but with a decreased activity.

**UNITED KINGDOM:** Weight of landings decreased but impacts on performance were partially offset by increases in prices. Revenue decreased by 4%, amounting to EUR 1.09 billion; GVA EUR 597 million (-9%), gross profit EUR 290 million (-14%) and net profit EUR 226 million (-20%). Performance is expected to remain similar in 2019.

## **EXPERT WORKING GROUP REPORT**

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### **REPORT TO THE STECF**

#### **EXPERT WORKING GROUP OF THE 2020 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET**

#### **EWG-20-03 & 20-06**

**Virtual meetings, 22-26 June & 12-16 October 2020**

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

# 1 INTRODUCTION

The 2020 Annual Economic Report (AER) on the European Union (EU) fishing fleet provides a comprehensive overview of the latest information available on the structure and economic performance of EU Member State fishing fleets.

This report covers the period 2008 to 2020 and includes information on the EU fleet's fishing capacity, effort, employment, landings, income and costs. The reference year is 2018 with nowcast performance estimates provided for 2019 and 2020, where possible. All monetary values have been adjusted for inflation to 2015 constant prices. The profitability and performance of the EU fishing fleet is also reported in terms of GVA, profits, profit margins, resource productivity (labour and capital) and efficiency (fuel use, LPUE, etc.).

This publication includes:

- 1) A structural and economic overview of the EU fishing fleet for the reference year 2018, with trend analyses for the period 2008 to 2018, including estimates for 2019 and 2020;
- 2) A regional analysis of the EU fishing fleet by major sea basin: North Sea & Eastern Arctic, Baltic Sea, North Western Waters, Southern Western Waters, Mediterranean Sea, Black Sea, as well as for the EU Outermost Regions and long-distant fisheries (LDF) in Other Fishing Regions, i.e., RFMOs (e.g., NAFO, ICCAT, IOTC, CECAF);
- 3) A detailed structural and economic overview of each EU Member State fishing fleet, including qualitative economic performance assessments for the years 2008-2018 and nowcasts for 2019 and 2020.

**The 2020 AER supersedes all previous AERs. Comparisons across AER reports cannot not be made.**

## Terms of Reference for STECF EWG-20-03 & 20-06

### Background and general objectives provided by the Commission

The AER is the main source of economic and social data for scientific advice on the performance of the EU fishing fleet. It is also increasingly used by scientific bodies, national administrations and international institutions.

Given the increasing number of scientific uses of the AER and its growing complexity, there is a greater need to guarantee robust, precise data and analyses as well as streamline the content of the report.

The trimming down of the AER is intended to achieve a more balanced effort/product exercise, concentrating on the core, routine tasks of the AER on the one hand, while freeing up time and resources on the other so that EWG experts can focus on more applied economic analyses.

The 2020 AER will continue efforts made in previous years to streamline the contents while providing more in-depth look at the different factors driving the economic performance of the EU fleets. This will mainly be achieved through:

- dedicated data checking exercises, covering national and regional data sets:  
<https://datacollection.jrc.ec.europa.eu/data-analysis>
- more concise and less descriptive chapters, supplemented by the JRC online data dissemination tool <https://datacollection.jrc.ec.europa.eu/da/fleet/>
- a continued effort to provide more analytical outcomes, notably on drivers of profitability and trends

Regional analyses are typically left to the second AER meeting, during which previously undetected data issues are often encountered by the EWG, leading to data resubmissions at this late stage. Data submissions during the second meeting cause significant delays in analyses, in particular when a Member State fleet operates in several different fishing regions, potentially affecting analyses in all regions. To avoid such delays and to further free up time for deeper analyses during the second meeting, the dedicated data checking exercise during the first meeting will include regional data sets.

The report should provide an in-depth look at the different factors affecting the economic performance of the EU fishing fleet with a special focus on the major drivers and issues affecting the sector. In addition to interpreting and explaining the quantitative results, the report should contain qualitative information

and analysis on the drivers and trends in performance and other aspects of policy relevance based largely on the scientists' expert knowledge.

The main objectives of the report is to obtain high quality interpretation of all data outputs to ensure the usefulness of the report for DG MARE's policy development, Member States and the industry. The analysis will be done at the EU, regional, national and fleet segment levels.

The relevance and role of the following factors should be taken into account: changes in first sale prices, operational costs; fuel efficiency; structural measures; market and trade determinants.

In addition, and where possible, special focus should be given to the economic benefits of MSY (such as analysis of causality between stocks exploited sustainably and the improvement in the performance of the fleets), the impact of choke-species situations, status and recovery of important stocks and the implementation of other management measures, such as the Landing obligation and the role of the EMFF support in terms of innovation and sustainability.

Given the social importance of this activity in many coastal communities, particular emphasis should be paid to the social aspects, including trends on employment, salaries and labour productivity and interconnections with other sectors of the blue economy, such as aquaculture, fish processing, ocean energy, coastal tourism, etc.

The main socio-economic indicators, where relevant, should also be put into context with homologous figures at the EU and national levels (e.g., national average salaries, employment, GVA, GDP, etc.).

All relevant documentation and data will be made available on the DCF\_JRC or STECF websites or will be made available on a dedicated EWG FTP.

The final draft of the EWG report will be reviewed by the STECF during its winter plenary meeting in 2020.

### **Special requests / topics**

In light of the current situation with the COVID-19 pandemic, experts are requested to provide an indication of the main socio-economic impacts of the outbreak on the national fishing fleets, such as, fishing activity (fishing effort and production), employment and income loss, market demand, etc. Experts should also report on the measures taken to mitigate the negative social effects, such as financial compensations, and the expected recovery path of the sector. These indications should help to fine tune the routine nowcasting exercise to estimate the performance of fishing fleets in 2020.

### **Data transmission issues**

All data issues that may impact the quality and robustness of the analyses in the AER, and associated STECF reports (e.g. Balance between fleet capacity and fishing opportunities) will be reported in the Data Transmission Monitoring Tool (DTMT).



## Outline of the 2020 AER

STECF is requested to provide the Annual Economic Report on EU fishing fleets for 2020 including, the following sections:

### STECF Observations

#### Executive Summary

#### Expert Working Group Report

##### 1. EU Fleet Overview

This chapter will contain a section on each of the following topics:

- Fleet structure
- Fishing activity and production
- Employment and average salaries
- Economic performance
- Resource productivity and efficiency
- Main drivers and trends
- EU small-scale coastal fleet (key socio-economic indicators)
- EU distant-water and outermost region fleets (key socio-economic indicators)
- Assessment of the economic performance for 2019 and 2020 (nowcasts), including a section on the impact of the COVID-19 pandemic.

##### 2. Regional Analysis

A specific chapter for each of the main fishing regions in which EU fleets operate, namely:

- North Sea & Eastern Arctic
- Baltic Sea
- North Western Waters
- South Western Waters
- Mediterranean Sea
- Black Sea
- EU Outermost Regions
- Other Fishing Regions (distinguishing where possible by RFMO, such as NAFO, ICCAT, IOTC, CECAF, etc.).

##### 3. National Chapters

This section of the report will contain a specific chapter for each of the EU Member State fleets and shall include a brief description of the small-scale coastal and distant-water fleets (key socioeconomic indicators) where relevant; the main drivers affecting profitability of the fishing fleets and Nowcast results for 2019 and 2020, indicating the impacts of the COVID-19 outbreak on the national fleet and the measures taken to mitigate the negative social effects.

##### 4. Annexes

The annexes include in this report are:

- Annex 1: United Kingdom National chapter.
- Annex 2: AER methodology, including the nowcasting model.
- Annex 3: Total Factor Productivity calculation.
- Annex 4: Detailed tables at national and regional levels.

### Structure, workflow and outputs of the EWGs

Following the 2020 EU-MAP call for economic data on the EU Fishing Fleet, the EWGs are requested to analyse and comment on the economic performance of the EU and national fishing fleets between 2008 and 2018, and where possible, 2019 and beyond.

Economic data series will be available up to 2018, with some provisional data up to 2019. As these data will be outdated by the time the report is published, experts should provide indication on the main factors affecting the indicators used for the “nowcast” estimations (i.e. for 2019 and 2020). This becomes paramount in the wake of the COVID-19 pandemic.

In the current context of the COVID-19 outbreak, the socio-economic impact of the pandemic on the EU fishing fleet and measures implemented to mitigate these effects need to be incorporated into the nowcast exercise for 2020 estimations.

The first EWG will focus primarily on data quality and coverage. EWG 20-03 will produce final draft national chapters, the formulation of which constitutes an integral part of the data checking process.

The second meeting will focus on developing applied economic analysis based on the final data submitted. In particular, experts will produce a synthesis on the trends and economic results of the EU fishing fleet by main fishing region and aggregate it at EU level, and identify the main factors behind these trends.

Specific objectives and priorities for the two working groups are described below:

### **EWG 20-03 (AER 1)**

The first AER STECF EWG meeting should lead to a data endorsement by the attending experts, a detailed account of any data transmission (DT) issues and the drafting of concise national chapters.

As a matter of priority, the EWG is requested to ensure that all unresolved data transmission (DT) issues and failures encountered prior to and during the EWG meeting are recorded on line via the Data Transmission Monitoring Tool (DTMT) available at: <https://datacollection.jrc.ec.europa.eu/web/dcf/dtmt>

Any outstanding issues not covered by EWG 20-03 will be followed up by EWG 20-06. This may occur if MS submit revised or updated data after EWG 20-03. That is, according to the data handling procedure, data submission may occur up to two weeks after the first meeting upon request of STECF or the JRC.

Guidance on how DT issues should be inserted in the DTMT, log-on credentials and access rights will be provided separately by the STECF Secretariat focal point for the EWG.

### **Routine tasks AER 1**

- Experts should check national data (national totals and by fleet segment) as well as the preliminary disaggregated regional data prepared by the JRC while producing their national chapters.
- National chapters should include a section on the impacts of the COVID-19 outbreak and the measures put into place to mitigate the negative effects on fishing activity and the wellbeing of fishers.
- Detected data issues should be corrected and resubmitted during the meeting as far as possible.
- All unresolved data issues should be flagged and where possible, revised, corrected and resubmitted before the final deadline, i.e., two weeks after the first meeting.
- Time and data permitting, estimates of economic performance for 2019 and 2020 should be carried out.

### **National Chapters**

Each national chapter should include a short description of the national fleet, performance results by fishing activity and an in-depth look at the different factors driving economic performance.

National chapters should follow the following structure:

- **Short description of the national fleet**
  - Fleet structure
  - Fishing activity and production
  - Employment and average salaries
- **Economic performance results for 2018 and recent trends**
  - National fleet performance
  - Resource productivity and efficiency
- **Drivers affecting the economic performance**
  - Market and trade (including first sale prices)
  - Operating costs (external factors)
  - Status of key stocks, changes in TACs and quotas
  - Management instruments
  - Innovation and development (role of the EMFF)
- **Assessment of the economic performance for 2019 and 2020 (nowcasts)**

- A qualitative and when possible quantitative assessment of the impact of the COVID-19 outbreak
- **Economic performance by fishing activity**
  - Small-scale coastal fleet
  - Distant-water and outermost region fleets (if applicable)
- **Economic performance of selected fleet segments**
- **Data issues**

### **Outputs AER 1**

Specifically, the EWG should provide:

- Data endorsement by the attending experts
- All pending data transmission (DT) issues and failures recorded in the Data Transmission Monitoring Tool (DTMT)
- Final drafts of national chapters
- A concise summary of the national chapter (2-3 lines) containing results for the main economic performance indicators for 2018; how they compare to previous year's results (improvement/deterioration, etc.) and expected outcomes for 2019/2020.

### **EWG 20-06 (AER 2)**

EWG 20-06 will continue from EWG 20-03 and produce final EU Overview and Regional chapters. The data checks performed for the regional analyses during the first meeting should free up time for deeper analyses.

Nowcasts for 2019 and 2020, where possible, will be completed and incorporated into the EU overview and national chapters

### **Routine tasks AER 2**

- Nowcasts for 2019 and 2020 should be updated and completed with the latest available information and completed
- National chapters should be finalised with nowcasts for 2019 and 2020
- Regional analyses
- EU overview completed with main drivers and trends and nowcasts for 2019 and 2020 incorporated
- Any unresolved data transmission (DT) issues and failures should be reported in the DTMT.

### **EU Overview**

This chapter will again have specific sections on the following fleet categories:

- **EU small-scale coastal fleets:** This section will investigate the drivers/factors behind the trends of the small-scale coastal fleets, whether there are regional differences and the possible reasons for these differences.
- **EU distant water fleets:** This section will include an overview of the employment, profitability and salaries for the EU distant water fleets distinguishing by main fishing areas (e.g. NAFO, ICCAT, IOTC). It will also investigate the factors behind the trends and identified any data gaps.
- **EU outermost region fleets:** This section will include an overview of the employment, profitability and salaries across different outermost regions. It will also investigate the factors behind the trends and identified any data gaps.
- **Links between economic growth and resource use:** This section will examine key drivers behind trends in resource efficiency, in particular, landings per unit of effort (fish landed per fishing day or day at sea), fuel use and improvements in energy efficiency, labour and capital productivity.

### **Outputs AER 2**

Specifically, by the end of the second meeting, the EWG should provide:

- Revised DTMT, containing only the unresolved/outstanding data issue
- Final national chapters and summaries with nowcasts for 2019 and 2020
- Final EU overview chapter with nowcasts for 2019 and 2020
- Final Regional chapters
- Outline of the current socio-economic impacts of COVID-19 in EU fisheries and measures taken to mitigate the negative effects.
- Draft Executive summary

## Data sources and coverage

The data used to compile all the various analyses contained within the report were collected under the data collection framework, cf. Council Regulation (EC) No 199/2008 of 25 February 2008 for the years 2008 -2016 (DCF) and cf. Council Regulation (EC) No 2017/1004 of 17 May 2017, for the years 2017-2019 (EU-MAP).

The 2020 call requested data for the years 2017 and 2018/19. Fleet capacity data were requested up to and including 2019, while fishing activity (effort and landings), employment and economic parameters were requested up to and including 2018. Additionally, income from landings and several effort and landings variables were requested for 2019 (non-mandatory) to allow for economic performance nowcasts to be estimated at fleet segment and national level for 2019 and 2020.

This report includes data reported by national totals and by fleet segments (a combination of the main fishing technology used and vessel length group operating predominately in one supra-region). The data analysed covers transversal (capacity, effort and landings) and economic data (income, costs, employment, enterprises, capital value and investment).

For a full list of variables and reference years requested under the 2020 call for economic data on the EU fishing fleet see Annex 2 - AER Report Methodology in the 2020 AER Annex report. .

In terms of the completeness of the Member States data submissions, most countries submitted the majority of parameters requested under the call. In many cases missing data relates to fleet segments with low vessel numbers for which data may be sensitive or hard to obtain (logbooks are compulsory for vessels over 10 metres only). In terms of data quality, inevitably some 'abnormal' estimates for various parameters were detected by the JRC or experts and in many cases rectified by the Member State. However, some coverage and quality issues remain outstanding:

- Greece provided only partial data for the years 2014-2017. Due to the incomplete coverage of the fishing activity and socio-economic data, Greece can only be included in analyses for 2018 and has been excluded from all aggregated time-series analyses.
- This year's submissions from France and Spain improved but continue to be incomplete, in particular missing effort and landings data for the years 2008-2009 and days-at-sea not provided by FAO sub-regions; some issues remain for fleets in the EU Outermost Regions (France) and for the Irish under 10 metre vessels;
- Due to the reduced number of vessels and/or enterprises, several Member States, including Italy, Germany and some of the Baltic States, do not deliver sensitive data on their distant water fleets, making coverage at the EU and regional levels incomplete.
- As a new Member State, Croatia is only required to provide data from 2012 onwards.
- Incomplete time series data due to either the non-submission or submission of questionable data, make trend analysis over the entire period 2008-2018/2019 at the EU and regional levels impossible without excluding the Member States fleets that are incomplete.

See Section 5 – Data Coverage and Quality for more information on data transmission issues.

## 2 EU FLEET OVERVIEW

The EU overview chapter provides a summary of the structure and economic performance of the EU fishing fleet in 2018 and highlights some key trends over the period 2008-2019, based on data submitted by Member States under the 2020 fleet economic data call. All monetary values have been adjusted for inflation to 2015 constant prices and therefore data prior and subsequent to 2015 may not necessarily equate to the data submitted by Member States.

Due to incomplete data submissions from several Member States, it is not possible to do a trend analyses on the economic performance for the EU fleet over the period analysed.

Croatia officially joined the EU in 2013 and, hence, only able to provide DCF data from the year 2012 onwards. As Greece provided only partial landings, effort and economic data for the years 2014 to 2017, it is excluded from the EU overview in those years, but included for 2018. More details on data availability are provided in the chapter on quality and checking procedures (Section 6).

For analyses at the EU and Member State levels, national level datasets are used, whereas fleet segment level data are used to compile results by main type of fishing activity (i.e. small-scale, large-scale and distant-water fleets). Results for 2018 at the EU level include all Member States fleets while results by fishing activity may exclude some fleet segments with insufficient data.

While in theory, both the national and fleet segment datasets submitted by each Member State should be internally consistent, this is not always the case. Discrepancies can arise due to missing or incomplete datasets for fleet segments. In some cases, such discrepancies occur due to commercial confidentiality issues. To avoid this, Member States may combine such fleet segments into "clusters" and provide data at a more aggregated level. In other cases, commercially-sensitive data are not provided at the fleet segment level, but are included at the national total level, resulting in inconsistencies between the two datasets.

Normalised trends in indicator values at the EU level are presented relative to 2008 (based on 2008=100) and unless otherwise stated, exclude Greece and should not be considered as a complete EU overview.

To provide the most reliable, complete and up-to-date information as possible, this chapter includes:

- A snapshot of the EU fishing fleet in 2018, by Member State and main type of fishing activity, i.e. small-scale, large-scale and distant-water fleets (including data summary tables);
- A section with nowcasts for 2019 and 2020 on the economic performance of EU fleets where possible (based on fleet segment data);
- A short description of the main drivers and trends that may have contributed to the economic performance of the EU fleet over recent years;

The three main types of fishing activity used in the AER are defined as:

- **Small-scale coastal fleet (SSCF)** - includes all vessels under 12 metres using static gears. According to the DCF gear definitions these include: 'drift and/or fixed netters', 'pots and/or traps', 'hooks', 'passive gears only', 'other passive gears', 'polyvalent passive gears only', 'active and passive gears'.
- **Large-scale fleet (LSF)** - segment includes all vessels over 12 metres using static gears and all vessels using towed gears operating predominately in EU waters. According to the DCF gear definitions these include: 'dredgers', 'demersal trawlers and/or demersal seiners', 'other active gears', 'polyvalent active gears only', 'purse seiners', 'beam trawlers', 'pelagic trawlers'.
- **Distant-water fleet (DWF)** - includes EU registered vessels over 24 metres operating in 'other fishing regions' including EU outermost regions.

## At a glance

Due to incomplete data from Member States, the EU Fleet Overview (Section 3) and Regional Analysis (Section 4) omit Greece when comparing relative changes to 2017 in a number of indicators. This omission is always stated in the text and figures. In addition, to ensure confidentiality, data on some fleet segments have not been provided by some Member States and these too have been omitted. The reference year is 2018 and all monetary values are adjusted for inflation; constant prices (2015).

## Fleet Capacity

- In 2018, the EU fishing fleet numbered around 81 199 vessels with a combined gross tonnage of 1.56 million GT and engine power of 6.2 million kilowatts.
- There were 17 606 inactive vessels (22% of the total number of vessels), bringing the number of active vessels to 63 593
- Of the active vessels, 75% were SSCF vessels, 24% LSF and <1% DWF.
- EU fleet capacity has continued to decrease steadily: 2.1% in number, 2% in engine power and 0.4% in gross tonnage compared to 2017 (excluding Greece).

## Employment and wages

- The EU fleet directly employed circa 146 906 fishers, corresponding to 105 851 FTE. Of the total employed, at least 41 938 were estimated as being unpaid labour<sup>2</sup>.
- Average annual wage (including crew wages and unpaid labour) per FTE was estimated at EUR 24 287, ranging from EUR 132 500 for Belgian fishers to EUR 1 400 for Cypriot fishers.

## Effort and landings

- The EU fleet spent over 6.5 million days-at-sea and consumed almost 2.3 billion litres of fuel.
- Landings reported amounted to 5.17 million tonnes (5.1 million tonnes (-3.1%), excluding Greece) of seafood, amounting to a reported value of EUR 7.7 billion (EUR 7.3 billion (-3.9%), excluding Greece)
- Landings per day at sea (LPUE), for the EU fleet as a whole, was estimated at around 0.8 tonnes per day (unchanged compared to 2017, excluding Greece).

## Economic performance

- Revenue (gross value of landings plus other income) amounted to almost EUR 7.9 billion. Other income represented 1.9% of revenue.
- GVA, gross profit and net profit (all excl. subsidies and fishing rights) generated by the fleet was EUR 4.3 billion, EUR 1.8 billion and EUR 0.98 billion, respectively.
- GVA to revenue was estimated at 55.5% (58.1% in 2017, excluding Greece); gross profit margin at 22.9% (down from 26% in 2017, excluding Greece), and 12.4% of the revenue was retained as net profit (down from 15% in 2017, excluding Greece).
- Overall, the EU was profitable but performance reduced slightly when compared to 2017 and three out of the 23 Member States evaluated generated net losses (four in 2017), namely: Cyprus, Finland and Lithuania.
- Only Lithuania suffered gross losses.
- Malta moved from a loss making position in 2017 to posting net profits.
- The EU fishing fleet was estimated to have a replacement value of EUR 5.6 billion (+2.8%, excluding Greece) and in-year investments amounted to just over EUR 440 million (-15%, excluding Greece).

## EU Small-scale coastal fleet (SSCF)

- The EU SSCF comprised 47 999 vessels covering up to 75% of the number of active vessels, but only 8% of the gross tonnage and 32% of the engine power.

<sup>2</sup> Unpaid labour figures exclude Belgium, France and United Kingdom.



- Engaged crew amounted to 73 605 fishers, including 35 841 unpaid labour (50% and 85% of the EU total respectively).
- Contributed 5.3% of the weight landed (273 000 tonnes) and 15% of the landed value (EUR 1.17 billion).
- Generated EUR 1.231 million in revenue (-1%, when excluding Greece), EUR 814 million in GVA (-2%), EUR 267 million in gross profit (+7%) and EUR 124 million in net profit (+8%).
- In relative terms, this amounted to a GVA to revenue of 67%, a gross profit margin of 23% and a net profit margin of 12%.

### EU Large-scale fleet (LSF)

- Comprised 15 344 vessels (24% of the EU active fleet) and covered 75% of the gross tonnage and 62% of the engine power.
- Engaged crew amounted to 67 116 fishers, including around 6 037 unpaid labour (46% and 14% of the EU total, respectively).
- Contributed 81% to landed weight (4.2 million tonnes) and 72% to landed value (EUR 5.6 billion).
- Generated EUR 3.2 billion in GVA (-8%, when excluding Greece), EUR 1.4 billion (-13%) in gross profit and EUR 0.8 million in net profit (-19%)
- In relative terms, this amounted to a 56% GVA to revenue, 24% gross profit margin and 15% net profit margin.

### EU Distant-water fleet (DWF<sup>3</sup>)

- Comprised <1% of the EU active fleet (250 vessels) and covered 17% of the total gross tonnage and 6% of the engine power.
- Employed 6 186 fishers or 7 839 FTEs (4% and 7% of the EU total, respectively).
- Contributed 14% to landings in weight and 13% to landings in value.
- Generated EUR 387 million in GVA (-21%), EUR 161 million in gross profit (-38%) and EUR 60 million in net profit (-62%).
- In relative terms, this amounted to a 38% GVA to revenue (down from 44%), 16% gross profit margin (down from 23%) and a 7% net profit margin (down from 16.6% in 2017).

Table 2.1 below provides a summary of the main results for the EU-28 fleet (all figures exclude Greece) for the period 2010-2018 and nowcast results for 2019.

Table 2.2 below provides a summary of the main results for the EU-28 fleet, including Greece in 2018

Table 2.3 below provides a summary of the main results for the EU-27 fleet (all figures exclude Greece) for the period 2010-2018 and nowcast results for 2019 and 2020.

Tables 2.4 to 2.6 provide a summary of the main results for the EU-28 fleet by main fishing activity (SSCF, LSF and DWF) (all figures exclude Greece) for the period 2010-2018 and nowcast results for 2019.

<sup>3</sup> Comparisons to 2017 can be made without excluding Greece as no Greek vessel is included in this segment

**Table 2-1 Main results for the EU-28 fleet (excl. Greece) for 2008-2018 and nowcasts for 2019**

EU28		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	%Δ 2018-2017	%Δ 2018-avg2008-17	%Δ 2018-2008
Number of vessels	thousand	70.9	67.7	66.8	65.9	68.1	67.3	66.7	68.7	68.3	68.4	67.0	66.0	-2.1%	-1.3%	-5.5%
Total vessel tonnage	thousand GT	1,791	1,738	1,671	1,609	1,588	1,564	1,572	1,533	1,499	1,496	1,489	1,408	-0.4%	-7.3%	-16.9%
Total vessel power	thousand kW	6,423	6,208	6,065	5,922	6,082	6,024	6,004	5,974	5,883	5,872	5,755	3,586	-2.0%	-4.8%	-10.4%
Engaged crew	thousand	140	138	138	132	134	130	129	127	127	130	126	125	-3.0%	-4.9%	-10.0%
FTE national	thousand	101	100	97	95	93	90	90	91	92	90	88	86	-2.8%	-6.9%	-13.3%
Days at sea	thousand	5,462	5,461	5,370	5,292	5,310	5,150	5,086	5,007	5,029	4,827	4,684	2,920	-3.0%	-9.9%	-14.2%
Fishing days	thousand	5,194	5,289	5,233	5,151	5,130	4,990	4,947	4,814	4,935	4,649	4,615	1,959	-0.7%	-8.3%	-11.1%
Energy consumption	million litre	2,481	2,632	2,522	2,353	2,259	2,261	2,204	2,316	2,262	2,245	2,206	2,156	-1.7%	-6.3%	-11.1%
Live weight of landings	thousand tonnes	4,729	4,792	4,862	4,577	4,446	4,728	5,074	5,067	4,904	5,272	5,110	4,690	-3.1%	5.5%	8.1%
Value of landings	million EUR	7,370	7,065	7,094	7,295	7,144	7,012	7,314	7,137	7,676	7,642	7,341	7,461	-3.9%	0.9%	-0.4%
Gross value of landings	million EUR	6,731	6,994	7,001	7,354	6,988	6,777	7,093	7,118	7,605	7,491	7,286	7,526	-2.7%	2.4%	8.2%
Other income	million EUR	132	118	146	148	125	143	162	138	128	179	149	152	-16.6%	5.0%	12.7%
Operating subsidies	million EUR	179	143	94	81	80	59	69	57	41	55	48		-11.6%	-43.8%	-73.0%
Income from leasing out quota	million EUR	3	8	8	12	16	41	41	44	34	38	35		-6.9%	44.6%	1144.2%
Personnel costs	million EUR	1,830	2,098	1,958	1,948	1,840	1,781	1,903	2,025	2,163	2,215	2,149	2,161	-3.0%	8.8%	17.4%
Value of unpaid labour	million EUR	254	328	283	251	238	253	254	232	255	276	260	240	-5.8%	-1.0%	2.4%
Energy costs	million EUR	1,610	1,221	1,376	1,613	1,612	1,487	1,352	1,101	919	993	1,117	1,069	12.4%	-15.9%	-30.6%
Repair & maintenance costs	million EUR	546	606	577	616	564	545	595	646	684	655	678	677	3.5%	12.4%	24.1%
Other variable costs	million EUR	903	1,063	1,002	1,067	939	962	985	1,078	1,101	1,010	975	961	-3.5%	-3.6%	7.9%
Other non-variable costs	million EUR	612	626	626	608	577	555	531	538	548	557	572	571	2.8%	-1.0%	-6.5%
Consumption of fixed capital	million EUR	875	870	810	808	791	729	715	763	664	792	792	791	0.1%	1.4%	-9.5%
Lease/rental payments for quota	million EUR	47	54	59	69	68	76	86	112	102	107	101		-5.6%	29.4%	115.2%
Opportunity cost of capital	million EUR	57	258	185	144	107	112	110	87	61	8	14	29	-76.1%	-112.5%	-124.6%
Value of physical capital	million EUR	6,348	6,286	6,134	5,662	5,624	5,330	5,571	5,748	5,493	5,388	5,525	5,544	2.6%	-4.1%	-13.0%
Value of quota and other fishing rights	million EUR	1,714	2,312	2,212	2,370	2,527	2,271	2,918	3,498	3,496	4,057	3,872		-4.6%	41.5%	125.9%
Investments	million EUR	516	564	527	375	500	473	410	526	533	487	413	92	-15.2%	-15.9%	-20.0%
Gross Value Added	million EUR	3,193	3,596	3,566	3,598	3,421	3,372	3,791	3,893	4,480	4,455	4,094	4,401	-8.1%	9.6%	28.2%
Net Value Added	million EUR	2,261	2,467	2,571	2,645	2,523	2,532	2,966	3,043	3,754	3,671	3,315	3,639	-9.7%	16.6%	46.6%
Gross profit	million EUR	1,108	1,170	1,325	1,399	1,342	1,338	1,634	1,636	2,062	1,964	1,685	1,999	-14.2%	12.5%	52.0%
Net profit	million EUR	177	41	330	446	445	498	809	787	1,336	1,180	906	1,237	-23.2%	49.8%	412.9%
GVA to revenue	%	46.5	50.6	49.9	48.0	48.1	48.7	52.3	53.7	57.9	58.1	55.1	57.3	-5.2%	7.2%	18.4%
Gross profit margin	%	16.1	16.4	18.5	18.6	18.9	19.3	22.5	22.6	26.7	25.6	22.7	26.0	-11.5%	10.3%	40.3%
Net profit margin	%	2.6	0.6	4.6	5.9	6.3	7.2	11.2	10.8	17.3	15.4	12.2	16.1	-20.8%	49.0%	373.4%
Average wage per FTE	thousand EUR	20.7	24.2	23.0	23.1	22.3	22.5	24.1	24.8	26.3	27.7	27.5	28.0	-0.5%	15.4%	33.3%
GVA per FTE (labour productivity)	thousand EUR	31.6	35.8	36.6	37.9	36.7	37.4	42.3	42.8	48.6	49.5	46.8	51.4	-5.5%	17.2%	47.9%

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2019.



**Table 2-2 Main results for the EU-28 fleet, including Greece in 2018**

EU28		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Number of vessels</b>	thousand	70.9	67.7	66.8	65.9	68.1	67.3	66.7	68.7	68.3	68.4	81.2
<b>Total vessel tonnage</b>	thousand GT	1,791	1,738	1,671	1,609	1,588	1,564	1,572	1,533	1,499	1,496	1,556
<b>Total vessel power</b>	thousand kW	6,423	6,208	6,065	5,922	6,082	6,024	6,004	5,974	5,883	5,872	6,153
<b>Engaged crew</b>	thousand	140	138	138	132	134	130	129	127	127	130	147
<b>FTE national</b>	thousand	101	100	97	95	93	90	90	91	92	90	106
<b>Days at sea</b>	thousand	5,462	5,461	5,370	5,292	5,310	5,150	5,086	5,007	5,029	4,827	6,516
<b>Fishing days</b>	thousand	5,194	5,289	5,233	5,151	5,130	4,990	4,947	4,814	4,935	4,649	6,448
<b>Energy consumption</b>	million litre	2,481	2,632	2,522	2,353	2,259	2,261	2,204	2,316	2,262	2,245	2,295
<b>Live weight of landings</b>	thousand tonnes	4,729	4,792	4,862	4,577	4,446	4,728	5,074	5,067	4,904	5,272	5,178
<b>Value of landings</b>	million EUR	7,370	7,065	7,094	7,295	7,144	7,012	7,314	7,137	7,676	7,642	7,767
<b>Gross value of landings</b>	million EUR	6,731	6,994	7,001	7,354	6,988	6,777	7,093	7,118	7,605	7,491	7,726
<b>Other income</b>	million EUR	132	118	146	148	125	143	162	138	128	179	149
<b>Operating subsidies</b>	million EUR	179	143	94	81	80	59	69	57	41	55	49
<b>Income from leasing out quota</b>	million EUR	3	8	8	12	16	41	41	44	34	38	35
<b>Personnel costs</b>	million EUR	1,830	2,098	1,958	1,948	1,840	1,781	1,903	2,025	2,163	2,215	2,217
<b>Value of unpaid labour</b>	million EUR	254	328	283	251	238	253	254	232	255	276	354
<b>Energy costs</b>	million EUR	1,610	1,221	1,376	1,613	1,612	1,487	1,352	1,101	919	993	1,185
<b>Repair &amp; maintenance costs</b>	million EUR	546	606	577	616	564	545	595	646	684	655	703
<b>Other variable costs</b>	million EUR	903	1,063	1,002	1,067	939	962	985	1,078	1,101	1,010	1,037
<b>Other non-variable costs</b>	million EUR	612	626	626	608	577	555	531	538	548	557	580
<b>Consumption of fixed capital</b>	million EUR	875	870	810	808	791	729	715	763	664	792	832
<b>Lease/rental payments for quota</b>	million EUR	47	54	59	69	68	76	86	112	102	107	101
<b>Opportunity cost of capital</b>	million EUR	57	258	185	144	107	112	110	87	61	8	9
<b>Value of physical capital</b>	million EUR	6,348	6,286	6,134	5,662	5,624	5,330	5,571	5,748	5,493	5,388	5,676
<b>Value of quota and other fishing rights</b>	million EUR	1,714	2,312	2,212	2,370	2,527	2,271	2,918	3,498	3,496	4,057	3,872
<b>Investments</b>	million EUR	516	564	527	375	500	473	410	526	533	487	440
<b>Gross Value Added</b>	million EUR	3,193	3,596	3,566	3,598	3,421	3,372	3,791	3,893	4,480	4,455	4,371
<b>Net Value Added</b>	million EUR	2,261	2,467	2,571	2,645	2,523	2,532	2,966	3,043	3,754	3,671	3,548
<b>Gross profit</b>	million EUR	1,108	1,170	1,325	1,399	1,342	1,338	1,634	1,636	2,062	1,964	1,800
<b>Net profit</b>	million EUR	177	41	330	446	445	498	809	787	1,336	1,180	977
<b>GVA to revenue</b>	%	46.5	50.6	49.9	48.0	48.1	48.7	52.3	53.7	57.9	58.1	55.5
<b>Gross profit margin</b>	%	16.1	16.4	18.5	18.6	18.9	19.3	22.5	22.6	26.7	25.6	22.9
<b>Net profit margin</b>	%	2.6	0.6	4.6	5.9	6.3	7.2	11.2	10.8	17.3	15.4	12.4
<b>Average wage per FTE</b>	thousand EUR	20.7	24.2	23.0	23.1	22.3	22.5	24.1	24.8	26.3	27.7	24.3
<b>GVA per FTE (labour productivity)</b>	thousand EUR	31.6	35.8	36.6	37.9	36.7	37.4	42.3	42.8	48.6	49.5	41.3

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values adjusted for inflation; constant prices (2015).

Table 2-3 Main results for the EU-27 fleet (excl. Greece) for 2008-2018 and nowcasts for 2019 and 2020

EU27		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	%Δ 2018-2017	%Δ 2018-avg2008-17	%Δ 2018-2008
Number of vessels	thousand	64.2	61.0	60.3	59.4	61.7	60.9	60.3	62.4	61.9	62.1	60.8	60.0	60.2	-2.0%	-0.9%	-5.2%
Total vessel tonnage	thousand GT	1,575	1,528	1,454	1,405	1,385	1,362	1,374	1,337	1,305	1,294	1,285	1,408		-0.6%	-8.3%	-18.4%
Total vessel power	thousand kW	5,555	5,358	5,217	5,106	5,271	5,216	5,205	5,180	5,092	5,075	4,974	3,586		-2.0%	-4.9%	-10.5%
Engaged crew	thousand	127	125	125	120	121	118	118	115	116	118	114	114	113	-3.5%	-5.2%	-10.5%
FTE national	thousand	92.2	90.8	88.2	86.0	84.6	82.4	81.9	82.7	83.2	82.6	79.5	77.7	66.5	-3.8%	-6.9%	-13.8%
Days at sea	thousand	5,006	5,027	4,941	4,872	4,899	4,748	4,658	4,576	4,598	4,457	4,319	2,559	1,766	-3.1%	-9.6%	-13.7%
Fishing days	thousand	4,817	4,941	4,889	4,814	4,792	4,667	4,622	4,510	4,614	4,324	4,297	1,644		-0.6%	-8.6%	-10.8%
Energy consumption	million litre	2,162	2,319	2,212	2,068	1,980	1,988	1,923	2,037	1,980	1,972	1,929	1,889	1,580	-2.2%	-6.6%	-10.8%
Live weight of landings	thousand tonnes	4,154	4,210	4,254	3,973	3,812	4,099	4,315	4,358	4,204	4,545	4,410	4,074	3,532	-3.0%	5.2%	6.2%
Value of landings	million EUR	6,437	6,185	6,155	6,268	6,133	6,124	6,242	6,066	6,545	6,548	6,272	6,389	5,385	-4.2%	0.0%	-2.6%
Gross value of landings	million EUR	5,798	6,112	6,060	6,325	5,965	5,884	6,021	6,047	6,470	6,396	6,217	6,453	5,484	-2.8%	1.8%	7.2%
Other income	million EUR	100	91	117	121	83	100	114	96	90	139	129	132	130	-6.7%	22.9%	29.1%
Operating subsidies	million EUR	178.7	143.3	94.0	80.9	80.5	59.2	68.8	56.6	40.9	54.5	48.2			-11.6%	-43.8%	-73.0%
Income from leasing out quota	million EUR	2.0	2.5	3.0	10.2	11.9	36.4	35.3	33.5	28.1	34.8	33.3			-4.3%	68.3%	1563.8%
Personnel costs	million EUR	1,591	1,870	1,742	1,718	1,601	1,578	1,649	1,752	1,878	1,926	1,868	1,877	1,607	-3.0%	8.0%	17.4%
Value of unpaid labour	million EUR	239	314	271	239	225	242	243	220	241	245	234	213	191	-4.6%	-5.6%	-2.2%
Energy costs	million EUR	1,393	1,091	1,209	1,421	1,408	1,306	1,176	966	805	868	968	919	685	11.5%	-16.9%	-30.5%
Repair & maintenance costs	million EUR	452	513	487	522	475	468	485	519	562	546	571	564	524	4.6%	13.5%	26.2%
Other variable costs	million EUR	735	902	850	892	766	803	807	860	882	833	801	786	664	-3.8%	-3.9%	9.0%
Other non-variable costs	million EUR	524	543	496	481	458	447	461	466	483	490	511	508	481	4.1%	5.3%	-2.5%
Consumption of fixed capital	million EUR	795	797	737	736	722	662	644	688	608	683	680	680	683	-0.4%	-3.8%	-14.4%
Lease/rental payments for quota	million EUR	16.1	15.5	28.8	32.9	32.3	34.9	50.1	61.3	55.5	42.9	39.1			-8.8%	5.6%	143.6%
Opportunity cost of capital	million EUR	50.5	251.5	184.4	153.1	111.7	114.4	106.0	73.2	58.0	0.2	6.2	22.2	6.4	-3708.4%	-105.6%	-112.3%
Value of physical capital	million EUR	5,655	5,685	5,503	5,109	5,131	4,846	4,944	4,973	4,905	4,864	4,799	4,786	4,555	-1.3%	-7.0%	-15.1%
Value of quota and other fishing rights	million EUR	636	1,231	1,134	1,106	1,092	1,207	1,539	1,644	2,220	2,825	2,520			-10.8%	72.2%	295.9%
Investments	million EUR	463	489	422	326	439	373	326	426	426	420	328	92	92	-21.8%	-20.1%	-29.1%
Gross Value Added	million EUR	2,794	3,154	3,134	3,131	2,942	2,960	3,207	3,331	3,829	3,798	3,496	3,808	3,261	-7.9%	8.3%	25.1%
Net Value Added	million EUR	1,949	2,105	2,213	2,241	2,108	2,184	2,457	2,570	3,162	3,115	2,822	3,150	2,585	-9.4%	17.1%	44.8%
Gross profit	million EUR	964	970	1,122	1,174	1,116	1,140	1,316	1,359	1,710	1,627	1,394	1,718	1,463	-14.3%	11.6%	44.6%
Net profit	million EUR	119	79	200	284	282	364	566	597	1,044	944	720	1,060	787	-23.7%	66.7%	503.7%
GVA to revenue	%	47.4	50.8	50.7	48.6	48.6	49.5	52.3	54.2	58.4	58.1	55.1	57.8	58.1	-5.2%	6.2%	16.3%
Gross profit margin	%	16.4	15.6	18.2	18.2	18.4	19.1	21.4	22.1	26.1	24.9	22.0	26.1	26.1	-11.7%	9.6%	34.4%
Net profit margin	%	2.0	1.3	3.2	4.4	4.7	6.1	9.2	9.7	15.9	14.4	11.4	16.1	14.0	-21.4%	65.8%	461.0%
Average wage per FTE	thousand EUR	19.8	24.0	22.8	22.7	21.6	22.1	23.1	23.9	25.5	26.3	26.4	26.9	27.0	0.6%	14.0%	33.2%
GVA per FTE (labour productivity)	thousand EUR	30.3	34.7	35.6	36.4	34.8	35.9	39.2	40.3	46.0	45.9	44.0	49.0	49.0	-4.3%	16.0%	45.1%

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2019 and 2020

**Table 2-4 Main results for the EU-28 Small-scale coastal fleets (excl. Greece) for 2008-2018 and nowcasts for 2019**

EU28 SSCF		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	%Δ 2018-2017	%Δ 2018-avg2008-17	%Δ 2018-2008
Number of vessels	thousand	36.3	36.0	36.4	32.9	34.8	34.7	34.3	34.1	36.4	36.8	36.1	36.0	-2.0%	2.3%	-0.8%
Total vessel tonnage	thousand GT	98.4	96.1	95.3	93.8	96.5	95.5	96.9	94.0	96.2	96.7	93.8	90.2	-3.0%	-2.2%	-4.7%
Total vessel power	thousand kW	1,456.6	1,450.5	1,458.8	1,446.5	1,534.7	1,537.9	1,521.6	1,508.5	1,522.4	1,526.9	1,496.7	1,462.0	-2.0%	0.0%	2.8%
Engaged crew	thousand	63.7	61.7	63.2	59.0	59.5	60.3	57.6	56.6	58.7	59.5	57.6	57.6	-3.2%	-4.0%	-9.7%
FTE national	thousand	31.4	31.2	32.3	30.8	29.1	31.6	28.8	29.2	29.2	28.2	27.5	27.2	-2.4%	-9.0%	-12.4%
Days at sea	thousand	3,203	3,269	3,231	3,063	3,032	2,959	2,910	2,886	2,883	2,708	2,680	1,486	-1.0%	-11.1%	-16.3%
Fishing days	thousand	3,111	3,219	3,216	3,046	3,009	2,962	2,923	2,851	3,888	2,673	2,708	1,031	1.3%	-12.4%	-13.0%
Energy consumption	million litre	175	195	188	192	167	186	143	152	153	147	142	141	-3.5%	-16.3%	-18.9%
Live weight of landings	thousand tonnes	290	273	260	273	291	303	303	287	274	272	250	244	-8.1%	-11.6%	-13.8%
Value of landings	million EUR	1,040	1,035	988	1,038	962	888	937	873	895	959	962	976	0.3%	0.1%	-7.4%
Gross value of landings	million EUR	1,012	1,076	1,051	1,030	911	898	886	921	1,018	987	981	999	-0.7%	0.2%	-3.1%
Other income	million EUR	23	26	37	26	26	29	31	19	25	45	41	41	-8.4%	43.7%	81.5%
Operating subsidies	million EUR	23.3	18.7	12.1	13.3	17.0	13.0	10.4	10.6	4.0	15.1	13.6		-10.3%	-1.2%	-41.6%
Income from leasing out quota	million EUR	0.3	0.2	0.1	1.7	0.6	1.4	1.2	2.4	1.2	5.2	1.1		-78.5%	-22.5%	273.8%
Personnel costs	million EUR	284	294	276	288	250	256	264	264	305	302	290	295	-3.7%	4.3%	2.1%
Value of unpaid labour	million EUR	151	206	184	154	128	149	145	139	150	157	142	139	-10.0%	-9.3%	-6.0%
Energy costs	million EUR	124	100	119	143	131	135	100	85	81	80	85	83	5.9%	-22.7%	-31.8%
Repair & maintenance costs	million EUR	68	71	70	64	62	61	57	58	65	62	61	61	-0.6%	-3.9%	-10.6%
Other variable costs	million EUR	102	124	131	127	117	126	105	110	116	113	111	108	-1.7%	-5.4%	8.5%
Other non-variable costs	million EUR	90	80	83	86	73	72	74	72	79	82	80	80	-2.6%	0.9%	-11.3%
Consumption of fixed capital	million EUR	106	103	111	113	111	104	103	100	96	104	102	102	-1.5%	-2.8%	-3.4%
Lease/rental payments for quota	million EUR	0.9	0.9	2.1	1.7	2.3	1.9	1.3	1.7	1.7	1.9	1.6		-14.7%	-3.0%	81.0%
Opportunity cost of capital	million EUR	6.2	28.2	23.8	17.3	14.9	15.5	15.4	12.6	10.9	1.8	1.0	0.9	-44.8%	-93.4%	-84.3%
Value of physical capital	million EUR	733	714	767	718	726	697	671	665	698	670	666	663	-0.6%	-5.7%	-9.2%
Value of quota and other fishing rights	million EUR	122	161	142	156	138	161	172	168	165	209	206		-1.2%	29.4%	69.6%
Investments	million EUR	101	116	73	81	75	92	63	57	58	25	54	18	112.9%	-27.1%	-46.2%
Gross Value Added	million EUR	650	727	687	637	555	534	581	615	701	696	685	708	-1.5%	7.3%	5.4%
Net Value Added	million EUR	538	595	552	508	430	414	463	502	594	590	582	607	-1.4%	12.2%	8.2%
Gross profit	million EUR	206	223	230	202	174	125	169	212	246	237	253	274	6.9%	25.1%	23.1%
Net profit	million EUR	94	67	85	65	48	3	47	98	132	121	130	152	7.6%	71.4%	38.9%
GVA to revenue	%	62.8	66.0	63.1	60.3	59.3	57.6	63.3	65.4	67.3	67.4	67.0	68.1	-0.5%	6.0%	6.8%
Gross profit margin	%	20.1	20.4	21.2	19.1	18.6	13.6	18.5	22.6	23.6	22.9	24.8	26.3	8.0%	23.4%	23.1%
Net profit margin	%	9.2	6.8	8.1	6.3	5.4	0.3	5.3	10.6	13.6	12.1	13.3	15.2	10.1%	71.5%	44.5%
Average wage per FTE	thousand EUR	15.0	16.2	14.7	14.6	13.3	13.1	14.5	14.0	15.6	16.5	15.9	16.2	-3.4%	7.9%	6.2%
GVA per FTE (labour productivity)	thousand EUR	20.8	23.5	21.6	21.1	19.5	17.1	20.5	21.5	24.0	24.8	25.1	26.3	1.5%	17.2%	20.6%

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2019

**Table 2-5 Main results for the EU-28 Large-scale fleets (excl. Greece) for 2008-2018 and nowcasts for 2019**

EU28 LSF		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	%Δ 2018-2017	%Δ 2018-avg2008-17	%Δ 2018-2008
Number of vessels	thousand	15.2	14.8	14.3	15.6	16.1	15.6	15.6	15.3	15.1	15.1	14.5	14.4	-4.0%	-5.3%	-4.9%
Total vessel tonnage	thousand GT	1,267	1,223	1,166	1,104	1,090	1,079	1,060	1,032	1,022	1,038	1,039	1,000	0.0%	-6.3%	-18.1%
Total vessel power	thousand kW	3,837	3,689	3,524	3,383	3,410	3,352	3,319	3,273	3,238	3,255	3,182	3,108	-2.3%	-7.2%	-17.1%
Engaged crew	thousand	69	69	66	66	68	64	65	64	63	64	62	62	-3.0%	-5.6%	-10.2%
FTE national	thousand	61	60	55	56	57	52	54	54	56	54	53	51	-3.0%	-6.0%	-14.1%
Days at sea	thousand	2,164	2,100	2,046	2,140	2,197	2,119	2,105	2,049	2,077	2,045	1,935	1,381	-5.4%	-8.1%	-10.6%
Fishing days	thousand	2,008	1,998	1,939	2,028	2,051	1,965	1,961	1,901	1,941	1,914	1,853	973	-3.2%	-6.0%	-7.7%
Energy consumption	million litre	2,037	2,064	1,949	1,807	1,730	1,701	1,668	1,687	1,739	1,725	1,693	1,630	-1.8%	-6.5%	-16.9%
Live weight of landings	thousand tonnes	3,840	3,868	3,954	3,616	3,523	3,730	3,994	4,033	3,903	4,276	4,144	3,690	-3.1%	7.0%	7.9%
Value of landings	million EUR	5,405	5,123	5,183	5,221	5,015	4,884	5,020	5,139	5,535	5,506	5,382	5,070	-2.3%	3.4%	-0.4%
Gross value of landings	million EUR	5,084	5,126	5,022	5,275	5,032	4,804	5,014	5,153	5,539	5,412	5,282	5,146	-2.4%	2.6%	3.9%
Other income	million EUR	110	87	95	96	99	108	115	104	93	123	103	106	-15.8%	0.6%	-5.7%
Operating subsidies	million EUR	140.8	117.6	67.2	55.7	50.2	39.9	52.7	42.4	35.8	37.5	33.1		-11.9%	-48.3%	-76.5%
Income from leasing out quota	million EUR	2.5	7.4	8.3	10.3	15.4	38.5	39.4	40.4	32.1	32.1	33.6		4.4%	48.2%	1220.0%
Personnel costs	million EUR	1,432	1,634	1,483	1,461	1,407	1,339	1,459	1,564	1,665	1,686	1,636	1,631	-3.0%	8.1%	14.2%
Value of unpaid labour	million EUR	102	121	99	96	108	103	109	93	104	118	116	99	-2.1%	10.0%	13.3%
Energy costs	million EUR	1,306	937	1,045	1,237	1,245	1,118	1,028	816	704	770	869	813	12.9%	-14.8%	-33.4%
Repair & maintenance costs	million EUR	427	458	432	465	413	394	445	495	522	503	503	499	0.0%	10.4%	17.7%
Other variable costs	million EUR	633	700	614	679	591	600	606	645	671	619	607	584	-1.9%	-4.5%	-4.2%
Other non-variable costs	million EUR	470	459	461	441	410	399	361	353	371	371	385	379	3.7%	-6.0%	-18.0%
Consumption of fixed capital	million EUR	696	690	629	638	619	563	558	578	499	527	520	520	-1.4%	-13.3%	-25.2%
Lease/rental payments for quota	million EUR	45.2	52.2	54.7	64.3	64.8	73.2	83.2	106.7	97.1	101.3	97.0		-4.3%	30.6%	114.5%
Opportunity cost of capital	million EUR	42.9	181.2	128.3	95.4	66.8	71.4	70.4	54.5	37.7	-	9.7	24.3	-49.6%	-113.0%	-122.6%
Value of physical capital	million EUR	4,520	4,438	4,265	3,839	3,871	3,651	3,860	4,028	3,764	3,749	3,931	3,926	4.8%	-1.7%	-13.0%
Value of quota and other fishing rights	million EUR	1,482	2,031	1,954	2,095	2,251	1,971	2,588	3,078	3,111	3,580	3,450		-3.6%	42.9%	132.7%
Investments	million EUR	388	418	353	5	416	368	326	356	448	432	318	29	-26.4%	-9.1%	-18.1%
Gross Value Added	million EUR	2,359	2,659	2,564	2,546	2,464	2,394	2,688	2,937	3,363	3,270	3,022	2,977	-7.6%	10.9%	28.1%
Net Value Added	million EUR	1,621	1,788	1,807	1,813	1,778	1,760	2,059	2,306	2,826	2,749	2,512	2,481	-8.6%	22.5%	55.0%
Gross profit	million EUR	824	907	981	988	949	952	1,120	1,280	1,594	1,466	1,270	1,247	-13.3%	14.9%	54.2%
Net profit	million EUR	92	29	223	247	252	308	476	630	1,036	921	747	740	-18.9%	77.3%	715.6%
GVA to revenue	%	45.4	51.1	50.1	47.4	48.1	48.8	52.4	56.0	59.7	59.1	56.1	56.7	-5.1%	8.3%	23.5%
Gross profit margin	%	15.9	17.4	19.2	18.4	18.5	19.4	21.8	24.4	28.3	26.5	23.6	23.8	-11.0%	12.4%	48.6%
Net profit margin	%	1.8	0.6	4.5	4.8	5.1	6.4	9.5	12.2	18.7	17.0	14.2	14.4	-16.7%	75.8%	694.1%
Average wage per FTE	thousand EUR	25.2	29.3	28.8	27.9	26.7	27.6	29.3	30.6	31.8	33.3	33.3	34.0	0.1%	14.7%	32.3%
GVA per FTE (labour productivity)	thousand EUR	38.7	44.3	46.6	45.5	43.5	45.9	50.2	54.4	60.4	60.3	57.5	58.6	-4.6%	17.3%	48.4%

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2019

Table 2-6 Main results for the EU-28 Distant-water fleets for 2008-2018 and nowcasts for 2019

EU28 DWF		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	%Δ 2018-2017	%Δ 2018-avg2008-17	%Δ 2018-2008
Number of vessels	number	385	353	370	347	328	287	287	278	266	255	250	260	-2.0%	-20.8%	-35.1%
Total vessel tonnage	thousand GT	282.4	288.7	281.7	271.2	274.3	249.6	286.0	279.5	259.7	256.8	247.0	247.8	-3.8%	-9.5%	-12.5%
Total vessel power	thousand kW	409.8	404.0	388.4	369.6	372.8	337.6	377.4	371.9	352.2	345.7	338.9	346.6	-2.0%	-9.1%	-17.3%
Engaged crew	thousand	6.9	7.3	8.7	7.1	6.0	5.8	6.4	6.2	5.6	6.2	6.2	6.4	-0.9%	-6.7%	-10.4%
FTE national	thousand	8.2	8.8	9.7	8.2	7.2	6.4	7.2	7.5	7.1	7.3	7.4	7.6	1.1%	-4.9%	-10.3%
Days at sea	thousand	97	92	92	90	81	72	71	73	72	73	69	62	-5.4%	-15.0%	-28.4%
Fishing days	thousand	75	72	78	77	70	63	63	62	61	62	55	48	-12.1%	-19.8%	-27.4%
Energy consumption	million litre	269	373	385	354	362	374	393	474	372	372	370	385	-0.5%	-0.7%	37.8%
Live weight of landings	thousand tonnes	598	651	648	688	631	694	779	693	728	723	716	744	-1.0%	4.7%	19.8%
Value of landings	million EUR	926	908	922	1,033	1,162	1,239	1,358	1,007	1,245	1,177	996	1,393	-15.4%	-9.3%	7.6%
Gross value of landings	million EUR	626	786	928	1,049	1,045	1,074	1,194	1,043	1,049	1,092	1,023	1,381	-6.3%	3.5%	63.4%
Other income	million EUR	0	5	14	27	1	7	16	15	11	11	5	5	-58.5%	-56.8%	
Operating subsidies	million EUR	14.6	7.0	14.7	12.0	13.3	6.4	5.7	3.6	0.9	1.8	1.5		-18.7%	-81.4%	-89.9%
Income from leasing out quota	million EUR	-	-	-	-	0.0	0.9	0.7	0.8	0.4	0.6	0.7		1.8%	92.4%	
Personnel costs	million EUR	114	170	199	199	184	185	180	197	193	228	223	235	-2.0%	20.7%	96.0%
Value of unpaid labour	million EUR	0.8	1.8	0.5	1.5	1.4	0.7	0.4	0.2	0.6	0.0	2.3	2.3		191.4%	178.6%
Energy costs	million EUR	180	184	212	234	236	234	224	200	134	143	163	172	13.3%	-17.9%	-9.5%
Repair & maintenance costs	million EUR	51	76	75	87	89	89	93	92	97	91	114	118	25.4%	35.5%	124.6%
Other variable costs	million EUR	168	239	257	261	231	236	274	322	314	278	257	269	-7.6%	-0.4%	53.4%
Other non-variable costs	million EUR	52	87	82	82	95	84	97	113	97	103	107	112	3.7%	20.2%	105.9%
Consumption of fixed capital	million EUR	73	77	67	55	53	54	47	75	59	72	74	77	2.3%	16.4%	0.4%
Lease/rental payments for quota	million EUR	0.8	0.6	2.4	3.4	1.4	0.8	1.0	3.7	3.1	3.8	2.3		-37.9%	11.4%	190.7%
Opportunity cost of capital	million EUR	2.4	27.2	12.8	10.3	10.8	9.8	10.8	9.4	4.4	3.9	4.8	4.4	-21.9%	-150.9%	-300.9%
Value of physical capital	million EUR	616	605	542	509	486	414	487	535	539	496	495	512	-0.3%	-5.4%	-19.7%
Value of quota and other fishing rights	million EUR	-	-	11	-	-	9	19	10	10	60	53		-11.7%	347.9%	
Investments	million EUR	27	13	49	31	8	13	21	37	27	30	41	45	37.4%	59.4%	50.7%
Gross Value Added	million EUR	167	199	316	413	395	437	522	331	417	487	387	715	-20.6%	5.0%	131.6%
Net Value Added	million EUR	91	95	236	347	331	374	464	246	353	419	318	643	-24.1%	7.5%	248.5%
Gross profit	million EUR	52	27	116	212	210	251	341	134	223	259	161	477	-37.8%	-11.8%	208.6%
Net profit	million EUR	-	21	41	32	128	116	165	278	55	137	156	375	-61.6%	-40.4%	379.2%
GVA to revenue	%	27.1	25.3	33.5	38.4	37.8	40.5	43.1	31.3	39.3	44.2	37.6	51.6	-14.8%	4.4%	39.1%
Gross profit margin	%	8.5	3.5	12.3	19.7	20.1	23.3	28.2	12.6	21.0	23.5	15.7	34.4	-33.2%	-9.2%	85.3%
Net profit margin	%	-3.5	-5.9	3.8	13.5	13.0	17.5	26.0	5.9	15.1	16.6	7.2	31.5	-56.6%	-29.4%	306.9%
Average wage per FTE	thousand EUR	14.4	20.0	21.2	25.3	26.5	29.7	25.4	26.7	28.1	31.9	30.7	31.2	-3.7%	23.2%	113.3%
GVA per FTE (labour productivity)	thousand EUR	20.9	23.2	33.5	52.0	56.6	69.9	73.6	44.8	60.4	68.1	52.6	93.9	-22.7%	4.6%	151.3%

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values adjusted for inflation; constant prices (2015). Nowcast values for 2019

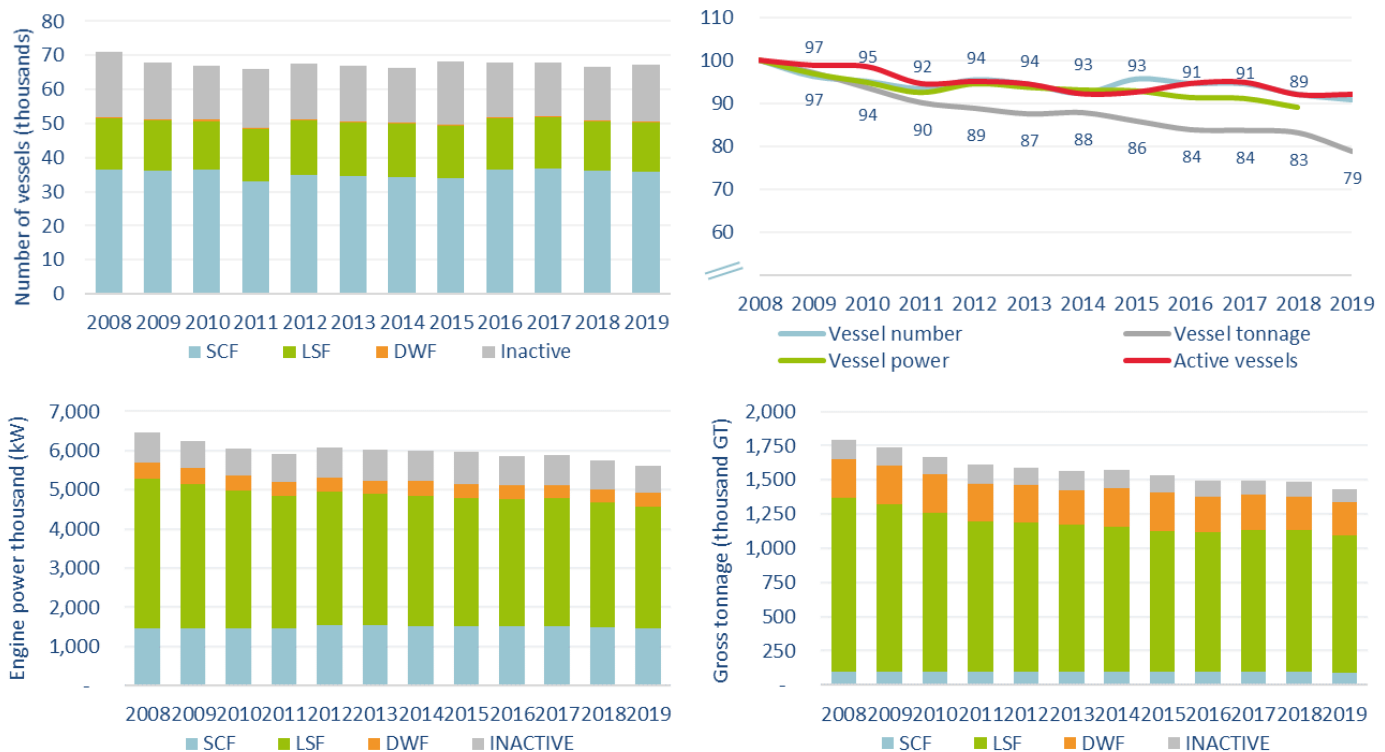
## 2.1 Overview of the EU Fishing Fleet in 2018

### Fleet Capacity and structure

The EU fleet numbered 81 199 vessels in 2018 (-2.1%), of which 63 593 were active (Figure 2.1).

EU fleet<sup>4</sup> capacity has decreased gradually over the period analysed, overall declining 5.5% in number of vessels, 16.9% in kW and 10.4% in GT compared to 2008. When including Croatia, the fleet capacity declined 5% in number, 16% in GT and 9% in kW compared to 2008 (Figure 2.1).

Greece maintained the largest fleet within the EU (by vessel number) with 17.5% of the total number of vessels, followed by Italy (15.0%) and Spain (11.3%). Belgium, with 70 vessels, 66 of which were active in 2018, operated the smallest fleet. The Spanish fleet held the largest GT (21.9% of the total) while the French fleet was superior in engine power (16.2% of the total) (see data tables in Annex 4).



**Figure 2.1 Trends and variations on capacity in number of vessels, gross tonnage and engine power (Greece excluded)**

Data source: MS data submissions under the 20120 Fleet Economic data call (MARE/A3/ACS(2020)). Trends exclude Greece for time-series consistency

### Employment and average wage

In 2018, 146 906 fishers were directly employed in the EU fishing fleet, corresponding to 105 851 FTEs. Total employed decreased by 3% and FTE by 2.8% compared to 2017 (Figure 2.2).

The decline in employment coupled with the 3% decrease in personnel costs produced a 0.6% increase in the average wage per FTE (EUR 27 531). Average wage is expected to increase further in 2019 (Figure 2.2).

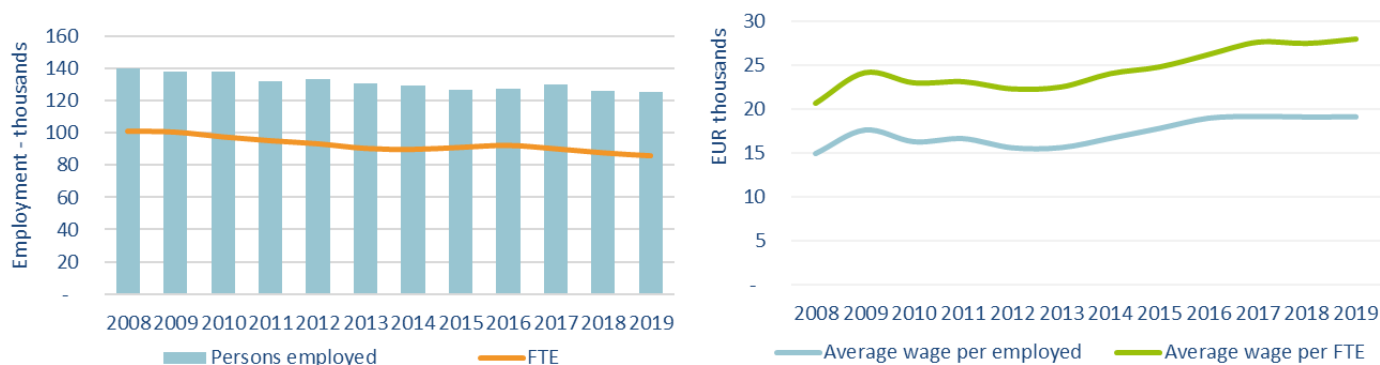
Employment has decreased over the period 2018-2008; - 10% in total employed and - 13.3% in FTE compared to 2008, while average wage per FTE increased by 33.3% (excluding Greece for consistency<sup>5</sup>) (Figure 2.2).

At EUR 121 858, Belgian fishers earned the highest annual wages on average in 2018, followed by Dutch (EUR 67 023) and French (EUR 63 023) fishers (Figure 2.3). However, since Belgium calculate their annual earnings differently than the other Member States, these numbers might not show the whole picture. Cypriot fishers received the lowest average wage (EUR 1 030), followed by Bulgarian (EUR 1 696) and Slovenian (EUR 5 040) fishers (Figure 2.3).

<sup>4</sup> Variations exclude Croatia for time-series consistency unless otherwise stated.

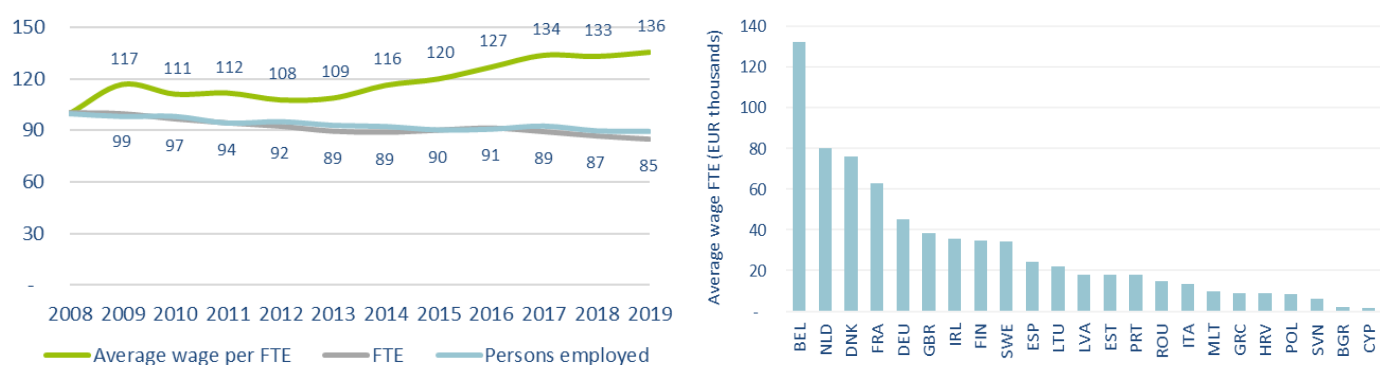
<sup>5</sup> Employment data unavailable for the years 2008 to 2012 for both Croatia and Greece.

The Spanish fleet employed 21% of the total, followed by the Italian (17.6%) and Greek (14.2%) fleets. In terms of FTEs, the Greek fleet surpasses the Italian, indicating more part-time fishers in Italy (see data tables in Annex 4).



**Figure 2.2 Trends on employment (in persons employed and FTE) and average wage per FTE**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcasts for 2019 and 2020. Trends exclude Greece for time-series consistency



**Figure 2.3 Variation in employment and average wage (based on 2008=100); average wage per FTE by MS, 2017**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcasts for 2019 and 2020. Trends exclude Greece for time-series consistency

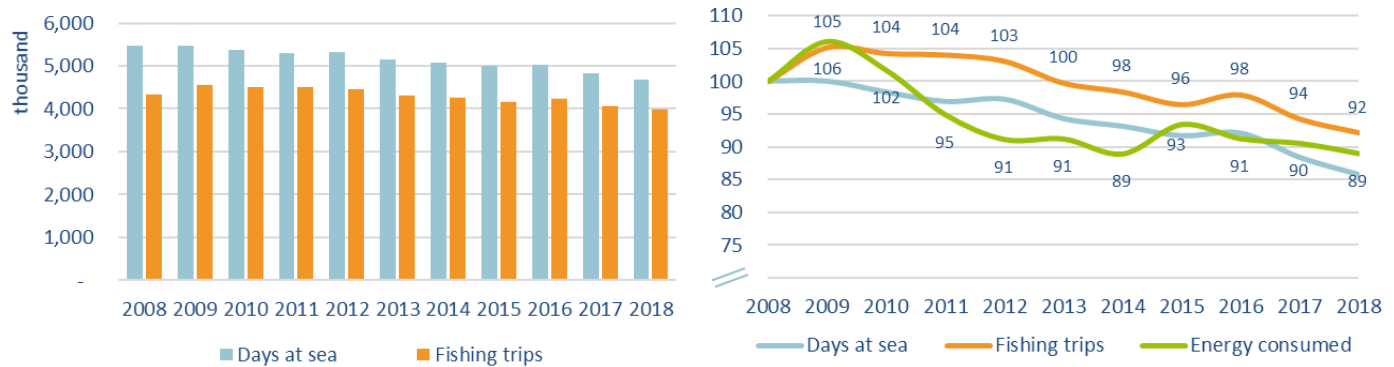
## Fishing effort and fuel consumption

In 2018, the EU fishing fleet spent 6.5 million days-at-sea and consumed almost 2.3 billion litres of fuel (Figure 2.4), that means that on average, each active vessel spent around 80 days-at-sea and consumed almost 28 325 litres of fuel in 2018. The Belgian fleet consumed on average the most fuel (571 923 litres per vessel) followed by the Lithuanian (388 616 litres) and then the Dutch (308 570 litres) fleets. Belgian vessels also spent the most days-at-sea (on average 205 days), followed by Italian vessels (124 days) and then Spanish (120 days). On average, Bulgarian vessels spent only 19 days-at-sea, followed by Maltese vessels (31 days), Romanian (42 days) and Croatian (43 days) in 2018.

Effort, in days-at-sea, deployed by EU fleets declined by 2.1% compared to 2017. Energy consumption decreased - 1.7%. For more detail, see section on energy use – fuel efficiency and intensity.

Greece reported the highest number of sea days (1.8 million or 28.1% of the total), followed by Italy (1.4 million days or 21.2% of the total) and then Spain (966 000 days). The Spanish fleet consumed the most fuel (563 million litres or 24.6% of total), followed by the Italian (359 million litres) and French (313 million litres).





**Figure 2.4 Trends and variations on fishing effort and fuel consumption (based on 2008=100)**

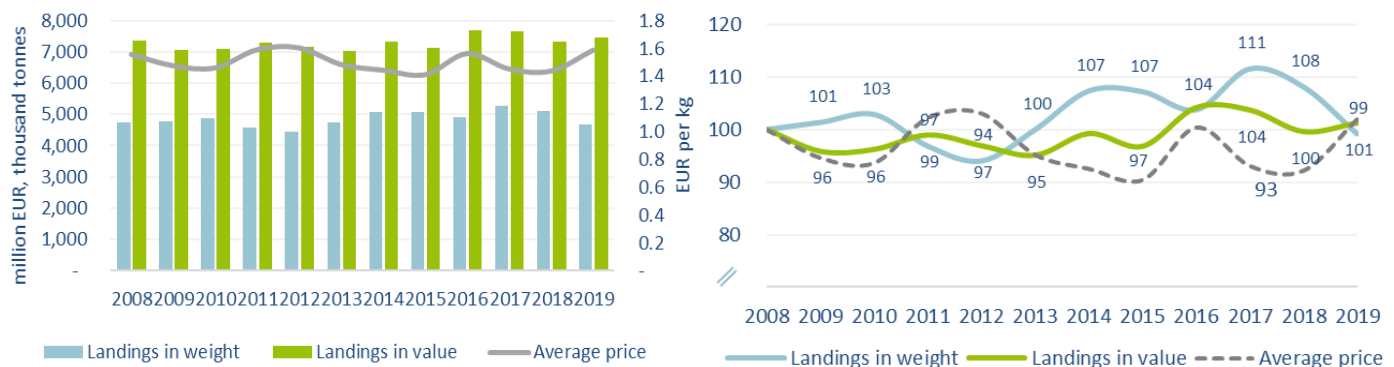
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)). Trends exclude Greece for time-series consistency

## Landings

The EU fleet landed 5.2 million tonnes of seafood in 2018, a decrease since 2017 (-3.1%). The value of landings reported were EUR 7.8 billion, a 3.9% decrease compared to 2017 (Figure 2.5).

The landed weight increased by 8.1%, however, the landed value has decreased during the same period by 0.4%. Despite changes in the landed weight and value between 2008 and 2018, the total value varied less than the total weight. This is reflected in the average fish price over the period, with some periods of increased landings associated with lower average price and vice-versa, noticeably in 2016. The average price per kilo has remained relatively stable over the entire time period analysed, oscillating between 1.4 EUR/kg and 1.6 EUR/kg (Figure 2.5).

The Spanish fleet accounted for 22.8% of the total value landed during the year (17.7% in weight), followed by France (17.2% in value, 11% in weight), the United Kingdom (13.8% by value and 13.5% in weight), Italy (12.1% in value, 3.9% in weight) and Denmark (5.8% in value, 15.2% in weight).



**Figure 2.5 Trends and variations on landings in weight and value and average landed price (based on 2008=100)**

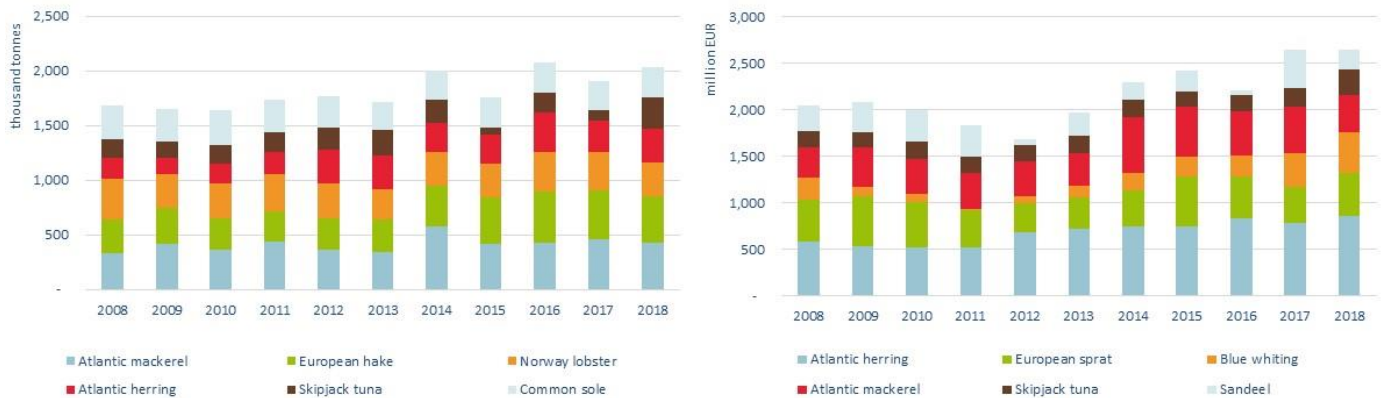
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2019. Trends exclude Greece for time-series consistency

## Top species and average landed prices

Atlantic herring, at 864 000 tonnes, continued to be the most landed species (in weight) by the EU fleet in 2018, followed by European sprat (458 000 tonnes), blue whiting and Atlantic mackerel.

Atlantic mackerel, at almost EUR 430 million, was the top species landed in value, followed by European hake, Norway lobster and Atlantic herring (Figure 2.6).



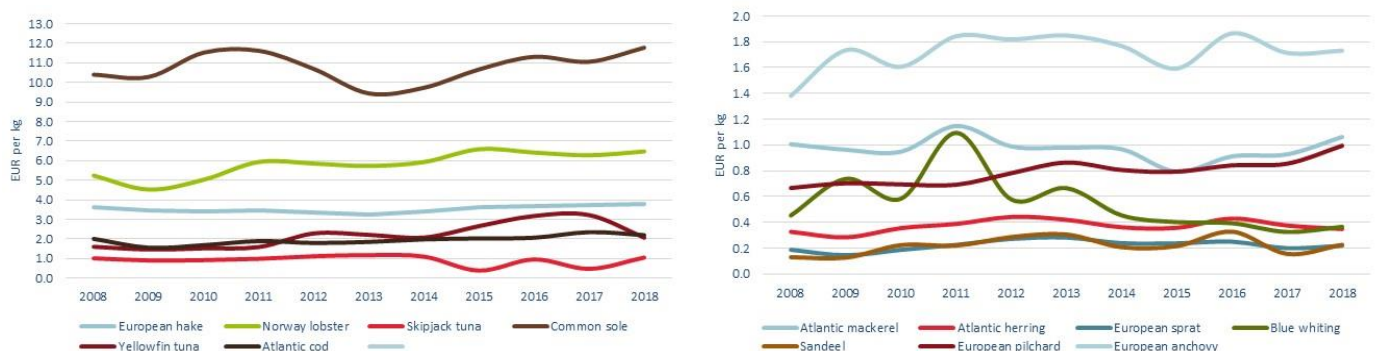


**Figure 2.6 Trends for the top six species landed in weight and in value**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

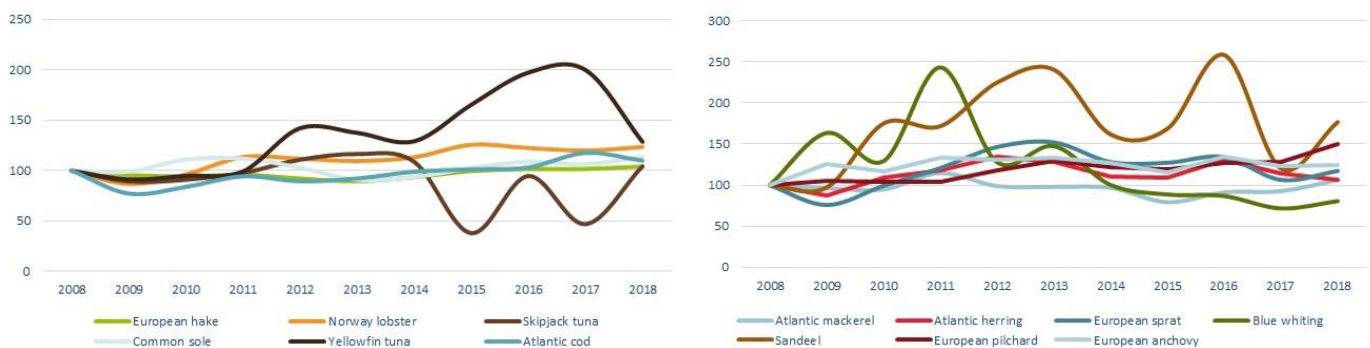
Landings of Atlantic mackerel decreased 6% in weight and 18% in value in 2018, while Atlantic herring decreased 6% in weight and increase 11% in value, compared to 2017, reflecting on the average first sale price. Both European sprat and blue whiting increased in value of 19% each since 2017, which is also a consequence of increasing average prices.

The average price of yellowfin tuna has been on the rise since 2015, but experienced a large drop in prices in 2018. Sandeel that suffered a large decrease in average price from 2016 is slowly recovering in 2018. Norway lobster are continuing to increase slowly in average prices while yellowfin tuna has in recent years faced some decrease. (Figures 2.7 and 2.8).



**Figure 2.7 Average landed price of the top species landed in weight and/or value**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 2.8 Variations in average price of the top species landed in weight and/or value (based on 2008=100)**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

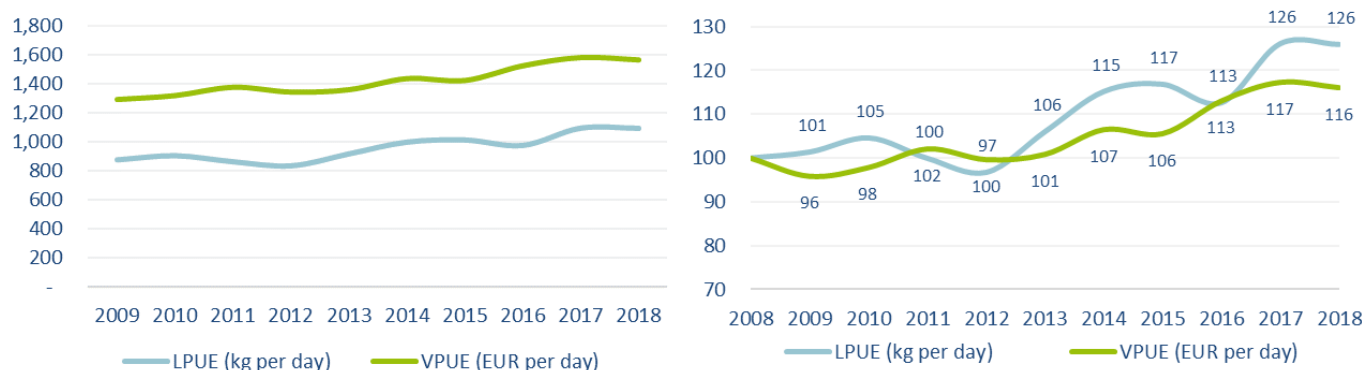
### Landings per unit of effort

Landings weight per day-at-sea and landings value per day-at-sea are used as proxies of LPUE and VPUE. Values and trends of these two proxies should be considered with caution and only as indicative as no effort standardisation has been performed and variations may be the result of many factors, such as seasonal and locational characteristics, fisher experience, fishing methods, technological advances or shifting management regimes (e.g. area closures, trip limits, effort limits, choke species, etc.).

LPUE and VPUE were estimated at 794 kg and EUR 1 191 per day-at-sea in 2018, respectively. A decrease of 0.1% and 1% compared to 2017, respectively (Figure 2.9).

The average LPUE was 16.7% and VPUE 11.8% higher in 2018 than in 2008. After a decrease in 2011 and 2012, average LPUE has followed an increasing trend (Figure 2.9).

LPUE for the SSCF was estimated at 100 kg per day in 2018. For the LSF, LPUE was estimated at 2.0 tonnes and 10 tonnes for the DWF. LPUE for the LSF and the SSCF decreased while DWF increased in 2018 compared to 2017.



**Figure 2.9 Trends and variations on landings per unit of effort (days-at-sea) by weight (LPUE) and value (VPUE) (based on 2008=100)**

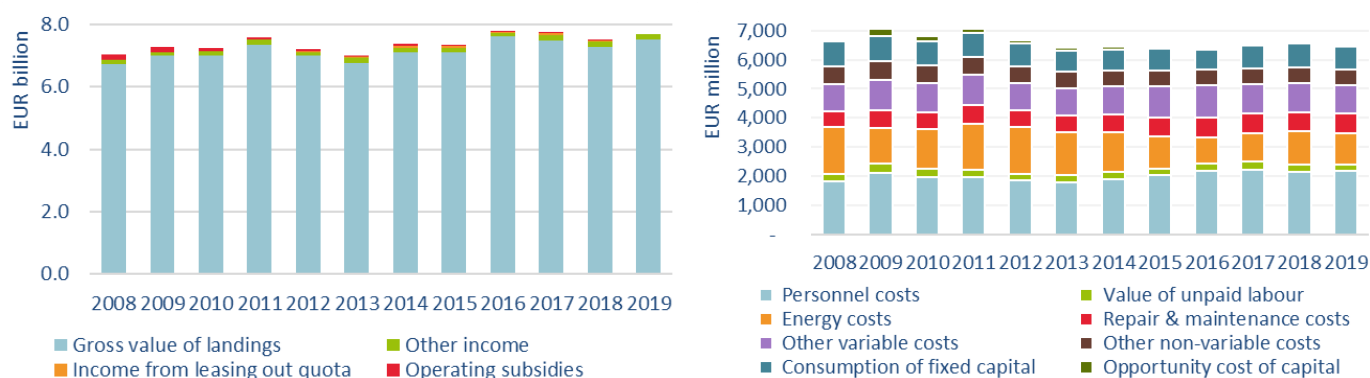
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Income and Costs

In 2018 the total revenue<sup>6</sup> generated by the EU fishing fleet was EUR 7.7 billion. Total costs amounted to EUR 6.4 billion; that is, 83% of the revenue generated (Figure 2.10).

Of the revenue generated, 98.6% was obtained from the fish sale (EUR 7 767 billion) and EUR 149 million from non-fishing income. Additionally, the fleet received EUR 49.5 million in operating subsidies and EUR 35.3 million in income from leasing out quota and other fishing rights (Figure 2.10). Of the costs incurred by the fleet in 2018, 86% consisted of operating costs<sup>7</sup> (EUR 6.1 billion) and 12% of capital costs (EUR 832 million).

The main operating costs were labour costs (37% of total costs: EUR 2.6 billion in personnel costs and EUR 353.5 million in unpaid labour), other variable costs (14.8% of total costs: EUR 1 billion) and fuel costs (EUR 1 185 million, 16.9% of total costs). Other costs linked to production amounted to almost EUR 1.3 billion: EUR 703 million in repair and maintenance and EUR 580 million in other non-variable (fixed) costs. Figure 2.11 shows costs as a percentage of revenue.

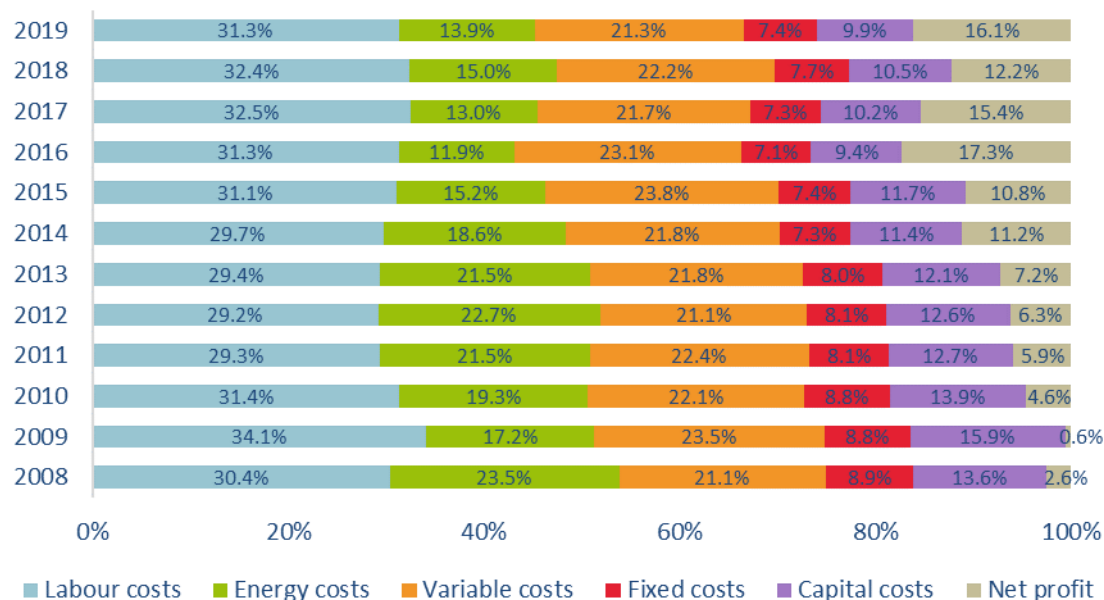


**Figure 2.10 Trends on main income and costs items**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).  
Nowcast values for 2019. Trends exclude Greece for time-series consistency

<sup>6</sup> Direct income subsidies and income from leasing out fishing rights excluded from the economic analyses.

<sup>7</sup> Total operating costs include: crew wage costs, unpaid labour, energy costs, other variable costs, repair costs, other non-variable costs



**Figure 2.11 Trends on costs as a percentage of revenue**

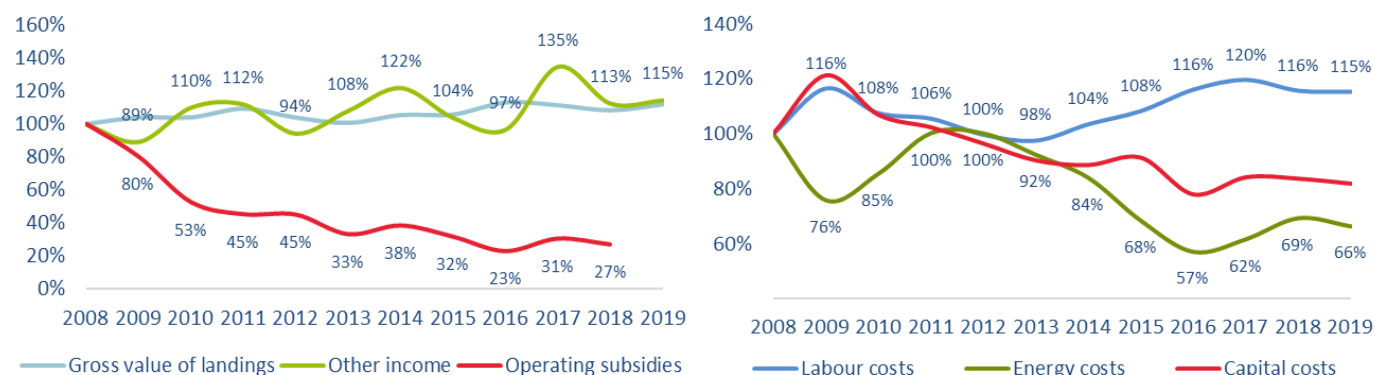
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).  
Nowcast values for 2019. Trends exclude Greece for time-series consistency

While revenue has varied little from 2008 to 2018, oscillating around EUR 7.3 billion, it has shown an overall increase over the period analysed, increasing 8.3 % when compared to 2008. Revenue decreased (-3.1%) in 2018 compared to 2017; mainly due to the 3.9 % decrease in the sale of fish. Income from leasing/renting out quota or other fishing rights have generally increased while operational subsidies have decreased (Figure 2.12).

Total costs<sup>8</sup> followed a similar but opposite trend to revenue; in general a decrease of 2.8% from 2008 to 2018. This general reduction was mainly a result of decreasing energy costs (-31.6%) and value of physical capital (-17.3%), in line with the lower fuel prices in recent years and reduction in fleet capacity during the period from 2008- to 2018. Conversely, personnel costs (+16.1%) and repair and maintenance costs (+22.8%) increased compared to 2008.

In 2018, total costs increased 0.5% compared to 2017 brought on by slight decreases in almost all cost items, with the exception of other non-variable costs (+2.8%) and energy costs (+12.4%), and consumption of fixed capital (0.3%) (Figure 2.12).

At EUR 1.8 billion, Spain generated almost a quarter of the total EU fleet revenue, followed by France (EUR 1.3 billion, 16.6%), the United Kingdom (EUR 1.1 billion, 13.8%) and Italy (EUR 950 million, 12.1%) (see data tables in the Annex 4).



**Figure 2.12 Variations on main income and costs items (based on 2008=100)**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).  
Nowcast values for 2019. Trends exclude Greece for time-series consistency

Average prices remained relatively low during 2009 and early 2010, increasing steadily throughout late 2010 and remained so until mid-2012, decreasing and then rising again in 2014. Just after a sharp

<sup>8</sup> Total costs include crew wage costs, unpaid labour, energy costs, repair costs, other variable costs, other non-variable costs, annual depreciation and opportunity cost of capital (capital costs).

decrease in 2016 and hitting a low in early 2016. Average fuel prices remained low throughout 2016 and 2017, increasing further throughout 2018 and 2019. By mid-2018, prices returned to 2015 levels.

Fluctuations in fuel prices had a significant impact on the performance of the fleet. Energy costs in 2018 (15% of revenue) are significantly lower than those recorded in 2008 and from 2011 to 2013 (around 22%) but higher than in 2017 (12.4%).

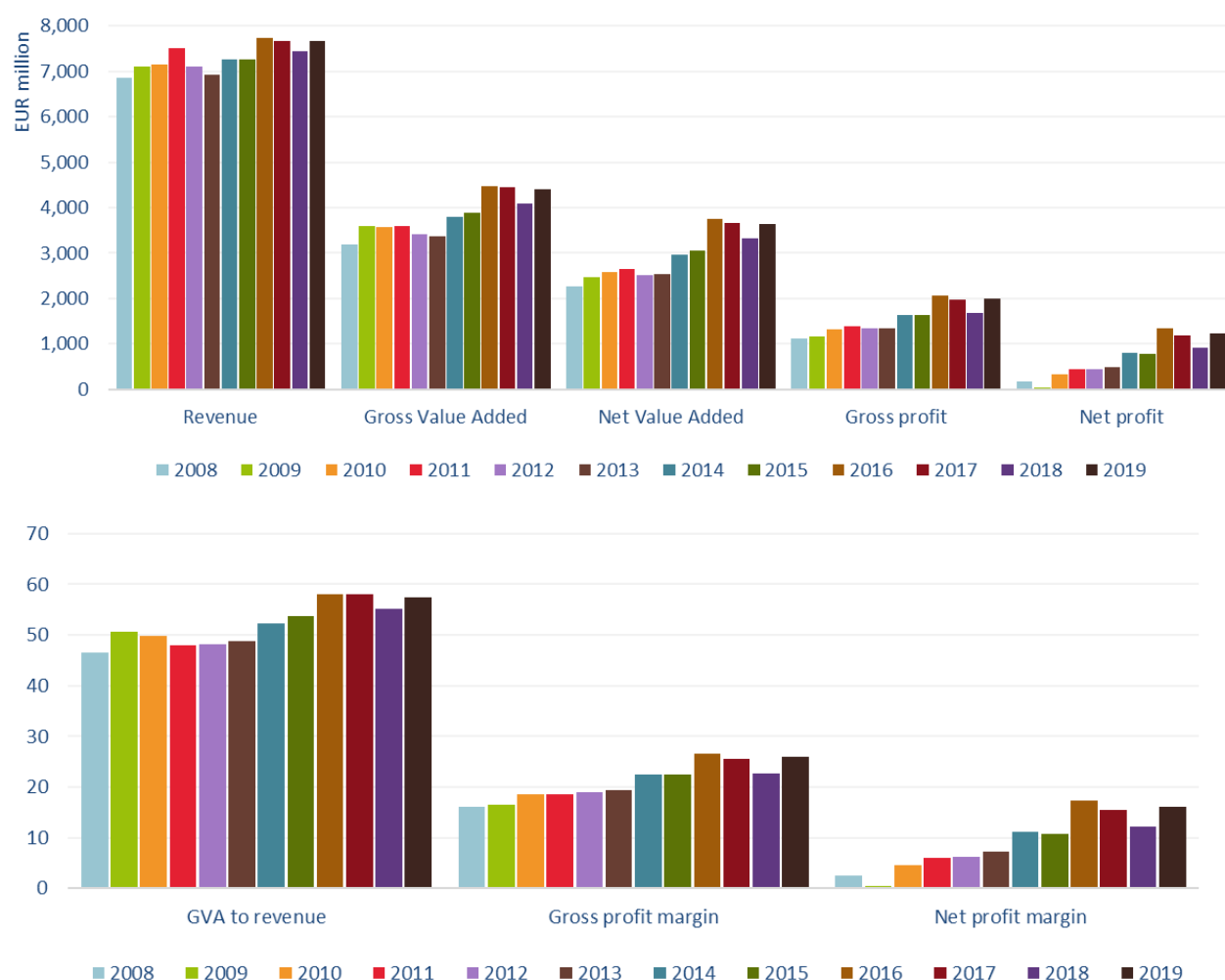
## 2.2 Economic Performance Indicators

Main performance indicators are listed by Member State and for the EU fleet as a whole in the Annex 4.

### Situation in 2018

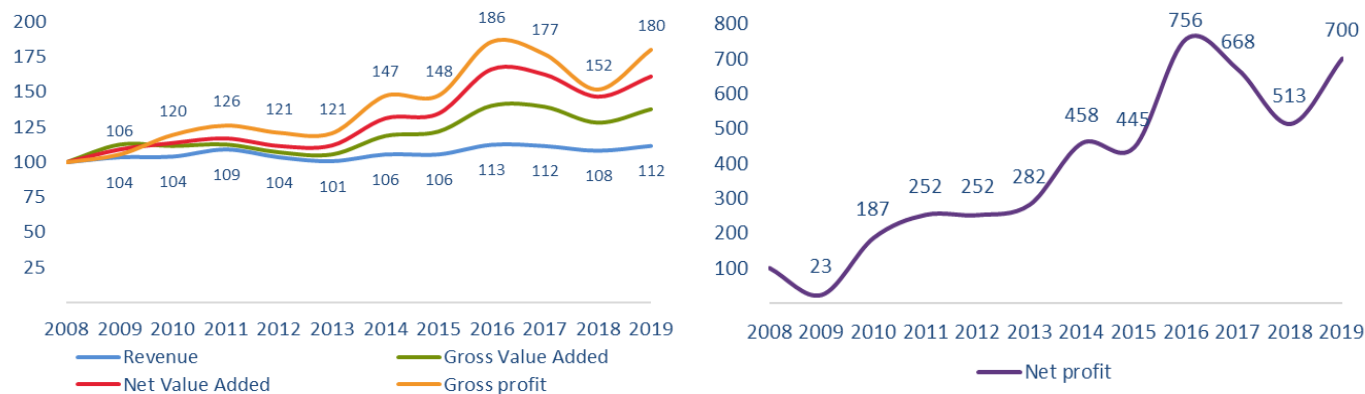
The GVA, gross profit and net profit (excluding subsidies) generated by the EU fishing fleet in 2018 was EUR 4.4 billion (-8.1% decrease compared to 2017), EUR 1.8 billion (-14.2%) and EUR 977 million (-23.2%), respectively (Figure 2.13).

In relative terms, GVA to revenue was 55.5%. 22.8% of revenue was retained as gross profit and, after deducting capital costs, 12.5% of revenue was retained as net profit. As depicted in Figures 2.13 and 2.14, results decreased somewhat compared to 2017.



**Figure 2.13 Trends on revenue and profit for the EU fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2019.



**Figure 2.14 Variations on revenue and profits for the EU fleet (based on 2008=100)**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2019. Trends exclude Greece for time-series consistency

An analysis of the 2018 economic performance by Member State revealed a mixed picture.

One Member State (Lithuania) out of the 23, suffered gross losses while four generated net losses (Germany, Finland and Malta, in addition to Lithuania).

The Spanish fleet generated by far the highest revenue (EUR 1.8 billion, - 9%), GVA (EUR 940 million, - 18%), gross profit (EUR 287 million, - 35%) and net profit (EUR 176.6 million, - 47%).

The French fleet generated almost EUR 1.3 billion (- 1%) in revenue and EUR 707 million in GVA (- 4.7%), followed by the United Kingdom fleet, with EUR 1.1 billion (-4%) in revenue and EUR 597.5 million in GVA (-9%).

In relative terms, the Slovenian fleet generated the highest level of GVA relative to revenue (81%), followed by Romania (67%), followed by Denmark (66%).

The Slovenia fleet generated the highest gross profit margin (62%), followed by Belgium (56.5%) and Romania (45.5%).

### Capital value and investments

In 2018, the EU fleet had an estimated consumption of fixed capital value of EUR 831.7 million. In-year investments amounted to EUR 439.5 million; a 15% decrease compared to 2017. The Italian fleet had the highest consumption of fixed capital value amounting to some EUR 148.6 million, followed by the United Kingdom and Spain (both at EUR 112 million) and France (EUR 105 million).

In terms of investment, the United Kingdom fleet invested EUR 84 million in 2018, followed by the Belgium (EUR 69 million) and Denmark (EUR 55 million) fleets.

## 2.3 Resource Productivity and Efficiency

### Labour and Capital Productivity

Apart from a small decline between 2011 and 2012, labour productivity of the EU fishing fleets has generally increased since 2008 (Figure 2.15).

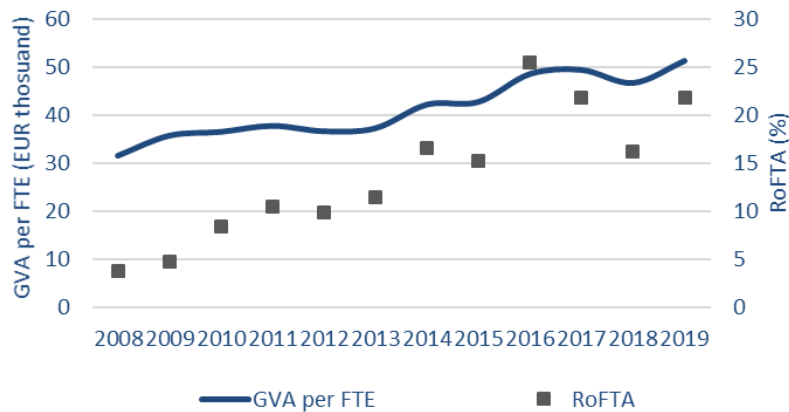
In 2018, labour productivity was estimated at EUR 41 290, 11.7% decrease compared to 2017 with the Belgian fleet reporting the highest level (EUR 188 000), followed by the Danish fleet (EUR 185 000) and the Netherlands (EUR 130 000). Capital productivity, measured as the RoFTA, was estimated at 17.1%, where Latvia having the highest followed by Greece and Spain.

### Labour and capital productivity by scale of fishing activity

Figure 2.15 shows that labour productivity in the SSCF is around EUR 25 127 per FTE, decreasing after 2009 until 2013 before rebounding in 2014 and levelling out at levels similar to 2009. Capital productivity followed a similar trend but achieved better results from 2015 and recovering during 2018.

Labour and capital productivity for the LSF and DWF show generally increasing trends over the entire period, with that of the DWF being more pronounced albeit with a significant drop in 2015, rebounding in 2016 and in 2018.





**Figure 2.15 Trends on labour (GVA per FTE) and capital productivity (RoFTA) for the EU fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).  
Nowcast values for 2019

## Energy use – fuel efficiency and intensity

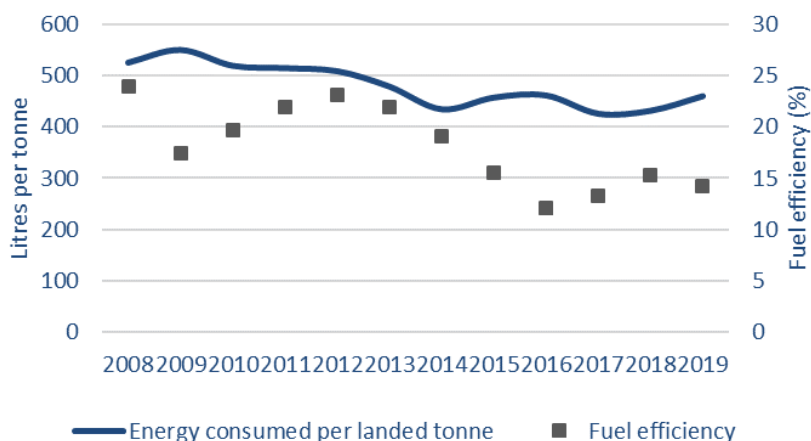
The quantity of fuel used by the EU fishing fleet is influenced by several factors, in particular the type of fishing operation and gear used. In this report fuel usage is measured as in two ways: 1) fuel intensity, i.e. the quantity of fuel consumed per quantity of fish landed (litre per tonne), and, 2) fuel efficiency, the ratio between fuel costs and revenue, expressed as a percentage (%). For the latter, the lower the percentage the more fuel-efficient the vessel (i.e. less income is used to cover fuel costs).

The EU fleet has become more fuel efficient when compared to the period from 2008 to 2015. In 2018, fuel costs as a proportion of revenue were estimated at 15%, up two percentage points compared to 2017. Improvement in fleet performance can largely be attributed to lower fuel prices. However, it is noteworthy that fuel intensity – the amount of fuel consumed per landed tonne – has declined since 2009 but stagnated from 2014 and onwards (see data tables).

With the decrease in the volume of landings and the marginal increase in fuel consumption in 2018, the amount of fuel consumed per landed tonne increased 1% compared to 2017; reaching 432 litres per tonne (Figure 2.16).

Similarly, and even though the value of landings decreased slightly in 2018 (3.9%), the reduction in effort allowed for a 4.9% increase in the landed value per day-at-sea (EUR 1 588 per day at sea).

Energy costs show a more complex pattern, reflecting significant changes in the average price of fuel over the period. On average, energy costs in 2018 were 28.5% lower than in 2008 but increased almost 15.3% compared to 2017 (see data tables).



**Figure 2.16 Trends and variations on energy consumed per day-at-sea and per landed tonne**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/ACS(2020)); All monetary values have been adjusted for inflation; constant prices (2015).  
Nowcast values for 2019

## 2.4 EU Small-Scale Coastal Fleet

### Introduction

This section provides a summary of the main findings for the EU SSCF and by main fishing region. Due to incomplete time-series, Other Fishing Regions (OFR) as well as the Greek fleet are excluded from the analysis (there are no EU small-scale vessels operating in the NAFO area).

The Greek SSCF is the largest in number of vessels (approximately 13 000 in 2018) in the Mediterranean and 14 834 FTEs; this should be taken into account when considering the analysis provided below.

### Main characteristics of Small-scale coastal vessels

- Typical multi-gear and multi-species fleet. The most commonly used gears are trammel nets and set gillnets, followed by pots, set longline and hand lines;
- Area of operation closest to landing points, usually operating within 12 miles;
- The vessels are usually owned by small families or one physical person;
- Utilize a variety of fishing gears, sometimes even on the same fishing trip;
- Represents the most significant part of the EU fleet in terms of number of vessels.
- SSCF generally improves production price to a higher degree than the LSF, and the gap between prices at first sale can be very high. These gaps may be explained by both differences in quality linked to freshness and the size grade and marketing channels.

### Key findings for 2018 and recent trends

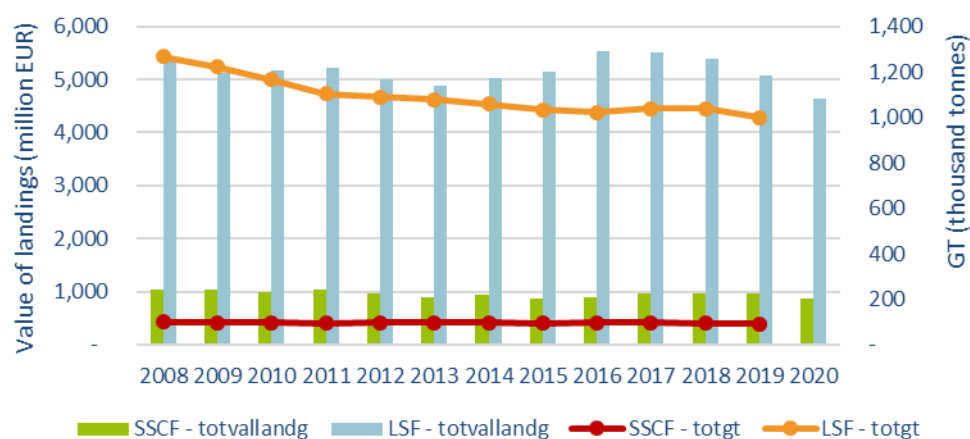
SSCF has recovered from 2013, but not as fast as the LSF. LSF vessels are becoming larger and faster, are traveling farther from their homeports. Their investment capacity is higher and they use more sophisticated (and expensive) technologies than the SSCF and catching fish in shorter periods of time.

For the EU SSCF, most of the indicators show a decline in performance from 2010 to 2013. This is particularly relevant for the Mediterranean area. From 2014 onwards, improvements are observed, surpassing 2010 results in 2016. However, a decline in performance is evident from 2016 to 2017, with a slight recovery in 2018.

### Fleet capacity and landings

The value of landings by the SSCF represented 15% of all EU landings in 2018. When Greece is excluded for comparisons among years, the share in 2018 is 13%, similar to the one of 2017. In 2019 the total value of landings by the SSCF is expected to remain stable compared to 2018.

The number of vessels of the SSCF is 71% from the EU fishing fleet, however, in terms of GTs, they represents only 8%. A declining trend, with respect to number of vessels, GT and value of landings, can be seen in both segments (Figure 2.17).



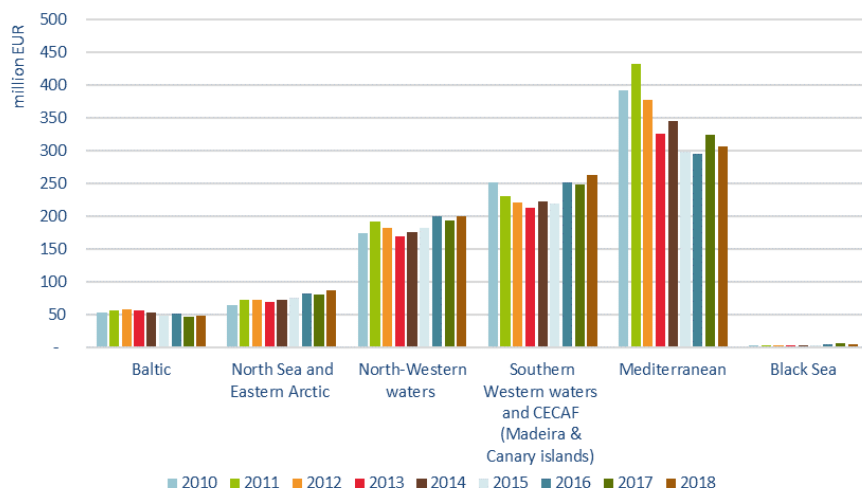
**Figure 2.17 Trends on the landings in value and vessel tonnage for the SSCF and LSF**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2019

The differences between SSCF and LSF is also driven by many other factors such as gear selectivity, operating costs, selling price, indebtedness, etc.



The Mediterranean continues to be the most significant region for the EU SSCF, followed by the SWW and CECAF. The Mediterranean generates the highest value of landings, amounting more than EUR 300 million in 2018 (Figure 2.18).

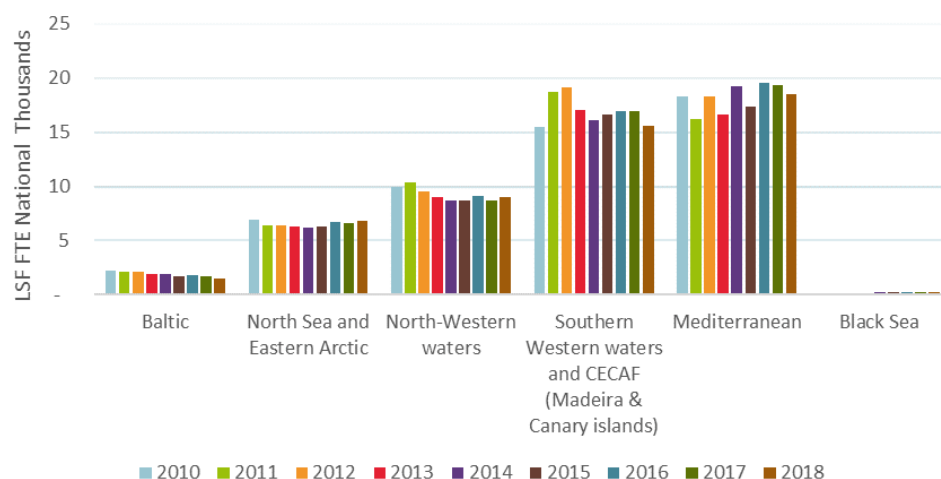
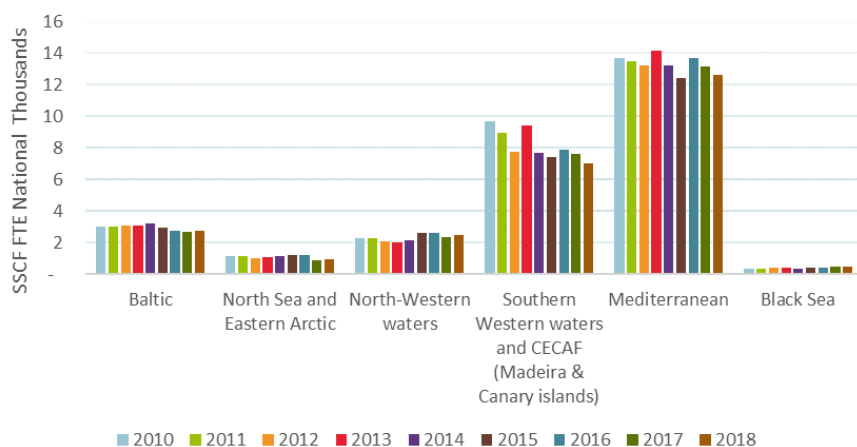


**Figure 2.18 Trends on landings in value for the SSCF by main fishing region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

## Employment

The Mediterranean generates the highest number of FTEs (Figure 2.19) followed by the SWW and CECAF. Noting that including Greece, with 14 834 FTEs, the region in fact has greater importance.

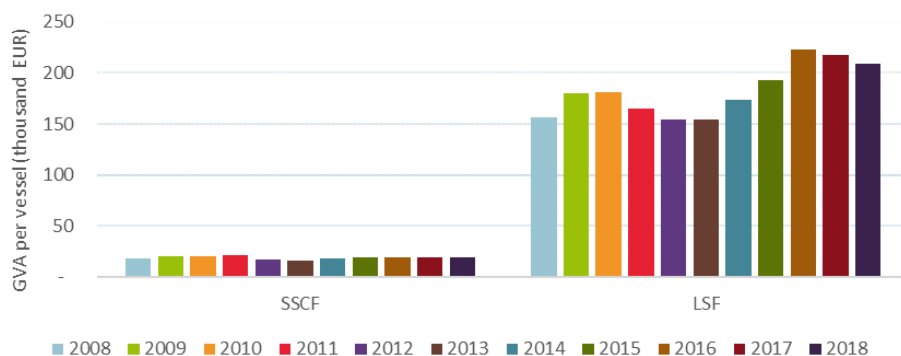


**Figure 2.19 Trends on FTE in numbers for the SSCF and LSF by main fishing region.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). Greece excluded due to incomplete time series.

## Economic performance

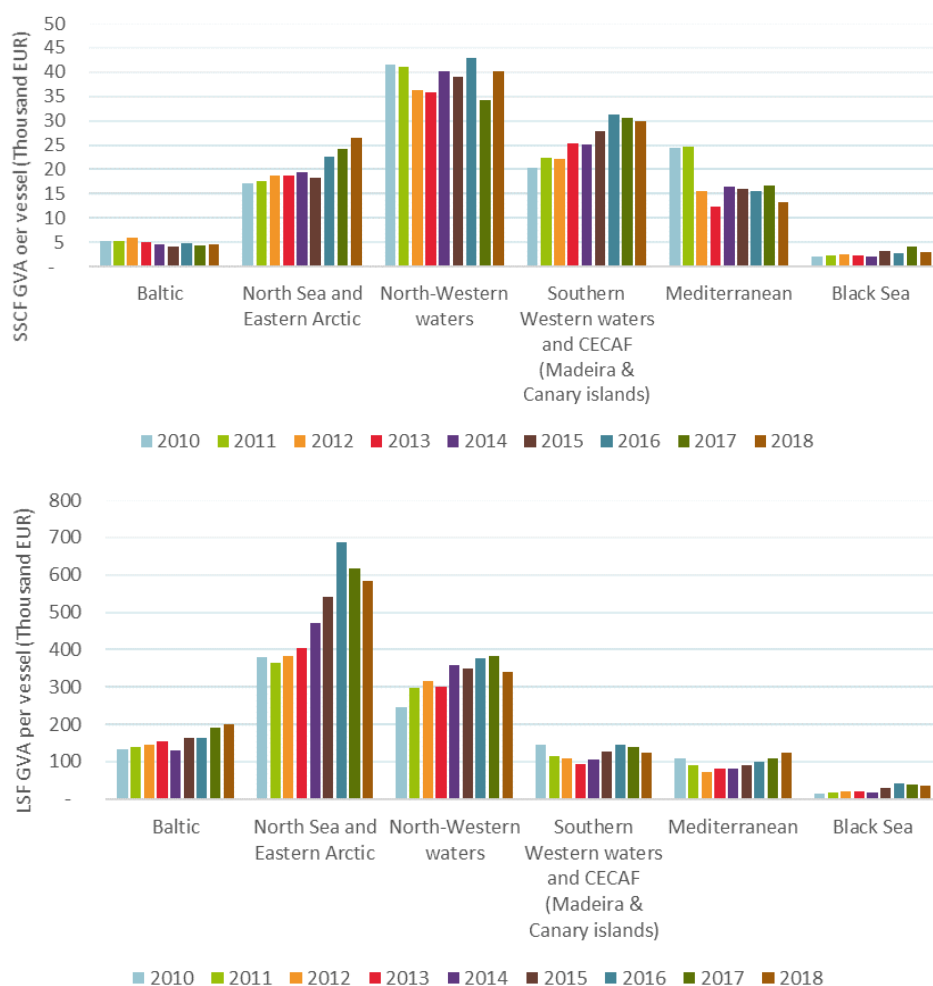
Figure 2.20 shows the difference between the SSCF and LSF in terms of the average GVA generated per vessel. The average GVA per vessel for the LSF shows a decreasing trend from 2016 onwards, while somewhat stagnated, although slight decreasing, for the SSCF.



**Figure 2.20 Trends on average GVA per vessel for the SSCF and LSF**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

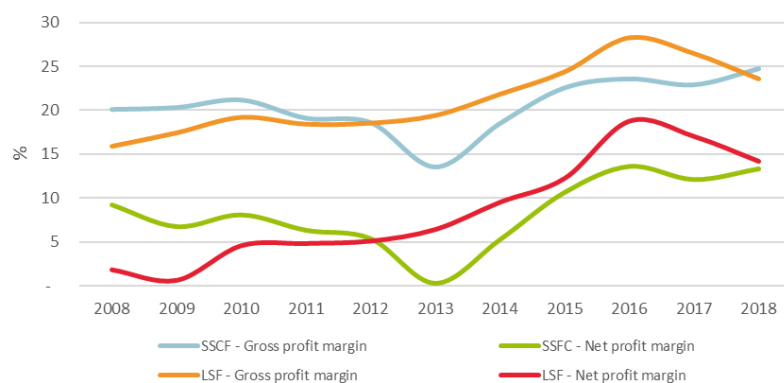
The average GVA per vessel for SSCF has generally decreased in the Baltic and Mediterranean regions while steadily increasing in the SWW region. The North Sea SSCF has also improved especially since 2015, while the Black Sea SSCF has deteriorated significantly compared to the 2015 year. The NWW SSCF, generating the highest average GVA, has oscillated around EUR 35 000 and EUR 40 000 per vessel since 2010. In comparison, trends for the LSF have generally increased in all fishing regions, albeit a slight drop in 2018 in the North Sea & Eastern Arctic region (Figure 2.21).



**Figure 2.21 Trends on average GVA per vessel for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

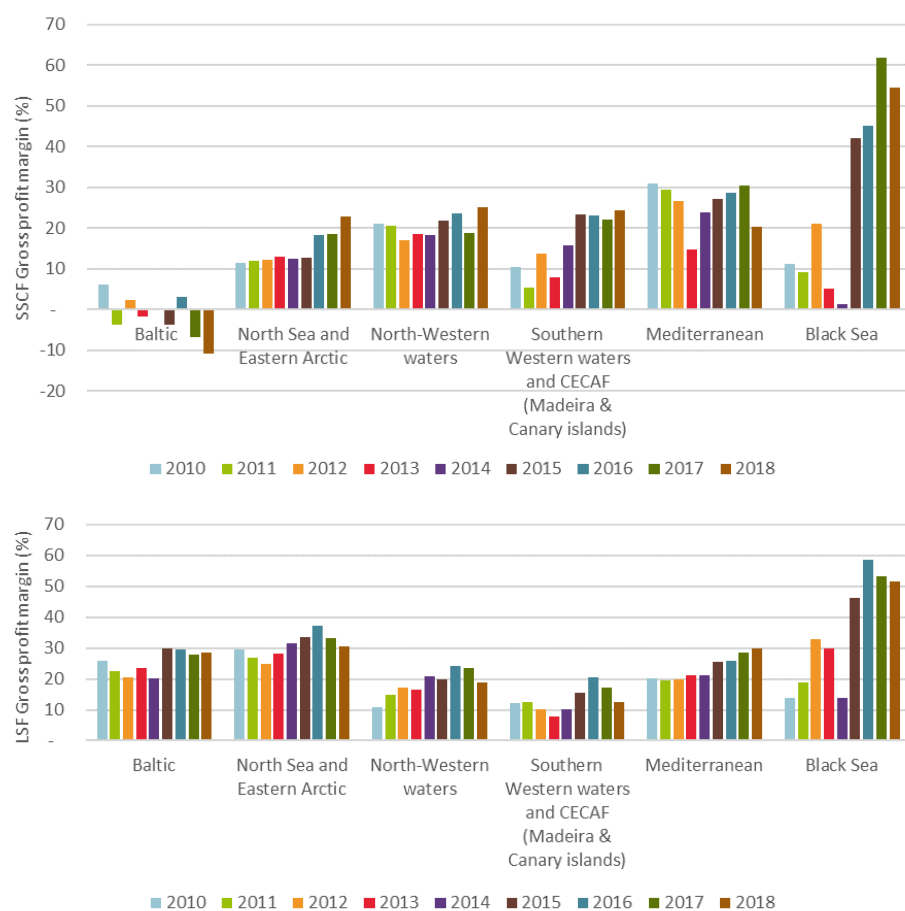
Unlike the LSF, both the gross and net profit margins for the SSCF declined significantly in 2013, probably reflecting the economic crisis experienced by the wider economy over that period. After 2013, the SSCF's these two margins increased substantially, even surpassing the 2008 and 2009 results. The LSF followed a steady upward trend since year 2009, apparently hardly being impacted by the economic crisis. Noting that the SSCF obtained higher profit margins until 2012, where the LSF surpasses and retains a better performance than SSCF until the end of the period analysed. In 2018, gross and net profit margins showed a small decline for the LSF and steady or slight increase for the SSCF (Figure 2.22).



**Figure 2.22 Trends on gross and net profit margin for the SSCF and LSF**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

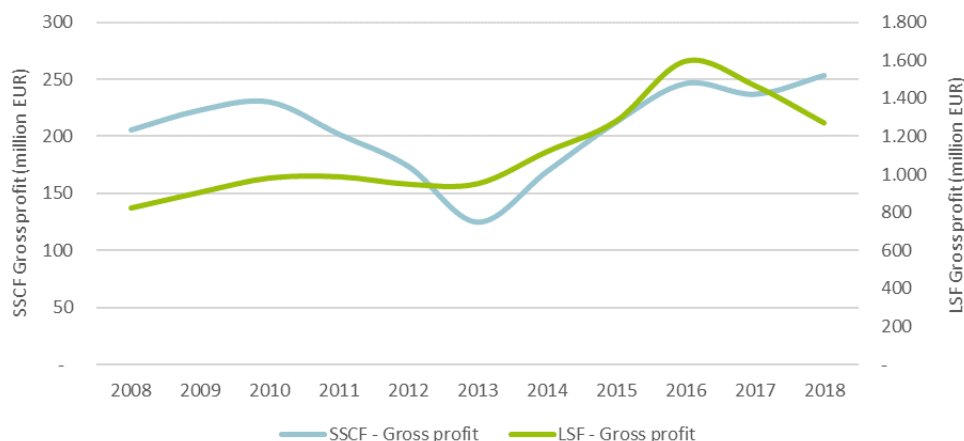
There is a large heterogeneity among regions as far as the SSCF gross profit margin is concerned. However, all fishing regions have generated positive profit margins over the period analysed, except the Baltic Sea region's fleet, which has fluctuated between losses and profits, hitting a record low in 2018. The Baltic Sea is the only region where the LSF had better performance than the SSCF along the complete time series. In 2018, the SSCF performed better than the LSF in all fishing regions, except in the Baltic Sea and Mediterranean regions (Figure 2.23).



**Figure 2.23 Trends on gross profit margin for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

The gross profit generated by LSF and SSCF followed different trends: while for LSF, performance improved until 2016 and decreased thereafter, SSCF profits decreased in 2011 and 2012, reaching a low peak in 2013, improving continuously from then until 2018 (Figure 2.24).



**Figure 2.24 Trends on gross profit for the SSCF and LSF**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

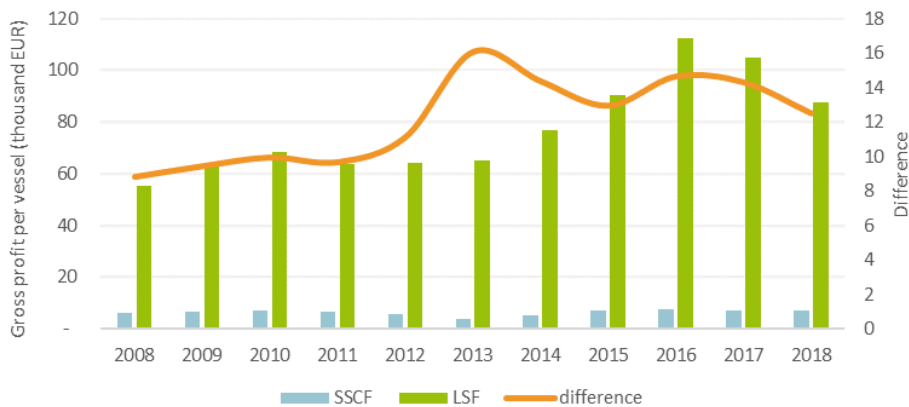
Figure 2.25 shows trends on the gross profit generated by the SSCF and LSF operating in the different EU fishing regions. Small-scale fishers in the Mediterranean, were hit the hardest by the financial crisis although other regions felt it too, albeit to a lesser degree, e.g. the NWW and SWW. However, significant improvements occur after 2013 for the SSCF especially in the Mediterranean, despite the fact that it has still not fully recovered to pre-crisis of SSCF gross profits level. The LSF appears to have been less affected by the economic crisis, apart from vessels operating in the SWW and to a lesser degree, in the NWW region. Performance of the Mediterranean LSF fleet deteriorated in 2010, remaining poor until 2014, recovering in 2015 and finally surpassing 2009 results in 2017.



**Figure 2.25 Trends on gross profit for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

Figure 2.26 shows the average gross profit per vessel for SSCF and LSF, highlighting the difference between the two regions (orange line). The most significant deviation between the SSCF and the LSF occurred in 2013, mainly due to the high value of landings observed for the LSF. The divergence between the two segments increased until 2016 due to the improvement in the performance of the LSF but, since then it has been attenuated, essentially due to the reversion in the trend of the LSF results.



**Figure 2.26 Trends on average gross profit per vessel for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

## 2.5 EU Distant-Water Fleet and Outermost Region Fleets

### EU Distant-Water Fleet (DWF)

The EU Distant-water fleet (DWF), comprises fishing vessels over 24 metres LOA flying the flag of a Member State and fishing predominately in non-EU waters. This fleet represents 0.4% of the EU active vessels and 1% of the effort (fishing days), but carries out 14% of all the landings (716 000 tonnes) of the EU in weight and 13% in value (EUR 1 023 million).

In 2018, there were 250 fishing vessels (Spain 78%, France 9% and Portugal 8%) with a capacity of 247 000 GT (17% of total) or 339 000 kW (6% of total), active in distant waters. Over the years, the number of DWF vessels has decreased (from 385 in 2008 to 250 in 2018), however, this has not impacted the level of catches and landings, which has remained the same and, some years, even increased.

It accounts for 4% of the employment (7% of the FTE) of the EU fishing fleet.

GVA was estimated at around EUR 387 million (9% of the EU total) and gross profit at around EUR 161 million (9% of the EU total). Estimated net profit was EUR 60 million (6% of the EU total). Labour productivity (GVA per FTE) was estimated at EUR 52 634. On average, the salary of FTE in the EU DWF in 2018 was EUR 30 696 per month. All productivity indicators increased significantly throughout 2008 to 2018. GVA increased by 132%, and gross and net profit by 209% and 379%, respectively. An increase in GVA to revenue, gross and net profit margins (39%, 85% and 307%, respectively) was also recorded in the period analysed.

### EU Outermost Region Fleet (OMR)

The EU Outermost Region (OMR) fleet refers to vessels based in the nine remote territories belonging to three EU Member States: six French territories - Guadeloupe, French Guiana, Martinique, Mayotte, La Reunion, and Saint-Martin; one Spanish territory - Canary Islands; and two Portuguese autonomous regions - Azores and Madeira.

Combined, the EU OMR (local) fleet numbered 2 826 active vessels in 2018 (and additional 1 349 vessels were reported as inactive in 2018). This corresponds to a decrease of 0.3% in active vessels compared to 2017. With 1 616 vessels, the French fleet was the most numerous, accounting for 57% of all active EU OMR vessels. The Portuguese fleet comprised 620 vessels (21.9%) and the Spanish fleet 590 vessels (20.9%). Martinique, with 639 active vessels, was the largest OMR fleet (by number), followed by Canary Islands (590), Azores (533), Guadeloupe (531), Reunion (196), French Guiana (120), Mayotte (114), Madeira (87) and St Martin (8).

Collectively, these vessels employed 2 660 FTE and landings in weight amounted to 30 370 tonnes valued at EUR 125.1 million (excluding Saint Martin)

Overall, the revenue generated by the OMR fleets amounted to EUR 119.6 million in 2018 (not including Mayotte, St Martin and Martinique), representing an overall decrease of 21.1% compared to 2017 (EUR 151.6 million). GVA was estimated at EUR 77.4 million in 2018, representing an overall decrease of 28.6% compared to 2017.

Overall, the OMR fleet generated a gross profit of EUR 17.6 million, a 18.2% decrease compared to 2017. Net profit was estimated at almost EUR 7.6 million (-23.3%).

GVA to revenue in 2018 was 65%, almost unchanged compared to 2017, while gross profit margin increased to 15% (from 14% in 2017) and net profit margin to 6% (up from 7% in 2017).

OMR fleets mostly supply local markets with fresh fish. The exceptions are tunas and other large pelagic species which are often processed (canned, in loins or frozen) and exported to the EU mainland. It is noteworthy that the price obtained for these species is very dependent on the international markets price while landings depend on the status of stocks.

The most important OMR by landed weight are the Canary Islands and Azores. By value the OMRs of the Azores, Canary Islands and Guadeloupe are the most relevant. In terms of number of vessels, Martinique, Guadeloupe, Canarias and Azores comprise each around 20% of the OMR fleet; while in terms the fishing effort, Guadeloupian, Canarias and Azorean fleets dominate.

## 2.6 Main drivers and trends affecting the economic performance of the EU fleet

### Summary of main trends on economic performance

After eight consecutive years of continued growth, the economic performance of the EU fishing fleet waned in 2017 and further in 2018, with net profit decreasing by 23% compared to 2017. However, it was still 50% higher than the average of the 2008 to 2017 period.

The record high results observed in 2016 were nonetheless broadly maintained in 2017. However, in 2018 profitability decreased in almost one fourth with a forecasted recovery in 2019 to levels above those obtained in 2017.

Results vary by Member State, fishing activity and region. All but one (Lithuania) of the 23 Member States fleets analysed recorded gross profits in 2018. The EU fleet as a whole generated a gross profit of EUR 1.685 billion, a 14.2% decrease on the 2017 position. Net profit continued to elude three Member States fleets but overall, the EU fleet made a net profit of EUR 906 million, 23.2% less than in 2017.

Compared to 2017, the fleet spent less days-at-sea (-3%), fished almost the same (-0.7% fishing days) and consumed less fuel overall (-1.7%). Overall, lower landing seafood in weight (-3.1%) and at a value (-3.9%) than in 2017, occurred in 2018.

GVA decreased compared to 2017 (EUR 4.1 billion); with a 2.8% reduction in FTE, and the average wages per FTE also decreased -0.5% compared to 2017.

For the SSCF, the performance results in 2018 show some contraction compared to 2017 only according to GVA - 1.5%, while gross profit 6.9% and net profit 7.6% showed improvements.

The results observed for the EU LSF fleet in terms of performance are lower in 2018 than in 2017. The contraction is visible according GVA - 7.6%, gross profit - 13.3% and net profit - 18.9%.

In 2018 the EU DWF performed worse from the economic performance point than in 2017. Decreases in, GVA - 20.6%, gross profit - 37.8% and net profit - 61.6% were observed, compatible with the reduction of fishing days - 12.1%, value of landings - 15.4% and other income - 58.5%.

Common to all segments of the fleet, and what may have mitigated to some extent the increased depreciation costs in 2018, was the fall in opportunity cost of capital (overall negative values for the LSF and DWF), impacting net profits.

With a fleet as diverse as the EU fishing fleet, operating in fishing areas across the globe, it is difficult to pin-point the underlying drivers of economic performance. In fact, different factors will have varying levels of impact on different fleets. However, several factors stand out, some more sector-specific than others, as the main driving forces behind the unprofitability in 2018, such as the rising trend in fuel prices, and decreased landed quantities and average prices for some important fish stocks.

### Summary of main drivers affecting economic performance

More specifically, factors that may cause to deteriorated economic performance, include, but are not limited to the following (in no specific order) by main fishing region:

#### North Sea and Eastern Arctic

##### Factors that may have contributed to an improved situation include:

- Recovery of certain stocks, e.g. European plaice, Atlantic herring, haddock, saithe stocks have all reached biomass levels that are capable of delivering MSY. However, CPUE of sole and plaice have dropped. Concerning the sole stock, the estimate turned out to be too high, while it is believed that plaice stocks actually are on a high level, but that a large part of them has moved to more northern fishing grounds.
- Increase in the TACs over time for a number of species such as Atlantic herring, haddock, Atlantic cod and Norway lobster.
- Relatively high average prices for some of the main species, such as Atlantic cod, common shrimp and European plaice.
- More vertical integration is being observed leading to shifts in ownership.

##### Factors that may drive/hamper economic performance in the future include:



- Fuel prices increased.
- Average prices for Atlantic herring and Atlantic mackerel decreased slightly.
- Reduced TACs and quotas in 2018 for stocks such as mackerel and European sprat.
- Especially for the Dutch fleet the ban on pulse fishing technique will raise fuel costs and decrease net profits when enterprises have to switch to the more traditional beam trawl or twinrig fishing technique.

## Baltic Sea

### **The major factors that may have contributed to the positive situation:**

- From 2017, the average price of cod recovered.
- The compensations from EMFF fund has been provided to the owners of the fishing vessels for the temporary cessation of fishing activities due to the protection of cod stock. Such compensations could provide significant support to the fishing companies in the short-term.
- The EMFF has provided measures to improve profitability including increased added value (for the SSCF) and utilisation of by-catch arising from the landing obligations (for the LSF). Measures are already applicable in some Member States fishing in the Baltic region.
- Policy management instruments, specifically quota allocation (introduced in some countries) may have significantly helped to improve the economic performance of certain fleets.
- While aging vessels, obsolete equipment and insufficient investment all lead to increased maintenance costs and reduce the profitability of the fleet, the EMFF does provide the possibility of engine replacement if the fishing capacity is proven to be in balance with exploitation. Some Member States have already introduced such schemes.

### **Factors that may drive/hamper economic performance in the future include:**

- Based on ICES advice the stock decrease implemented in 2020 for herring which is a main target species for the Baltic region (53% in 2018) and the forecasted stock decrease in 2021 is going to have a considerably negative effect on the Baltic Sea fleet profitability and could cause further reduction of the fishing fleet in all countries operating in the Baltic region.
- The negative impact is observed from decline of the cod stocks in the Baltic Sea. Due to the critical condition of cod stocks in the Eastern and Western part of the Baltic Sea, the commercial cod fishing was significantly reduced in 2019 and direct fisheries on cod were not permitted in 2020, except for small-scale fisheries on the Western stock. The cod catches are allowed only as an unavoidable by-catch to the other species. The cod limits for such cases are critically low and in a situation where the cod limit is exceeded, all fishing should be stopped. In some Member States, that can threaten the biggest part of the fleet and the negatively affect fishery sector in the country. ICES expect that the cod stock most probably to remain in a dire condition in middle-term.
- Energy costs continue to be one of the main expenditure items for the LSF, especially trawlers. The increase in fuel price observed in 2019 substantially increased operational costs of vessels. However, the lock down during April-May in 2020 was the reason that the fuel price has dropped in the first half of the year which can slightly improve the situation in the fishery sector in 2020.
- Some management measures are planned for the large-scale fishing vessels targeting cod and operating with DTS, DFN, HOK fishing gears as well as coastal fishing vessels operating with gears PGP or PG. Temporary seasonal bans on fishing are planned for these vessels, change of fishing gear or re-arranging from cod fishery to other species (such as flounder and round goby) can help on this.
- In 2019, a decrease was observed of the average price for sprat which is a commercially important species.
- Fishing performance, especially in the SSCF, is very weather dependent. Even with favourable economic conditions, it can be a limiting factor for fleet performance, especially for seasonal fisheries.

- Based on ICES advice in 2019, the stock for the sprat, which is a commercially important species, is exploited at MSY level and harvested sustainably as well as Baltic herring stock in the Gulf of Riga.

## North Western Waters

### **Factors that may have contributed to the positive economic performance in the region include:**

- Recovery of some stocks, e.g. the biomass of most herring stocks have increased and the northern hake stock followed a positive trend.
- Increased TACs for a number of stocks, e.g. anglerfish and haddock.
- Stable fish prices generally and higher average prices for some important species e.g. common sole and Nephrops.

### **Factors that may have hampered economic performance in the region include:**

- Energy costs and usage increased even though overall days at sea decreased by 3%, in 2018.
- Average wage for both SSCF and LSF decreased by 5.7% and 8%, respectively.
- TAC reductions for mackerel.

### **Factors that may drive/hamper economic performance in the future include:**

- Whilst the consequences of Brexit are unknown, it is expected that it could have a large impact on fleets operating in the region. The United Kingdom holds a significant portion of the landings. Furthermore, there is a high dependency on United Kingdom waters for a number of Member States: Ireland, France, Spain, Belgium, the Netherlands and Germany.

## South Western Waters

### **Factors that may have contributed to the positive economic performance in the region include:**

- Stable TAC levels of key species in the region e.g. European anchovy.

### **Factors that may have hampered economic performance in the region include:**

- Decreased TACs for a number of stocks, e.g. mackerel, hake blue whiting.
- Low average prices for European anchovy and chub mackerel.
- Increase in fuel prices resulting in high energy costs, especially for pelagic fisheries.

## Mediterranean Sea

### **Factors that may have contributed to the positive economic performance in the region include:**

- High average price for some key species: in the last years commercial strategies have been implemented aiming at improving traceability and quality of local seafood. In addition, the SSCF sold at higher prices compared to the LSF thanks to shorter fish supply chain, direct sales to end consumers and to restaurants. Changes in sales channel and improvement in the direct sales.
- Increase of the EU quota for bluefin tuna: this impacted positively the profitability of purse seiners and vessels using longlines involved in tuna fisheries (increase of more than 24% in value of bluefin tuna landings in 2018).
- Annual wages and salaries increased in LSF; the improvement can be linked to the positive trend in revenues as, in most countries, labour costs are directly related to revenues and variable costs as the traditional based income sharing system between the ship-owner and the crew is the most prevalent.

### **Factors that may have hampered economic performance in the region include:**

- Stock status: the overall level of overfishing generally remains too high; in addition, the marine resources and ecosystems of this region have come under increasing pressure, driven by diversification and intensification of marine and maritime activities. Energy efficiency is not improved in the region; this is due to a low level of investment in new fishing gear and equipment with lower environmental impact. The small-scale vessels do not have sufficient financial resources for new

investments, and the larger vessels have limited access to credit. Moderate increase in fuel prices resulting in slightly higher energy costs, especially for pelagic fisheries and trawlers.

**Factors that may drive/hamper economic performance in the future include**

- Lack of crew recruitment due to the fact that jobs on board fishing vessels are not particularly attractive for younger people due to the low wages and relatively poor working conditions.
- New management measures, in particular, the restrictions of the fishing effort introduced with the West Med MAP and spatial closures: fishers are concerned that these measures will have a negative impact on their profits in the future.

## Black Sea

After the visible improvement of the fleet's economic performance between 2015 and 2017 with an increase in both gross and net profits, there was a small decrease in 2018 where the level of economic profitability was close to 2017.

**Factors that may have contributed to the positive economic performance in the region include:**

- An increase in the turbot quota for both Bulgaria and Romania in 2018 and 2019 together with fixed quotas for third countries fishing in the Black Sea.
- The stable average prices for some of the species with significant landings and maintaining the average prices for the other species.
- The sea snails stock in GSA 29 is fished below FMSY, which means that fishing vessels and processing plants utilising this species will continue to provide employment in the region.
- Keeping the trend with lower fuel costs at the regional level is directly connected with the energy costs, which remain the major part of the expenses.

**Factors that may have hampered the fleet performance in the region:**

- The weather conditions in the Black Sea, including strong winds and large temperature differences between winter and summer, significantly affect fishing activities by the SSCF, which led to a reduction of the days at sea, landed fish and value, and of course – a negative impact of the total employment.
- The LSF of both countries consists mainly of vessels with trawls and vessels with polyvalent active and passive gears. As trawling is fuel-intensive, the current trend of increase in the days-at-sea is leading to the relevant increase in energy costs.

**Other factors that affected fleet performance in the region include:**

- The Black Sea fishery is highly dependent on very few species. In terms of landing weight and value, the sea snail is the most profitable species and according to the most recent available stock assessment from 2017, its stock in the Black sea is fished below FMSY. Sprat, which is the second most important fishery in economic terms, is evaluated as sustainably exploited.
- The GFCM has established a set of emergency measures for stocks in the Black Sea region to align the implementation of management measures by all countries operating in the region.

## EU long distant and OMR fleets

**Factors that may have contributed to the positive economic performance in the region include:**

- Yellowfin tuna and skipjack are the two main fisheries in the IOTC area, both in terms of volume and value of landings. It has been noted a considerable increase in particular of catches of skipjack, representing over 60% of the total.
- The stability of fuel costs and market prices have contributed to the overall gross profit and positive economic performance of the EU fleet targeting the tropical tuna species, mainly purse seiners.
- It is observed a continuous increase from the Spanish purse seiners in their catch data while the French purse seiners present a more stable pattern. The degree of dependency of the Spanish purse seine fleet reached a peak level in 2018 of above 70% of the share of value in landings. This might

be partially linked to a displacement of effort or change of fishing strategy with less presence and activity in ICCAT due to combination of technical measures and FAD closure seasonal area to reduce catches of bigeye and yellowfin tunas in this area.

- The IOTC agreed to the mandatory use of non-entangling FADs from 1 January 2020 and use of biodegradable FADs from 1 January 2022. In addition, the IOTC further reduced the limit on active FADs to 300 for 2020 (down from 500 in 2015 and 350 in 2017) and the number acquired annually per purse seiner to 500 (down from 700). The non-entangling FADs should not have a great economic impact in the fishing activity of French and Spanish purse seiners as they have them already installed and internalized in their operating costs. However, the limitation of FADs per vessels could bring a considerable reduction of catch landings in weight and increase the number of days at sea.

**Factors that may have hampered economic performance in the region include:**

- Yellowfin tuna's quota in Indian Ocean, implemented since 2017, had an impact on purse seine fishing activity. The EU adopted catch limits assigned to purse seine fleet from Italy and France and Spain, following lower quota adopted by IOTC. The implementation of the catch limits by each Member States imposed more stringent management to reduce in average 17% of the catch average from the period from 2014 to 2016. It also imposed enhanced reporting and control obligations coupled with a reduction in the ratio of 1 supply vessels for 2 purse seiners.
- The measures adopted in 2018 to reduce 15% average catch of yellowfin tuna have been reflected in the DCF data with a proportional decrease in landings of 8 000 tonnes for the EU purse seiner fleet, with a corresponding sudden increase in skipjack which is now caught in higher quantities while having a lower market value.
- The reduced purse seiner activity in the IOTC area is having serious socio-economic consequences not only for the EU fleet, but also for the economies and livelihoods of some coastal countries in the Indian Ocean where these companies have investments and work with supply chains. Some of the detrimental effects are reduced access fees, lack of raw material at canning factories, and economic loss due to a drop of services and economic activity in several coastal countries.
- In terms of economic performance, it must be noted that some Spanish and French operators are the beneficial owners of purse seine vessels flagged in third countries such as Seychelles which are IOTC coastal states and have their own quota. Although this fleet is not part of the analysis under the EU-MAP, it may have an implication in terms of calculation of cost structure and economic returns for those companies acting as holding. This is due to integration of their economic activities, as European investments, with financial transfers from third countries to the parent company.
- Capacity, effort, and landings in weight in the NAFO area have decreased considerably since 2013 onwards. This seems to be a stable trend linked to the current fishing strategies and business plans of the concerned fleets, as they usually consider this fishing ground as complementary to the North-East Atlantic, particularly for trawlers targeting cod and redfish. This could also explain partially the reduction in days at sea in the area.
- All the EU fleets in the NAFO area presented a good economic performance in the course of the last four years (from 2014 to 2017) due to a high value in the key commercial species landed and relatively low fuel costs and energy efficiency. However, in 2018 they showed the lowest value of landings.
- In the NAFO area the gross profit margin on average returned by the fleets is worse than the one obtained in 2018, although it continues being quite high, this reflects the stability of fixed costs. The average net profit margin shows also an overall reduction of fixed and variable costs with more efficiency in the cost structure.
- There are some specific concerns about the decline in employment in the NAFO area (in number of FTE), although this might be linked to the modernisation of boats and mechanisation of processing activities at sea, together with a rotation system of the employed full-time staff on several fishing trips. For example, in 2018, FTE increased in Spain by 32%, as the number of vessels increased by 25% compared to 2017.

- In the NAFO area the annual wages have increased since 2014 for the case of Portugal, Spain, and the United Kingdom. Germany remained stable at high levels.
- The increase in fuel prices and the lower average market prices have contributed negatively to the overall performance of the fleet operating in the NAFO area.
- The witch flounder 3NO stock reopened in 2015, following many years with no directed fishery.
- The new Management Strategy Evaluation for Greenland halibut, adopted at the NAFO Annual Meeting in September 2017, was implemented in 2018 with a TAC of 17 500 tonnes.
- OMR fleets mostly supply local markets with fresh fish. The exceptions are tunas and other large pelagics that are often processed (canned, converted in loins or frozen) and exported to the EU mainland and other countries. It is noteworthy that the price obtained for these species is very dependent on the international market price while landings depend on the status of stocks.
- The economic performance of most OMR fleets has improved (even if these vessels do not seem very dependent on fuel prices and recorded relatively low fuel consumption).

## 2.7 Assessment for 2019 and outlook for 2020 and beyond

### Nowcasts for 2019 and 2020

The nowcast results for 2019 and 2020 for the main analyses are provided throughout each of the chapters (also in Table 2.7 and the Annex data tables). This section summarises the estimates on the performance of the EU-27 fleet in 2019 and 2020, based on preliminary data. See Annex 2 for the methodology used:

- Preliminary results forecast a 7% drop in landed weight in 2019 compared to 2018, but accompanied by an 2% increase in value, reflecting higher average prices.
- Nowcasts suggest that in 2019 there is slight decrease in all costs items (only personnel costs slightly increase by 0.1%) compared to 2018. There is a clear improvement in performance results in 2019 in terms of GVA (+9%), gross profit (+22%) and in net profit (+43%); the latter driven by the low interest rates affecting the opportunity costs of capital.
- In regards to the previous year's results, projections indicate that the EU fleet still continued to operate at stable profit margins in 2019.
- In relative terms, projected results show a GVA to revenue of 58% in 2019 (slightly up from 56% in 2018), gross profit margin at 26% (up from 22%) and a net margin at 16% (up from 12%).
- Nowcast results for 2020 indicate a decrease of 17% in landed value in 2020 compared to 2019; and 15% less than in 2018.
- Nowcast results for 2020 indicate a decrease of 18% in FTE in 2020 compared to 2019; and 19% less than in 2018.
- In 2020, a 16% decrease in revenue compared to 2019, is accompanied by a decrease in fuel costs (-17%) and labour costs (-15%). The EU fleet as a whole is expected to reduce severely the profitability in gross (-17%) and net terms (-29%), although with still healthy margins in both.
- By Member States, projected results for 2019 and 2020 indicate that all the national fleets generated gross profits.
- Lithuania, at a gross loss in 2018, is projected to move to a positive position in 2019 in both, gross and net profits and in gross profits in 2020.
- With the exception of Finland, Germany, Cyprus and Malta, all Member States fleets are projected to generate net profits in 2019 and Lithuania as well in 2020.
- Generally, the performance of most Member States fleets improved in 2019, although deteriorated in 2020. Some exceptions are:
  - Germany, France, Denmark and the Netherlands deteriorated in 2019.
  - Croatia is expected to improve in 2020 compared to 2019.

**Table 2-7 Main results for the EU-27 by Member State fleet for 2018 and nowcasts for 2019 and 2020**

	Gross Value Added (EUR million)			% diff 2019- 2018	% diff 2020- 2019	Gross profit (EUR million)			% diff 2019- 2018	% diff 2020- 2019	Net profit (EUR million)			% diff 2019- 2018	% diff 2020- 2019	GVA to revenue (%)			% diff 2019- 2018	% diff 2020- 2019	Gross profit margin (%)			% diff 2019- 2018	% diff 2020- 2019	Net profit margin (%)			% diff 2019- 2018	% diff 2020- 2019
	2018	2019	2020			2018	2019	2020			2018	2019	2020			2018	2019	2020			2018	2019	2020			2018	2019	2020		
BEL	39.8	37.7	37.6	-5%	0%	11.8	11.1	11.1	-6%	0%	4.0	3.7	3.5	-7%	-5%	48.4	48.4	48.4	0%	0%	14.4	14.3	14.3	0%	0%	4.9	4.8	4.6	-2%	-5%
BGR	5.6	4.3	1.8	-23%	-59%	4.5	3.3	1.2	-27%	-63%	4.3	3.2	1.0	-26%	-68%	71.1	68.5	54.2	-4%	-21%	56.5	52.1	37.6	-8%	-28%	54.5	50.7	31.4	-7%	-38%
CYP	2.7	2.8	2.2	5%	-20%	1.6	1.8	1.4	11%	-21%	1.0	0.4	1.8	58%	-341%	40.4	41.7	41.4	3%	-1%	24.4	26.4	25.9	8%	-2%	14.9	6.1	33.6	59%	-448%
DEU	98.8	58.6	58.2	-41%	-1%	46.7	19.3	19.2	-59%	-1%	21.5	3.2	3.6	-115%	-13%	59.7	47.0	47.0	-21%	0%	28.2	15.5	15.5	-45%	0%	13.0	2.5	2.9	-120%	-14%
DNK	304.9	245.9	246.7	-19%	0%	180.3	136.8	137.3	-24%	0%	93.5	48.8	47.0	-48%	-4%	66.0	62.9	62.9	-5%	0%	39.0	35.0	35.0	-10%	0%	20.2	12.5	12.0	-38%	-4%
ESP	940.5	1,494.4	1,284.2	59%	-14%	287.5	732.4	602.9	155%	-18%	176.6	619.6	484.3	251%	-22%	51.6	62.3	61.7	21%	-1%	15.8	30.5	29.0	94%	-5%	9.7	25.8	23.3	167%	-10%
EST	9.5	9.7	9.8	3%	1%	4.7	5.0	5.0	6%	1%	2.7	2.6	2.2	-2%	-18%	64.4	66.0	66.0	2%	0%	32.0	33.9	33.9	6%	0%	18.5	18.0	14.6	-2%	-19%
FIN	22.0	23.1	23.2	5%	0%	14.0	15.0	15.1	8%	0%	6.6	7.7	4.2	-17%	46%	60.0	62.6	62.6	4%	0%	38.1	40.7	40.7	7%	0%	18.0	20.9	11.3	-16%	46%
FRA	707.3	622.0	476.0	-12%	-23%	214.6	166.2	107.7	-23%	-35%	122.0	72.0	9.7	-41%	-87%	54.0	52.0	50.2	-4%	-3%	16.4	13.9	11.4	-15%	-18%	9.3	6.0	1.0	-35%	-83%
GRC	276.7	291.9	176.3	5%	-40%	115.2	116.1	61.3	1%	-47%	70.9	71.1	16.5	0%	-77%	62.8	62.8	58.8	0%	-6%	26.1	25.0	20.5	-4%	-18%	16.1	15.3	5.5	-5%	-64%
HRV	51.4	49.4	57.0	-4%	15%	24.2	21.5	28.1	-11%	31%	3.8	1.7	8.5	-55%	401%	59.3	58.2	66.0	-2%	13%	28.0	25.3	32.5	-9%	28%	4.4	2.0	9.9	-54%	392%
IRL	170.3	175.1	149.6	3%	-15%	72.2	80.6	70.6	12%	-12%	41.1	54.7	41.3	33%	-25%	53.2	55.6	56.7	4%	2%	22.6	25.6	26.7	13%	4%	12.8	17.4	15.6	35%	-10%
ITA	569.2	575.2	509.6	1%	-11%	299.0	322.1	300.4	8%	-7%	139.1	166.4	145.5	20%	-13%	59.9	61.4	64.3	2%	5%	31.5	34.4	37.9	9%	10%	14.6	17.8	18.4	21%	3%
LTU	7.7	22.9	11.6	199%	-49%	0.3	14.4	5.3	4666%	-63%	5.8	8.3	1.4	244%	-116%	12.5	26.9	18.2	116%	-33%	0.5	16.9	8.3	3396%	-51%	9.4	9.8	2.1	204%	-122%
LVA	11.0	10.1	8.5	-8%	-16%	5.7	5.7	5.0	-1%	-13%	5.3	5.3	4.5	0%	-15%	50.1	52.6	54.7	5%	4%	26.3	29.8	32.0	13%	8%	24.2	27.6	29.1	14%	5%
MLT	8.4	7.2	6.8	-15%	-5%	2.6	1.5	1.9	-43%	26%	0.5	0.4	0.1	-175%	70%	58.2	53.4	56.6	-8%	6%	17.8	11.0	15.4	-38%	41%	3.6	2.9	1.0	-181%	66%
NLD	218.4	145.1	124.7	-34%	-14%	83.3	39.8	36.5	-52%	-8%	58.1	19.6	13.6	-66%	-31%	50.2	42.1	43.2	-16%	3%	19.1	11.6	12.6	-40%	9%	13.4	5.7	4.7	-57%	-17%
POL	25.7	19.6	16.6	-24%	-15%	6.0	4.4	4.1	-28%	-5%	1.5	4.4	4.1	194%	-7%	54.1	53.1	55.0	-2%	4%	12.6	11.8	13.7	-7%	16%	3.2	12.1	13.7	279%	14%
PRT	245.1	253.9	192.4	4%	-24%	104.6	110.9	84.6	6%	-24%	46.7	53.3	23.7	14%	-56%	64.2	65.5	65.7	2%	0%	27.4	28.6	28.9	4%	1%	12.2	13.7	8.1	13%	-41%
ROU	2.7	2.8	1.7	4%	-41%	1.8	1.9	1.1	2%	-43%	1.5	1.5	0.6	1%	-60%	67.7	67.1	60.5	-1%	-10%	45.5	44.3	38.6	-3%	-13%	38.1	36.5	22.7	-4%	-38%
SVN	1.7	1.7	2.0	-2%	21%	1.3	1.3	1.6	0%	19%	1.3	1.3	1.5	2%	15%	81.1	82.6	86.9	2%	5%	62.3	64.9	66.7	4%	3%	60.8	64.2	63.8	6%	-1%
SWE	53.6	46.6	41.5	-13%	-11%	28.1	23.4	23.5	-17%	0%	10.2	5.7	6.6	-44%	16%	47.3	45.7	50.8	-3%	11%	24.8	23.0	28.8	-7%	25%	9.0	5.6	8.0	-38%	44%
<b>EU 27</b>	<b>3,773</b>	<b>4,100</b>	<b>3,438</b>	<b>9%</b>	<b>-16%</b>	<b>1,509.5</b>	<b>1,834.5</b>	<b>1,524.6</b>	<b>22%</b>	<b>-17%</b>	<b>791.3</b>	<b>1,131.6</b>	<b>803.0</b>	<b>43%</b>	<b>-29%</b>	<b>55.6%</b>	<b>58.2%</b>	<b>58.1%</b>	<b>5%</b>	<b>0%</b>	<b>22.2%</b>	<b>26.0%</b>	<b>25.8%</b>	<b>17%</b>	<b>-1%</b>	<b>11.7%</b>	<b>16.1%</b>	<b>13.6%</b>	<b>38%</b>	<b>-15%</b>



## Outlook for 2020 and beyond

### COVID-19

The COVID-19 outbreak with the restrictive measures adopted in March and April 2020 in the EU has had significant economic impacts on the people involved in the sector. In 2020, the COVID-19 affects the EU fleet in all fishing activities SSCF, LSF, and the distant water fleets of EU countries, even if the economic impact on fisheries is heterogeneous in the region.

Numerous measures across Europe were taken to mitigate the effects of the crisis on the fisheries sector (e.g. ensuring the continuity of food supply, expanding home delivery and direct sales, and supporting national and local production through consumer awareness campaigns), complemented with enhanced investment in the fisheries sector.

The expected impact of COVID-19 is a decrease in the total landings for this period compared to other years as well as a reduction of days at sea. Also, crew wages in some Member States are correlated to the value of landings, and these may lead to a decrease compared to previous years.

The model results provide a clear picture of the possible reduction of volume of landings from 10% up to 80% among the EU Member States. The average percentage of decrease in the live weight of landings is 54%. In regards to the ACDR data, the situation is different. For a few Member States, increases in fishing activities appear for some of the segments, probably due to COVID-19 did not have a significant impact on the trawler segments or in the part of the region. However, there is a decrease in fishing activities compared to previous years, and according to ACDR data reduction in Member States level is from 1% to 58%, and the average for the EU fleet is expected to reach 11%.

In order to support the sector most of the Member States provided opportunities through the operational programs co-financed by the EMFF. The measure (compensation for the temporary cessation of fishing activities and aid for the storage of fishery products) to mitigate the negative impact of COVID-19 on the economic situation it was implemented. See each National Chapter for details on this.

In 2020, due to COVID-19, a deterioration of all the economic indicators is expected and overall 2020 will be a challenging year for the EU fisheries sector. However, the numerical results presented in the nowcasting of the year 2020 cannot be taken as an impact assessment of the COVID-19 effect on the economic performance of the EU fleets. These figures are the result of applying the observed and anticipated drivers and variables, where in this case, COVID-19 is only one (an important one) of those.

### Production

Global seafood production has grown rapidly in the last decades and in 2018 reached a record of 96.4 million tonnes, an increase of 5.4% from the average of the previous three years. World fish production, consumption, and trade are expected to increase, but with a growth rate that will slow over time. In addition to the uncertainties caused by COVID-19, the result of the projection can be affected by the policy reforms and a multitude of other factors. The next decade is likely to see major changes in the natural environment, resource availability, macroeconomic conditions, international trade rules and tariffs, market characteristics, and social conduct, which may affect production, markets, and trade in the medium term.

According to OECD-FAO (2020)<sup>9</sup>, after strong growth in 2018, with overall production, trade and consumption reaching historic peaks, the global fisheries and aquaculture sector declined slightly in 2019. Aquaculture production continued to expand by over 2%, while capture fisheries declined by about 4% due to lower catches of certain species including cephalopods, cod and selected small pelagic species.

Aquaculture production growth is likely to continue but at a lower rate, especially compared to the achieved over the previous decade, and will mainly be caused by lower productivity gains, more stringent environmental regulation, and increasing scarcity of suitable locations due to competition from other land and water users.. Despite this slower growth, aquaculture will remain the main driver of growth in fish production at the world level, and growing from a share of 47% of total fish production, aquaculture production is projected to overtake capture fisheries and reach 52%. Even higher aquaculture production growth will not be able to fully satisfy the increasing global demand for seafood products. The prices of wild-caught fish are projected to fall 0.2% annually in real terms and during the same period, aquaculture prices are projected to experience a very marginal increase, sustaining the profitability of aquaculture production in most years over the next decade..

<sup>9</sup> OECD/FAO (2020), OECD-FAO Agricultural Outlook 2020-2029, FAO, Rome/OECD Publishing, Paris, <https://doi.org/10.1787/1112c23b-en>.

Capture production is expected to increase to 95 million tonnes. This slight increase with 0.4% per year is attributed to increases in sustainability and the recovery of fish stocks as a result from improved resource management. Other factors behind this growth are reduced discards, waste and losses, improved fishing technologies, and decreases in illegal, unreported and unregulated (IUU) fishing, increased efficiency of small-scale fisheries.

The highest growth rate and the largest increase in volume terms in capture fisheries production is expected in Africa, while Asia is the only continent projected to experience a decline, mainly linked to the expected reduced capture fisheries production of China. One of the main factors behind these expected lower rates is the assumption that China's fisheries and aquaculture policies for the next decade will align with its 13th Five-Year Plan (from 2016 to 2020), which shifted priorities towards promoting sustainability and the modernisation of the sector with initial capacity reduction, to be followed by an expected faster growth, in particular of aquaculture production.

Aquaculture production will be less dependent on fishmeal and oil from capture fisheries thanks to improved efficiency in the use of fishmeal, substitution to other types of feed and expansion of farmed species that require no or little fishmeal as inputs.

EU fisheries and aquaculture sectors, in particular, are going to be affected by the United Kingdom leaving the EU (i.e., Brexit), the landing obligation and the results from trying to exploit all fish stocks at MSY level. Also climate change and ocean acidification impact fisheries and aquaculture. However, their impact on productivity rates are uncertain and may vary significantly by region.

## Fish prices

According to OECD-FAO (2020), fish prices will continue to be high in the next decade relative to historical levels. In nominal terms, they are anticipated to follow an increasing trend over the duration of the projection period. In real terms, fish prices are expected to rise until 2024 and to decrease during the 2024 to 2029 period, notably reflecting the expected impact of Chinese fisheries policies. These policies are projected to lead to limited fish production growth in the country at the beginning of the outlook period, while productivity gains are expected to result in faster production growth during the rest of the projection period. In addition, fish prices are expected to be also impacted by the price trends of potential meat substitutes.

The prices of wild-caught fish are projected to decrease by 0.2% annually in real terms and result in a total decrease of 1.9% by 2029 compared to the base period. During the same period, aquaculture prices are projected to experience a very marginal increase in real terms in most years over the next decade, sustaining the profitability of aquaculture production in most years over the next decade. However, due to lower feed prices, which will shift supply upward, overall aquaculture prices are projected to decline by 2.0% in 2029 compared to the base period.

## Fuel prices

In 2020 fuel price collapsed due to the reductions in demand as a result of the COVID-19 crisis. Worldwide crude oil price<sup>10</sup> are projected to average \$40 a barrel in the second half of 2020 and remain at that level in 2016 (U.S. Energy Information Administration (EIA) 2020). International Monetary Fund, in its latest release of the World Economic Outlook, predicts a slightly less severe drop and more modest recovery with Brent oil prices to plunge to \$36.9 per barrel in 2020 and then rebound to \$39.5 in 2021.

Oil price forecasts depend on the interaction between supply and demand for oil on international markets. Among the most important supply-side factors weighing on pricing, expectations are US shale oil production, US crude oil stocks, and OPEC (Organization of the Petroleum Exporting Countries) oil supply. Brent crude oil is forecast to have an average annual price of \$49.53 per barrel in 2021 (forecast as of August 2020), which is a major reduction from the previous 2021 forecast price of \$67.53 per barrel that was presented in January 2020.

The decrease in oil prices coincided with slowing increases in global oil demand. Month-over-month consumption rose by 1.0 million b/d on average during August and September compared with an increase of 4.1 million b/d from May through July. EIA estimates that global oil markets have shifted from global liquid fuels inventories building at a rate of 7.3 million barrels per day (b/d) in the second quarter of 2020 to drawing at a rate of 3.1 million b/d in the third quarter. There is an expectation inventory draws in the fourth quarter to be 3.0 million b/d before markets become more balanced, with inventory draws of 0.3 million b/d on average in 2021. Despite expected inventory draws in the coming months, is

<sup>10</sup> There are two grades of crude oil that are benchmarks for other oil prices. West Texas Intermediate (WTI) comes from the United States and is the benchmark for U.S. oil prices. Brent North Sea oil comes from Northwest Europe and is the benchmark for global oil prices.

expected high inventory levels and surplus crude oil production capacity will limit upward pressure on oil prices. The forecasts for monthly Brent spot prices will average \$42 per barrel during the fourth quarter of 2020 and will rise to an average of \$47 per barrel in 2021.

The decrease in fuel price accompanied by the International Maritime Organization's 2020 regulations and reduction of fishing activities definitely will play important role in the decrease in energy cost in the EU fishing fleet.

### **GDP, inflation and employment**

In regards to the European Central Bank (ECB)'s macroeconomic forecasts after collapse in the first half of the year, euro area growth is expected to rebound in the second half, supported by monetary and fiscal policy and some pent-up demand. After the further severe contraction in the second quarter, real Gross Domestic Product (GDP) growth is projected to rebound in the second half of the year, with an average growth rate of - 8.7% in 2020. Over time, economic activity is expected to grow strongly, by 5.2% in 2021 and 3.3% in 2022.

- The sharp contraction in economic activity is also reflected in the inflation slowdown. Headline inflation decreased further to 0.1% in May, from 0.3% in April, mainly on account of the continued fall in energy prices. Over the coming months, *HICP* inflation is expected to be close to zero percent, averaging 0.3% in 2020, before slowly recovering to 0.8% next year and reaching 1.3% in 2022. The inflation projection is also subject to unprecedented uncertainty, with a faster recovery in the mild scenario.
- Although employment declined only by 0.2%, quarter-on-quarter, in the first quarter of the year, recourse to national employment schemes remained at unprecedented levels..
- Labour costs are expected to be subject to strong fluctuations. Growth in compensation per employee is projected to turn negative in the short term but to recover in line with economic activity in 2021 and display growth rates of around 2% in 2022. After the lockdowns, compensation per employee is expected to bounce back, albeit not to the level recorded before the lockdowns, and to continue to rise gradually over the remainder of the projection horizon.

### 3 EU Regional Analysis

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#### Introduction

The main fishing grounds for the EU fishing fleet are located in FAO fishing areas 27 (Northeast Atlantic, Baltic and North seas) and FAO 37 (Mediterranean and Black seas). Part of the EU fleet also operates in fishing areas much further afield. These areas, including EU outermost regions, are collectively termed “*Other Fishing Regions*” or OFR.

This section analyses the economic performance of the EU fishing fleet by main fishing region. For this economic data provided by fleet segment at the supra-region level are disaggregated based on effort and landings data provided by sub-region (FAO level 3 or 4) (see Annex report for more details on the methodology used).

The EU fishing fleet was analysed by the following fishing regions:

North Atlantic (NAO):

- North Sea & Eastern Arctic (NSEA)
- NAFO
- Baltic Sea (BS)
- North Western Waters (extended) (NWW)
- Southern Western Waters (SWW)

Mediterranean & Black seas (MBS):

- Mediterranean Sea (MED)
- Black Sea (BKS)

Other Fishing Regions (OFR):

- EU Outermost regions (OMR) – six France, two Portugal and one Spain
- Long distant fisheries (LDF) – ICCAT, IOTC, CEEAF and NEAFC

Note: Due to explicit data and methodological limitations (see Annex 2 in the AER annex report), all results provided in this chapter should be considered exploratory rather than a source of factual statements that are considered robust enough to be a basis for policy decisions.

### 3.1 North Sea & Eastern Arctic

#### Regional Details

The North Sea & Eastern Arctic region (NSEA), as defined for this report, comprises ICES areas 27.1, 27.2, 27.3a, 27.5, and 27.7d. French data were incomplete and are only included in the analysis from 2010 onwards. In addition, where insufficient data were provided for fleet segments these may have been excluded from all or some of the analyses. As, for confidentiality reasons, not all data were provided for the German pelagic trawlers and some high sea Polish vessels; these segments are not included in the analysis. Trends and absolute regional figures should therefore be interpreted and considered with care.

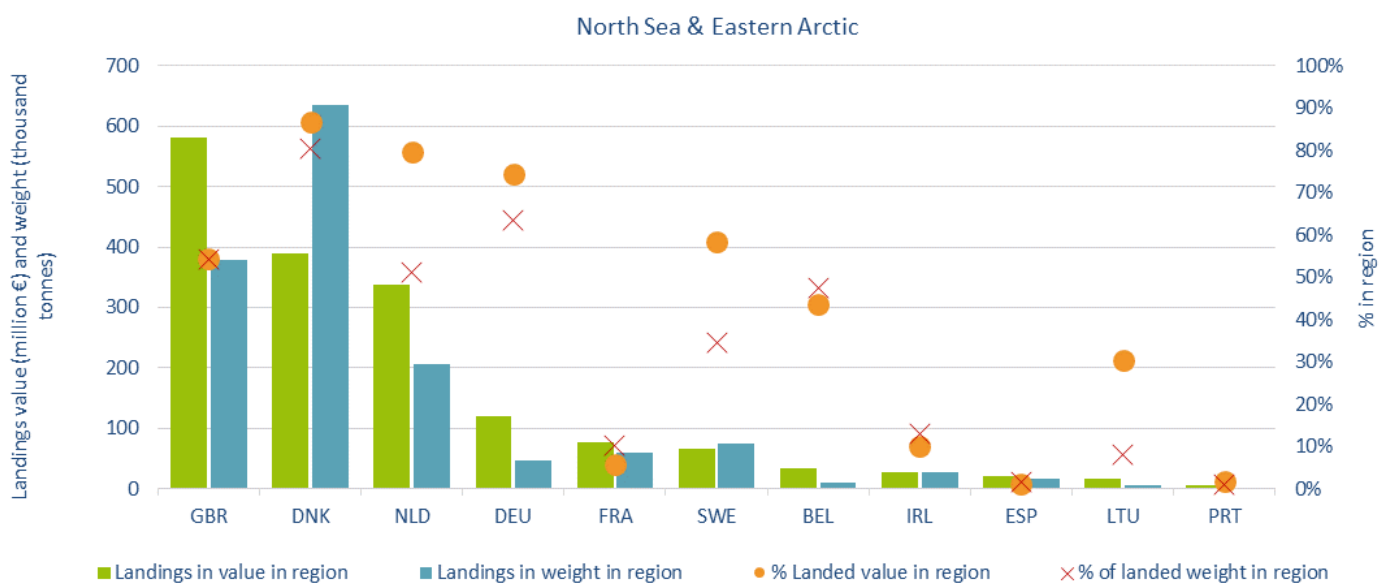
The analysis includes reported landings from 11 Member States' fleets: Belgium, Denmark, Germany, France, Ireland, Lithuania, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. These fleets target high value species including common sole (the Netherlands, Belgium, Germany and France), common shrimp (The Netherlands, Germany, Denmark and Belgium) and Norway lobster (Denmark, the Netherlands, Germany, Sweden and to some extent Belgium). Other important demersal species include Atlantic cod (United Kingdom, France, Spain and Denmark) and European plaice (the Netherlands, United Kingdom, Denmark and Belgium). Furthermore, a number of these fleets also target pelagic species such as Atlantic mackerel and Atlantic herring (Denmark, United Kingdom, the Netherlands, Germany and Sweden).

Annex 4 contains the tables with all the economic performance figures of the NSEA fleet by Member State, main type of fishing activity and fleet segment.

None of the Member States' fleets are wholly dependent on the region for their fishing activity, yet based on the value of landings, Denmark (87% of total landings), the Netherlands (80%), Germany (74%), Sweden (58%), the United Kingdom (54%) and Belgium (44%) are considerably dependent on the North Sea & Eastern Arctic region (Figure 3.1).

Three main players dominate the seascape of this region. The Danish fleet was the most important in terms of landed weight (634 000 tonnes) in 2018. While the United Kingdom fleet was only 54% dependent on its landings from the region, it was the most important fleet in terms of landed value (EUR 581 million). Furthermore, the Dutch fleet is also an important contributor (Figure 3.1).

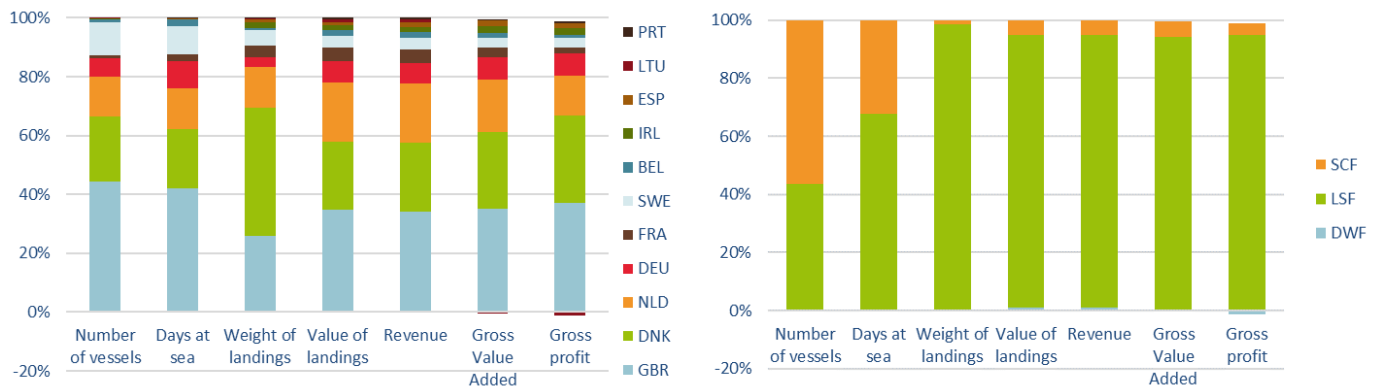
In terms of landed weight, Denmark caught 81% of their landings in the NSEA, followed by Germany (64%) the United Kingdom (54%) and the Netherlands (51%). The pelagic fisheries influence these ratios to a large extent. Large volumes of sandeel are caught by the Danish fleet, while this is not a high valued species.



**Figure 3.1 Importance of the NSEA for MS fisheries in landings weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Even though the share of the number of small-scale vessels is more than 50% and the effort is about one third of the total days-at-sea in the NSEA, their economic contribution as well as their share of the landed weight is marginal. The LSF landed 99% of the total weight and 95% of the total value (Figure 3.2).



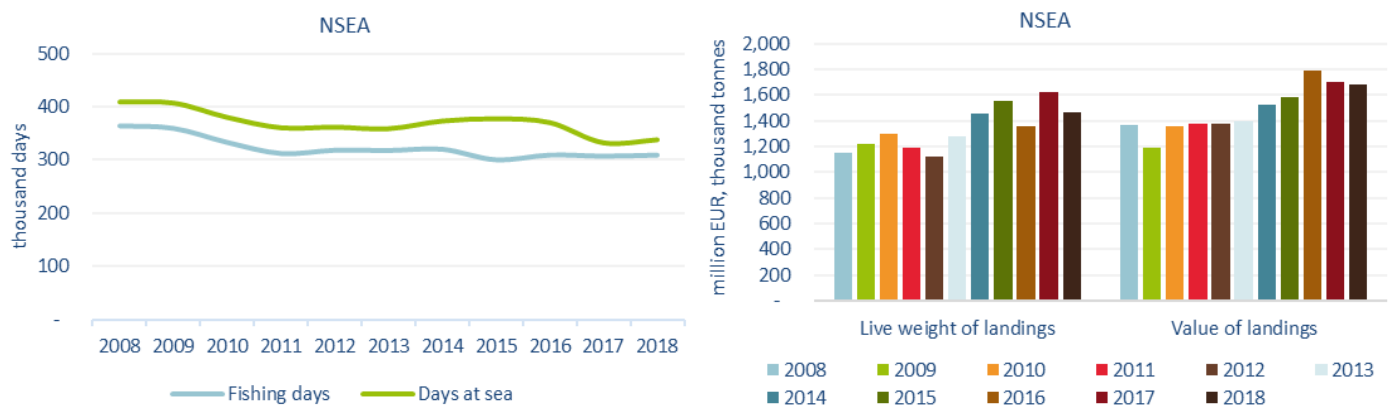
**Figure 3.2 Share by MS fleet and fishing activity in the NSEA, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Overview of the main results for EU fleets in the NSEA

### Fishing effort and landings

Fishing effort remained almost unchanged while landings have decreased slightly from 2017 (Figure 3.3). The value of landings increased by 24% between 2010 and 2018. For a number of important North Sea fish species prices varied grossly compared to 2017. The price for common shrimp was particularly high in 2016 and 2017, but dropped 30% in 2018, which was overcompensated by doubled weight of landings. Prices for herring more than doubled in 2018, while prices for haddock, Norway lobster and sandeel dropped considerably. The total landings in weight decreased by 7% in 2018 compared to 2017. Furthermore, the fuel prices increased 25% in 2018. Fuel is an important operational cost and therefore an important driver for profitability.



**Figure 3.3 Trends on effort and landings for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

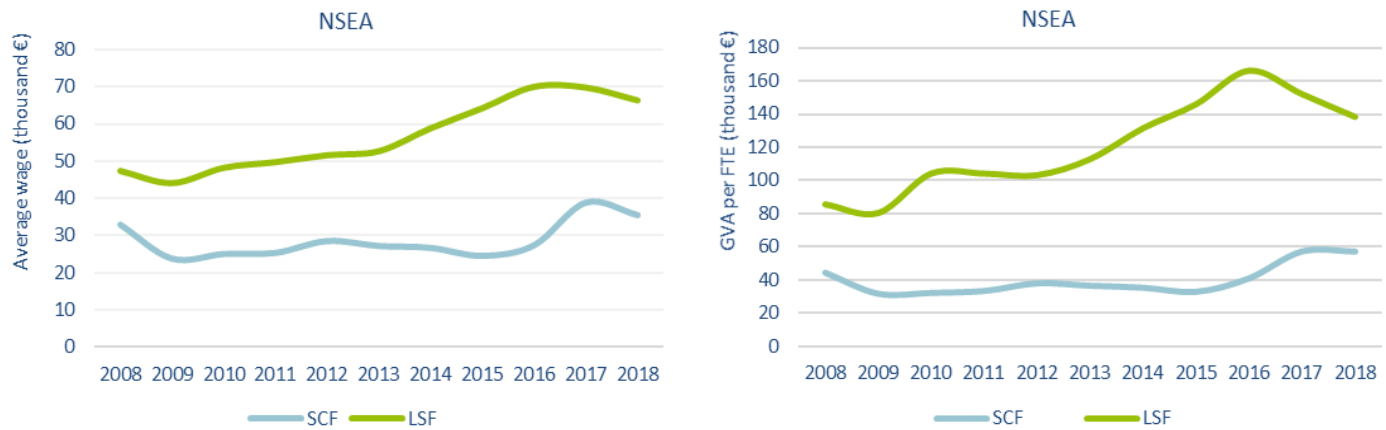
### Employment, wages and labour productivity

Over the past years, employment measured in terms of FTE showed a decreasing trend between 2010 and 2018 (-2%) to an estimated 7 918 FTE. In 2018 there was an increase (5%) in employment compared to 2017. The main contributors to the employment are the United Kingdom (43%), Denmark (18%) and the Netherlands (18%). There is an overall declining trend in employment. However, FTEs in both LSF and SSCF increased slightly in 2018.

Wages per FTE decreased by 5% in the LSF from 2017 to 2018. There was a trend between 2010 and 2016 where the wages per FTE increased by 45% (Figure 3.4). In 2018, the average wage in the LSF was estimated at EUR 66 300. In the SSCF such a trend was less clear, but there was still an overall increase (50%) between 2010 and 2017. Between 2017 and 2018 the average wage per FTE for the SCF decreased by 8.6%, being EUR 35 500.

The productivity (GVA/FTE) of the LSF increased considerably between 2010 and 2016 (+60%). This coincided with a decrease in employment. However, since 2014, the impact on the number of jobs ceased. In 2017 and 2018 labour productivity dropped for two years in a row. For the SSCF, labour productivity increased considerably in 2017 and remained stable in 2018.





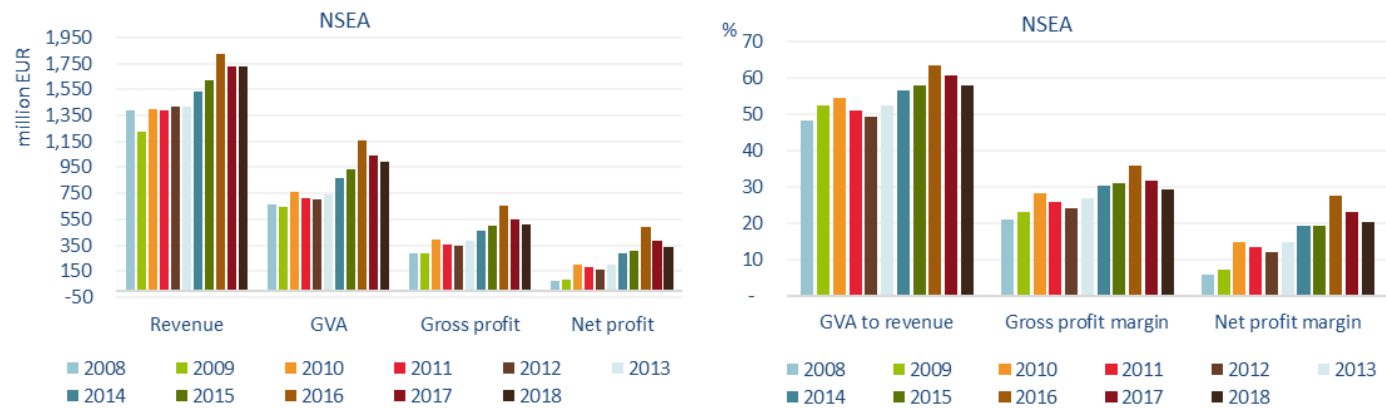
**Figure 3.4 Trends on average wage per FTE and GVA per FTE by fishing activity for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

The revenue generated by the NSEA fleet in 2018 was estimated at almost EUR 1.7 billion, thus remaining unchanged from 2017.

GVA produced by the fleets covered in the analysis was estimated at about EUR 1 billion, representing an overall decrease of about 5% compared to 2017. The fleets made about EUR 505 million in gross profit, an estimated 8% decrease compared to 2017 (Figure 3.5).



**Figure 3.5 Trends on revenue and profits for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

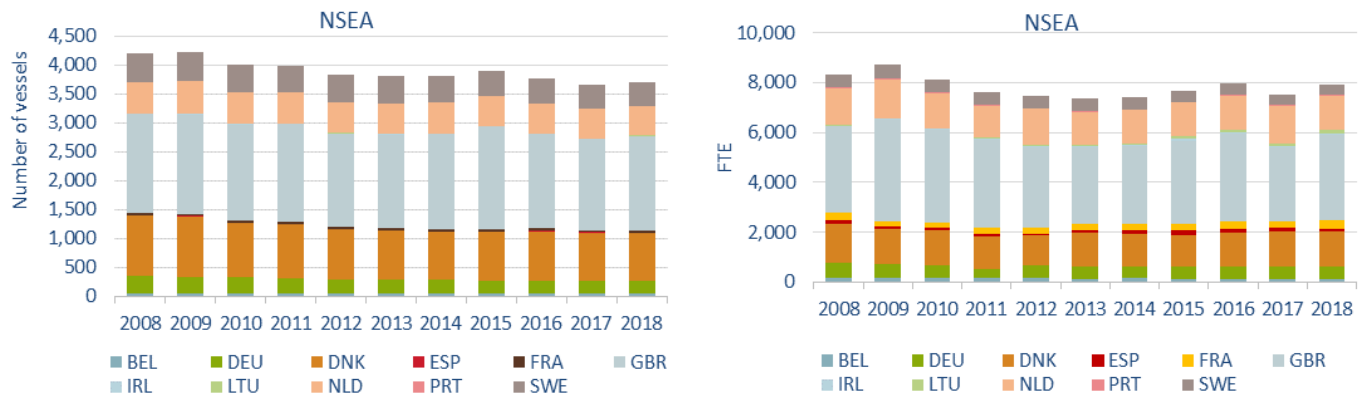
## Trends by Member State fleet

### Fleet capacity and employment

Member State fleets operating in NSEA in 2018 numbered 3 704 vessels, a slight increase of about 1% from 2017. The United Kingdom NSEA fleet comprised the largest in number (1 638 active vessels), accounting for 44% of the total reported for the region and 44% of their national fleet (Figure 3.6)

Overall the number of vessels operating in the region has followed a decreasing trend between 2010 and 2018, with an increase in 2015, mainly due to more United Kingdom vessels. The employment, measured in terms of FTE, also showed a decreasing trend between 2010 and 2014. The 2014 figures were exceeded in subsequent years, but without a verlar trend (Figure 3.6). In terms of employment, the SSCF generated 2 930 - mostly part time - jobs (968 FTE) while the LSF generated 6 634 jobs.





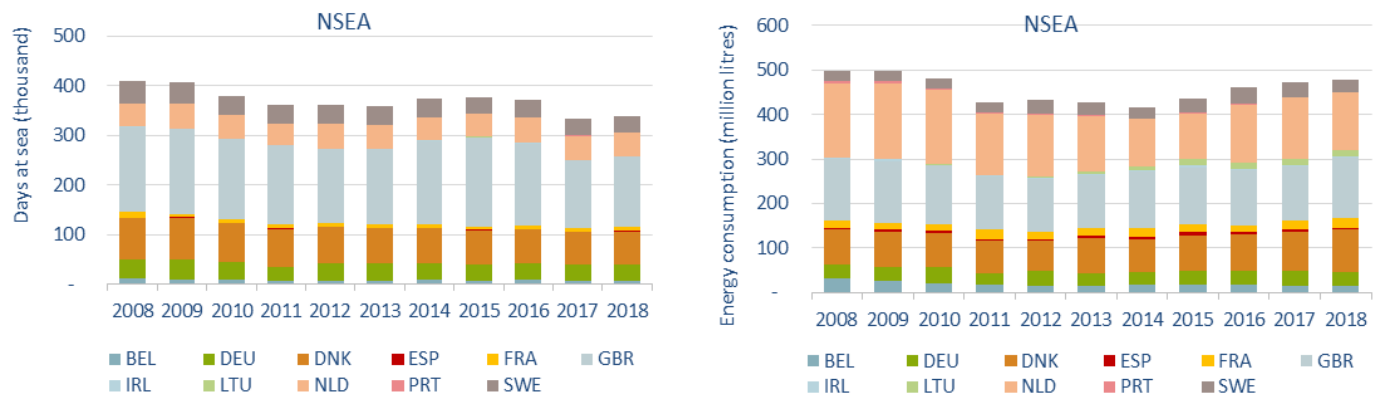
**Figure 3.6 Trends on number of vessels and employment (in FTE) for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

## Fishing effort

Effort followed the fleet capacity development, with an increase from 2014 to 2016 largely attributed to the United Kingdom fleet. Fuel consumption decreased significantly from 2010 to 2011, continuing on a steady decreasing trend until 2014 (Figure 3.7). Since 2015, fuel consumption has slightly, but continuously increased.

Around 32% of the days-at-sea were undertaken by SSCF. The United Kingdom accounted for 64% of this effort. LSF accounted for most of the remaining 68% of the days-at-sea, of which most were undertaken by the demersal fleet. The United Kingdom (31%), Denmark (22%), the Netherlands (20%) and Germany (14%) were the most active nations with respect to days-at-sea of the LSF.



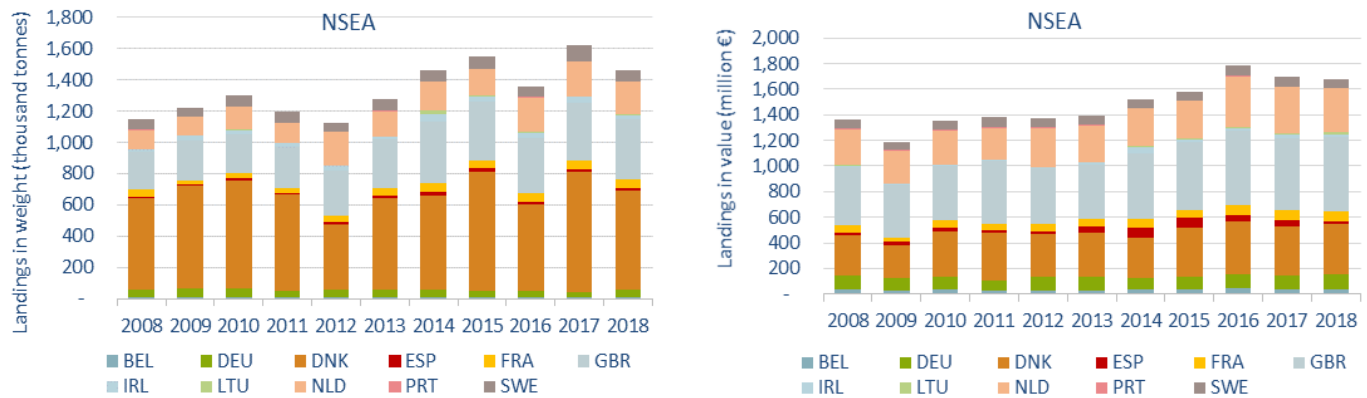
**Figure 3.7 Trends on fishing effort (in days-at-sea) and fuel consumption for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)).

## Landings and top species

In 2018, the weight and value of landings generated by the fleet amounted to approximately 1.5 billion tonnes and EUR 1.7 billion, respectively. Even though landings in weight decreased by about 10% compared to 2017, the value of the landings remained almost unchanged (- 1%).

Landings in weight decreased sharply between 2010 and 2012, mainly due to lower catches made by the Danish fleet. It increased steadily from 2013 onwards, again due to the contribution of the Danish and United Kingdom fleets, dropping again in 2016. Landings in 2017 were rather high and decreased in 2018. Landings in value remained rather stable over the period 2010 to 2013, increasing in 2014, 2015 and even more in 2016 (Figure 3.8). Despite lower landings in terms of weight, there was a strong increase in value in 2016. Remarkably, in 2016 the landings of sandeel dropped in weight by 85% to 33 000 tonnes compared to 2015 due to a low TAC, while in 2017, it was significantly up again.

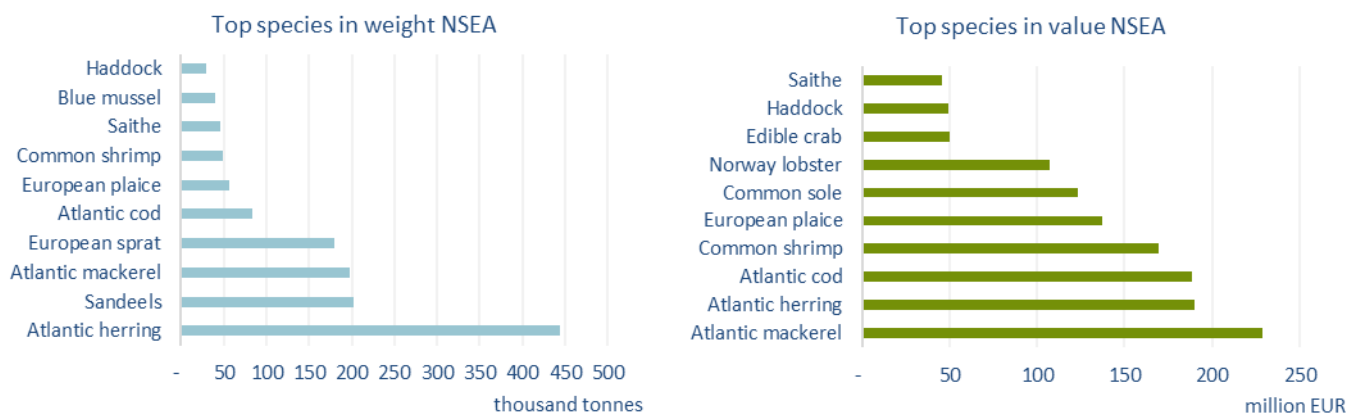


**Figure 3.8 Trends on landings in weight and value for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

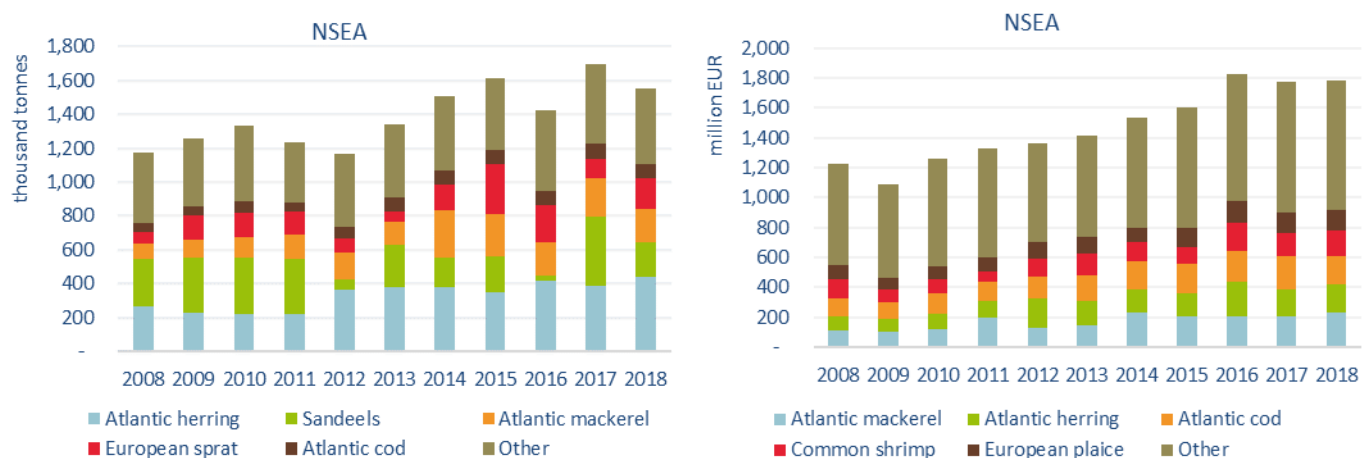
In 2018 Atlantic herring (443 000 tonnes, + 14%) and sandeel (201 000 tonnes; - 50%) were the most important species in terms of weight. Landings of Atlantic mackerel (197 000 tonnes; - 12%), European sprat (180 000 tonnes; + 51%) and Atlantic cod (83 000 tonnes; - 2%) were the next most important species in terms of weight (Figures 3.9 and 3.10).

In terms of value, the most important species in 2018 were: Atlantic mackerel (EUR 229 million), Atlantic herring (EUR 190 million), followed by Atlantic cod (EUR 189 million), common shrimp (EUR 169 million), European plaice (EUR 137 million), common sole (EUR 123 million) and Norway lobster (EUR 107 million) (Figures 3.9 and 3.10). Especially, the decrease in landed value of sandeel (-26%) and cod (15%) were noteworthy in 2018.



**Figure 3.9 Top 10 species in landed weight and value from the NSEA, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.10 Trends on landings for the top species in landed weight and value for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

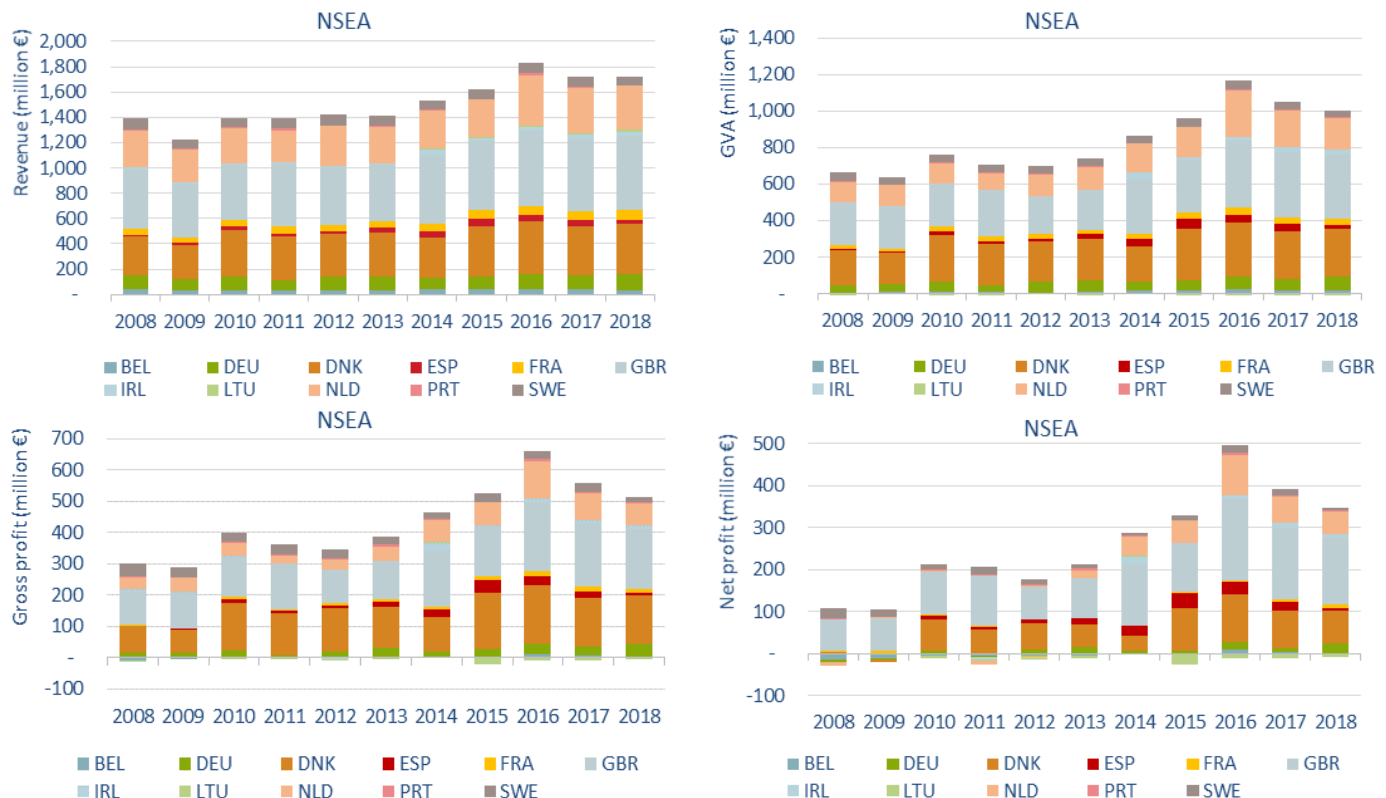
## Economic performance

The revenue generated by the NSEA fleet in 2018 was estimated at EUR 1.7 billion, 78% of which was provided by three Member States: United Kingdom (EUR 590 million), Denmark (EUR 400 million) and the Netherlands (EUR 347 million) (Figure 3.11).

Revenue remained almost unchanged in 2018 compared to 2017: Belgium (- 10%), the Netherlands (- 5%), Spain (- 36%), Portugal (- 24%) and Sweden (- 16%) all suffered a decrease compared to 2017, while the remaining Member States fleets saw their revenues grow, e.g. France (+ 11%), Lithuania (+ 80%) Denmark (+ 3%), the United Kingdom (+ 3%), Germany (+ 9%).

GVA produced by the fleet covered in the analysis was estimated at about EUR 996 million in 2018. This represented an overall decrease of 5% compared to the GVA generated in 2017. The fleets made EUR 556 million in gross profit, an 8% decrease compared to 2017 (Figure 3.11).

By fishing activity, the SSCF generated EUR 90 million in revenue, a 9% increase relative to 2017, while the LSF generated EUR 1.6 billion in revenue, similar to that obtained in 2017.



**Figure 3.11 Trends on revenue and profit (GVA, gross profit and net profit) for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

The overall changes have been mostly driven by the LSF, whereas the trends for the SSCF in the NSEA are less clear.

Factors that may have contributed to an improved situation include:

- Recovery of certain stocks, e.g. European plaice, Atlantic herring, haddock, saithe stocks have all reached biomass levels that are capable of delivering MSY. However, CPUE of sole and plaice have dropped. Concerning the sole stock, the estimate turned out to be too high, while it is believed that plaice stocks actually are on a high level, but that a large part of them has moved to more northern fishing grounds.
- Increase in the TAC over time for a number of species such as Atlantic herring, haddock, Atlantic cod and Norway lobster.
- Relatively high average prices for some of the main species, such as Atlantic cod, common shrimp and European plaice.
- More vertical integration is being observed leading to shifts in ownership.

Factors that may drive/hamper economic performance in the future include:

- Fuel prices increased.
- Average prices for Atlantic herring and Atlantic mackerel decreased slightly.
- Reduced TACs and quotas in 2018 for stocks such as mackerel and European sprat.
- Especially for the Dutch fleet the ban on pulse fishing technique will raise fuel costs and decrease net profits when enterprises have to switch to the more traditional beam trawl or twinrig fishing technique

Whilst the consequences of Brexit are unknown, it is to be expected that it could have a large impact on the North Sea. The United Kingdom holds a significant portion of the value of landings in the region (35% in 2018). Furthermore, there is a high dependency on United Kingdom waters for a number of Member States in the region. Belgium, The Netherlands, Germany, Denmark, France, Ireland, Sweden and to a lesser overall extent Spain are expected to be affected.

### Status of important stocks

Atlantic herring, common sole, European plaice, haddock, saithe and Norway lobster in the North Sea are all managed at MSY. However, not all Norway lobster stocks have a MSY assessment. According to ICES advice, the plaice stock has developed favourably under the current management plan.

Despite the implementation of the cod management plan since 2003, the fishing mortality of North Sea cod is still above  $F_{MSY}$ . The recovery did not occur as quickly as expected by the ICES assessment group in 2017 (ICES 2017). Therefore, cod in the North Sea and Eastern English Channel remains a point of concern. In July 2017 North Sea cod was certified as sustainable (MSC 2017), but the certificates were suspended in 2019 as a result of the declining spawning stock biomass.

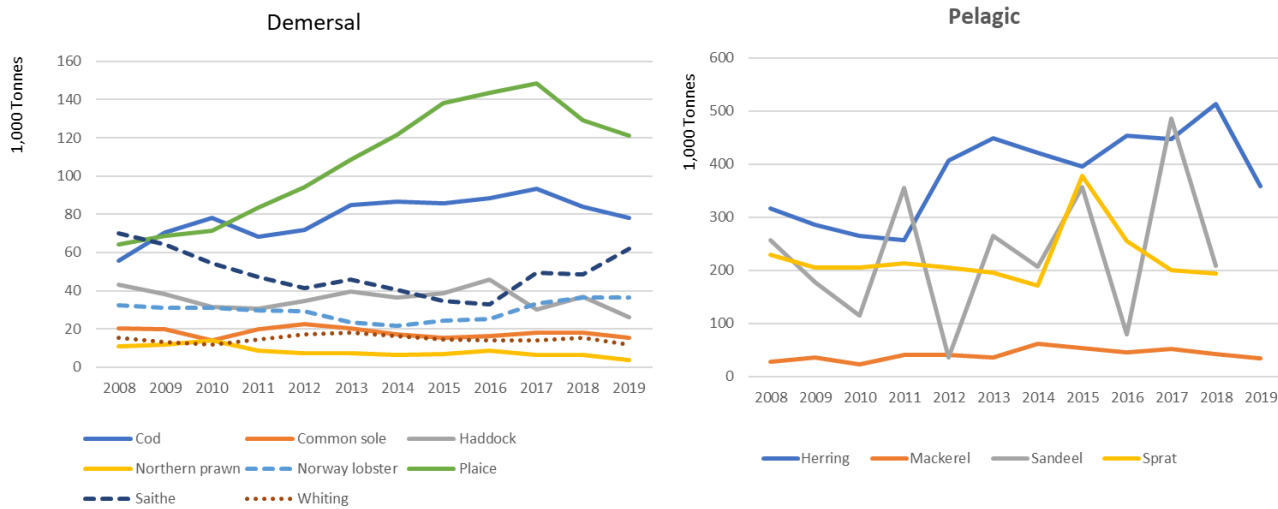
Another economically important species is brown shrimp (*Crangon crangon*). This species is currently not under a TAC regime. However, there have been initiatives from the fishing industry to move towards implementing harvest control rules and in 2016 measures were taken to regulate the weekly fishing effort. This was one of the requirements to qualify for an sustainability certificate. The fishery was certified in 2017. In 2018, the landings were at a very high level, as not seen in decades before.

### TAC development of main species

Figure 3.12 shows the EU TACs for 2008 to 2019 for some pelagic and demersal species (2019 where available). It should be noted that in some cases the TAC areas are not limited to the NSEA and include adjacent waters. There is a gradual increasing trend for some of these key species such as plaice, cod, Norway lobster and herring. However, TAC for cod and plaice have been decreasing since 2017 and for herring in 2019. For common sole TAC increased between 2015 and 2018 (+ 17%).

Between 2008 and 2014 the TAC for Atlantic mackerel shows an increasing trend. In 2014 the TAC for Atlantic mackerel increased compared to 2013 (+77%), but shows an overall decreasing trend between 2014 and 2019 (-46%). This is seen as an important driver of the economic performance of the United Kingdom fleet.

The TAC for sandeel, an important species for the Danish industrial fishery, is more unpredictable. It seems to oscillate considerably from one year to another. It decreased considerably in 2014 compared to 2013, but increased again in 2015. It drastically dropped again in 2016, increased considerably in 2017 and dropped again in 2018 and 2019. These oscillations are not reflected in the price of this species. Furthermore, the TAC for sprat reached a high level in 2015, but shows a decreasing trend since (- 48% between 2015 and 2018, 0% in 2019).



**Figure 3.12 TACs pre-uplift for demersal species (left) and major pelagic species (right)**

Source: Calculated based on TAC Council Regulations

### Landing obligation (LO)

No obvious economic impact was observed in the first years of implementation (from 2015 to 2017), which referred to small pelagic species only. The pelagic fishery is not sensibly affected, as the fishery is highly selective and bycatch rates are usually very low.

According to Ullrich (2018), no situation of choke species have been reported for the North Sea demersal fisheries. Highest risk for the incidence of choke species was seen with Northern hake in trawl fisheries and North Sea plaice in small-meshed beam trawl fisheries.

### Description of relevant fisheries in the region

The most important LSF segments were the United Kingdom pelagic trawlers >40m (EUR 189 million) based on revenue, followed by the British demersal trawlers 24 to 40 metres (EUR 136 million), the Dutch beam trawlers over 40 metres (EUR 134 million) and the Danish pelagic trawlers over 40 metres (EUR 117 million). The most important fleets in terms of GVA were again the United Kingdom pelagic trawlers over 40 metres and demersal trawlers from 24 to 40 metres.

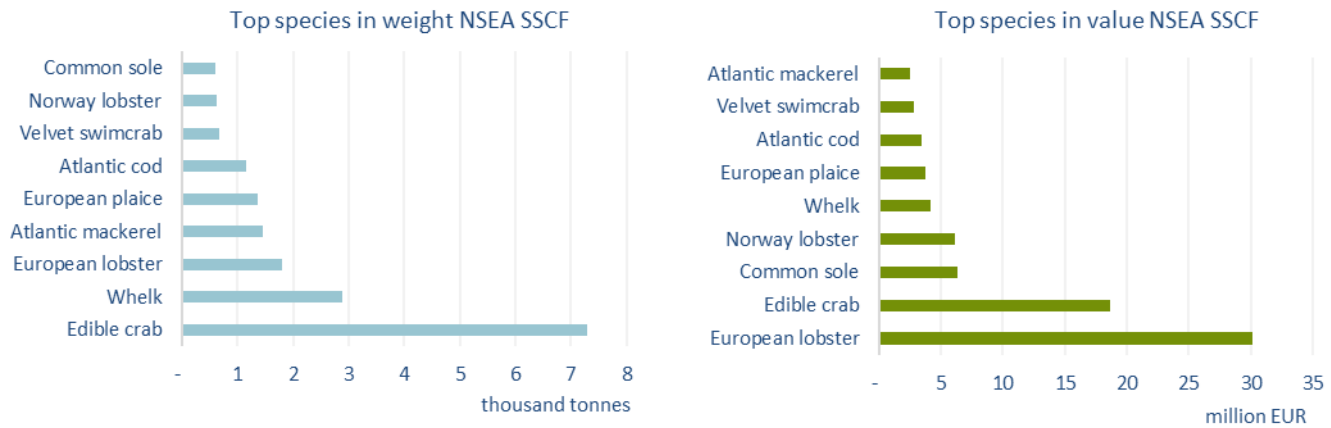
### Small-scale coastal fishery

SSCF from seven Member States operated in NSEA in 2018. Of these, the United Kingdom fleet, consisting on 1 138 vessels and employing 646 FTEs, generated the highest revenue (EUR 57.9 million) and net profit (EUR 7.4 million). In the NSEA region, United Kingdom SSCF contributed by 31% of total active vessels, 8.2% of FTE and 3.4% of revenues. The Danish SSCF, with 496 vessels generated revenue of EUR 15.3 million and a net profit of EUR 1.35 million.

Overall the SSCF segment was profitable in 2018, posting a EUR 12.7 million net profit with an increase by 62% from 2017. However, from all SSCF fleet in the NSEA region, the German and the Irish fleet generated net losses.

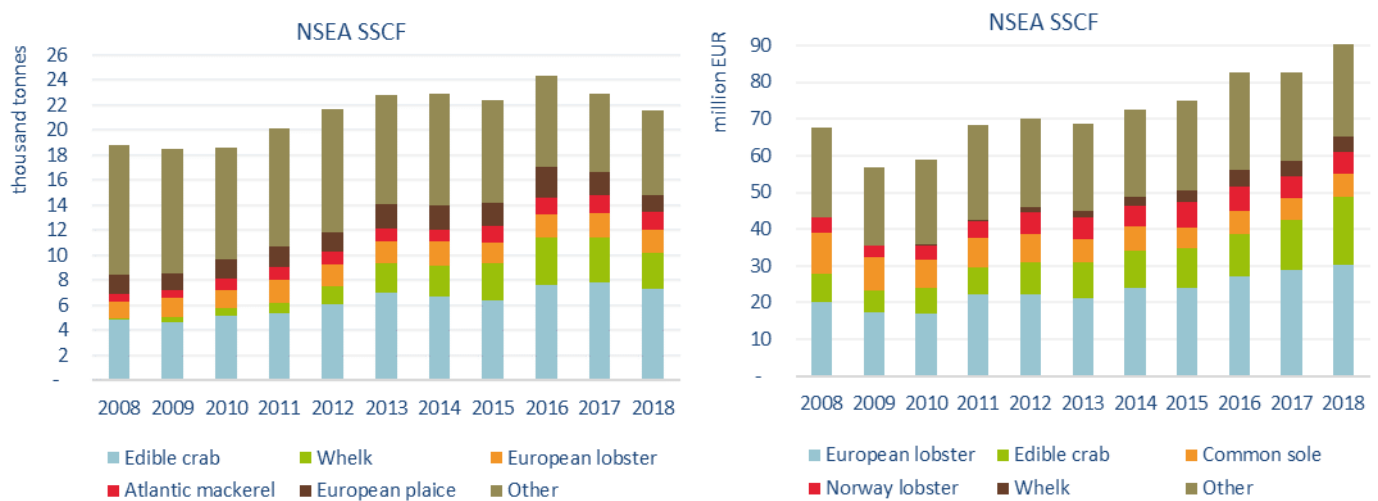
The most profitable in terms of gross and net profit was the United Kingdom fleet with EUR 11.8 million and EUR 7.4 million, respectively. All Member States fleets in the NSEA demonstrated a lower FTE in comparison with total employed indicating that a large majority of those employed in the SSCF are part-time or casual workers. SSCF fisheries contributed to 12% of total FTE in the region.

Landings were valued at EUR 86 million in 2018. The most important species for SSCF in 2018 were edible crab, whelk and European lobster in weight. In value the top species were again European lobster, edible crab and Norway lobster (Figure 3.13).



**Figure 3.13 Top 10 species landed in weight and value by MS SSCF operating in the NSEA, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.14 Trends in landings of the top species landed in weight and value by MS SSCF operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Large-scale fishery

There were 11 Member States LSF operating in the NSEA totalling 1 617 vessels. The United Kingdom, the Netherlands, Denmark, and Germany had the largest number of active vessels contributing 85% of the total active vessels in the region.

The United Kingdom LSF, consisting on 500 vessels, generated the highest revenue (EUR 532 million), followed by the Danish (EUR 386 million) and then the Dutch (EUR 341 million) LSF.

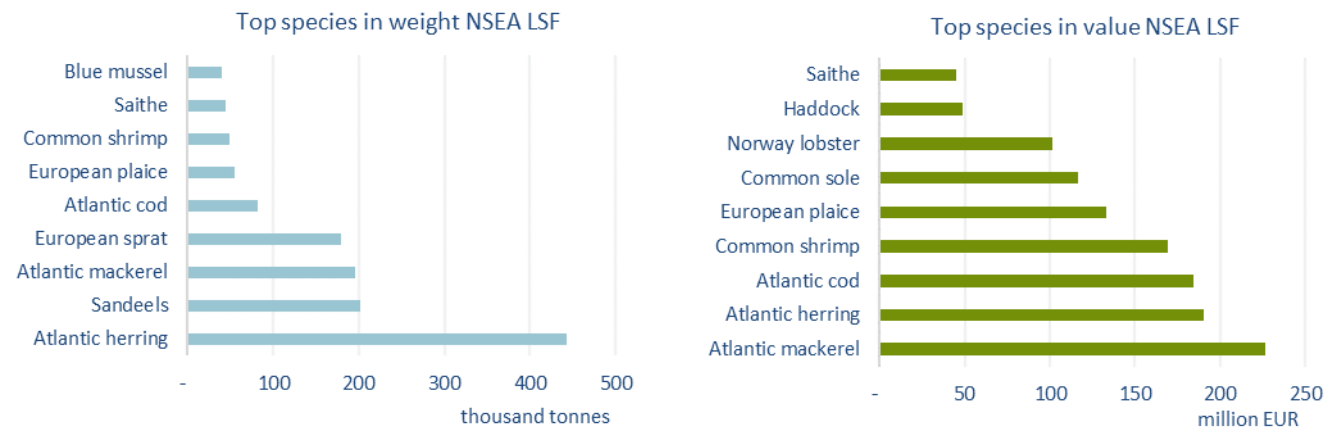
Overall the LSF was profitable in 2018, generating EUR 941 million in GVA and EUR 485 million in gross profit. Compared to 2018, GVA and gross profit declined by 5% and 9%, respectively. The most profitable fleets in terms of gross and net profit were the United Kingdom fleets with EUR 180 million and EUR 153 million, Denmark with EUR 152 million and EUR 77 million, and the Netherlands with EUR 68 million and EUR 52 million, respectively.

Total employment for the LSF was highest for the United Kingdom and the Netherlands totalling 2 642 and 1 367, respectively. While the SSCF demonstrates a difference between the total number employed and total FTE for all Member States, the LSF figures for total employed and FTE are closer in value, indicating the high level of full time employment in this segment.

Landings were valued at EUR 1.6 billion in 2018. United Kingdom LSF contributed to 33% of landings value in the region. In term of weight, the most important species for the LSF in the region in 2018 were sandeels, Atlantic herring and Atlantic mackerel in weight, whereas the top species in value were Atlantic cod, Atlantic mackerel and Atlantic herring.

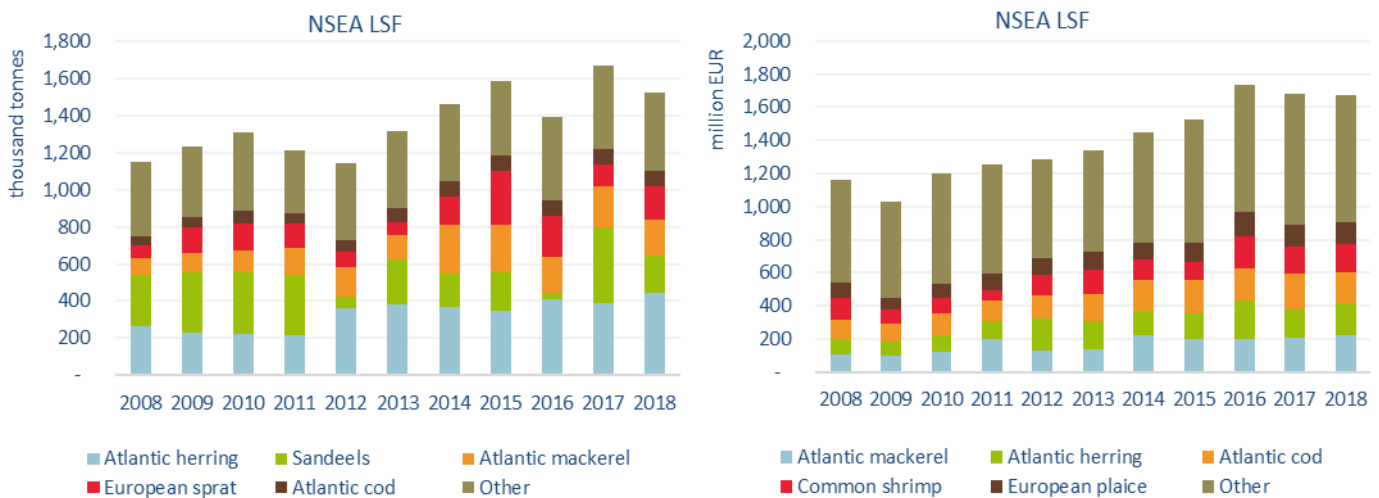
Two Lithuanian vessels are engaged in demersal fisheries in the Eastern Arctic. As these are in a cluster with the long distance fleet, these vessels are displayed under "LDF". As for all fleets covering more than one region the figures on employment, cost and economic performance are estimated based upon disaggregation procedures. As the segment is very small, the data must be interpreted with particular caution. Lithuanian catches are not included in Figures 3.15 and 3.16 but as these are small the main species would not, in any case, be amongst the top 10 species.





**Figure 3.15 Top 10 species landed in weight and value by MS LSF operating in the NSEA, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.16 Trends in landings of the top species landed in weight and value by MS LSF operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Pelagic fishery

The pelagic fishery operates both in the North Sea, the Eastern Arctic as well as in the North East Atlantic. Member States involved are, in order of importance, United Kingdom, Denmark, The Netherlands, Germany, France, Sweden, and Ireland. A distinction can be made between industrial and non-industrial fisheries. In general, a large share of the Danish and Swedish landed volume consists of sandeel and European sprat, and Atlantic herring. Sandeel and sprat are used for industrial purposes (e.g. fishmeal and fish oil), whereas Atlantic mackerel, Atlantic herring and horse mackerel are important species for human consumption.

The Danish pelagic fishery in the North Sea mainly targets Atlantic herring, sandeel, sprat and Atlantic mackerel. In Denmark, all these species are under an ITQ regime. The fishery is executed mainly by large pelagic trawlers, but also by vessels from the demersal segment, which switch gears seasonally.

The United Kingdom pelagic fishery is mainly carried out by vessels using pelagic trawls targeting herring, mackerel and jack mackerel in the northern North Sea and are prosecuted mostly by Scottish large pelagic trawlers (over 50 metres).

The Dutch pelagic fleet in the North Sea consists of large trawlers (from 60 to over 100 metres). These vessels target Atlantic herring, horse mackerel, blue whiting and mackerel. There is no fishery directed for industrial purposes.

The German pelagic fishery is performed by large freezer trawlers and medium sized trawlers targeting Atlantic herring and Atlantic mackerel. Pelagic trawlers of about 30 metres perform a seasonal fishery on sandeel.

For Sweden major amounts of herring and sandeel are also fished and are more important in terms of value of landings than any other species caught by this fishery. Most of these vessels are in an ITQ system and land their catches mostly in Denmark.



## Demersal roundfish and *Nephrops* (Norway lobster) fishery

Important target species were cod, *Nephrops*, haddock, saithe and hake. Haddock, saithe and hake were fished below  $F_{MSY}$ , cod fisheries were still above  $F_{MSY}$  in 2018. The cod recovery plan in the North Sea had not yet fulfilled assessment experts' expectations on improvement of the stock status over the past years. Overall the performance of most demersal roundfish and *Nephrops* fleets seemed positive in 2018.

The United Kingdom fishery is the most important demersal roundfish fishery in the North Sea in terms of both value and landings. United Kingdom vessels over 40m took the bulk of the quota of haddock; this is caught in the northwest and central North Sea and landed almost entirely in the United Kingdom. The same vessels exploit a major part of saithe, mainly in the northern North Sea. A great deal of saithe is landed fresh in Denmark as the market in the United Kingdom is limited. United Kingdom vessels catch the largest *Nephrops* and Atlantic cod share in the North Sea (excluding the Eastern Arctic).

The Spanish fleet was mainly active in the Eastern Arctic with a TAC for Atlantic cod (EU and Norway waters 27.1, 27.2b).

The Danish demersal roundfish fishery targets cod, hake, haddock and saithe. A broad range of vessel segments are involved in that fishery. Moreover, the Danish fleet is the second fleet according to the value of landings in the *Nephrops* fishery in the North Sea.

The French fleet also participates in the cod and saithe fishery in the ICES Division 4a.

The main species for German demersal trawlers in the North Sea is saithe in the ICES Division 4a, involving vessels between 30 and 41 metres in length. These vessels also catch some cod and minor amounts of haddock. The fish is landed in Denmark or Germany and is destined for the fresh market, but also for processing. While the *Nephrops* fishery has gained importance for some vessels it remains of minor importance overall.

The Dutch demersal roundfish fishery targets cod and *Nephrops*, but this fishery are of minor importance in the total national context.

While Swedish demersal vessels catch large amounts of *Nephrops*, cod, saithe and haddock, overall these fisheries are of minor importance with respect to the total catch of these species.

Belgium has a very small demersal fishery for roundfish and *Nephrops*.

Lithuanian vessels perform fisheries targeting Northern prawn in the Eastern Arctic.

## Flatfish fishery (plaice and sole)

The main Member States that took part in the flatfish fishery in 2018 were the Netherlands, Denmark, United Kingdom, Belgium, France and Germany. Important target species were, common sole and European plaice, and at a lower level brill and turbot. Sole was fished below  $F_{MSY}$  in 2018, the recruitment in 2019 was estimated to be the highest since the start of the time series in 1957. Overall, the performance of most flatfish beam trawl fleets was positive in 2018.

The Netherlands exert by far the most activity in the flatfish fishery, carried out mainly by large beam trawlers in the southern North Sea (ICES Division 5c), using the pulse technique. In 2018 almost all EU permitted 'pulse fisheries exemptions' were used in Dutch fleets, resulting in considerable fuel savings. Common sole is very important due to high prices. As a result, this fishery is profitable. Since June 2019 this fishing technique was forbidden.

Although the plaice stock biomass is at very high levels, the fishing industry did not profit very much from it, as the quota was not fully exploited. The catchability of this species has dropped. It is thought that stocks have moved from their original fishing grounds to grounds further in the North, and that the population has spread further.

The Danish fleet targets flatfish mainly using otter trawls in ICES Division 3a and area 4. The ratio of sole catches to plaice catches is rather low compared to other Member States. Plaice is a target species in some fisheries, but constitutes a bycatch in the cod and *Nephrops* fisheries.

UK beam trawlers targeting flatfish are mostly owned by Dutch fishers: this fishery is comparable to the traditional Dutch beam trawl flatfish fishery in terms of economic performance (as opposed to flatfish pulse fishing). The catch is mainly landed in the Netherlands. Moreover, shares of the quota are being swapped. Flatfish is of relatively minor importance for the United Kingdom market as a whole, but remains of local importance, particularly in the east and south of England.

Flatfish is a major species for Belgian beam trawlers in the southern North Sea. Opposed to the Dutch pulse gear, the Belgian beam trawlers use the more traditional beam trawl gear, although they have made a number of technical adjustments in order to reduce fuel consumption.

French vessels target plaice and sole in the Channel area (ICES Division 7d). Sole catches are considerably higher than plaice catches.

The German flatfish fishery is operated by a small number of (mostly Dutch owned) beam trawlers. These vessels fish in a similar manner as the Dutch fleet.

### **Brown Shrimp Fishery**

The main Member States that took part on the shrimp fishery in 2018 were the Netherlands, Germany, Denmark, and Belgium. Overall, the performance of most of these fleets was positive in 2018. Considerable catches are being made in coastal areas of the southern North Sea. The fishery is carried out by smaller beam trawlers (mainly below 24 metres). Dutch and German catches account for about 95% of the total weight. The Dutch fleet caught about 50% of the total brown shrimp catch (in landed value). The Danish and the Belgian fleets also contribute to this total while France and the United Kingdom report only negligible amounts. Some German vessels operate under Dutch ownership. Some Dutch vessels switch between flatfish and shrimp fishery.

### **References**

ICES. 2017. Report of the Working Group on Assessment of Demersal Stocks in the North Sea and Skagerrak (2017), 26 April–5 May 2017, ICES HQ. ICES CM 2017/ACOM:21. 1248 pp.

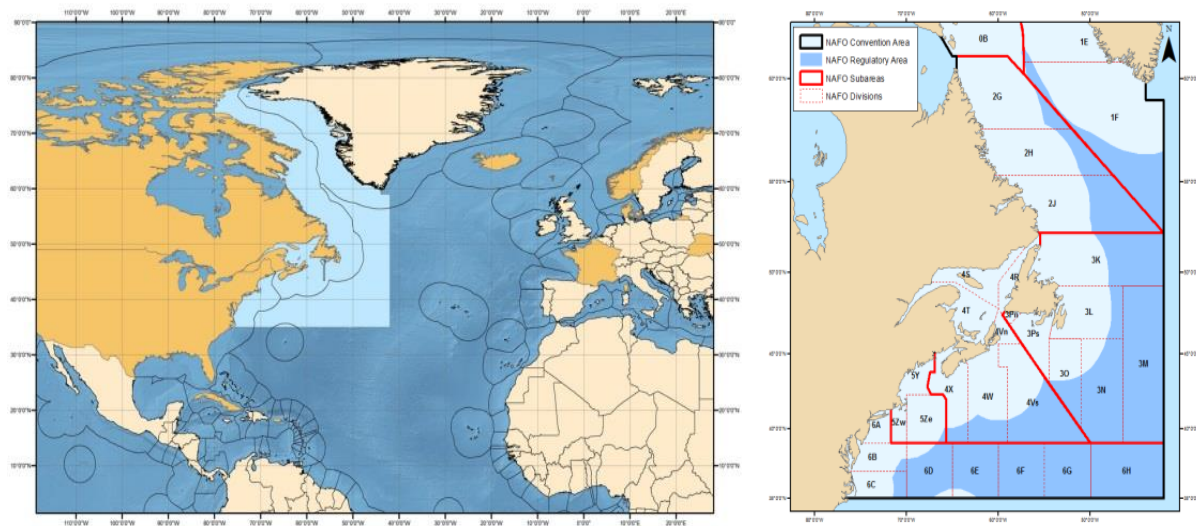
Ulrich, C 2018, Research for PECH Committee – Landing Obligation and Choke Species in Multispecies and Mixed Fisheries – The North Sea, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels

## 3.2 NAFO

### Regional Details

Fisheries in the Northwest Atlantic are performed in the exclusive economic zones of the coastal states and on the high seas where fishery is regulated by the Northwest Atlantic Fisheries Organization (NAFO). NAFO was founded to manage most fishery resources in the EEZs of Contracting Parties (straddling stocks) and outside the national jurisdiction in the NAFO Regulatory Area. Currently NAFO has 12 Contracting Parties<sup>11</sup>.

The NAFO Regulatory Area is defined in the NAFO Convention as that part of the Convention Area, which lies beyond the areas in which Coastal States exercise fisheries jurisdiction (outside of the Exclusive Economic Zones) (Figure 3.17).



**Figure 3.17 NAFO Area of Competence**

Source: NAFO, GEOMAR [http://www.marineplan.es/ES/fichas\\_kml/rfbs.html](http://www.marineplan.es/ES/fichas_kml/rfbs.html)

The three main fisheries regulated in the NAFO area are ground fish, shrimp, and pelagic redfish, however, there is currently a moratorium on the shrimp and pelagic redfish fisheries. The ground fish fishery occurs mainly in NAFO Divisions 3LMNO within the *Fishing Footprint* and is conducted using mainly bottom trawls. NAFO does not manage sedentary species (e.g. shellfish) and species managed by other fishery bodies, i.e. salmon (NASCO), tunas/marlins (ICCAT), and whales (NAMMCO).

Four Member States fishing fleets were active in the NAFO convention region in 2018: Estonia, Germany, Portugal and Spain. Of these, the main fishing nations were Portugal and Spain. France did not report data of activity for 2018, which is shown for comparative purposes via the official statistics of NAFO (STATLAND). The remaining Member States with active fleets, namely Estonia and Germany, consisted of less than three vessels fishing only seasonally and, due to data limitations, these fleets could only be partially covered in the analysis below with no economic analysis of their performance for confidentiality issues.

### Member States fishing activity as reported by NAFO (STATLANT)

According to NAFO (STATLANT), the total catch by the EU fleet in the area amounted to 43 356 tonnes in 2018, around 2% of the total catches reported by NAFO. In 2019, catches amounted to 51 000 tonnes, and include Danish catches (2 777 tonnes).

In 2018, the main EU fishing nations were Portugal and Spain, combined taking 83% of total EU catch. The remaining EU catch was taken by Estonia (13%) and Germany (4%). Data on the French St. Pierre et Miquelon fleet are indicated separately and not counted as part of the EU total.

No activity has been reported for the Latvian, Lithuanian and Polish fleets since 2012 apart from some reduced catch in 2014 by Lithuania (7 tonnes) and Poland (414 tonnes) (Table 3.1).

**Table 3.1 Catches (tonnes) by MS fleets operating in NAFO area**

<sup>11</sup> Canada, Cuba, Denmark (in respect of Faroe Islands and Greenland), EU, France (in respect of St. Pierre et Miquelon), Iceland, Japan, Norway, Republic of Korea, Russian Federation, Ukraine, United Kingdom and the United States of America.

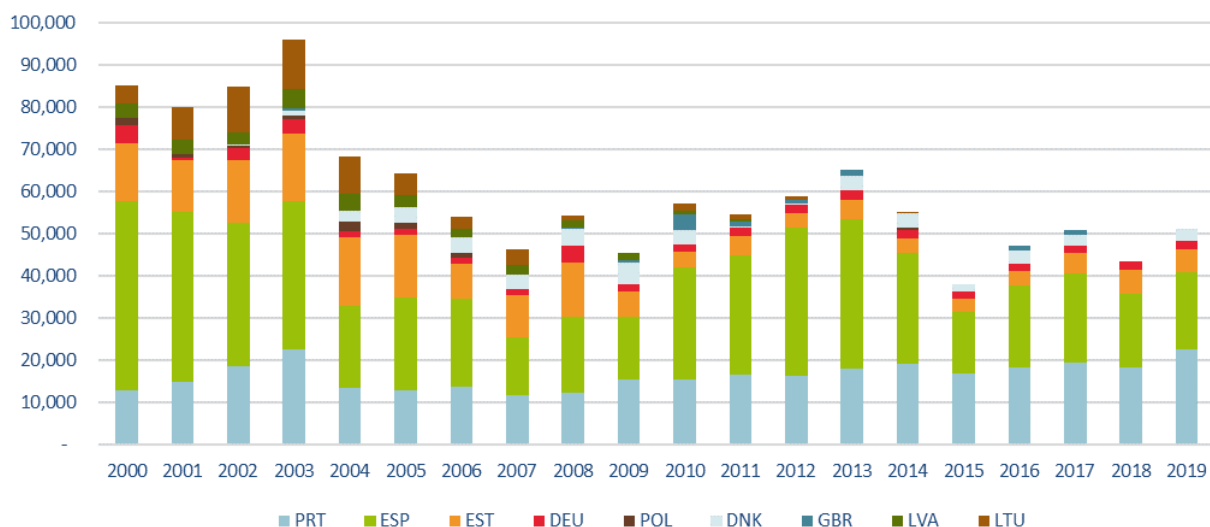
NAFO / MS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% over EU total	% over NAFO total
DNK	3,409	267	173	3,391	3,409	1,686	2,921	2,511	-	2,777	0.0%	0.0%
EST	3,654	4,593	3,444	4,529	3,307	3,149	3,284	4,740	5,556	5,501	12.8%	0.3%
DEU	1,820	2,126	1,855	2,416	2,150	1,884	1,899	1,875	1,892	1,912	4.4%	0.1%
LVA	995	587	137	-	-	-	-	-	-	-	0.0%	0.0%
LTU	1,542	1,000	753	-	7	-	-	-	-	-	0.0%	0.0%
POL	-	-	-	-	414	-	-	-	-	-	0.0%	0.0%
PRT	15,488	16,680	16,230	18,073	19,167	16,901	18,221	19,448	18,345	22,735	42.3%	0.9%
ESP	26,585	28,230	35,392	35,422	26,396	14,491	19,623	21,207	17,563	18,151	40.5%	0.9%
GBR	3,604	1,083	979	1,352	-	-	1,209	1,155	-	-	0.0%	0.0%
<b>EU total</b>	<b>57,097</b>	<b>54,566</b>	<b>58,963</b>	<b>65,183</b>	<b>54,850</b>	<b>38,111</b>	<b>47,157</b>	<b>50,936</b>	<b>43,356</b>	<b>51,076</b>	<b>100%</b>	<b>2.1%</b>
<b>NAFO total</b>	<b>1,783,432</b>	<b>1,929,886</b>	<b>1,783,219</b>	<b>1,900,229</b>	<b>1,768,631</b>	<b>1,639,726</b>	<b>1,922,582</b>	<b>1,966,607</b>	<b>2,019,401</b>	<b>553,576</b>		

Source: <https://www.nafo.int/Data/STATLANT>

EU fleet presented high level of catches between 2000-2003 (over 80 000 tonnes), followed by a downward of around 45 000 tonnes in 2007 and 2009. Catches then oscillate in the region of 45 000-65 000 tonnes, annually. The lowest levels of catches were seen in 2015 (38 000 tonnes) before recovering slightly in 2017 and 2019, at around 50 000 tonnes (Figure 3.18).

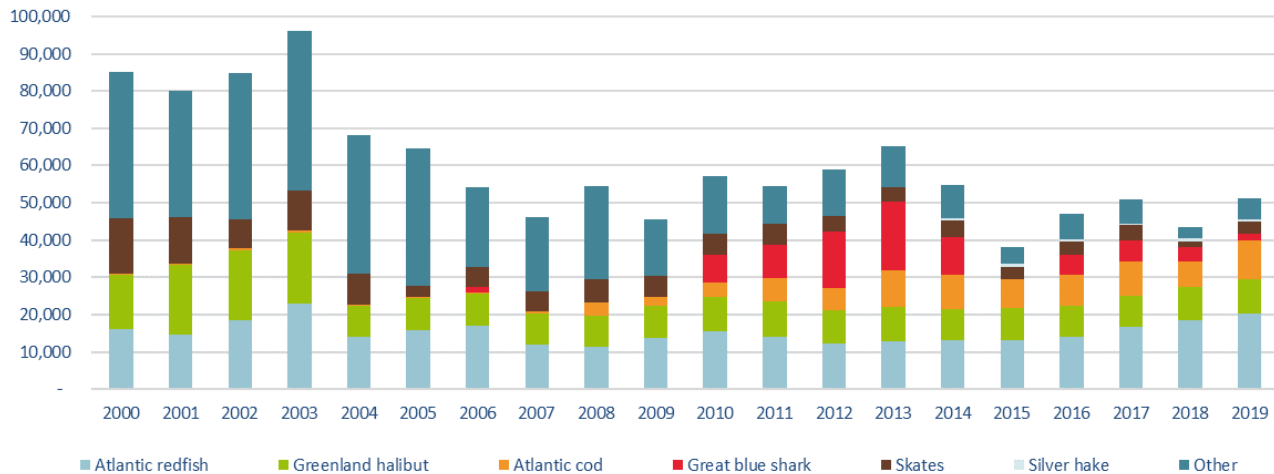
Catch quantity and composition have varied over time for all Member States' fleets. For Portugal, Atlantic cod catches have increased since 2008, becoming the second most important species after Atlantic redfish. Catch by the Portuguese fleet has generally increased since 2008, while for all other Member States, it has presented a decreasing trend. For Spain, Greenland halibut has increased in importance since 2010 while almost absent in previous years, being the most important species in several years.

According to STATLAND, in 2018, Portugal recorded the largest catch with 42.3% of the reported EU catch followed by Spain (40.5%) and Estonia (12.8%) (Table 3.5). The main target species are Atlantic redfish, accounting for 42% of the EU catch in 2018, followed by Greenland halibut (21%), Atlantic cod (15%) and great blue shark (9%). In 2019, the share of Atlantic cod increased to 20%, Atlantic redfish decreased to 40% and Greenland halibut to 18% (Figure 3.19).



**Figure 3.18 Historical catches (in tonnes) by EU fleets operating in the NAFO area**

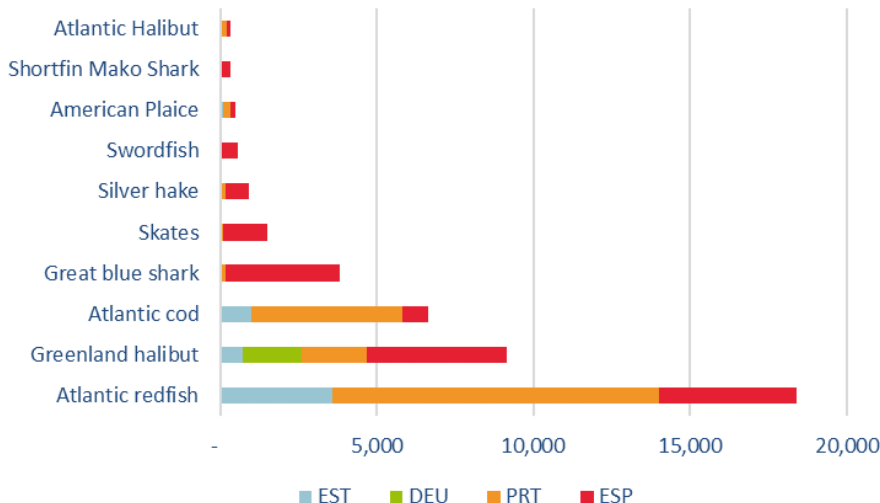
Source: <https://www.nafo.int/Data/STATLANT>



**Figure 3.19 Historical catches of top species (in tonnes) by EU fleets operating in the NAFO area**

Source: <https://www.nafo.int/Data/STATLAND>

According to STATLAND data, the Portuguese fleet took 57% of the Atlantic redfish catch and 73% of the cod catch in 2018. Spain took most of the Greenland halibut catch (43%), great blue shark (95%), skates (93%), silver hake (83%), swordfish (97%), shortfin Mako shark (90%), witch flounder (51%) and yellowfin flounder (86%). Germany caught Greenland halibut almost exclusively, taking 20% of the EU Greenland halibut catch (Figure 3.20).



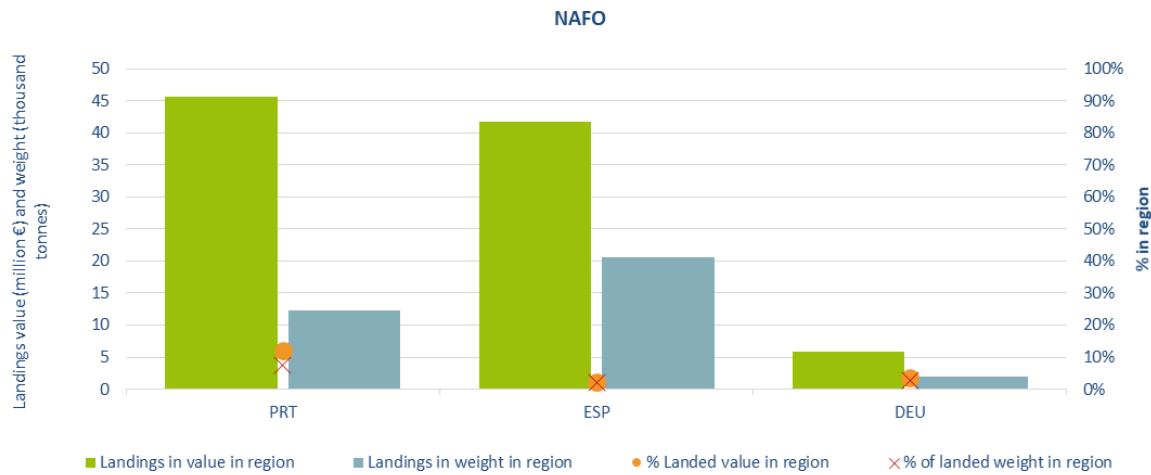
**Figure 3.20 Catch of top 10 species in weight by MS fleet from the NAFO region in 2018**

Source: <https://www.nafo.int/Data/STATLAND>

## Member States fishing activity in NAFO as reported by EU-MAP

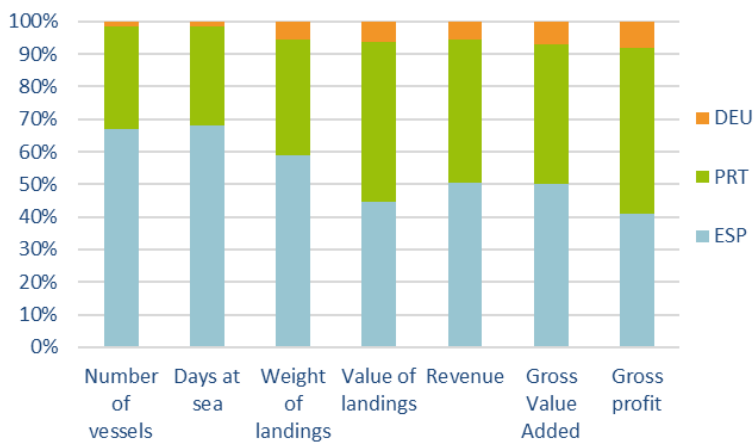
Although none of the EU national fishing fleets are heavily dependent on the region, Portugal obtains 12% of the national fleet's total landings in value from the region. All the other Member States' fleets have less than 5% dependency. Based on the available data, the Portuguese fleet obtained the most in terms of value (EUR 45.6 million), followed by the Spanish fleet with EUR 41.8 million (2% of the national fleet's landed value) and then German vessels with EUR 5.8 million (4% of the national fleet's total landed value) (Figures 3.21 and 3.22).

Tables in Annex 4 contain a summary of the economic performance of the NAFO fleet by Member State, main type of fishing activity and fleet segment.



**Figure 3.21 Importance of the NAFO region for MS fisheries in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2019 Fleet Economic data call (MARE/A3/AC(2019)); All monetary values have been adjusted for inflation; constant prices (2015).



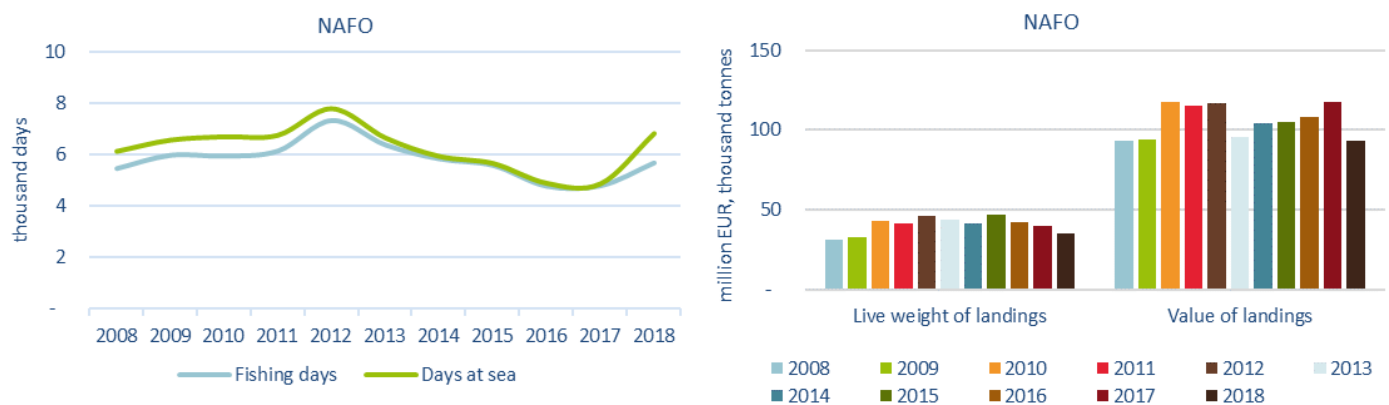
**Figure 3.22 Share of the NAFO fleet by MS fleets, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

## Overview of the main results for EU fleet operating in the NAFO area

### Fishing effort and landings

In 2018, an estimated 5 700 fishing days were deployed, 18% more than in 2017. Differences between number of fishing days and days-at-sea have been reduced considerably since 2014, which might be an indicator of better fleet performance in terms of fuel efficiency and costs. However, in 2018 this difference increased again, with the number of days at sea reaching 6 800, almost 40% more than in 2017 (Figure 3.23).



**Figure 3.23 Trends on effort and landings for MS fleets operating in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Landings in weight have remained generally stable since 2010 at around 40 000 to 45 000 tonnes. The value of landings has fluctuated between EUR 115 million and EUR 117 million from 2010 to 2012,

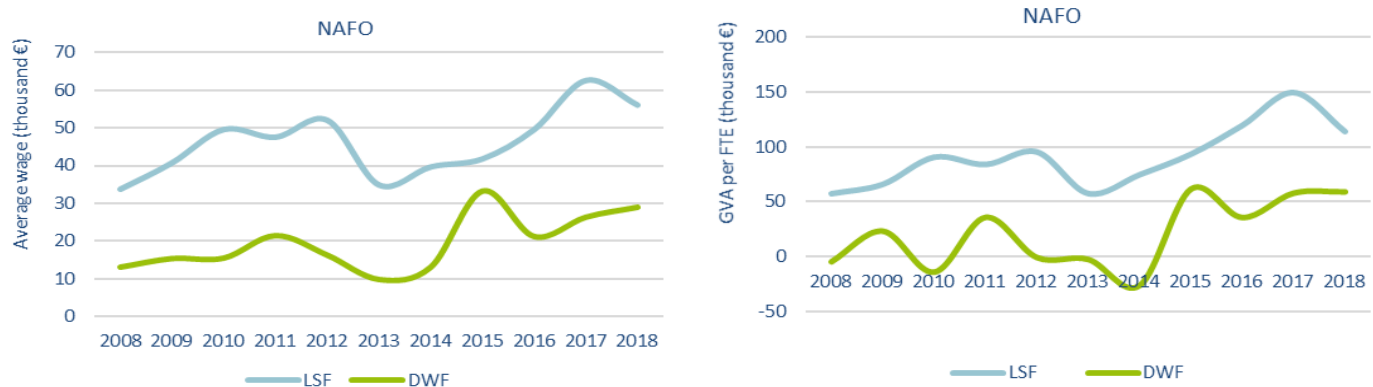


experiencing a considerable decrease in 2013 to EUR 95 million and then increasing steadily from 2014 until coming back to peak levels in 2017 (EUR 117.5 million). In 2018 the weight decreased by 13% from 2017, and the value decreased by almost 21% showing the lowest value since 2008 (Figure 3.23).

### Employment, wages and labour productivity

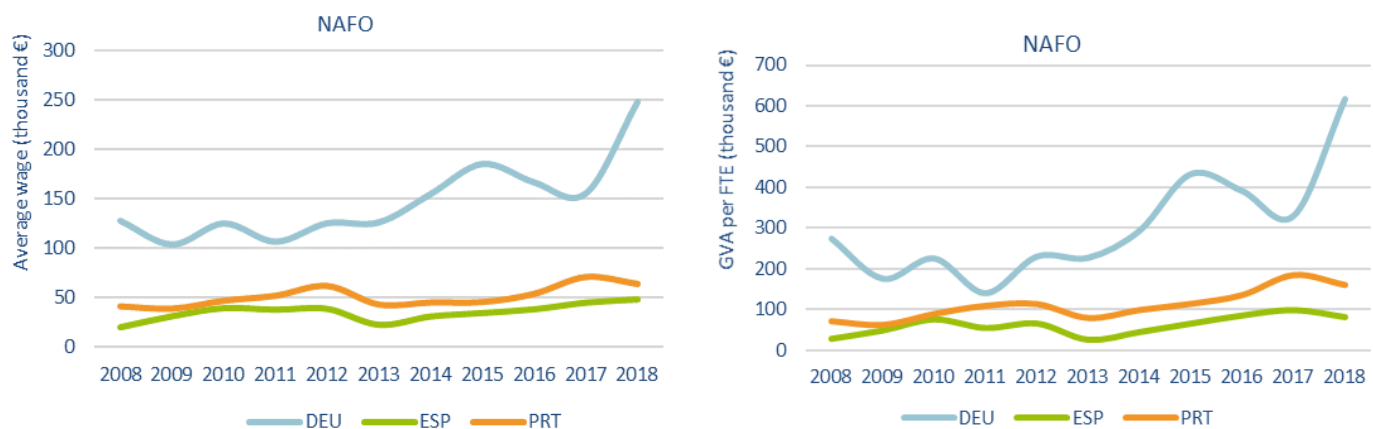
Over the past years, employment measured in terms of FTE showed a declining trend between 2014 and 2017 from 655 to 583. However, in 2018 there was a 12% increase in employment compared to 2017. In terms of fleet segments, the biggest number of total jobs is for the Portuguese demersal trawlers over 40 metres with 252 jobs and 168 FTEs, followed by the Spanish demersal trawlers over 40 metres, with 214 jobs and 208 FTE and Spanish drifting longlines between 24 and 40 metres with 167 jobs and 179 FTEs.

In 2018, the average wage was estimated to be around EUR 55 500 per FTE. Wages per FTE decreased by almost 4% compared to 2017, however, avoiding the high increase in 2017 (22% more than 2016), follow a sustained increase since 2014 (Figure 3.24).



**Figure 3.24 Trends on average wage and GVA per FTE by fishing activity<sup>12</sup> for MS fleets operating in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.25 Trends on average wage for the main MS fleets operating in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

There are big differences of average wages between Member States' fleets in the region. These can be explained by different calculation methods by each national administration on labour costs (including social security and financial costs), but also from the dynamics of employment (e.g. part time rotational crews doing two fishing trips per year) or cultural and social arrangements related to bonuses as a result of percentage of sharing in the profits, etc.

German crew were the top earners at around EUR 248 000 per crew member in 2018, +60% increase compared to 2017. Portuguese crew earned on average EUR 63 600, less than in the previous year (EUR 70 000), while Spanish counterparts were around EUR 48 000, + 7% compared to 2017.

The average labour productivity (GVA/FTE) was estimated at EUR 86 700 in 2018 (16% lower than 2017), with the LSF production EUR 114 000 per FTE (against EUR 59 400 for the DWF). GVA per FTE in the LSF has increased considerably since 2013 (Figure 3.25).

GVA per FTE varies significantly by Member State. The highest labour productivity in 2018 was reached by Germany (EUR 617 300, +86% compared to 2017), versus the EUR 160 900 in the Portuguese fleets,

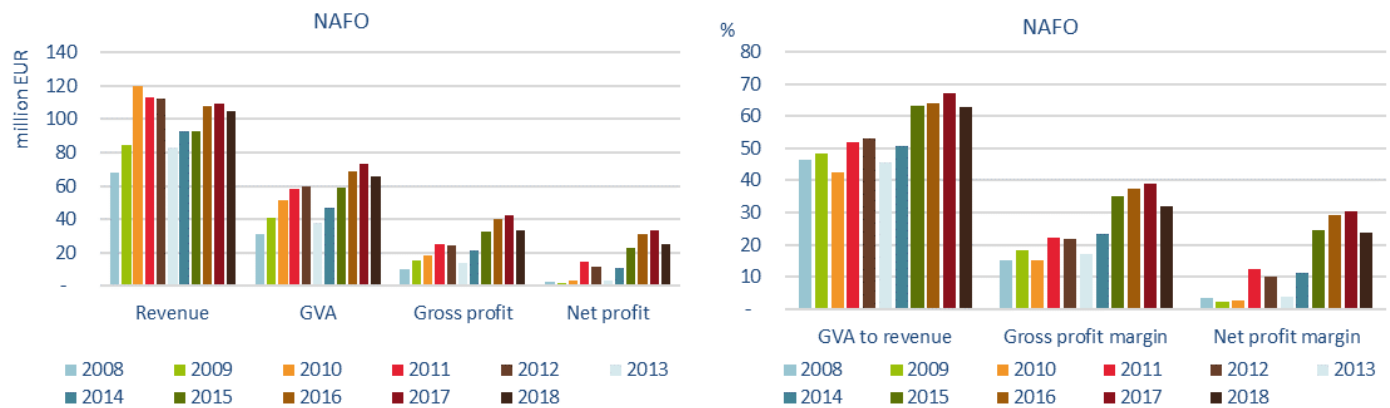
<sup>12</sup> All fleet segments included



and EUR 82 600 for the Spanish fleet which have decreased by 15% (United Kingdom and Lithuania have been excluded due to incomplete time series data).

## Economic performance

Since 2014, revenue has remained relatively stable oscillating between EUR 90 million and EUR 110 million. GVA and gross profit have experienced similar fluctuations at different scales, reaching its maximum values for both indicators in the year 2017. In 2018 GVA and gross profit decreased by 10% and 21%, respectively (Figure 3.25). The net profit has been increasing since 2014, however, in 2018 it decreased by 24.7% (Figure 3.25) compared to 2017.



**Figure 3.26 Trends on revenue and profits for MS fleets operating in the NAFO region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main drivers affecting fleet performance in the region

- Capacity, effort, and landings in weight have decreased considerably since 2013. This seems to be a stable trend linked to the current fishing strategies and business plans of the concerned fleets, as they usually consider this fishing ground as complementary to the North East Atlantic, particularly for trawlers targeting cod and redfish. This could also explain partially the reduction in days at sea in the area.
- All the EU fleets presented a good economic performance from 2014 to 2017 due to a high value in the key commercial species landed and energy efficiency. However, in 2018 they showed the lowest value of landings with near EUR 93.2 million of all the time series.
- The gross profit margin of 32% in average returned by the fleets is worse than the one obtained in the last year but it continues being high; this also reflects the stability of fixed costs. The average net profit margin around 24% shows also an overall reduction of fixed and variable costs with more efficiency in the cost structure of the firms.
- There is some specific concerns about the decline in employment (in FTE), although this might be linked to the modernisation of boats and mechanisation of processing activities at sea, together with a rotation system of the employed full time staff on several fishing trips. In 2018, FTE increased in Spain by 32%, as the number of vessels increased by 25%, compared to 2017.
- The annual wages have increased since 2014 for the case of Portugal, Spain and the United Kingdom. Germany remained stable at high levels.
- The increase in fuel prices and the lower average market prices have contributed negatively to the overall performance.
- The witch flounder 3NO stock was reopened in 2015, following many years with no directed fishery.
- The new Management Strategy Evaluation for Greenland halibut, adopted at the NAFO Annual Meeting in September 2017, was implemented in 2018 with a TAC of 17 500 tonnes.

## Outlook for 2019 and beyond

- 2018 was the first year of implementation of the new Management Strategy Evaluation (MSE) for Greenland halibut, adopted at NAFO Annual Meeting in September 2017 with a starting TAC of 17 500 tonnes. This management plan contains a harvest control rule (HCR) which is expected to provide stability in the level of catches in the region of 16 000 tonnes to 17 000 tonnes for the coming years.

- A protocol for exceptional circumstances for Greenland halibut MSE was subsequently developed in 2018 to guarantee that the full process is respected. This protocol has not been used yet as exceptional circumstances have not occurred to date. The benchmark review of the cod (3M Subdivision) initiated in 2018 to develop a HCR will be a major challenge for the EU NAFO fleet. Changes to the assessment models and, potentially, lower catch levels (TACs) given to poor level or recruitments could have a potentially detrimental socio-economic impact in the mid/long-term, in particular, for the Spanish and Portuguese demersal trawler fleets targeting this stock. The HCR has not yet been developed due to scientific issues with the modelling, but further work is ongoing at the Scientific Council.
- The Annual Meeting of 2020 set a TAC for 3M cod stock of 1 500 tonnes due to the poor biological situation of the stock. This is a dramatic decrease with respect to the previous two years, coming down from 17 500 tonnes in 2018 and from 8 500 tonnes in 2018. On top of this TAC setting, the following three flanking measures were agreed as additional conservation and control measures to protect spawning aggregations and juvenile fish in the Flemish Cap area on the basis of recommendations made by the NAFO Scientific Council (measures 1 and 2) and STACTIC (measure 3), respectively:
  - Time area closure of the directed fishery for the 3M cod stock for January-March 2021.
  - Compulsory use of sorting grids for all trawlers with a directed fishery on cod.
  - 100% Control of landings for vessels engaging in directed fishery on 3M cod stock .

The economic impact of the time area closure of the directed fishery for cod is likely to be very high for Portuguese and Spanish trawlers, as they will be likely forced to change their fishing strategies in the North Atlantic and look for alternative fishing grounds, at least during the time of the closure. Displacement of fishing effort might occur as well as loss of income for those operators more reliant or with higher dependency on this fishery (in particular, Portuguese demersal trawlers). Also, there might be a switch in the target species towards other demersal species such as redfish or hake.

- The 3M shrimp fishery had a high importance and commercial and socioeconomic value for many EU fishing vessels in the past, but it was under a moratorium from 2011 to 2019. The EU is by far the largest NAFO CPC in terms of quota share for this stock, which was the most valuable one in terms of landings during the period 1995-2010. Within the EU, Estonia is the largest fishing nation of 3M shrimp followed by Lithuania, then Latvia and, to a lesser extent, Denmark, Poland, Spain and Portugal. During the closed period, there was a slow and gradual improvement of the biomass and in 2019 it was above  $B_{lim}$ . The commercial shrimp fishing was reopened in 2020 in 3M, with an effort scheme based on a fishing days allocation by CPCs and not a TAC, corresponding to 823 out of 2 640 fishing days. However, in 2020 there has been a low utilisation of these days due to late start of the fishing season due to current CEM by-catch "move on" provisions coupled with logistic issues caused by the COVID-19 situation. As a result, only one Estonian vessel entering the fishery late in 2020. However, there is a potential for future years that this could generate significant incomes for the specialised demersal trawl fleet from Estonia and Latvia. NAFO is also planning intersessional work to review the current management approach for shrimp in Division 3M in 2021.
- The development of an ecosystem-based approach to fisheries management in the NAFO regulatory area and the setting of a coherent network of Vulnerable Marine Ecosystem (VME) areas could bring about new closures or expansion of existing ones (e.g. seamounts, sponges and gorgonians, sea pens concentrations, black corals, bryozoos, etc.). In 2020, a rollover of the current VME closures in the NAFO RA was agreed for an additional year, pending a more comprehensive review in 2021.
- A study on the impact of bottom fisheries in the NAFO area will be conducted in 2021. However, a preliminary evaluation that assessed eight fisheries in areas where there are VMEs found that while the Greenland halibut fishery does overlap with polygons containing VMEs, the longline cod and the shrimp fisheries do not. Other fisheries analysed showed an intermediate level of overlap. The Scientific Committee recommended that this first analysis be augmented with more detailed data including VMS and haul data. The outcomes of this study could influence the dynamics of specific EU fleet segments through closures/displacement and/or reduced effort and/or concentration of catches in other areas.
- Apart from proposals to potentially close certain fishing areas, the NAFO regulatory area will also likely be affected by other human economic activities that impact the seabed; these include oil and gas drilling and deep-sea mineral mining in the continental platform of Canada. Indeed, any licence to prospect or commercially extract known deposits in the seabed might have an adverse effect on the fishing activities of EU fleets operating in the area.
- A scientifically validated protocol to develop an industry-science partnership to test separator panels and "Norwegian" grid to improve gear selectivity for cod trawlers operating in Subdivision 3M, could

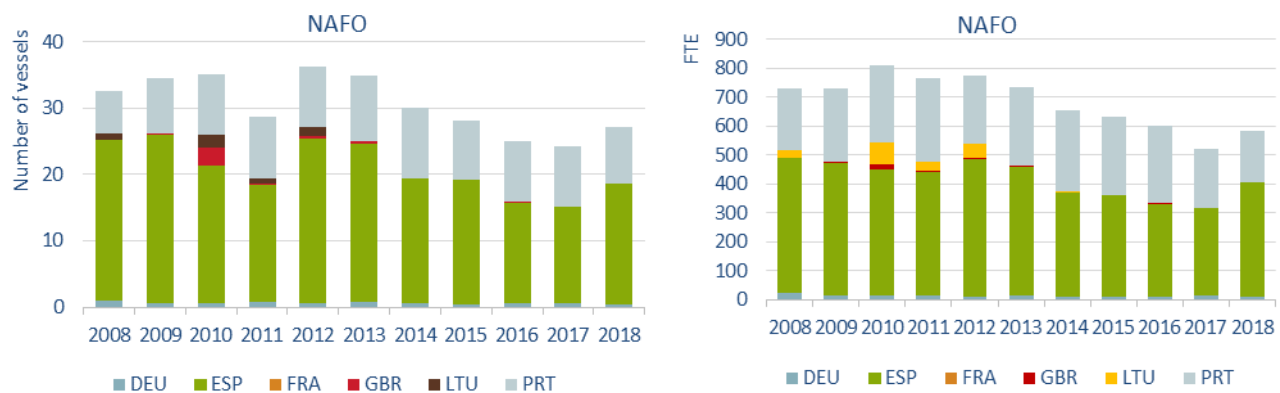
contribute to reduce catches of small and juvenile cod, helping to protect incoming class years and recruitments, while allowing for more efficient fishing seasons.

- An EU funded project developing a method for a multispecies assessment in 3M for looking at the ecosystem and the predator-prey interactions between cod, redfish and shrimp was finalised and presented in 2019. This includes a bio economic tool to test management scenarios and evaluate economic trade-offs. This approach could bring further uncertainty for those fleets dependent on one commercial species and create unexpected changes in their fishing patterns. A roadmap is being developed to include reporting on progress in multi-species models and simulations to evaluate the reliability of decision rules for species aggregated catch levels (total catch indicator indexes). A workshop to identify ecosystem level objectives will be held in advance of the 2021 Annual Meeting.

## Trends by Member State fleet

### Fleet capacity and employment

Spain represented near 67% of the total number of EU active vessels in the area with 18 large-scale vessels while Portugal represents the other 33% with 9 vessels. This has a proportional reflection in terms of effort measured as number of days-at-sea per Member State: Spain holds two thirds of the total (66% of the total or 4 529 days), followed by Portugal with near one third (2 079 days).



**Figure 3.27 Trends on number of vessels and employment (in FTE) for MS fleets operating in NAFO**

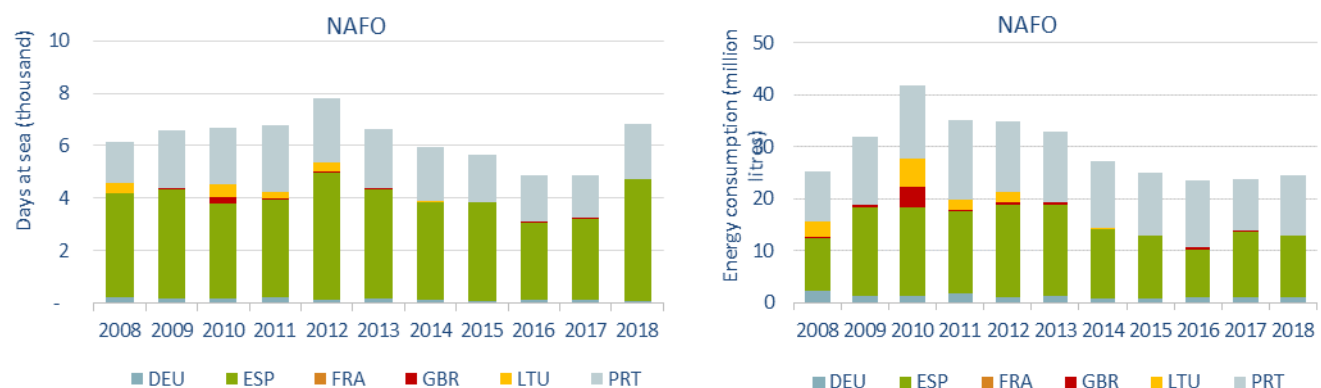
Data source: MS data submissions under the 2019 Fleet Economic data call (MARE/A3/AC(2019))

The total vessel tonnage for all EU fleets in the NAFO area was estimated at 26 647 GT and total vessel power 29 857 kW. Although the number of vessels decreased between 2010 and 2017, in 2018, there was an increase, mainly due to a higher activity in the area by the Spanish fleet (Figure 3.27).

Due to a higher activity in the area in 2018 than in 2017, employment, measured in terms of FTE, showed a similar increasing trend in line with the number of vessels, breaking the downward trend in the 5 last years analysed, i.e. 2013 and 2017 (Figure 3.27).

### Fishing effort

The NAFO fleet spent almost 6 827 days-at-sea in 2018. The Spanish fleet accounted for 68% of the number of days, followed by Portugal. Effort (in days-at-sea) increased by 40% compared to 2017. Energy consumption in 2018 (23.7 million litres) increased by 3.5% compared to 2017 (Figure 3.28).



**Figure 3.28 Trends on fishing effort (in days-at-sea) and fuel consumption for MS fleets operating in NAFO**

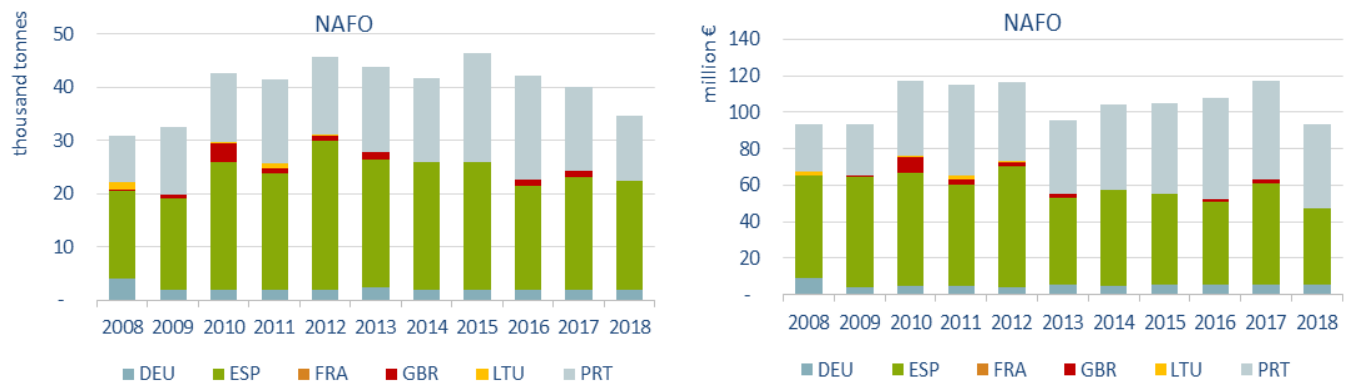
Data source: MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018)).

## Landings and top species

Spain accounted for 59% of the total weight landed (20 538 tonnes) and 45% in value (with nearly EUR 42 million). Despite Portugal landing considerably less in volume than Spain (35% of the total weight landed), it reached a higher value, with 49% of the total (EUR 45 million).

Atlantic redfish was the most landed species in weight in 2018, with almost 11 267 tonnes. The second most landed species was Greenland halibut (7 936 tonnes), followed by blue shark (5 370 tonnes), Atlantic cod (4 056 tonnes), and raja rays (2 108 tonnes). The remaining top 10 species (swordfish, silver hake, shortfin mako, American plaice, and Atlantic halibut) oscillate in volume between 323 to 658 tonnes (Figure 3.30).

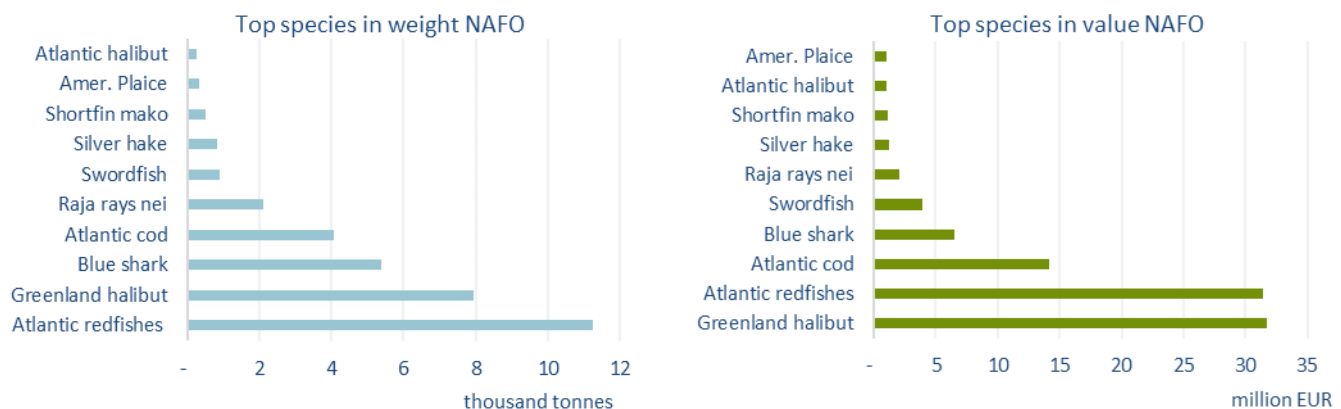
In terms of value, the five most important species were: Greenland halibut (EUR 31.7 million), Atlantic redfish (EUR 31.4 million), Atlantic cod (EUR 14.1 million), blue shark (EUR 6.5 million) and swordfish (EUR 3.2 million) (Figures 3.30 and 3.31).



**Figure 3.29 Trends on landings by MS fleets operating in NAFO**

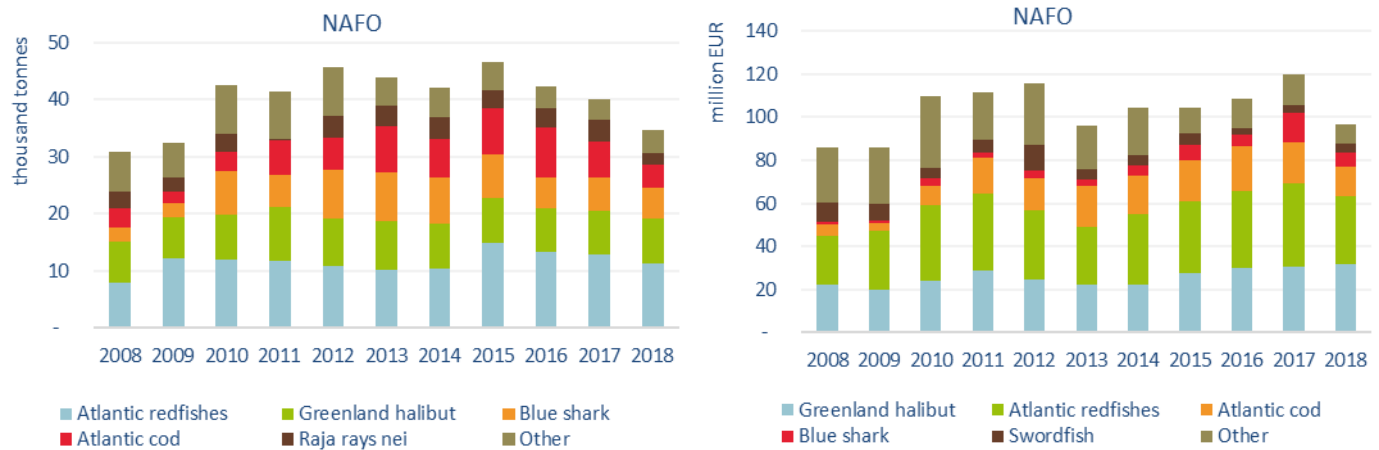
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The Portuguese fleet dominates the redfish and cod landings while Spain leads in Greenland halibut, blue shark and rays. Germany also takes a substantial share of Greenland halibut while the United Kingdom almost exclusively targets Atlantic cod (Figure 3.27).



**Figure 3.30 Top 10 species in weight and value by MS fleet landed from the NAFO region in 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.31 Trends on landings for the top species in landed weight and value for MS fleets operating in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

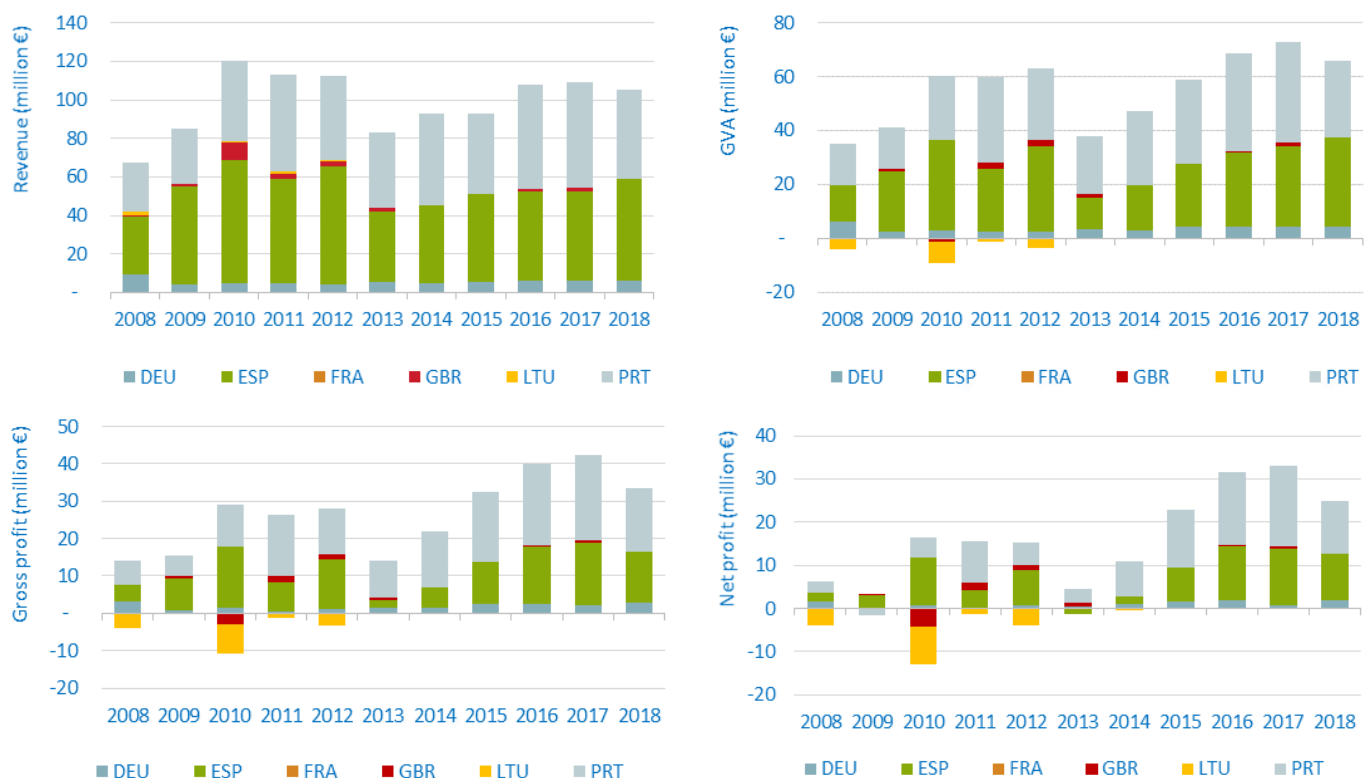
The revenue generated by the 27 vessels in 2018 was estimated at almost EUR 105 million. This represents a 3.66% decrease compared to 2017 (Figure 3.29). The Spanish fleet generated the 51% of this revenue while Portuguese fleet generated the 43%.

There is a high level of GVA to revenue for all fleet segments. However, GVA produced by the vessels covered was estimated at EUR 65.8 million compared to EUR 73 million in 2018, that is, a 9.57% decrease.

The fleet made almost EUR 33.5 million in gross profit; a 20% decrease compared to the EUR 43 million in 2017. All Member States fleets in the region were profitable, and combined, generated an average gross profit margin of 31%, lower than the 39% achieved in 2017. Portugal reported the highest profit margin (37%), while Spain reported 26%.

The aggregated net profit was EUR 25 million, with Portugal leading with EUR 12.4 million, followed by Spain with EUR 10.7 million. The overall average net profit margin was 24%.

Average fuel price for the fleet was estimated at EUR 0.50 per litre (25% higher than the previous year), ranging from EUR 0.43 per litre for Spanish vessels to EUR 0.57 per litre for Portuguese trawlers.



**Figure 3.32 Trends on revenue and profits for MS fleets operating in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Regarding GVA, Spain and Portugal show relatively similar increasing trends from 2010 to 2012, a sharp fall in 2013 and increase coming back to previous level from 2014 to 2017. However, in 2018, upward trend was broken in Portugal with a decrease 9% while Spain continued increasing GVA with a 9.7%. In 2011, Portuguese demersal fleets performed significantly better than its Spanish counterparts, EUR 31.5 million versus EUR 23.7 million reported for Spain. Also, the decrease in 2013 was milder, as Portugal went from EUR 26.7 million in 2012 to EUR 21.5 million in 2013, while Spain from EUR 31.7 million to EUR 11.9 million, respectively.

Portuguese and Spanish fleets experimented a considerable decrease in their gross profits in 2018 (17% decrease for Spain and 21% for Portugal) compared to 2017.

Regarding net profit, Spain reported EUR 7.7 million in 2015, EUR 12.6 million in 2016 and a peak of EUR 13.2 million in 2017. However, in 2018 net profit was only EUR 10.6 million. Portugal reported EUR 13.4 million in 2015, EUR 16.9 million in 2016 and EUR 18.8 million in 2017, while in 2018, it was EUR 12.4 million, the lowest of the time series.

## **Main factors affecting the performance of the fleet**

### **SFPAs, Regulation and fisheries management in the region**

The NAFO Conservation and Enforcement Measures (CEM) incorporate all NAFO measures presently in force as adopted by the Commission in accordance with provisions of Articles VI and XIV of the Convention on Cooperation in the Northwest Atlantic Fisheries. Every year the NAFO CEM is revised by the Commission.

These measures shall, unless otherwise provided, apply to all fishing vessels used or intended for use for the purposes of commercial fishing activities conducted on fishery resources in the Regulatory Area as defined in Article 1 of the NAFO Convention.

The latest version of the document incorporates amendments which were adopted at the most recent NAFO Annual Meetings held in September 2020.

The applicable CEM measures for the period analysed in this report (2018) is available here: <https://www.nafo.int/Portals/0/PDFs/COM/2018/CEM-2018-web.pdf>

Also, more information on the historical archive of management measures and quota tables can be consulted at NAFO website: <https://www.nafo.int/Fisheries/Conservation>

### **Status of important stocks**

NAFO Scientific Advice is generated through a joint effort by NAFO Members (nine CPCs in 2018 and ten in 2020 with the incorporation of UK) and makes use of different data sampling programs carried out by Members states. Additionally, available statistics on the resources and their environment are also used when producing the advice.

The Commission adopted in 2014 an MSE approach for redfish in Division 3LN ([FC Doc. 14/29](#)). This approach uses a HCR designed to reach 18 100 tonnes of annual catch by 2019 to 2020 through a stepwise biannual catch increase, with the same amount of increase every two years. At the 2020 annual meeting, it was decided to continue using the HCR and extend the 18 100 tonnes annual TAC for the period 2021 to 2022.

### **Landing obligation**

The LDAC adopted in September 2016 an advice in response to a consultation on a proposal for a regulatory text from the European Commission ("Delegated Act") following Article 15.2 of the Basic Regulation of the CFP (EU) No. 1380/2013, whereby it establishes a derogation from the LO for such NAFO stocks in which a specific legal conflict occurs with such articles under NCEM which authorize or require discards in certain cases.

For the three cases identified, the proposal reflected the incompatibility of such NCEM rules with the LO as follows: the requirement not to retain on board redfish in zone 3M once the olympic quota has been completed (NCEM Art 5.3 (c)), the maximum limits to retentions and authorised by-catches involving the obligation to discard the excess (NCEM Art. 6), with the particular case of capelin as a species under a moratorium (NCEM Art. 6.3 (d)), and the mandatory discard of catches with sizes below the minimum included in Annex I.D (NCEM Art. 14).

In all such cases, the priority of the international standard was recognised, and it was made clear that NAFO CEM rules should continue to apply, by specific derogation from the obligation to land under Article 15 of the Basic Regulation.



The LDAC also made a listing and case study of potentially limiting species (choke species) under other situations which could prevent the normal catch of the allocated quotas for the EU Fleets, due to a conflict or a lack of legal certainty between an obligation under NAFO's CEM of not retaining on board, and the obligation to land at a port as provided for under Community legislation.

The content of the LDAC advice is available here:

[http://ldac.eu/images/documents/publications/LDAC\\_Advice\\_on\\_Implementation\\_of\\_LO\\_in\\_NAFO.pdf](http://ldac.eu/images/documents/publications/LDAC_Advice_on_Implementation_of_LO_in_NAFO.pdf)

As a result, the EC adopted a Delegated Act establishing a specific derogation to the application of the LO outside EU waters for NAFO RA was granted.

It also requested to STECF to provide scientific advice for those fisheries outside EU waters on possible rules for a *de minimis* exemption for certain target stocks.

The reply of the Commission is available here:

[http://ldac.eu/images/documents/publications/Commision\\_reply\\_to\\_consultation\\_on\\_external\\_dimensions\\_on\\_landing\\_obligation.pdf](http://ldac.eu/images/documents/publications/Commision_reply_to_consultation_on_external_dimensions_on_landing_obligation.pdf)

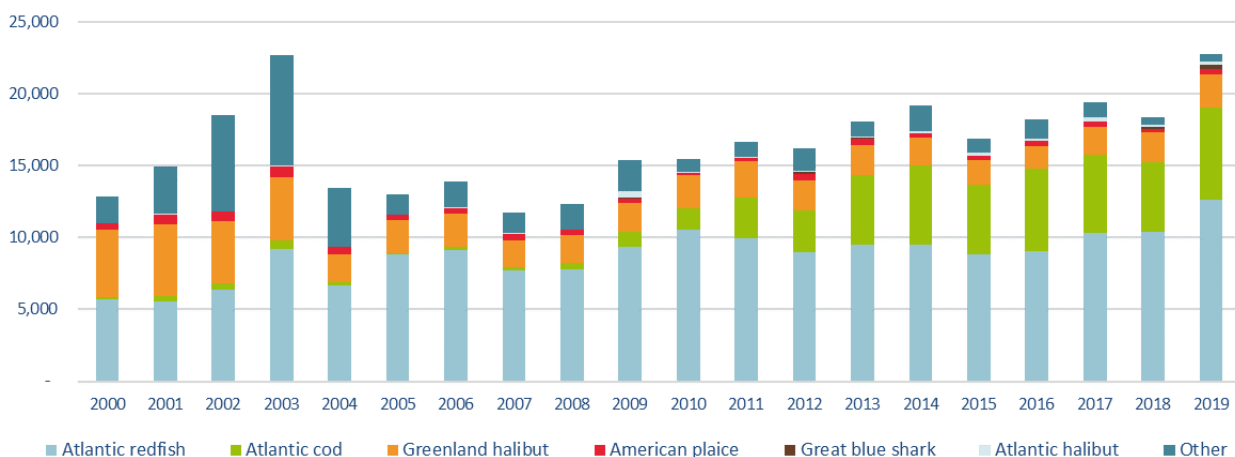
At the 2018 NAFO Annual Meeting, it was decided by proposal of Norway that a study would be launched in 2019 to analyse potential implications of adoption of a landing obligation in NAFO by looking at the EU and Norwegian legislations. The results of this study will be presented and discussed at the forthcoming NAFO Working Group on Selectivity, By-Catch and Discards Working Group.

## COVID-19

The COVID-19 outbreak with the restrictive measures adopted in March and April 2020 in the EU has had significant economic impacts on the behaviour of the DWF, either refraining for starting their fishing season (as it was the case of 3M shrimp for the Estonian fleet) or deciding to extend their fishing trip as they had already started it (e.g. cod and redfish trawlers) to comply with health and safety rules and overcome travel restrictions related to crew rotation or changeover. This might result in significant increases or decreases of fishing days or days at sea reported in the area for 2020, depending on the specific circumstances of each fleet.

## Description of relevant fisheries in the region

### Portugal



**Figure 3.33 Historical catches of top species (in tonnes) by Portuguese fleets operating in the NAFO area**

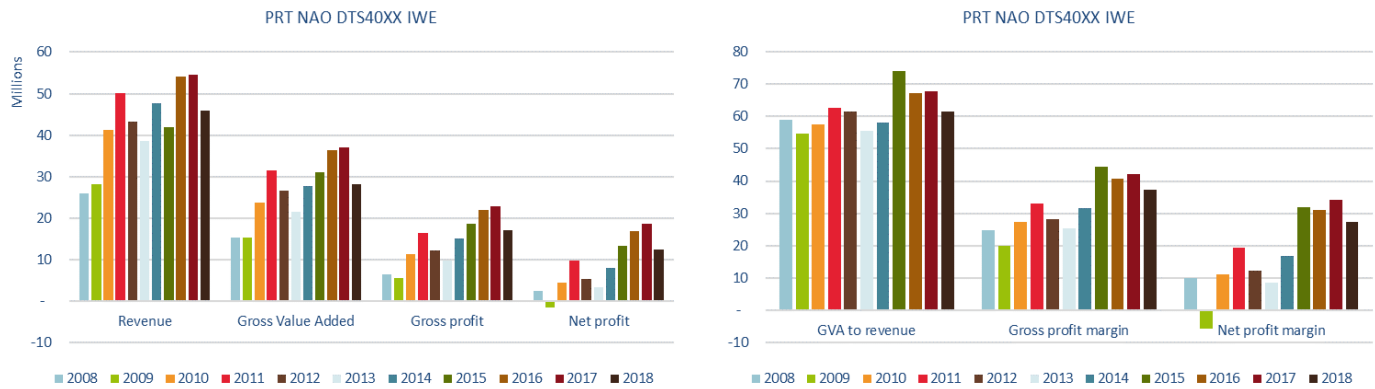
Source: <https://www.nafo.int/Data/STATLANT>

### Portuguese demersal trawlers over 40 m (PRT NAO DTS40XX IWE)

This fleet is composed of nine vessels operating in NAFO and also NEAFC region, in terms of landings NAFO area represents 87% of landings in weight and value.

Revenue in 2018 decreased 16% compared to 2017 breaking the positive 2015 to 2017 trend. Effort increased by 28% in the number of days at sea and by 10% in fishing days. The Portuguese trawlers reported the highest value of landings in the region together with Spain, with EUR 45.6 million, which is a decrease from the previous year (EUR 54.7 million).

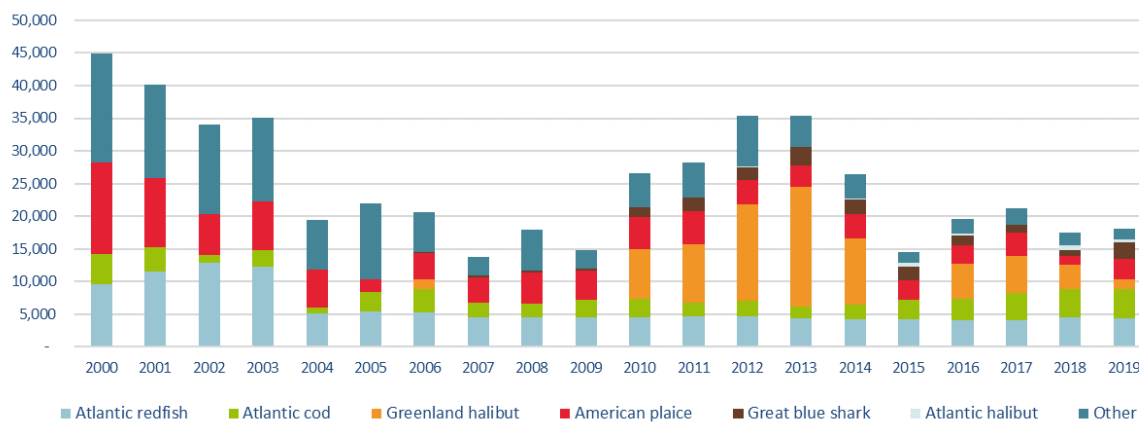
In 2017, this fleet operated mostly in NAFO Divisions 3LMNO, targeting Atlantic redfish (56% of landing value), Atlantic cod (26%) and Greenland halibut (13%).



**Figure 3.34 Trends on revenue, profit and profit margins for the activity of PRT NAO DTS40XX IWE in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Spain

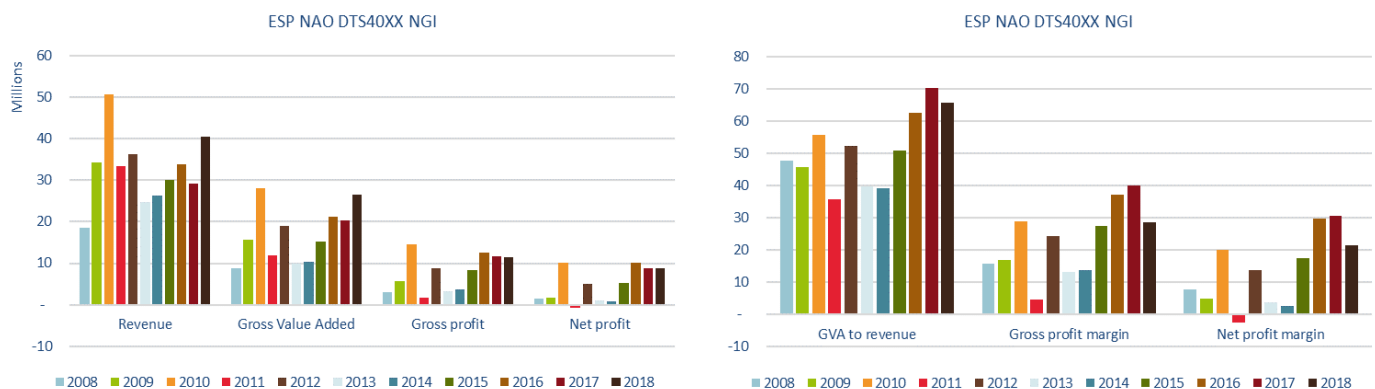


**Figure 3.35 Historical catches of top species (in tonnes) by Spanish fleets operating in the NAFO area**

Data source: <https://www.nafo.int/Data/STATLANT>

## Spanish demersal trawlers over 40 m LOA (ESP NAO DTS VL40XX)

15 vessels make up this segment as an activity in the NAFO region of 23%. The segment generated a volume of landings of 13 004 tonnes and a revenue of EUR 40.5 million. Compared to previous year, gross profit margin decreased from 40% to 29% in 2018.



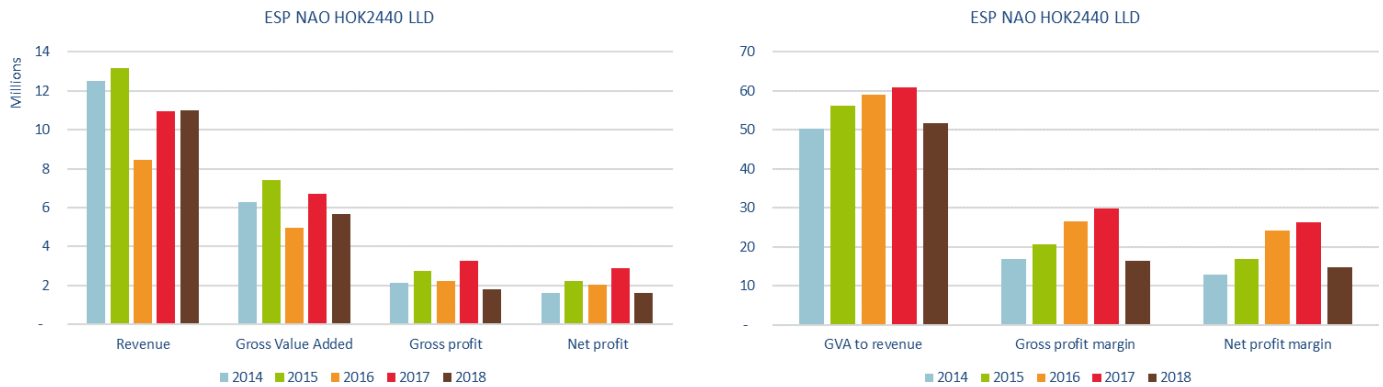
**Figure 3.36 Trends on revenue, profit and profit margins for the activity of ESP NAO DTS40XX NGI in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Note: for time-series, data on ESP NAO DTS40XX NGI\* are included to cover the years 2014-2016 for ESP NAO DTS40XX NGI.

## Spanish drifting longline 24-40 m LOA (ESP NAO HOK VL2440 LLD)

32 vessels make up this segment as an activity in the NAFO region of 42%. The segment generated a volume of landings of 6 800 tonnes and a revenue of EUR 10.9 million. Compared to previous year, gross profit margin decreased from 30% to 16% in 2018.

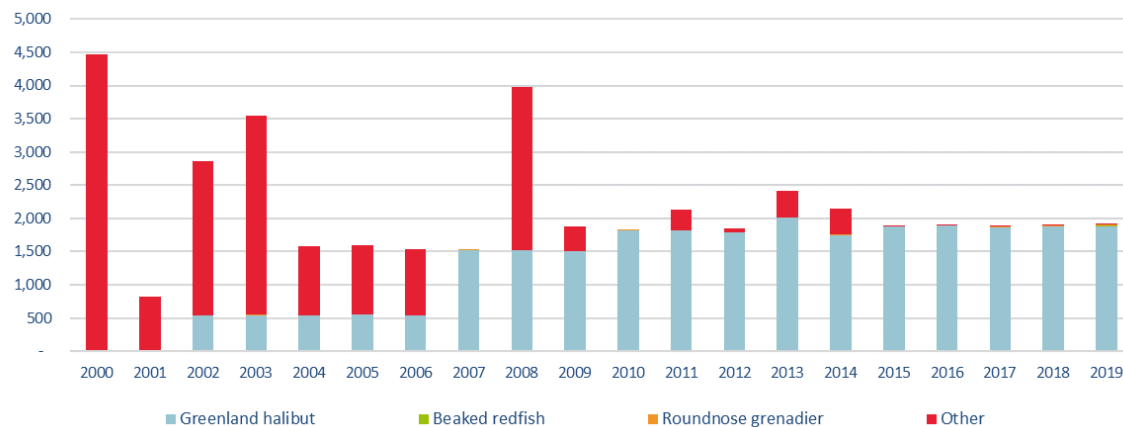


**Figure 3.37 Trends on revenue, profit and profit margins for the activity of ESP NAO HOK2440 LLD in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Note: for time-series, data on ESP NAO HOK2440 LLD\* are included to cover the years 2014-2017 for ESP NAO HOK2440 LLD (for which data are only available for 2018)

## Germany



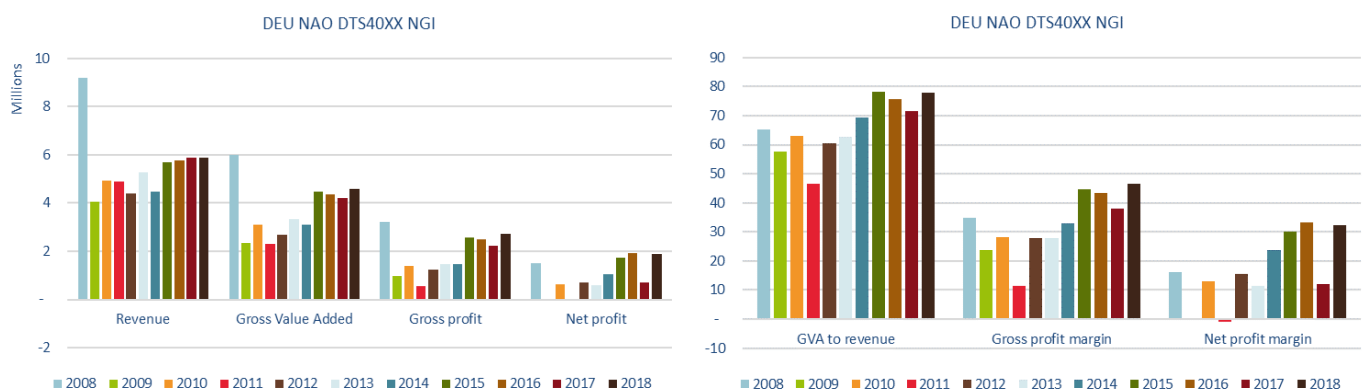
**Figure 3.38 Historical catches of top species (in tonnes) by German fleets operating in the NAFO area**

Data source: <https://www.nafo.int/Data/STATLANT>

## German demersal trawlers over 40 m LOA (DEU A27 DTS VL40XX)

In 2018, two German vessels from this segment reported 110 days-at-sea in the area, (all in NAFO Divisions 1CD), and landed 5.4% of the total weight in the region (1 900 tonnes) and 5.6% of the value tonnes estimated at EUR 5.8 million.

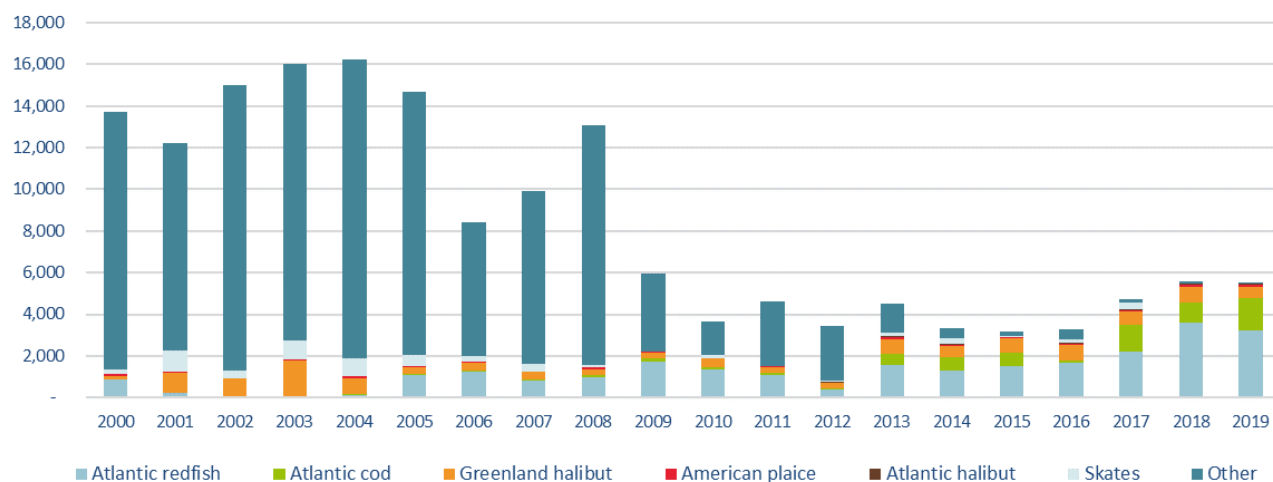
The biggest share of catch for this fleet is made up of Greenland halibut. To a lesser extent, the fleet also targets Atlantic redfish and roundnose grenadier.



**Figure 3.39 Trends on revenue, profit and profit margins for the activity of DEU NAO DTS40XX NGI in NAFO**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Estonia



**Figure 3.40 Historical catches of top species (in tonnes) by Estonian fleets operating in the NAFO area**

Data source: <https://www.nafo.int/Data/STATLANT>

### Estonian demersal trawlers over 40 m LOA (EST A27 DTS VL40XX)

Estonia has low activity in NAFO, which brings confidentiality issues that prevent the publication of activity and economic data. The catches of this fleet are mainly composed by Atlantic redfish, Atlantic cod and Greenland halibut, totalizing 5 556 tonnes of fish.

### France

Due to very low levels of activity and that only partial DCF data are available, this fleet has not been included in the analysis. Data on the French St. Pierre et Miquelon fleet are not reported under the DCF. The latter, according to NAFO official statistics, caught 1 168 tonnes in 2018.

### 3.3 Baltic Sea

Tables in the Annex 4 contain a summary of the economic performance of the Baltic Sea fleet by Member State, main type of fishing activity and fleet segment.

#### Regional Details

The Baltic Sea covers ICES areas 27.3b,c and d and is bounded by the Swedish part of the Scandinavian Peninsula, mainland Europe and the Danish islands. The central part of the Baltic Sea is bordered on its northern edge by the Gulf of Bothnia, in the north-east by the Gulf of Finland, and in the east by the Gulf of Riga. For simplicity, hereafter the EU vessels operating in the aforementioned ICES areas are referred to as the EU Baltic Sea fleet or fisheries.

Nine Member States were involved in Baltic Sea fisheries in 2018: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden and Netherlands (Figure 3.41). Most of the Member States bordering the Baltic Sea are highly dependent on the region, where the main species targeted include herring, sprat and cod.

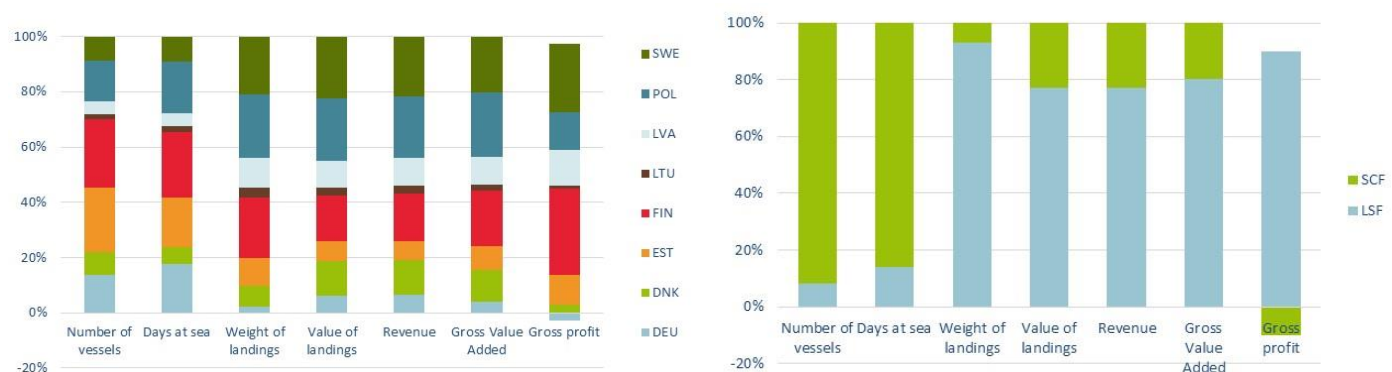
In terms of landings, and based on the EU MAP data available, the Estonian, Finnish, Latvian and Polish fisheries are fully dependent on the Baltic Sea region. However, it should be noted that Estonian, Latvian and Polish vessels operating in the High Seas (distant water fleets) are not included in the analysis due to insufficient data or for reasons of confidentiality. On the other hand, the Lithuanian low dependency rate is due to the distant water fleet operating in other areas. Most German, Danish and Swedish vessels operate in both the Baltic and North Sea fishing regions.

The Polish fleet was the most important fleet in terms of landed value (EUR 47 million), and in terms of landed weight (156 000 tonnes) (Figure 3.41).



**Figure 3.41 Importance of the Baltic Sea region for MS fleets in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.42 Share by MS and fishing activity fleets operating in the Baltic Sea, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Overview of the main results for EU Baltic Sea fleet

### Fishing effort and landings

The EU Baltic Sea fleets spent 357 710 days-at-sea in 2018 (4% less than in 2017). Generally, the effort variables show a decreasing trend compared to 2008. The weight and value of landings was approximately 673 604 tonnes and EUR 208 million. Landings (by weight) from the Baltic declined between 2009 and 2012, followed by a slight increase in 2013 and further increase after 2014. Conversely, landings by value increased steadily from 2009 to 2013, decreased significantly in 2014 (due to slump in the price for small pelagic) and had still not entirely recovered in 2018 (Figure 3.43).



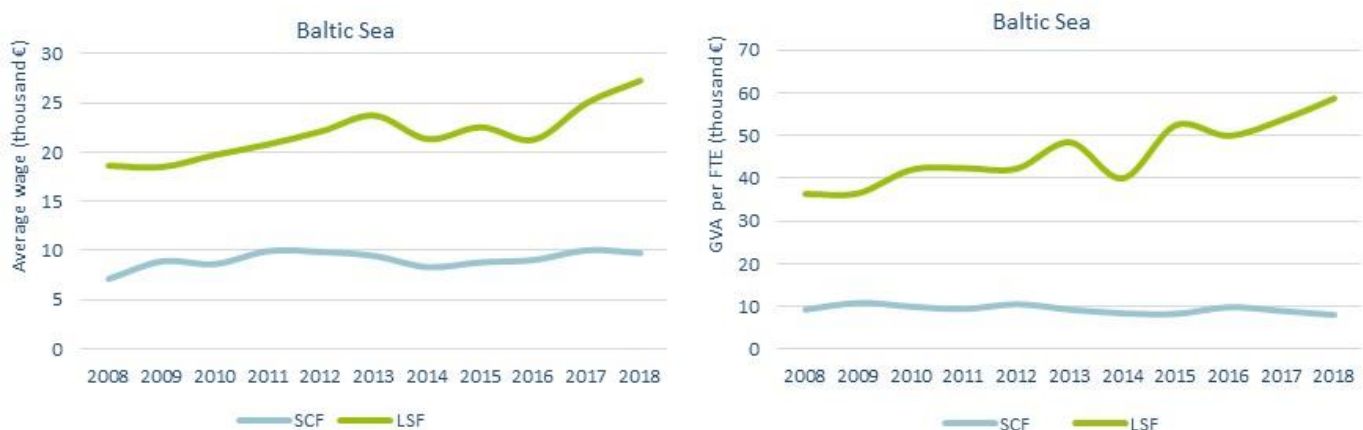
**Figure 3.43 Trends on effort and landings for MS fleets operating in the Baltic Sea region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

For the SSCF, the overall average wage per FTE decreased by 3.0% in 2018 compared to 2017, fluctuating around EUR 9 802 per year (Figure 3.44). Average wages per FTE in the LSF increased by 9% between 2017 and 2018 and was estimated at around EUR 23 527 per year.

The overall labour productivity (GVA/FTE) for the SSCF decreased 11% in 2018 compared to 2017 and was estimated around at EUR 7 903 in 2018. The overall labour productivity (GVA/FTE) for the LSF increased 10% to reach an estimated EUR 58 591 (Figure 3.44).



**Figure 3.44 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the Baltic Sea**

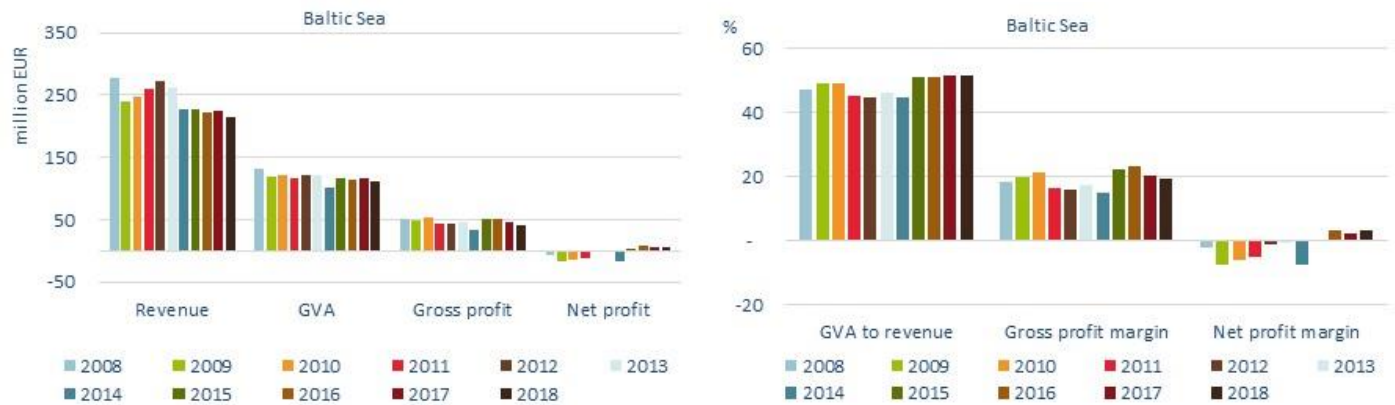
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic performance

The revenue generated by the EU Baltic Sea fleet in 2018 was estimated at almost EUR 215 million, a decrease of 5% compared to 2017.

GVA produced by the fleets covered in the analysis was over EUR 110 million and compared to 2017, decreased by 5%. The fleets operating in the region made almost EUR 42.1 million in gross profit, an estimated 19% decline from the high profits record (EUR 52 million) in 2016. Net profit, however, improved compared to 2017 (Figure 3.45).





**Figure 3.45 Trends on revenue and profits for MS fleets operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Trends by Member State fleet

### Fleet capacity and employment

Member State fleets operating in the Baltic Sea collectively numbered around 5 290 active vessels in 2018. The Finnish fleet was the largest with 1 320 active vessels, some 25% of the total. The number of vessels decreased steadily between 2008 and 2011, mainly a result of capacity reductions in the Latvian and Polish fleets but rose again with the entry of Finnish and Estonian vessels in 2013 and 2014. However, in 2018 the total number of vessels operating in Baltic Sea declined annually by 10% and reached their lowest level since 2008 (Figure 3.38).

Total capacity further declined by 4% during the year, falling to 60 651 GT with the largest share made up of Polish (15 243 GT) and Finnish (11 164 GT) vessels. Compared to 2008, capacity in GT, decreased by 35%. Capacity reductions resulted mainly from decommissioning programmes implemented in Latvia (after EU accession) and Poland, the introduction of an ITQ system in Swedish pelagic fisheries in 2009, and the introduction of entry restrictions to the Swedish eel fishery. Recent reduction in the number of active vessels was mostly visible in SSCF segments.

While the SSCF had 92% of the vessels (4 848 vessels) in 2018, total employment in the sector amounted only to 2 757 FTE or 65% of the total, indicating the predominantly part-time nature of employment in this fleet segment mostly reflected in Estonian and Finnish fleets with 0.2 FTE per person. Employment, measured in terms of FTE, showed a decreasing trend over the period, apart from a small increase in 2012. Overall, FTE decreased 4% in 2018. Number of persons employed declined by 10% to the lowest level from 2008. Reduced employment in region resulted in higher labour productivity, for example GVA/FTE in 2018 was 11% higher than multiannual 2008 to 2017 average. In LSF fleet labour productivity in 2018 increased by 10% to a record high level EUR 58 600 per FTE, whereas in SSCF fleet it declined by 11% compared to 2017 to EUR 7 900 per FTE.



**Figure 3.46 Trends on the number of vessels and employment in FTE for MS fleets operating in the Baltic Sea**

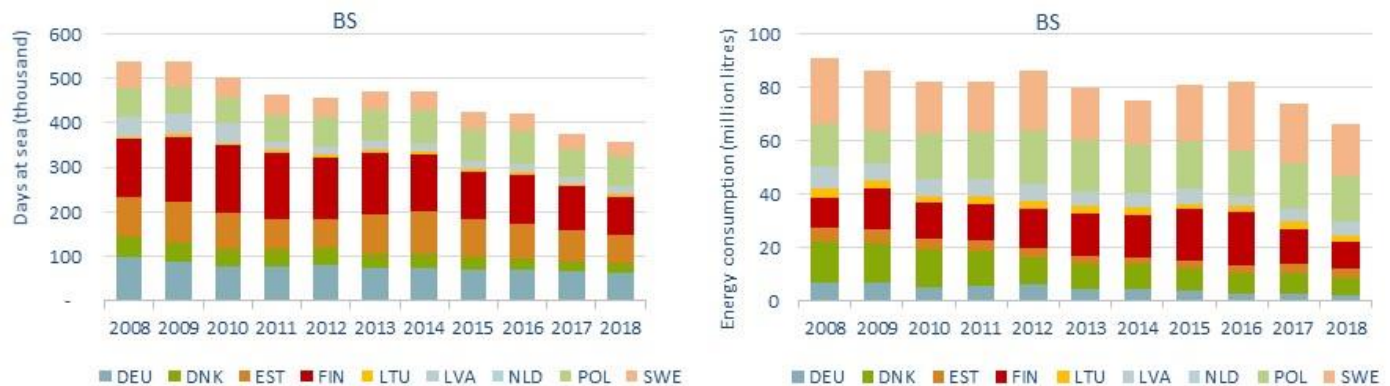
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

### Fishing effort

The EU Baltic Sea fleets spent 357 710 days-at-sea in 2018 with 4% decrease compared to 2017. However, in comparison with the 2008 to 2017 average, a decline of 23% is observed. Vessels from

Finland had the highest effort of the region, accounting for 24% of total days-at-sea. Most (86%) of the effort resulted from the SSCF. Within the LSF, most of the effort was deployed by pelagic trawlers.

In 2018 the total number of days-at-sea per vessel was 14% less than in 2008 and 8% less than the 2008 to 2017 average. The biggest reductions were seen in the Latvian, Danish and Swedish fleets (Figure 3.47). However, decline in effort with higher landings resulted in considerably higher CPUE in the region. For example, in 2018 CPUE was 14% higher than in 2008 and 18% higher compared to the average of 2008 to 2017.



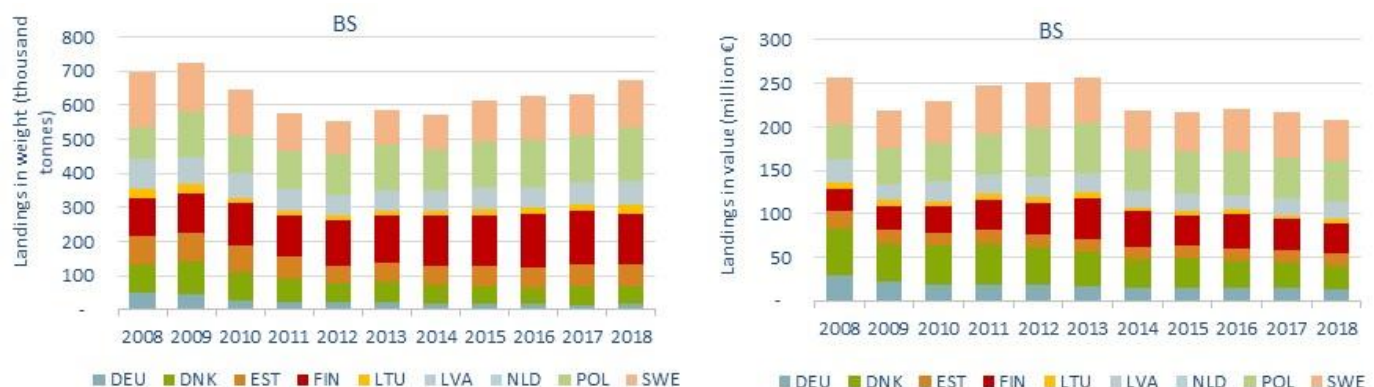
**Figure 3.47 Trends on effort (in days-at-sea) and energy consumption for MS fleets operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

## Landings and top species

The weight and value of landings was approximately 673 000 tonnes and EUR 208 million. The LSF landed 93% of the total weight and 78% of the total value (Figure 3.48). Despite the 4% decline in effort during 2018, the volume of landings (by weight) increased by 6% compared to 2017. Weight of landings in Baltic Sea region has been constantly increasing since 2014. However, value of landings decreased by 3% in 2018.

In terms of landed weight, Poland (155 994 tonnes), Finland (147 641 tonnes) and Sweden (140 795 tonnes) were the leading Member States. Poland (EUR 47.3 million), Sweden (EUR 46.2 million), Finland (EUR 34.8 million) and Denmark (EUR 26.2 million) collectively accounted for around 69% of the total value of landings in 2018.



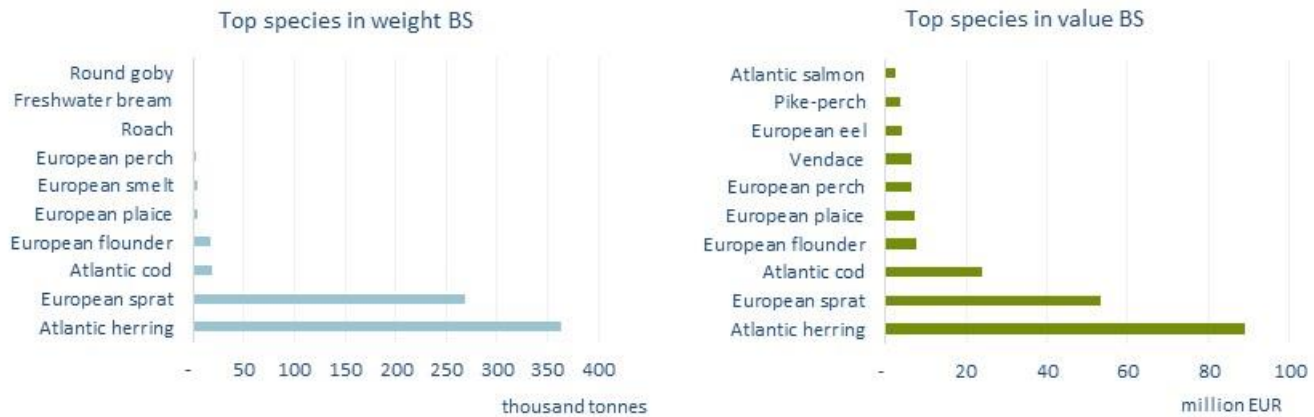
**Figure 3.48 Trends on landings in weight and value for MS fleets operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018, the most important species (by weight of landings) were herring (363 257 tonnes, 52.2% of the landed weight), sprat (268 815 tonnes), followed by cod (18 350 tonnes) and flounder (17 258 tonnes) (Figure 3.49).

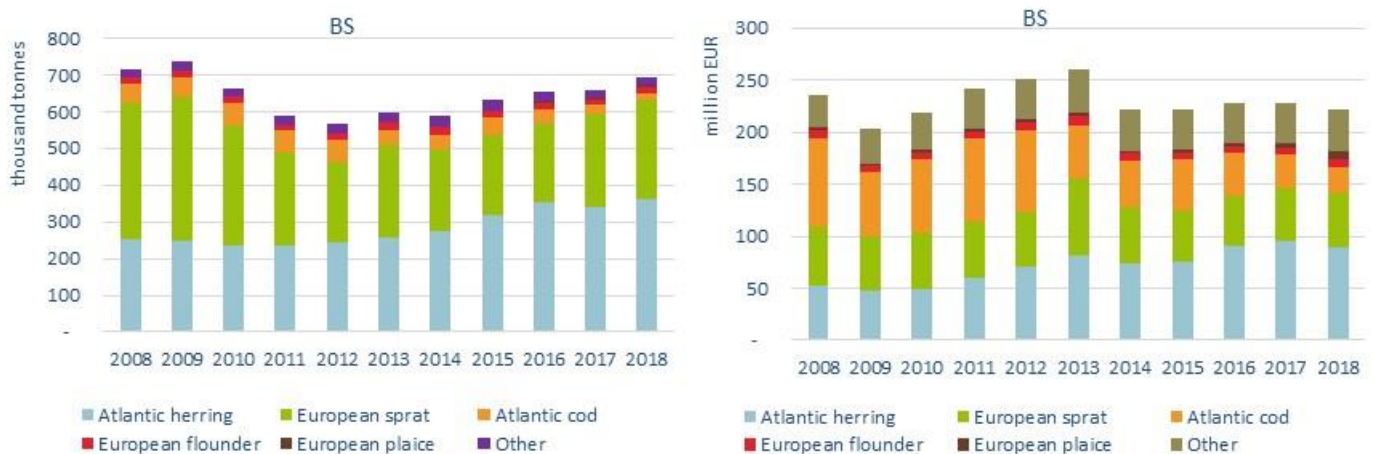
Herring generated the highest value (EUR 88.9 million), representing 40% of the landed value), followed by sprat (EUR 53.2 million, 24% of the landed value) and cod (EUR 24.0 million, 11% of the landed value) (Figure 3.49).

Sprat landings, by weight and value, increased by 6% and 4%, respectively in 2018 compared to 2017. The total landed weight of Baltic herring increased by 7%, while the value declined by 7%. Cod landings dropped by 31% in weight and 26% in value in 2018 compared to 2017 (Figure 3.50).



**Figure 3.49 Top 10 species in landed weight and value by MS fleets operating in the Baltic Sea, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.50 Trends on landings of the top six species in landed value for MS fleets operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

Overall, the Baltic fleet was profitable in 2018, generating positive gross profits. However, three Member States' fleets – Denmark, Germany and Netherlands - suffered net losses in 2018 in the region (Figure 3.51).

The revenue generated in 2018 was estimated at EUR 215 million, a decrease of 5% from the previous year. Four Member States accounted for 74% of all revenues: Sweden (EUR 46.4 million), Poland (EUR 47.5 million), Finland (EUR 36.7 million) and Denmark (EUR 27.2 million).

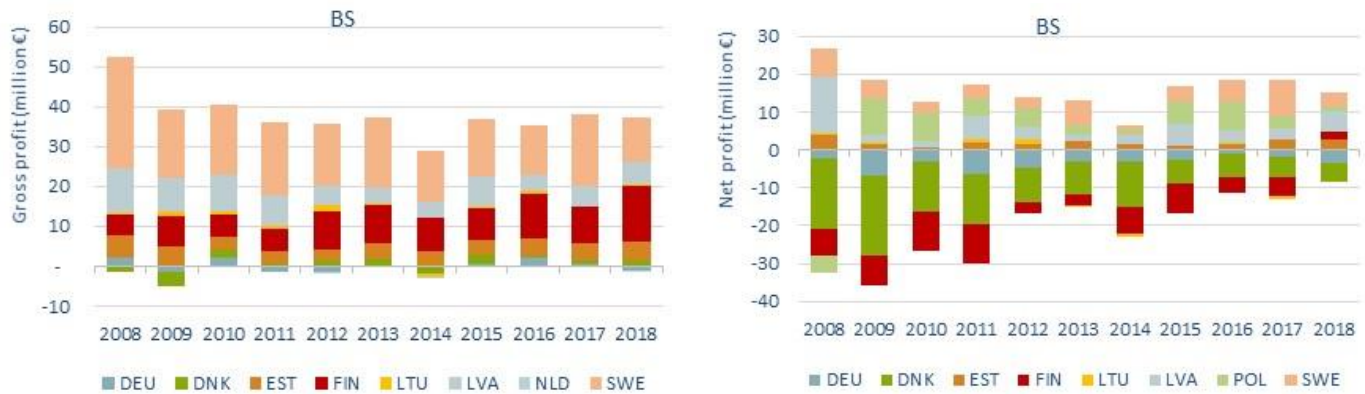
GVA was estimated at over EUR 110.2 million (-5%), gross profit at EUR 42.1 million (-8%) and EUR 6.7 million in net profit.

Overall the gross profit margin of the region remained almost unchanged in 2018 at 20% level. Largest gross profit margins were observed in Finland (38%), Estonia (32%), Latvia (26%) and Sweden (24%).

Despite the increase in regional productivity indicators as GVE/FTE and CPUE in 2018, Profitability in terms of gross profit margin was relatively stable considering a longer term period. For example, in 2018 regional gross profit margin was 3% lower compared to 2017 and 3% higher than from 2008 to 2017 average.







**Figure 3.51 Trends on revenue and profits for MS fleets operating in the Baltic Sea region**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

The major factors that may have negatively influenced economic performance:

- Based on ICES advice the stock decrease implemented in 2020 for herring which is a main target species for the Baltic region (53% in 2018) and the forecasted stock decrease in 2021 is likely to have a considerably negative effect on the Baltic Sea fleet profitability and could cause further reduction of the fishing fleet capacity in all countries operating in Baltic region.
- Due to the critical condition of cod stocks in the Eastern and Western part of the Baltic Sea, the commercial cod fishing was significantly reduced in 2019 and direct fisheries on cod were not permitted in 2020, except for small-scale fisheries on the western cod stock. The cod catches are allowed only as an unavoidable by-catch to the other species. The Cod limits for such cases are critically low and in a situation where the cod limit is exceeded, all fishing should be stopped. In some countries, that can threaten the biggest part of the fleet and the negatively affect fishery sector in the country. ICES expects that the cod stock most probably will remain in a dire condition in the middle-term.
- Energy costs continue to be one of the main expenditure items for the large-scale fleet, especially trawlers. The increase in fuel price was observed in 2019 which substantially increased operational costs of vessels. However, the lock down during April-May in 2020 was the reason that the price has dropped in the first half of the year which can slightly improve the situation in the fishery sector in 2020.
- Some management measures are planned for the large-scale fishing vessels targeting cod and operating with DTS, DFN, HOK fishing gears as well as coastal fishing vessels operating with gears PGP or PG. Temporary seasonal bans on fishing are planned for these vessels, change of fishing gear or re-arranging from cod fishery to other species (such as flounder and round goby) is recommended.
- In 2019, a decrease was observed of the average price for sprat which is a commercially important species.
- Fishing performance, especially in the small-scale coastal fleet, is very weather dependent. Even with favourable economic conditions, it can be a limiting factor for fleet performance, especially for seasonal fisheries.

The major factors that may have contributed to the positive situation:

- Based on ICES advice in 2019, the stock for the sprat, which is a commercially important species, is exploited at MSY level and harvested sustainably as well as Baltic herring stock in the Gulf of Riga.
- Compensations from the EMFF funds have been provided to the owners of the fishing vessels for the temporary cessation of fishing activities due to the protection of cod stock. Such compensations could provide significant support to the fishing companies in the short-term.
- The EMFF has also provided measures to improve profitability including increased added value (for the SSCF) and utilisation of by-catch arising from the landing obligations (for the LSF). Measures are already applicable in some Member States fishing in the Baltic region.
- From 2017 onwards, the average price of cod recovered.
- Policy management instruments, specifically quota allocation (introduced in some countries) may have significantly helped to improve the economic performance of certain fleets.
- While aging vessels, obsolete equipment and insufficient investment all lead to increased maintenance costs and reduce the profitability of the fleet, the EMFF does provide the possibility of

engine replacement if the fishing capacity is proven to be in balance with exploitation. Some Member States have already introduced such schemes.

## Regulation and fisheries management in the region

To incorporate the ecosystem approach in the fisheries management a multiannual management plan for the Baltic Sea fisheries has been developed. In March 2016 representatives of the Council, Parliament and Commission reached provisional agreement on this plan. Furthermore, the EU fisheries management includes input from the Regional Baltic Sea Fisheries Forum (BALTFISH) and the Baltic Sea Advisory Council.

While coastal fisheries are managed nationally, fisheries advice is provided by the ICES and STECF. The key species in Baltic Sea are cod, herring, sprat, salmon, and plaice and these fisheries are all managed using TACs.

The European eel Recovery plan also affects several Baltic states. Within this plan, Member States are required to allow 40% of adult eels to escape from inland waters to the sea where they can spawn. EU regulations also include technical conservation measures, including mesh size, minimum landing size, by-catch limitations as well as periods and areas closed to fishing. A ban on driftnet fisheries was introduced after a three-year transitional period in 2008. The Baltic Sea coastal and inland fisheries are mainly regulated by each Member States in the region through their national legislation.

A salmon management plan was proposed by the Commission in August 2011 (COM(2011) 470 final). This established fishing mortality rate based harvest control rule with each Member States' setting annual fishing limits in rivers at the appropriate MSY level. It also sets targets for salmon management in rivers: 75% of smolt (juvenile salmon) production to be reached in five to ten years, depending on the status of the rivers. However, the Council and the European Parliament have not yet reached an agreement on the Commission's proposal.

The landing obligation has been in force since 1 January 2015 for pelagic and demersal fisheries in the Baltic Sea.

Technical measures were implemented in 2019 for the Baltic Sea region in the frame of the conservation of fisheries resources and the protection of marine ecosystems. The activities includes prohibition to retain on board or land any quantity of marine organisms unless at least 85% of the live weight thereof consists of molluscs and/or *Furcellaria lumbricalis*; to have on board or deploy any driftnet; to use bottom-set gillnets, entangling nets and trammel nets for some species.

## TAC development of main species

TACs and quotas are set annually for five commercially important fish stocks: Atlantic cod, Atlantic herring, European sprat, Atlantic salmon and plaice. Each year, ICES provides separate advice for two stocks of cod, four stocks of herring and one stock of sprat.

Figure 3.52 provides the development of TACs for the main species in the Baltic Sea. TACs are defined based on the status of stock, assessed by ICES, and the cod management plan.

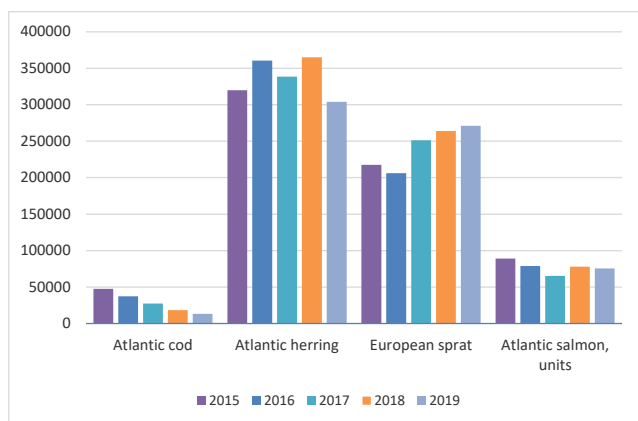
The exploitation of the available TACs by Member State, provided in the Table 3.2 suggests that in several cases, e.g. Finland, the available sprat quota could be a limiting factor (choke species) in the mixed pelagic fishery. On the other hand, available cod fishing opportunities were not fully utilised by most Member States in the Baltic Sea.

The TAC proposal based on ICES advice includes the following stock reduction for 2021:

- Western Baltic herring 50% reduction.
- Eastern Baltic cod by 70%.
- Western Baltic cod by 11%.
- Central herring by 36%.
- Salmon in the Gulf of Finland by 10%.

Increases of TAC are planned for herring in the Gulf of Riga by 15% and salmon in main basin by 9%.

According to the ICES advice the sprat stock is in good condition. However, TAC for sprat remains unchanged as it catches usually include herring in by-catch, the TAC of which needs to be reduced.



**Figure 3.52 Reported catches for the four most important TACs species in the Baltic Sea region, 2015-2019**

Data source: EU Catch reporting system (FIDES3)

### Status of important stocks

Based on ICES advice in 2020, sprat stock was at MSY level and harvested sustainably. However, the TAC for sprat is not going to increase due to the mixed fishery with herring which TAC decreased significantly.

The western Baltic herring stock in Skagerrak and Kattegat continued to be below MSY. ICES advised a scientific advice for no catches. Also, the central Baltic herring stock is below MSY, while the stock at the Gulf of Riga was at MSY level and harvested sustainably. The Bothnian Sea herring stock was assessed to be at MSY level in 2018 but the latest assessment was not accepted, and the status of the stock was undefined. However, ICES advises that when the precautionary approach is applied, catches in 2020 should be no more than 65 018 tonnes. This corresponds to a 30% decrease in quota.

Cod stocks in Baltic Sea are at the lowest historical level and a targeted fishery is not allowed in the medium –term.

According ICES advice, 32% of the catches for the salmon fishery are misreported, in particular for sea trout catches.

There is a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks (Regulation (EU) 2016/1139). The objective of this plan is to adapt the exploitation rates of cod, herring and sprat in the Baltic Sea so as to ensure that the exploitation of those stocks restores and maintains them above levels that can produce MSY.

**Table 3.2 TAC use for some of the most important stocks in the Baltic Sea region, 2015-2019**

		Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden
Atlantic cod	2015	60%	82%	12%	36%	46%	55%	75%	43%
	2016	55%	74%	0%	9%	55%	63%	72%	48%
	2017	52%	78%	0%	28%	70%	77%	60%	56%
	2018	71%	52%	0%	9%	42%	53%	56%	33%
	2019	55%	43%	1%	17%	8%	20%	42%	20%
Atlantic herring	2015	98%	46%	87%	74%	85%	98%	87%	70%
	2016	98%	89%	86%	82%	75%	97%	79%	89%
	2017	90%	87%	90%	77%	62%	100%	79%	71%
	2018	95%	90%	87%	86%	96%	99%	85%	91%
	2019	92%	92%	94%	91%	94%	99%	83%	92%
European sprat	2015	98%	95%	89%	100%	96%	97%	97%	100%
	2016	99%	96%	93%	100%	95%	100%	98%	99%
	2017	99%	90%	90%	100%	98%	98%	92%	98%
	2018	91%	90%	95%	100%	99%	100%	98%	91%
	2019	98%	90%	97%	95%	99%	99%	97%	90%
Atlantic salmon	2015	99%	78%	46%	87%	8%	22%	62%	100%
	2016	85%	44%	47%	76%	6%	16%	48%	108%
	2017	46%	13%	50%	74%	3%	18%	48%	83%
	2018	60%	32%	43%	81%	69%	77%	52%	90%
	2019	58%	44%	48%	91%	93%	26%	58%	88%
European plaice	2015	99%	59%		1%			46%	35%
	2016	91%	52%		0%			36%	46%
	2017	87%	30%		0%			42%	6%
	2018	90%	44%					100%	25%
	2019	90%	43%					59%	9%

Data source: EU Catch reporting system (FIDES3)



## Description of relevant fisheries in the region

### Small-scale coastal fleet

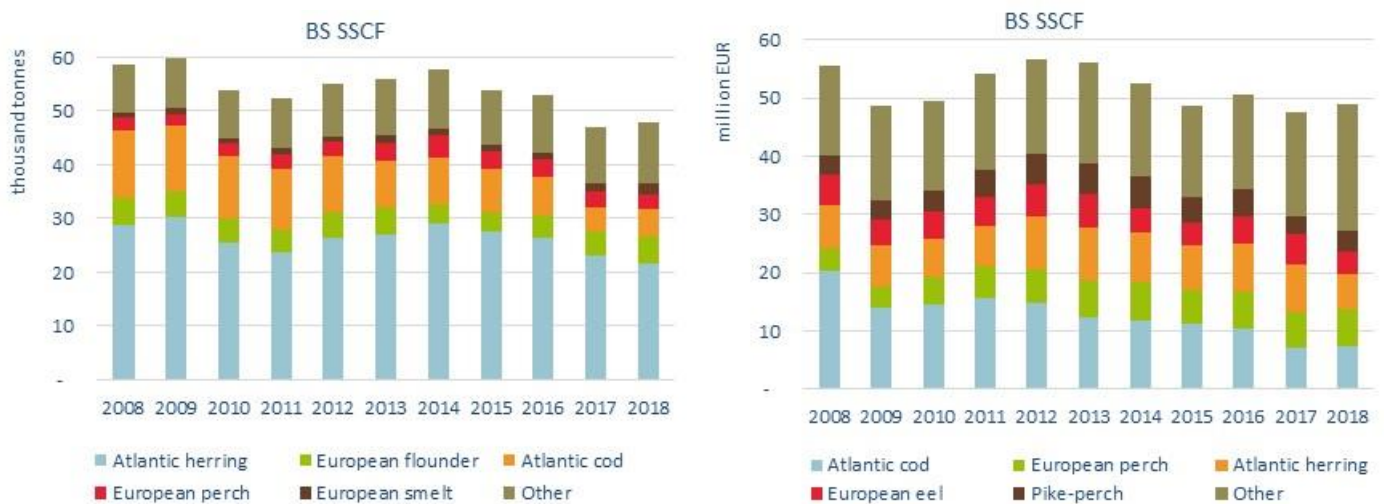
SSCF in the Baltic Sea is very important from a socio-economic point of view. It dominates the Baltic Sea fishing in terms of vessels number (92%) and employment (76% of total employed and 65% of FTE) in 2018. However, the fleet only accounts for 7% of landed weight and 23% of the value. Revenue generated by the SSCF in 2018 was EUR 48.5 million, - 2% compared to 2017.

In 2018, the SSCF generated EUR 21.8 million in GVA (EUR 23.9 million in 2017), corresponding to 45% of its revenue. The profitability of the SSCF deteriorated again, from gross losses of - EUR 3.4 million in 2017 to gross losses of -EUR 5.2 million in 2018.



**Figure 3.53 Top 10 species landed in weight and value by the SSCF operating in the Baltic Sea, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.54 Trends in landings of the top species landed in weight and value by the SSCF operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Atlantic cod followed by European perch and Atlantic herring are the three most important species in terms of the landings value. The species composition of landings has however change significantly across the past ten years disfavoured Atlantic cod as a the most important one, from the revenues point of view. That has been a result of the deteriorated stock status of cod, mainly the Eastern Baltic stock. The contribution of Atlantic cod in total revenues of SSCF has decreased from 36.3% in 2008, 22% in 2013 to 15.1% in 2018 and is estimated to shrink to 5.5% in 2019. The value of European perch has raised from 7.4% in 2008 to 12.7% in 2018 (Figures 3.53; 3.54).

Deteriorated Baltic cod stocks condition has affected the most Swedish coastal fisheries. Cod landings value of Swedish SSCF decreased by 81% between 2008 and 2018, followed by Denmark (-67%) and Germany (-65%). Total value of SSCF cod landings of all Baltic EU countries was 63% lower in 2018 than in 2008.

Despite the mentioned overall poor performance of the SSCF, individual Member States perform differently. The countries with a relatively low cod dependency i.e. Finland, Latvia, Estonia and Lithuania made positive gross profits while those with high dependency to cod, Sweden, Poland, Denmark and Germany suffered losses. After taking account of estimated capital costs, only the Lithuanian and Latvian fleet were still making positive net profits in 2018. Swedish, Danish and Finnish SSCF have continued

being unprofitable since 2008. This has affected the overall economic picture of the sector in the Baltic Sea. The negative output was mainly caused by relatively high capital costs (mostly in case of Finland) as well as high labour costs in the Swedish and Danish fleet (mostly in unpaid labour) compared to other countries. This last can be explained by the higher contribution of less commercially active vessels in Denmark, Sweden and Finland compared to other Baltic states.

### Large-scale fleet

In 2018 LSF in the Baltic consisted of 442 vessels, 8% less than in 2017. Revenue generated by this fleet in 2018 was EUR 166 million, a 5% less compared to the year before. As a consequence gross profit and, overall, the Baltic LSF segment generated EUR 47.3 million (-3%). However, net profit (EUR 22.9 million) improved again by 11% (32% in 2017), mainly due to the lower capital costs.

Number of people employed (similarly to the number of vessels) decreased by 9% or as much as 12% FTE what had positive influence on labour productivity GVA/FTE (9% increase). Lower number of fishing days deployed (-7%) combined with higher volume of fish landed caused that CPUE improved by 15% but only 1% in monetary values. The latter was caused mainly by decrease of Atlantic herring (-12%) and European sprat (-2%) prices - both species are important, accounts for as much as 80% of LSF landings revenues.

GVA/revenue indicator deteriorated (similarly to 2017) slightly from 53 to 52, where it was lower for the case of Sweden (-12%) or Denmark (-1%) and increased for Germany (30%), Lithuania (23%), Finland (18%), Latvia (13%), Estonia (8%) and remained unchanged for Poland.



**Figure 3.55 Top 10 species landed in weight (left) and value (right) by LSF operating in the Baltic Sea, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.56 Trends in landings of the top species landed in weight and value by the LSF operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Atlantic herring followed by sprat and Atlantic cod were the most important species in terms of landings value of LSF in 2018. Similarly to the SSCF the fishing pattern of the segment's landings has change significantly from 2008 to 2018. Atlantic cod landings value decreased by 74% and its contribution to total revenues of the LSF decreased from 35% in 2008 to 10% in 2018. In the same period, the value of Atlantic herring raised by 81% and its contribution to fishing revenues increased from 25% in 2008 to 48% in 2018 (Figure 3.55; 3.56).

Considering countries highly dependent on Baltic cod, deteriorated stocks condition has affected the most Swedish, German, Danish, and Lithuanian LSFs. Between 2008 and 2018 cod landings value of Swedish LSF decreased by 85% followed by German (-83%), Denmark (-78%) and Lithuanian (-65%). It resulted that cod dependency of these countries declined by 27, 31, 33 and 35 percentage points, respectively.

LSF total net profit in 2018 was positive and higher than in 2017. Some countries suffered a decrease on this like Sweden (-47%), Denmark (-37%) and Poland (-12%). However, there were fleets that improve their economic performance like Finish fleets (positive net profit of EUR 2.8 million compared to - EUR 3.4 million loss in 2017), Estonian (+89%), Latvian (+57%) or Lithuanian EUR 35 000 net profit compared to - EUR 0.8 million net loss in 2017.

Labour and energy costs were most important items in the costs structure, both change slightly compared to 2017 by - 4% and + 1%, respectively. Employment costs increased in German fleet (28%) Latvian (20%) and Polish (9%) while decreased in Danish (- 20%), Estonian (- 24%) Finish (- 13%) Swedish (- 9%) and Lithuanian (- 5%). Since fuel price was, in 2018 higher than a year before, a fuel cost decrease can be explained by a lower number of sea and fishing days.

## Performance by fleet segment

Segments using passive gears (PG, PGP and DFN) dominated the Baltic Sea fleet accounting for 91% (4 807 units) of the total number of vessels, following by pelagic trawlers (TM) 4.1% (217 vessels) and demersal trawlers (DTS) 3.7% (197 vessels). Pelagic and demersal trawlers dominated in production output contributed to 44% and 32% respectively of the total value of landings in 2018. TM segments produced the highest gross profit EUR 31.5 million following by DTS EUR 24.2 million. The other fleet segments, gathering smaller vessels, suffered losses: DFN - EUR 3.4 million, PGP - EUR 1.1 million and PG - EUR 0.3 million. One important reason for the gross losses of smaller vessels is the estimated opportunity cost of unpaid labour. For the fleet segments below 12 metres, and to a certain extent for the 12-18m segment, the estimated opportunity cost of labour may be high in proportion to the catch value, making the gross profit negative (Table 3.14)

The PG segments deployed the highest effort with 256 500 fishing days in 2018 (-4% compared to 2017) followed by DFN with 27 000 days (-7%) and PGP 23 500 days (-3%).

Of the 49 fleet segments in 2018 and 51 in 2017, 30 segments (in both years) made positive gross profits. On the top 10 most profitable segments seven belonged to pelagic trawlers, two to demersal trawlers and one to passive gear vessels below 10 metres. The 10 most unprofitable segments were dominated by SSCF segments out of which eight belonged to either PG, PGP, PMP or DFN. Two segments belonged to DTS2440.

At the fleet segment level, the Swedish demersal trawl and seine 24-40m segment generated the highest landed value in 2018 (EUR 30.4 million) followed by the Finnish pelagic trawl 24-40m segment (EUR 20.5 million) and the Polish pelagic trawl 24-40m segment (EUR 20.6 million). The gross profits produced by these three top segments amounted to EUR 9.4 million (-41% compared to 2017), EUR 6.6 million (+61%) and EUR 5.2 million (-14%), respectively. The explanation of the successful business doing by the Swedish demersal trawl and seine 24-40m could be that the segment is fishing also (half by half) in North Sea waters, so is not limited by the Baltic Sea fishing quotas only. The segment landings in the Baltic Sea are dominated (99%) by small pelagic species – Atlantic herring and European sprat. In 2018 the segment landings value of both species decreased by 7% and 8%, respectively. The second most profitable fleet's segment - Finnish pelagic trawl 24-40m- gross profit 61% increase can be explained by the lower energy consumption (-23% in volume or 12% in value), labour costs (-11%) and higher revenues (+3%). Similarly to the Swedish segment, the Finnish pelagic trawlers are 99% dependant on Atlantic herring and European sprat catches.

### 3.4 North Western Waters

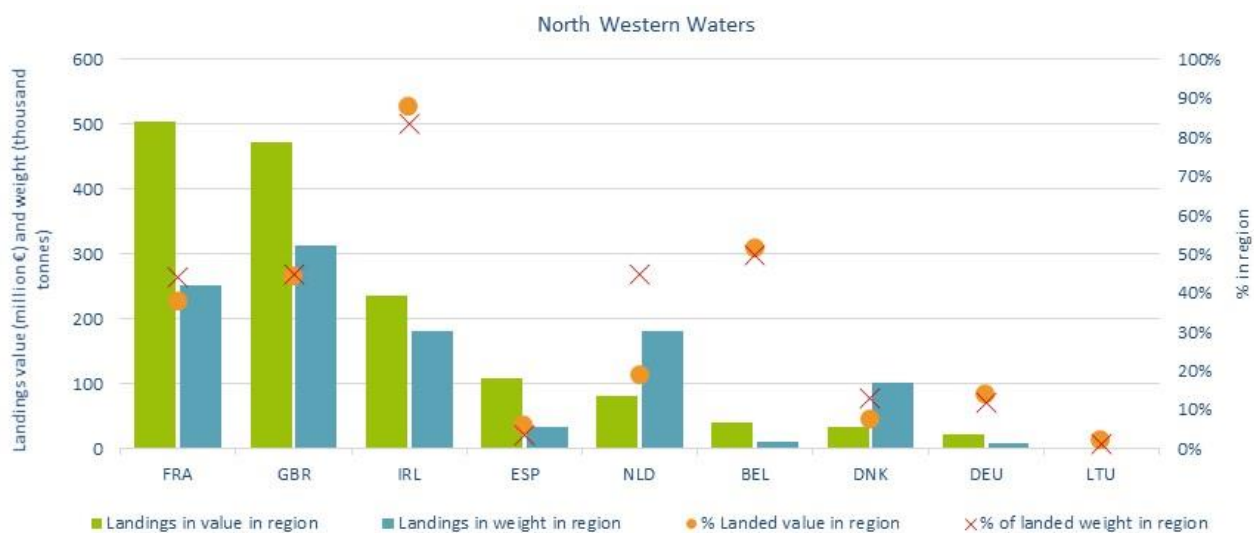
#### Regional Details

The North Western Waters cover the Atlantic ICES areas 5, 6 and 7. For simplicity EU vessels operating in the aforementioned fishing areas are referred to as the EU North Western Waters (NWW) fleet.

The Member States fishing in the NWW are Belgium, Denmark, France, Germany, Ireland, Lithuania, the Netherlands, Portugal, Spain and the United Kingdom. The main fleets operating in 2018 were the United Kingdom, French and Irish fleets. The Netherlands, Spain and Denmark also conduct part of their fishing activity in the SWW (Figure 3.57).

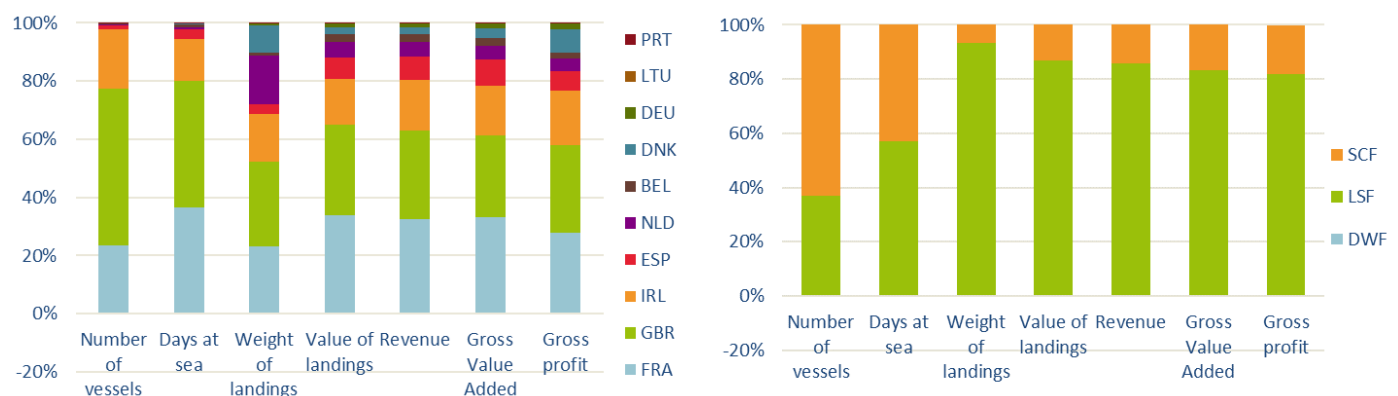
Based on the value of landings, the French, United Kingdom and Irish fisheries have the highest level of landings in the NWW. However, Ireland has the highest total percentage of national landed value from the region at 88% indicating their high dependency on this area (98% of the days-at-sea take place in these waters). Belgium (43%), the United Kingdom (60%) and France (29%) also have a high dependence on the area in terms of DAS. While Ireland and Belgium have high dependency the highest share of fishing is conducted by the United Kingdom and France (Figure 3.57).

Tables at the end of this section contain a summary of the economic performance of the North Western Waters fleet by Member State, main type of fishing activity and fleet segment.



**Figure 3.57 Importance of the North Western Waters for MS fleets in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.58 Share by MS fleet and fishing activity in NWW, 2018**

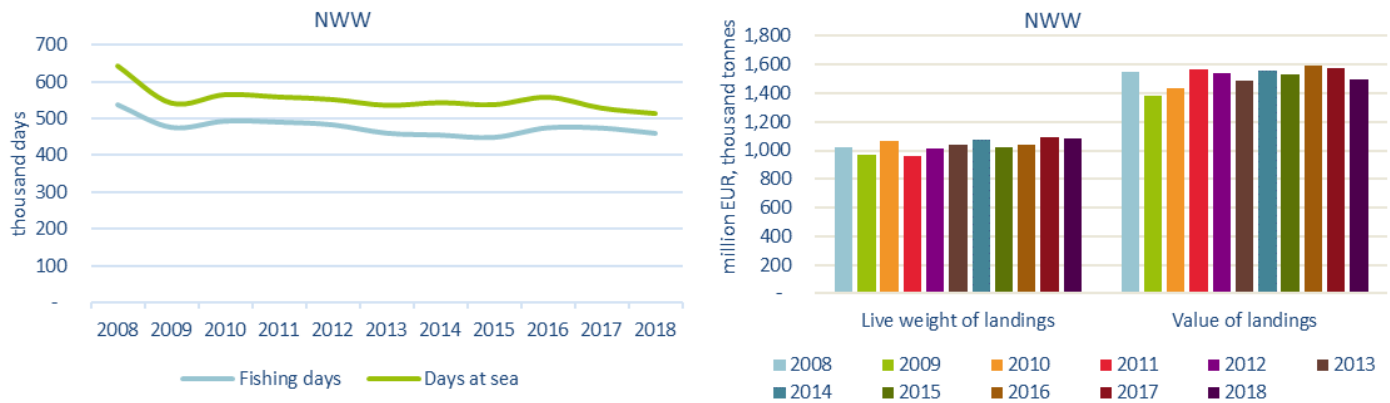
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## Overview of the main results for EU fleets in the NWW

### Fishing effort and landings

Both fishing effort and landings have generally decreased. The value of landings decreased by 5% between 2010 and 2018 (Figure 3.59). The total landings in weight only decreased by 0.5% in 2018 compared to 2017. Furthermore, fuel prices increased slightly with an average price of EUR 0.48 per litre while fuel consumption increased 1%. Fuel is an important operational cost and therefore an important driver for profits.



**Figure 3.59 Trends on effort and landings for MS fleets operating in NWW**

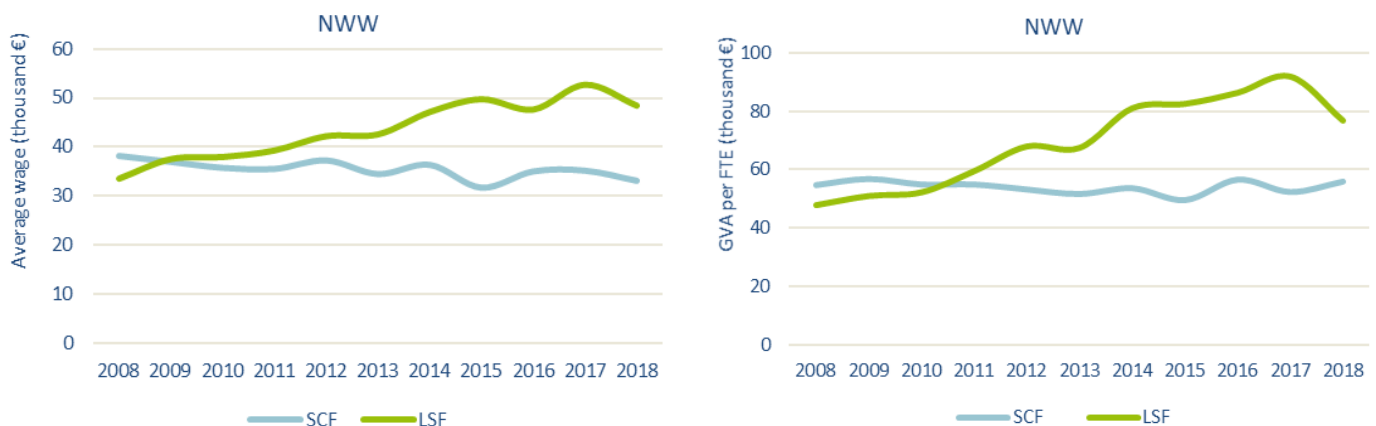
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

Total employment in this region was estimated at 16 000 with the number of FTE employees at 11 500, an increase of 4% compared to 2017. The most important fleets in terms of overall employment correlate to those fisheries that have the highest dependency on this area. The United Kingdom has the highest level of employment with over 4 470 FTE, followed by France (2 837), Ireland (2 465) and Spain (1 245).

Total employment for the LSF is highest for the UK and France, totalling 3 413 and 2 829, respectively, reflecting the high number of active vessels in these Member States. These numbers have increased slightly from their 2017 position. The SSCF, for all Member States, demonstrates a marked difference between the numbers of total employed and total FTE indicating that a large number of those employed in the SSCF are part-time or casual workers. Total employed for the SSCF was highest in the United Kingdom, France and Ireland reflecting their high number of SSCF vessels. LSF figures for total employed and FTEs are closer in value indicating a high level of full time employment in this segment in comparison to the SSCF.

The overall average wage per FTE for the SSCF decreased by 6% in 2018, fluctuating around EUR 33 000. For the LSF average wage decreased by 8% to a value of EUR 48 500. Labour productivity in the LSF has decreased with 17%, after a steady increase during the years before, while the labour productivity for the SSCF has remained at levels under EUR 60 000 per FTE (Figure 3.60).

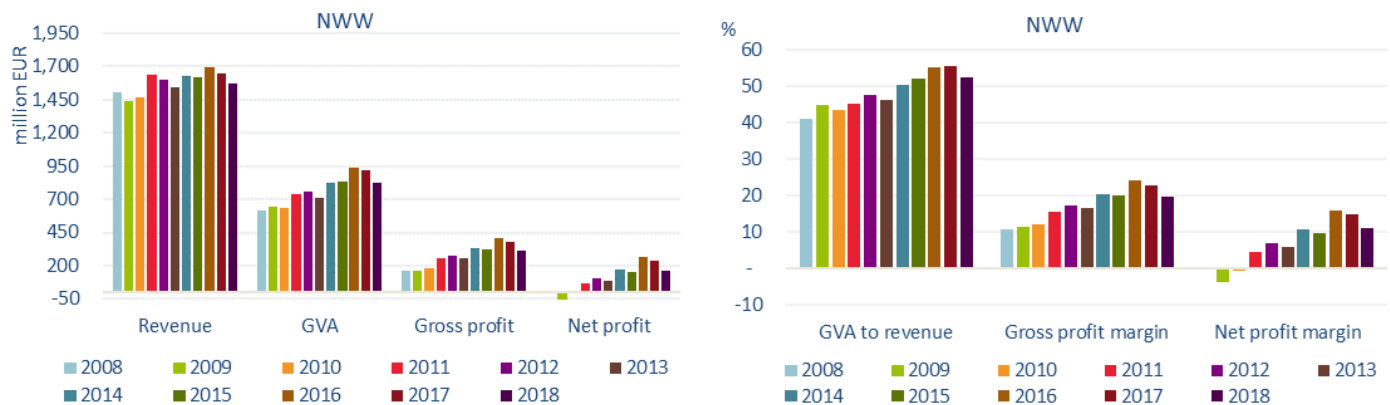


**Figure 3.60 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

The revenue (income from landings and other income) generated by the NWW fleet covered in the analysis in 2018 was estimated at EUR 1.57 billion, representing 21% of the total revenue for the EU fleet. It is the second more important region in terms of revenue after the NSEA region. The GVA produced was estimated at EUR 828 million, representing an overall decrease of 10% compared to the previous year. The fleet made EUR 309 million in gross profit, a decrease of 18% compared to 2017. The net profit, at EUR 165 million, also decreased by 30% compared to 2017 (Figure 3.61).



**Figure 3.61 Trends on revenue and profits for MS fleets operating in NWW**

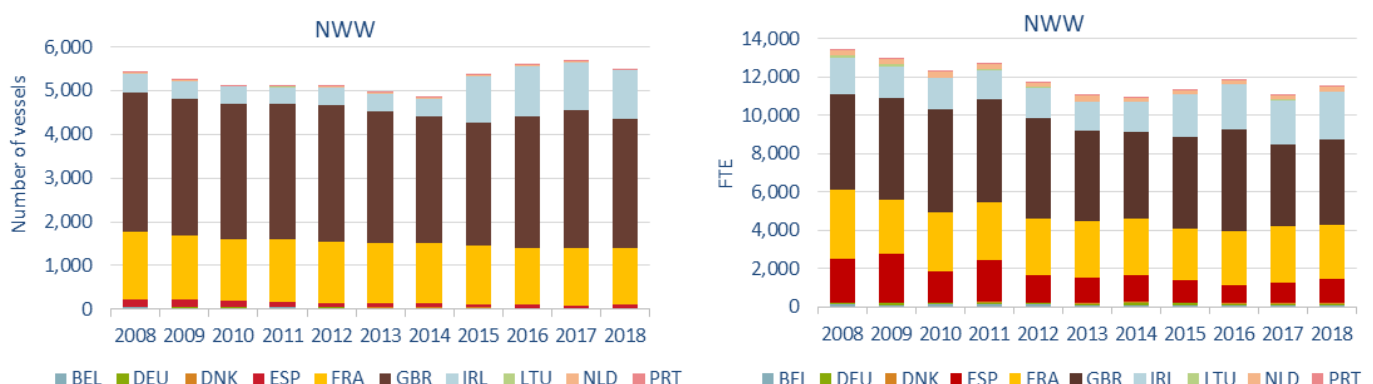
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Trends by Member State fleet

### Fleet capacity and employment

The 10 Member States fleets operating in the NWW collectively numbered over 5 473 active vessels in 2018, a decrease of 3.4% from 2017. United Kingdom, French and Irish fleets collectively contributed to more than 97% of the total of vessels in 2018. The number of vessels has remained relatively stable in the last 10 years showing a 1% increase from 2008 to 2018. An increase in vessel number was recorded in 2015 accounted predominantly by Ireland but this is an artefact of better data reporting that allowed vessels, especially in the SSF, to be assigned to a fishing region (Figure 3.62).

Employment in the region reached 11 491 FTE in 2018, an increase of 4% from 2017, mainly due to the 16% increase in Spain. Spanish fleet contributes to 11% of the total FTE, with an average number of FTE per vessel reaching 17, in 2018, representing the dominance of LSF activity for this Member State in that region. Employment followed the slight decrease of fleet capacity from 2008 to 2014, while in the recent years the trend varied depending on the year.



**Figure 3.62 Trends on the number of vessels and employment (in FTE) for MS fleets operating in NWW**

Data source: MS data submissions under the 2019 Fleet Economic data call (MARE/A3/AC(2019))

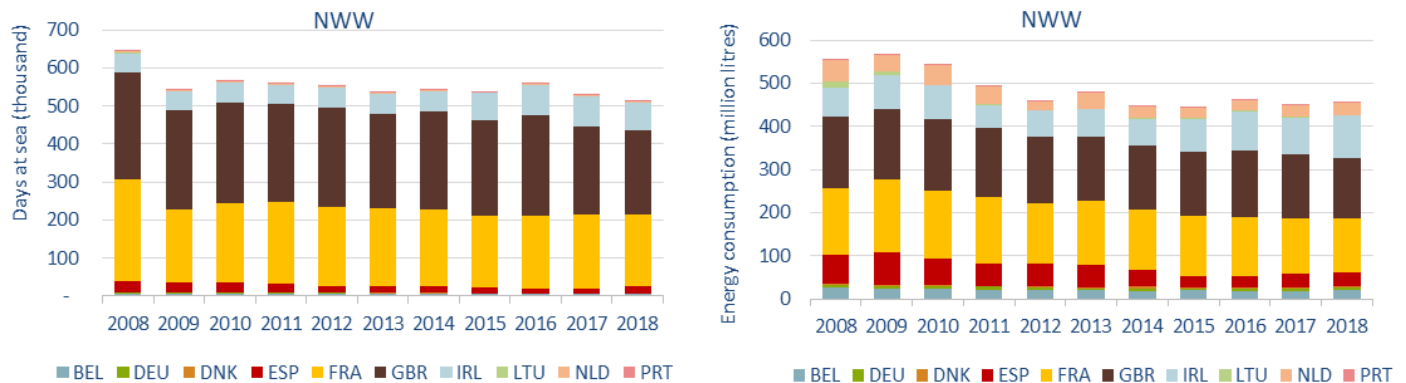
## Fishing effort

The EU NWW fleet spent over 512 000 days-at-sea in 2018. The United Kingdom, French and Irish fleets represented almost the total effort deployed in the region (94% of total in 2018). It must be noted that Ireland had partial effort data for some fleet segments less than 10m in length and only for the years 2013 to 2019, so conclusions regarding effort need to be taken with caution as Ireland's effort is underestimated for its less than 10 metres segments (Figures 3.63).



Energy consumption for the EU NWW fleet amounted to 454 million litres in 2018, 80% of which were consumed by the United Kingdom, French and Irish fleets. Spanish, Dutch and Belgium fleets combined contribute to 18% of the total energy consumption, due to the dominance of the LSF activity for that Member States in that region.

Fishing effort and energy consumption has followed a general decreasing trend over the period analysed by 20% for EU NWW fleet, much in line with most of the Member States fleets such as the United Kingdom, French and Spanish fleets. In 2018, fishing effort for the Spanish fleet increased by 39% in days-at-sea and 3% in energy consumption from 2017.



**Figure 3.63 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Landings and top species

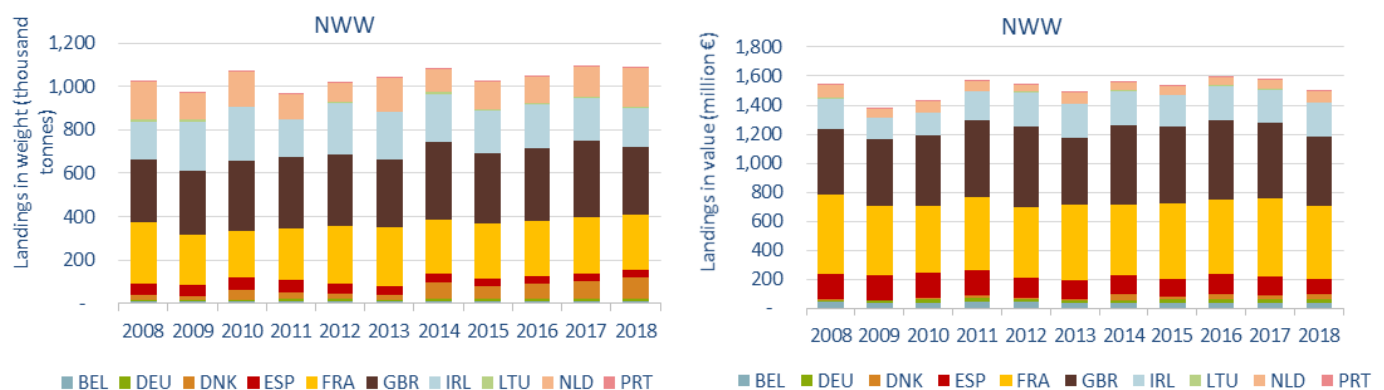
The weight and value of landings amounted to approximately 1.08 million tonnes and EUR 1.49 billion, respectively in 2018. In terms of landed weight, the United Kingdom, French, Dutch, Irish and Danish were the leading national fleets, together accounting for over 94% of the total weight landed (Figure 3.64).

French, United Kingdom and Irish fleets contributed to 80% of the total value of landings in 2018. The contribution of the Netherlands and Denmark were less important in value than in volume, the majority of their landings being pelagic species.

At NWW fleet level, landings weight and value had followed a slight increasing trend over the period despite lots of variations depending on the year. At country fleet level, Denmark landings increased from 2008 to 2018 by 5 times in weight and by 10 times in value reaching 102 000 tonnes for EUR 33 million in 2018. On the same period, Irish landings also increased on a lesser extent by 14% in value while Spanish landings followed a decreasing trend by 39% in weight and in value.

In 2018, the three main species landed in terms of weight were small pelagic species including blue whiting, Atlantic mackerel and Atlantic herring (Figure 3.65).

The top 10 species in value included Atlantic mackerel and blue whiting, but also a diversity of other species with high price values as crustaceans, bivalves, flatfishes and whitefishes: Great Atlantic Scallop, European hake, Norway lobster, anglerfishes, whelk and common sole.

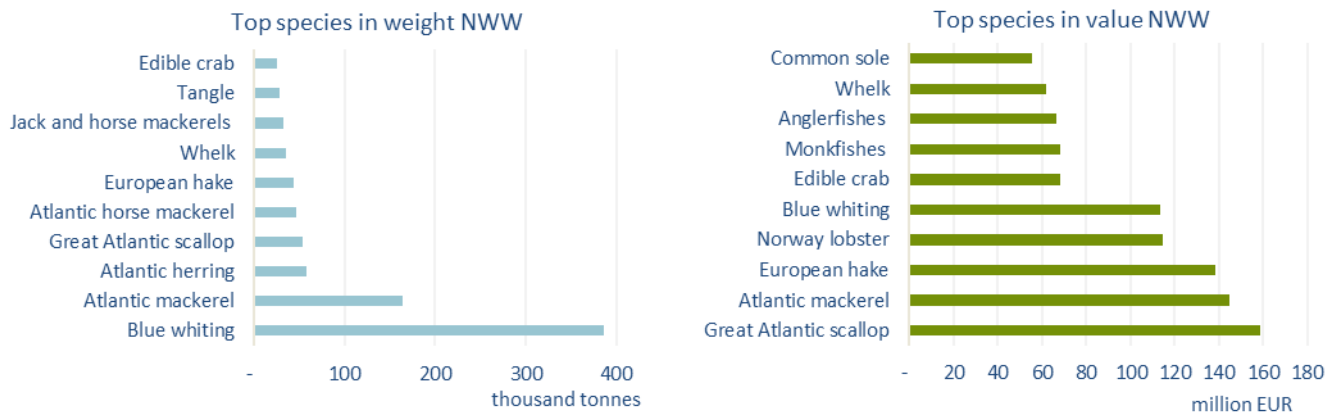


**Figure 3.64 Trends on landings in weight and value from MS fleets operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The top species, through their availability, TACs and quotas and fish market prices, are drivers for fleets' performance. The share in landed values of the crustaceans, Norway lobster and edible crab, is dominated by the United Kingdom and Ireland. The great Atlantic scallop and the whelk landing values

are dominated by France and the United Kingdom. Atlantic mackerel landing values are dominated by the United Kingdom, followed by Ireland and France. The share in landed values of European hake is dominated by Spain and France, while Belgium, the United Kingdom and France dominated for common sole.



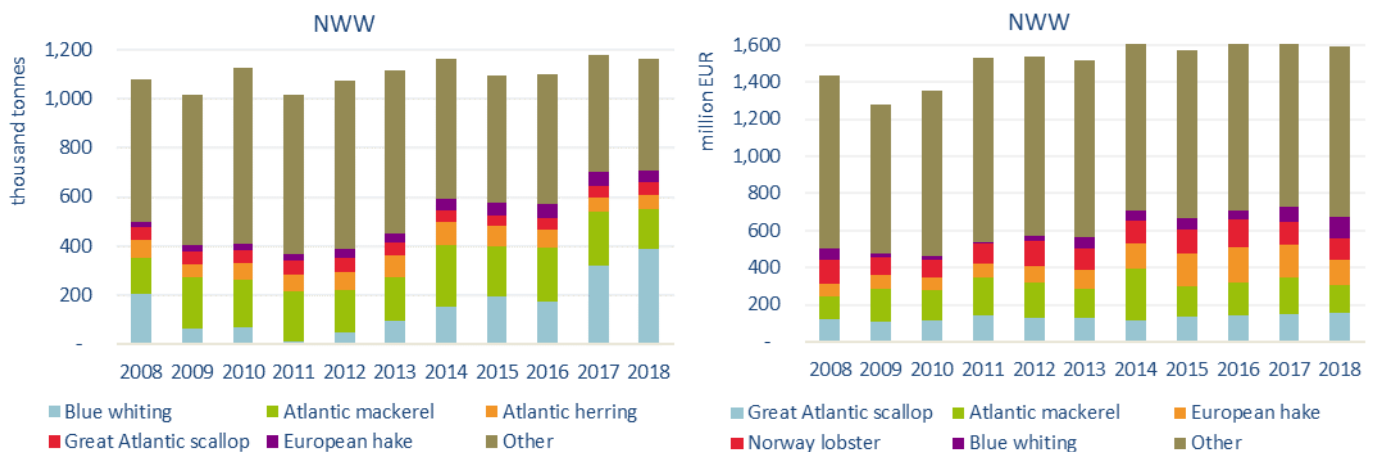
**Figure 3.65 Top 10 species in landed weight and value for MS fleets operating in NWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Temporal trends in the value and weight of landings, have been significantly influenced by fluctuations in TAC and quotas for Atlantic mackerel, blue whiting and hake (Figure 3.66).

Mackerel went through a significant increase in 2014 followed by a decrease in 2015 and another one in 2018, which impacted the total value of landings for Member States targeting this species (Figure 3.66). Blue whiting landed weight and value increased by 84% and 54% in 2017 as TAC doubled this same year.

European hake landings were multiplied by 2.5 in weight and by 3 in value from 2008 to 2016 as TAC increased on the same time period before a decrease in 2018. Great Atlantic scallop landed weight and value followed a significant increasing trend from 2015 to 2018, reaching its higher value in 2018, thanks to a successful management of those local stocks.



**Figure 3.66 Trends on landings of the top six species landed value for MS fleets operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

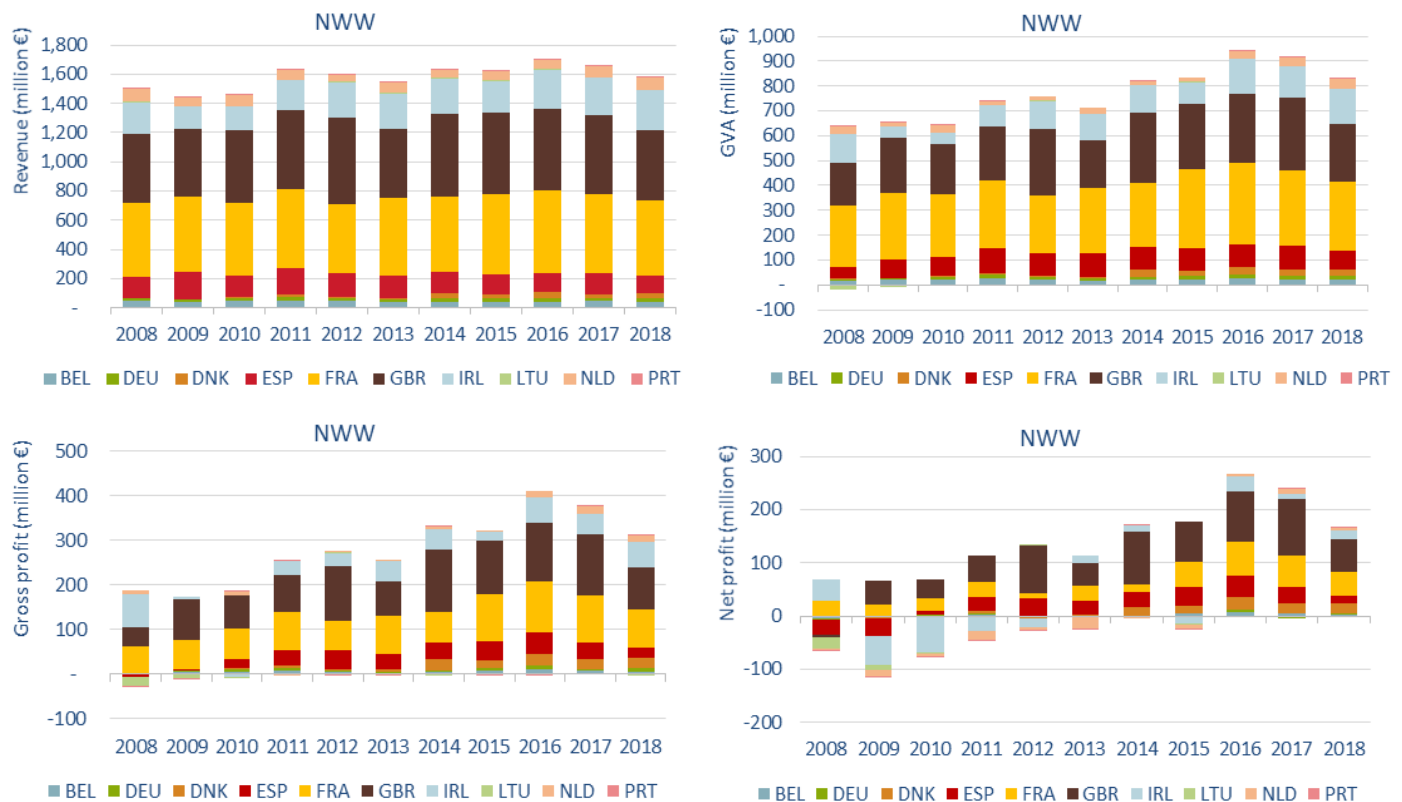
## Economic performance

The revenue (income from landings and other income) generated by the NWW fleet covered in the analysis in 2018 was estimated at EUR 1.5 billion, over 88% produced by four Member States fleets: France (EUR 512 million), United Kingdom (EUR 481 million), Ireland (EUR 272 million) and Spain (EUR 124 million) (Figure 3.67).

The majority of the Member States saw a decrease in overall revenues from 2017 to 2018. Five of them saw increases in revenue Germany (9%), Denmark (18%), Ireland (6%), the Netherlands (18%) and Portugal (404%). The highest ranking Member States' fleets, besides Ireland, all suffered a decrease in revenue with a decrease of 13%, 6% and 11% for Spain, France and the United Kingdom, respectively. These decreases are primarily driven by TAC and quota reductions.

The GVA produced was estimated at EUR 828 million in 2018. This represented an overall decrease of 10% compared to 2017. An increase in GVA was experienced by Germany (29%), Denmark (17%),

Ireland (10%), Portugal (694%) and the Netherlands (9%). The remaining Member States experienced decreases.



**Figure 3.67 Trends on revenue and profit for MS fleets operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The fleet made EUR 309 million in gross profit, a decrease of 18% compared to 2017. All of the Member State's fleets operating in the NWW generated positive gross and net profits, apart from Lithuania which suffered net losses (- EUR 0.42 million) but the fleet's activity in the area was also low with less than 40 days at sea so this net loss is more an artefact of the disaggregation of the data to the NWW.

The variation in total annual revenue is mainly linked to fluctuations in TACs and quotas and fish prices. On the whole, the value of landings decreased by 4% compared to 2017 resulting from a decrease in total landed weight of 4%.

## Main factors affecting the performance of the fleet

### Main drivers affecting fleet performance in the region

Factors that may have contributed to the positive situation include:

- Recovery of some stocks, e.g. the biomass of most herring stocks have increased and the Northern hake stock continues to follow a positive trend.
- Increased TACs for a number of stocks, e.g. anglerfish and haddock.
- Stable fish prices generally and higher average prices for some important species e.g. common sole and *Nephrops*

Factors that may have hampered economic performance in the region include:

- Energy costs and usage have increased even though overall DAS had decreased by 3% in 2018.
- Average wage for both SSCF and LSF have decreased by 5.7% and 8%, respectively.
- TAC reductions for mackerel.
- Whilst the consequences of Brexit are unknown, it is expected that it could have a large impact on fleets operating in the region. The United Kingdom holds a significant portion of the landings. Furthermore, there is a high dependency on United Kingdom waters for a number of Member States: Ireland, France, Spain, Belgium, the Netherlands and Germany.

## Regulation and Fisheries management in the region

- Council Regulation (EC) No 1300/2008 established a multi-annual plan for the herring stock distributed to the west of Scotland and the fisheries exploiting that stock in international and EU waters in ICES Divisions 5b and 6b, and the northern part of ICES Division 6a excluding the Clyde. The United Kingdom and Irish fleets are the most important fleet segment for this fishery. Most herring stocks (North Sea, Irish Sea and Celtic Sea) are fished in accordance with MSY, with corresponding 2016 TAC for these stocks. The situation is also positive for southern and western horse mackerel and the TAC allows fishing at levels corresponding to MSY in 2016.
- Long-term plan for cod stocks and the fisheries exploiting those stocks (Council Regulation (EC) No 1342/2008). The long-term plan for cod has an impact on the North-eastern Member States. The French, Belgian, German, United Kingdom, Irish, Dutch, Spanish and Portuguese fleets all have quota for cod and thus interact with the cod fisheries. As days-at-sea restrictions are becoming more constraining, it may have an effect on the economic performance of the fleets.
- Council Regulation (EC) No 388/2006 established a multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay covering ICES Divisions 8a and 8b. The French DFN segments are the most important fleets in term of sole landings in weight in the Northeast Atlantic with 26 000 tonnes (61%).
- Council Regulation (EC) No 509/2007 established a multi-annual plan for the sustainable exploitation of the stock of sole in the Western Channel (ICES Division 7e). The sole fishery is the most important to the UK and French fleets.
- Council Regulation (EU) No 713/2013 establishing the fishing opportunities for anchovy in the Bay of Biscay for the 2013/14 fishing season. This management plan concerns mainly Spanish and French fleets.
- Measures for the recovery of eel. Area covered includes EU estuaries and rivers that flow into seas in ICES areas 3, 4, 6, 7, 8 and 9 and the Mediterranean (Council Regulation (EC) No 1100/2007 of 18 September 2007). In the region, this management plan applies mainly to France.
- Council Regulation (EC) No 302/2009- 500/2012 Measures concerning a multiannual recovery plan for bluefin tuna in the eastern Atlantic and Mediterranean. According to STECF data, in 2015, three national fleets operated in this fishery with the French fleet representing 50% of the total of landings value in the Northeast Atlantic (followed by Portugal (48%) and the Irish fleet (1%).
- Council Regulation (EC) No 811/2004 to increase the quantities of mature fish in the Northern hake stock to at least 140 000 tonnes. This management plan concerns Spanish, French, Portuguese, Irish, United Kingdom, Dutch and Belgian fleets and has been successful.

Other management measures that may affect economic performance of the fleets operating in the NWW include marine protected areas and other legislation that has a multispecies impact.

## Status of important stocks

Overall fishing mortality (F) for shellfish, demersal, and pelagic fish stocks has reduced since the late 1990s although the pelagic stock are now above the reference point according to ICES. Mean F is now closer to the level that produces maximum sustainable yield (MSY). The fishing mortality on 45 stocks has been evaluated against MSY reference points; of these, 30 stocks are now fished at or below MSY. A number of stocks still have very low stock biomasses, namely cod, haddock, and whiting to the west of Scotland, cod and sole in the Irish Sea, and herring in ICES Divisions 6a, 7b, and 7c.

## TAC development of main species

In 2018, there were quotas for over 32 fish species defined for the region.

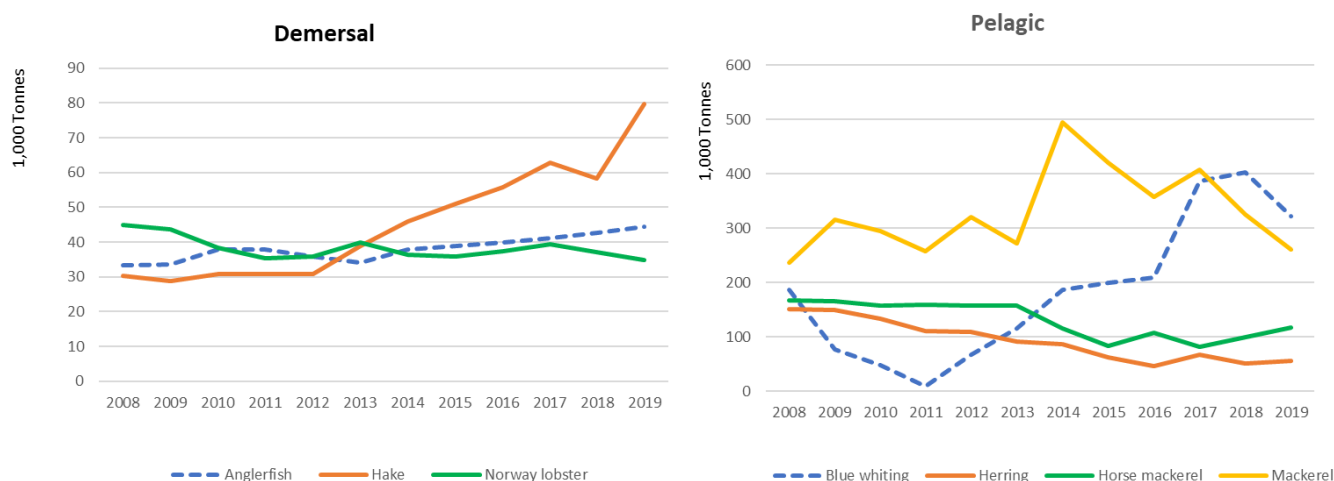
### Demersal species:

- The total TAC increase is mainly due to the positive development of hake stocks.
- In NWW, TAC of anglerfish increased by 28% from 2008 to 2019.
- Norway lobster TAC in NWW quite stable but has experienced decreased in 2018 by 6%. However, since 2008 to 2017 there has been an overall 13% reduction in TAC for the area. There has been an increase again in 2019 and 2020.

### Pelagic Species:

TACs for pelagic species in the Northeast Atlantic region have varied since 2001 especially for blue whiting and mackerel with very high values in 2005 and then again in 2014 (Figure 3.68).

- After a peak in 2014, the mackerel TAC decreased from 2014 to 2015, horse mackerel TAC decreased in NWW from 2014 to 2015. Both of these reductions impacted the Irish and British fleets and having a knock-on effect on total revenue and economic indicators. Mackerel quotas in the area experienced a reduction in 2018 and 2019 by 20% annually since 2017 impacting negatively in the overall revenue of the NWW fleets in 2018. This will undoubtedly have a continued negative impact on the total profitability of the pelagic sector and the overall fleets for future economic analysis in 2019.
- TAC of blue whiting increased by 107% from 2008 to 2017, with an 85% increase from 2016 and 2017. This increase positively affected the five most important Member State fleets in the NWW. However, in 2018 this increase was moderate and in 2019 has decreased again to 2017 levels.
- Herring has fluctuated from 2008 and overall has experienced a 56% decline from 2008 to 2018.



**Figure 3.68 Trends on TACs for major demersal (left) and pelagic (right) stocks in the NWW**

Source: Calculated based on 2019 TAC Council Regulations and BEMEF modelling

## Landing obligation

The introduction of the landing obligation may be implemented with little extra effort in the pelagic sector as well as in the saithe fisheries as these fisheries traditionally have had low bycatch rates. However, more challenges are to be expected for demersal fisheries. Fishers fear that the discard ban will have a large impact on their profitability, mainly due to increased costs. Another concern is related to potential choke species. Particularly, in a mixed fishery this could be an issue as many species are caught at the same time and multiple choke species may occur. Whiting, haddock, ray, cod, sole, plaice, dab, turbot and brill are potential choke species candidates in mixed demersal fisheries. Therefore, to continue fishing throughout the year, it will be vital to have either enough adapted quota available or adapt fishing strategies with more selective technical measures taking into account EU Regulation n° 2019/1241, fishing closures or by using those possibilities that landing obligation allow fishers to use such as inter-species flexibility, de minimis or negotiating swaps with other Member States

## Description of relevant fisheries in the region

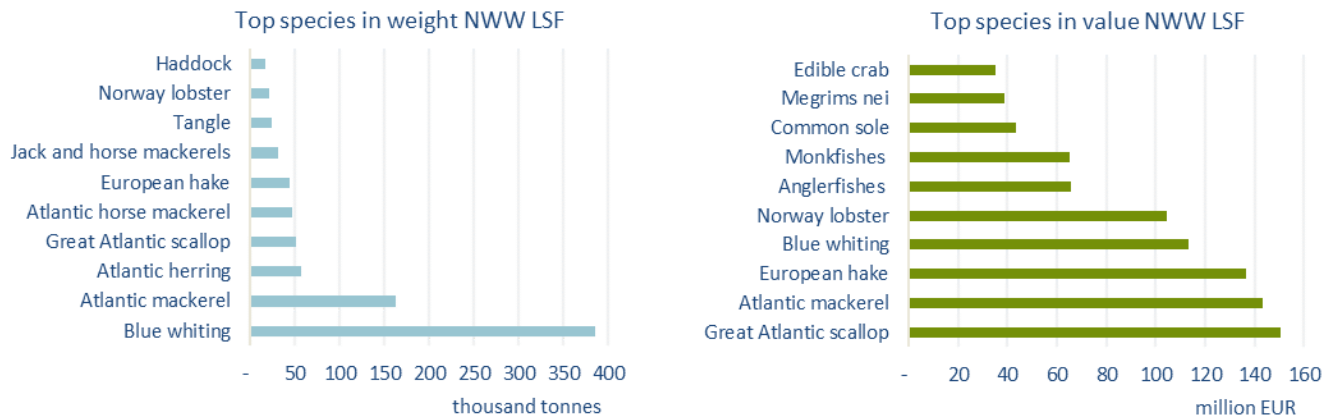
### Large-scale fleet

There were nine Member States' LSF operating in the NWW region totalling 2 025 active vessels. The United Kingdom and France have the largest number of active vessels in the area with 791 vessels and 668 vessels, respectively. However, the area is more important to the Irish fleets with 97% of their LSF active in the area. Total employment for the LSF is highest for the United Kingdom and France totalling 3 413 and 2 829 jobs, respectively, reflecting the high number of active vessels in these Member States. Overall the LSF was profitable in 2018, totalling EUR 690 million in GVA and EUR 254 million in gross profit. The French NWW LSF, generated the highest revenue (EUR 426 million), followed by the United Kingdom (EUR 390 million), and Ireland (EUR 228 million). At Member State level, all LSF generated gross profits in 2018. Additionally, two DWF (Lithuanian and Spanish fleets) were also active in the region in 2018. Note: Data on the EU distant water fleets operating in the region is limited and the economic indicators are to be interpreted with caution.



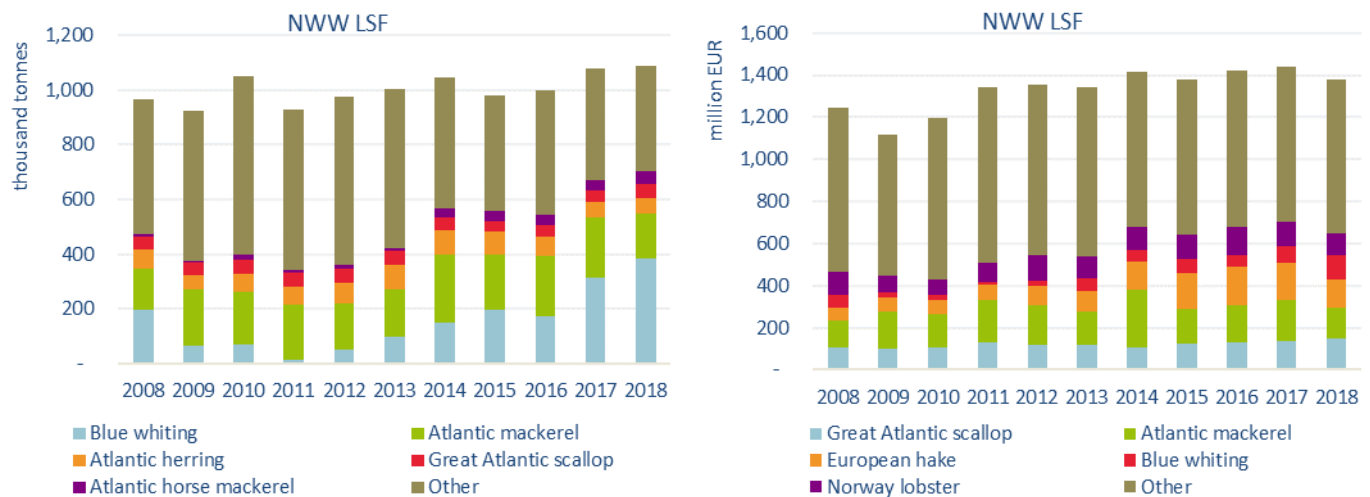
Member States can be classed into different categories according to their dependency which is representative of their LSF landings composition in the NWW:

- In Ireland the main value species are *Nephrops* and mackerel totalling 38% of the total value. These two species have landing values of EUR 56 million and EUR 26 million, respectively.
- The United Kingdom and Irish LSF landings in the Northeast Atlantic, are dominated by mackerel and scallop, with landing values of EUR 82 million and EUR 54 million, respectively.
- For Spain and France, there is a more diverse landing composition, with hake playing a key role for both Member States. The main species by landing value for France were scallop (18%), monkfish (16%), and hake (13%).



**Figure 3.69 Top 10 species landed by LSF operating in NWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.70 Trends in landings of top species landed by LSF operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

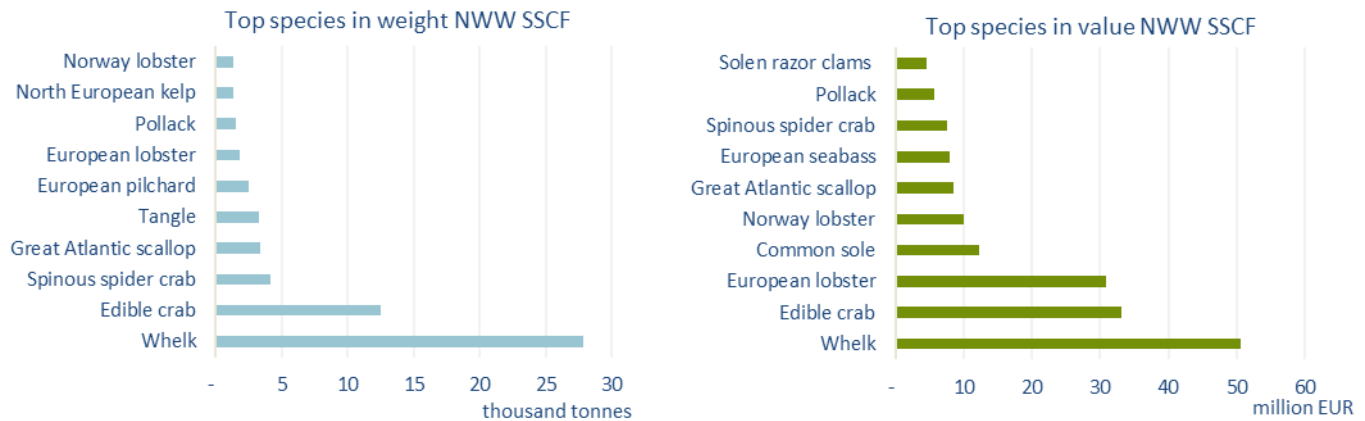
## Small-scale coastal fleet

There were SSCF from four Member States operating in the NWW. While 100% of Irish and 65% for the United Kingdom SSCF fished in the NWW in 2018, it represented only part of the SSCF fishing activity for France (46%), and the Netherlands (<1%) as they were also active in the Mediterranean Sea and/or in the North Sea. In terms of vessel numbers, the United Kingdom had the highest number of active SSCF vessels with 2 158 vessels followed by Ireland and France with 668 and 622 active vessels, respectively.

Total employment for the SSCF is highest for the United Kingdom and France totalling 3 765 and 1 194 jobs, respectively, reflecting the high number of active vessels in these Member States. All Member States in the NWW demonstrated a significant lower FTE figure in comparison with total employed indicating that a large majority of those employed in the SSCF are part-time or casual workers.

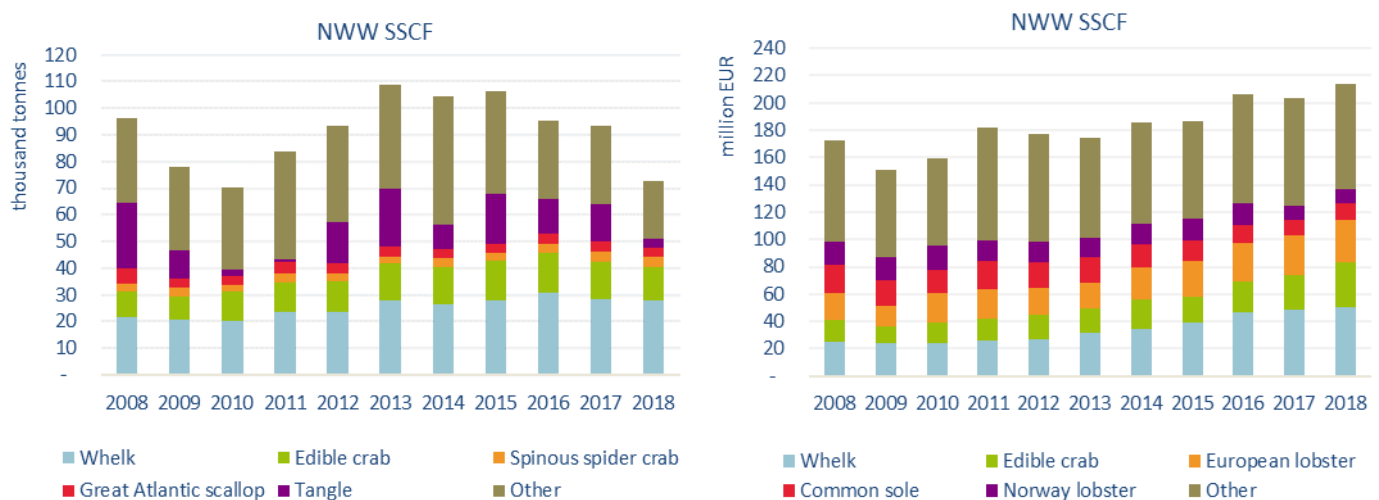
Overall the SSCF was profitable in 2018, totalling EUR 122 million in GVA and EUR 40 million in gross profit. The most relevant SSCF fleet with high profitability was the Irish and French SSCF, with gross profit margins of 44% and 21%, respectively. In terms of productivity, the GVA per FTE varied from EUR 88 000 (France) to EUR 37 000 (Ireland).





**Figure 3.71 Top 10 species landed by SSCF operating in NWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.72 Trends in landings of top species landed by SSCF operating in NWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Performance by fleet segments

There were an estimated 108 segments operating in the NWW region. At fleet segment level, the United Kingdom pelagic and demersal trawlers over 40 metres generated the most revenue in 2018 (EUR 105 million), followed by the French demersal trawlers between 24 and 40 metres (EUR 92 million) and French demersal trawlers between 18 and 24 metres (EUR 86 million). The Spanish polyvalent passive gears between 24 and 40 metres also generated one of the highest revenues, estimated at EUR 74 million.

There were 28 EU fleet segments that operated 80% or more in the NWW region in 2018, accounting for 42% of the number of vessels, 32% of the days-at-sea deployed, 33% of the FTE, 15% of the landed weight and 27% of the landed value. Collectively, these 'resident' fleets have a relatively small share of landed value and weight as they are mostly SSCFs.

For the four segments with the highest revenue their economic indicators were as follows:

- The United Kingdom pelagic over 40 metres segment has a GVA of EUR 67 million, gross profit of EUR 44 million, net profits of EUR 37 million, and GVA per FTE (labour productivity) of EUR 589 000.
- The French demersal 24 to 40 metres segment has a GVA of EUR 43 million, gross profit of EUR 16 million and GVA per FTE (labour productivity) of EUR 108 000.
- The French demersal 18 to 24 metres segment has a GVA of EUR 41 million, gross profit of EUR 11 million and GVA per FTE (labour productivity) of EUR 96 000.
- The Spanish polyvalent 24 to 40 metres segment has a GVA of EUR 43 million, gross profit of EUR 12 million and GVA per FTE (labour productivity) of EUR 50 000.

### 3.5 Southern Western Waters

#### Regional Details

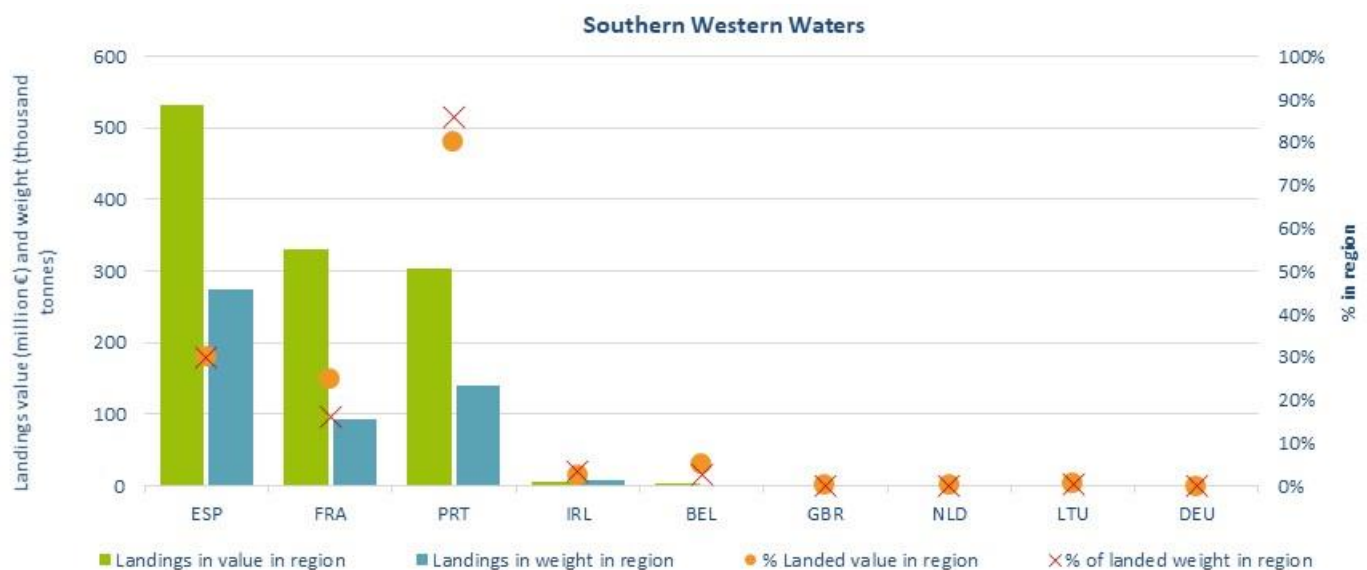
The Southern Western Waters (SWW) covers the Atlantic zone running from the tip of Brittany in the North, to the Strait of Gibraltar in the south and including the outermost regions of Madeira, the Azores and the Canary Islands (ICES areas 8, 9 and 10, and the COPACE divisions 34.1.1., 34.1.2, 34.2.0). For simplicity EU vessels operating in the aforementioned fishing areas are referred to as the EU SWW fleet.

The main fleets operating in the region were the Spanish, French, and Portuguese. Besides those, six more EU fleets operated in the region in 2018: Belgium, Germany, Ireland, Lithuania, the Netherlands and the United Kingdom, yet having limited fishing activity in the region (effort and landings shares in the region were less than 3% of the total)

Based on the value of landings, the Spain produces the most from the region, followed by France and Portugal. However, Portugal has the highest total percentage of national landed value from the region at 80%, followed by Spain (30%) and France (25%). The SWW region represents less than 5% of the landing value in any of the other countries (Figure 3.73).

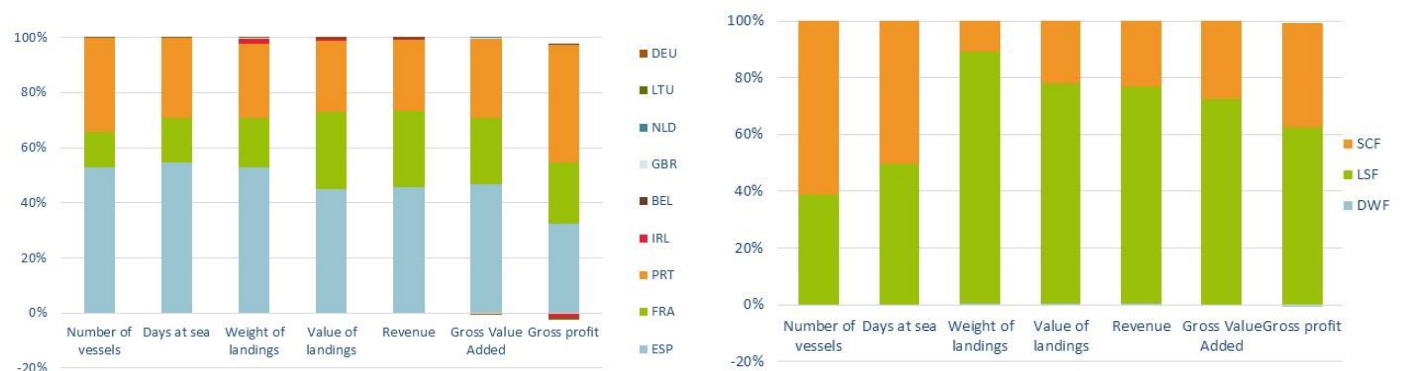
SSCF dominates in number of vessels while the LSF is the main segment in terms of production (Figure 3.74).

Tables in the Annex report contain a summary of the economic performance of the SWW fleet by Member States, main type of fishing activity and fleet segment.



**Figure 3.73 Importance of the SWW for MS fleets in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.74 Share of MS fleets and fishing activity in the SWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Overview of the main results for EU fleets in the SWW

### Fishing effort and landings

Fishing effort has decreased over the period analysed while landings have been stable in volume from 2014 onwards, although registering a drop in 2018 (7% less than in 2017). The value of landings also decreased in 2018, even if less sharply (-4%). (Figure 3.75).

For certain species, it is particularly clear the inverse relationship between volume and prices, as in the case of the European anchovy, which landings increased by 12% compared to 2017, while prices decreased by 20%. On the contrary, the decrease in sardine landings (-19%) was accompanied by a 14% price rise.

Fishing opportunities and prices are major drivers of revenues, but also operational costs, as fuel, whose prices averaged 0.52 EUR/litre.



**Figure 3.75 Trends on effort and landings for MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

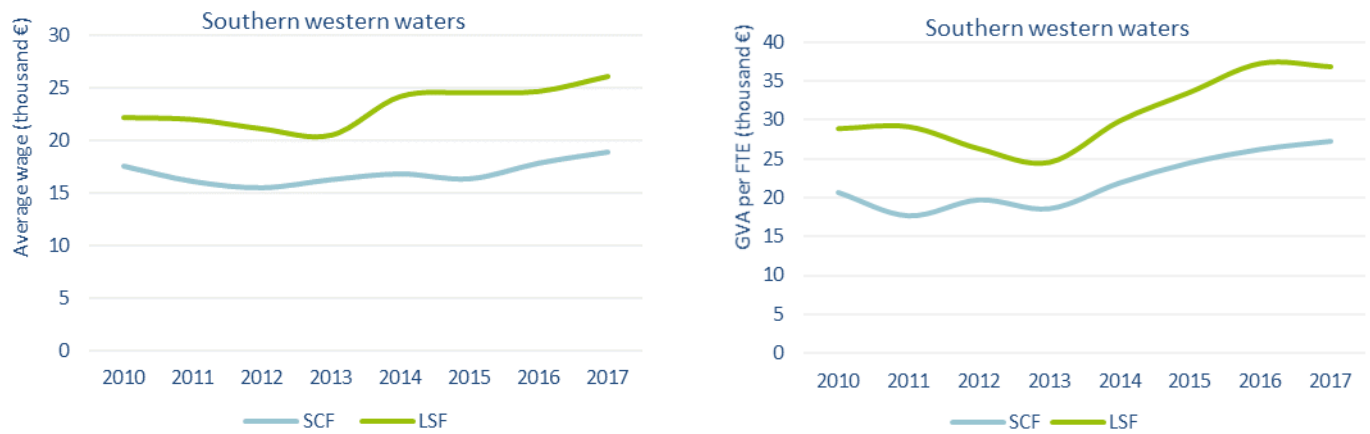
### Employment, wages and labour productivity

Total employment in the region was estimated at 35 000 with the number of FTE employees at 23 000. Employment in this region has followed a decreasing trend (-8% in FTE compared to 2017), even though yearly variations are observed. The bulk of the reduction stems from the Spanish fleet (-14%). The most important fleets in terms of overall employment correlate to the same fleets with the highest dependencies on the region. Spain employs the most fishers (57% of the FTE), followed by Portugal (33%) and then France (10%). Together, these two Member States covered 99.6% of the employment.

Employment for the LSF is the highest for Spain and Portugal, 58% and 31% of the LSF FTE, respectively, reflecting the high number of active vessels in these Member States. Compared to 2017, the FTE has decreased in Spain (-13%) while in Portugal practically remained the same.

The SSCF, for these three Member States, demonstrates a marked difference between the number of total employed and total FTE indicating that a large number of those employed are part-time employees. Total employed for the SSCF was highest in Spain and Portugal reflecting their high number of SSCF vessels. LSF figures for total employed and FTEs are closer in value indicating a high level of full time employment.

Average wages per FTE in the SSCF have grown, being 9% above the average of the previous 10 years. Nevertheless, this growth is not equally distributed along the years, in fact, salaries started to grow from 2013 onwards and in particular after 2015. For LSF, wages also decreased until 2013 but have grown since then, registering an 13% increase compared to the average of the last 10 years. The gap in salaries between SSCF and LSF has increased since 2010, with the average wage in 2018 being around EUR 18 000 and EUR 26 000 for SSCF and LSF, respectively (Figure 3.76). However, the gap between labour productivity (GVA per FTE) in the SSCF and LSF increased until 2016 but started to get closer since then.



**Figure 3.76 Trends on average wage and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

In 2018, the fleet operating in the SWW generated over EUR 1.2 billion in revenue, EUR 715 million in GVA and EUR 182million in gross profits. Overall, revenue and profits have recovered since 2013, going from a loss making position to posting net profits. The fleet as a whole was profitable in 2018, posting a net profit of over EUR 93 million (8% profit margin) (Figure 3.77).



**Figure 3.77 Trends on revenue and profits for MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Trends by Member State fleet

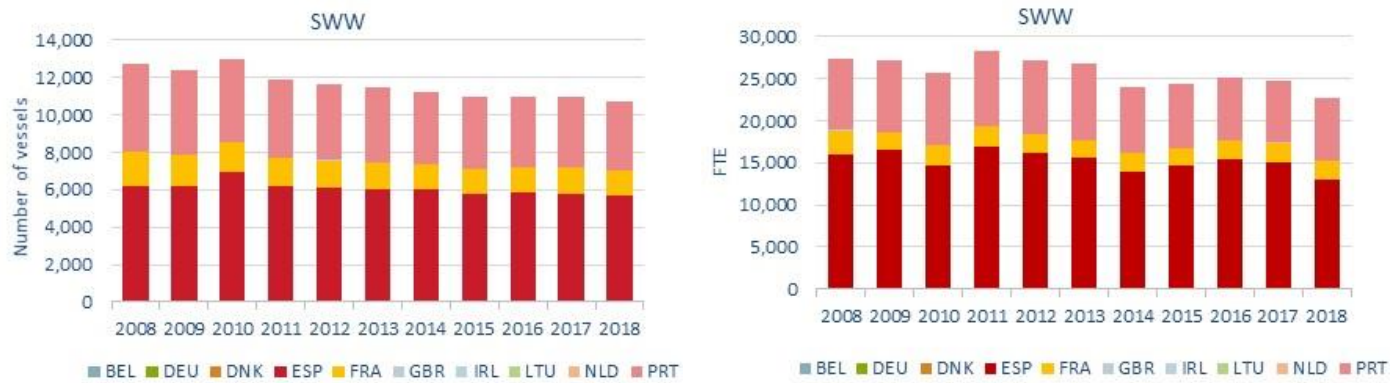
### Fleet capacity and employment

The nine Member States fleets operating in the SWW collectively numbered over 10 715 vessels even though Spain, Portugal and France represent 99% of the total. The Spanish fleet comprised the largest fleet in number (5 676 active vessels in the region), followed by Portugal (3 665) and France (1 362) (Figure 3.70).

The SSCF accounted for 61% of the number of vessels and 50% of the days-at-sea, while LSF generated by far the highest landed weight, with 89% of the total and 77% of the value in 2018.

In 2018, the employment estimated for the SSCF amounted around 14 700 jobs corresponding to 7 000 FTE (42% of the total jobs and 31% of the total FTE in the region), indicating the predominate part-time nature of this fishing fleet.

Fleet capacity and employment in the region have followed a general decreasing trend over most of the period analysed, apart from a slight increase in FTE from 2015 to 2016 (Figure 3.78).



**Figure 3.78 Trends on the number of vessels and employment (in FTE) for MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

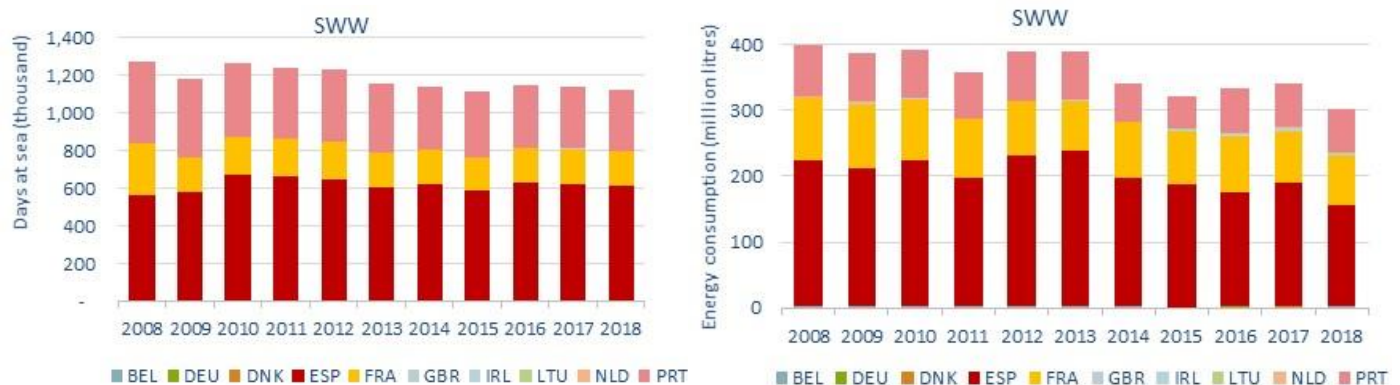
## Fishing effort

SWW fleet spent over 1.1 million days-at-sea in 2018; 55% of which were deployed by the Spanish fleet (Figure 3.79).

The number of days-at-sea per fishing activity has remained quite balanced in recent years. In 2018, SSCF vessels accounted for 50% of the total number of days-at-sea but only 11% of the landed weight and 22% of the value.

Fishing effort has decreased much in line with capacity, with a 17% decrease in the number of vessels from 2010 and a 11% decrease in days-at-sea. Between 2010 and 2018, more than 2 200 vessels ceased activity in the region, 58% of which were Spanish vessels. This decreasing trend in vessel number and also in engine power and gross tonnage is expected to continue for the coming years.

Energy consumption has also followed a general decreasing trend from 2012 to 2015, and 2018.



**Figure 3.79 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the SWW**

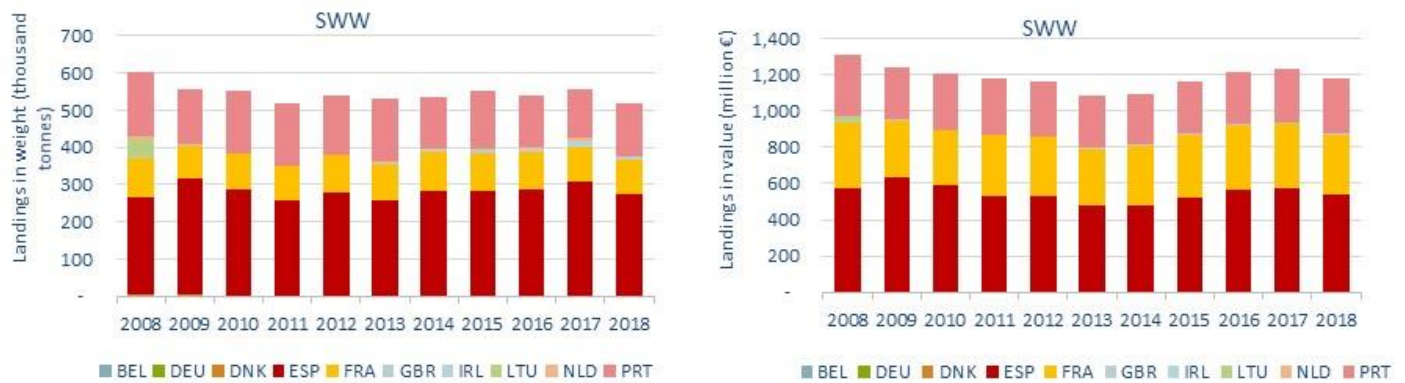
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

## Landings and top species

The weight and value of landings generated by the SWW fleets amounted to approximately 516 500 tonnes and EUR 1.18 billion, respectively. In terms of landed weight, the Spanish (53% weight, 45% value), Portuguese (27% weight, 26% value) and French (18% weight, 28% value) were the most important national fleets, and together accounted for over 98% of the totals.

Landings in weight decreased by 8% in 2018 compared to 2017, while in value, they decreased by 4% (Figure 3.80). The decrease was centred on the Spanish fleet. Landings were mainly generated by the LSF, making up 89% of the live weight and 77% of the landed value.





**Figure 3.80 Trends on landings in weight and value from MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018, the main species landed by the SWW fleet in terms of weight were small pelagic species, namely: anchovy (44 300 tonnes), Atlantic horse mackerel (44 300 tonnes), European pilchard (42 000 tonnes), followed by European Atlantic mackerel (40 600 tonnes) and Chub mackerel (39 500 tonnes). These species all together represents over 40% of the total landings weight in the SWW. In terms of value, European hake (EUR 106 million) was the most important species in 2018, followed by albacore (EUR 74 million), common octopus (EUR 72 million) and European anchovy (EUR 60 million) (Figure 3.81).

The top species can be seen as drivers for this region's fleets. The share of landed value of European hake is dominated by Spain and France (95%). Norway lobster, common sole and European seabass landings values, were dominated by France, with 82%, 79% and 70% of the total, respectively. Albacore landed values were dominated by Spain (75%). Regarding small pelagic fishes, European pilchard landings were led by Portugal (38% share) followed by France (31%) and Spain (30%). For European anchovy and Atlantic mackerel, Spain was the main Member State dependent on these species with 77% and 70% of the share. Finally, common octopus is shared between the Portuguese fleet (66%) and the Spanish fleet (33%).

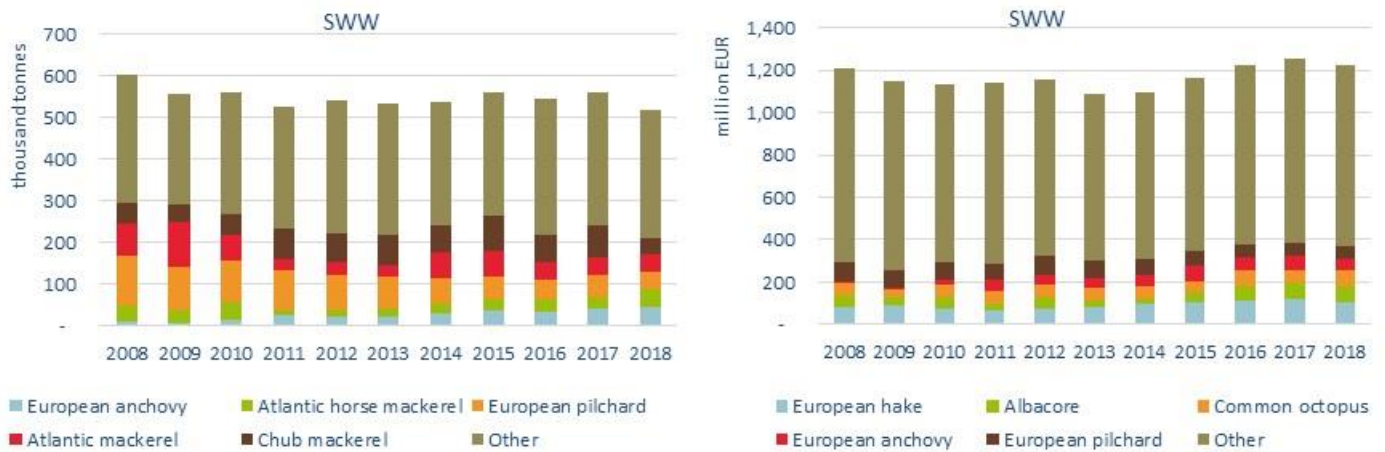


**Figure 3.81 Top 10 species in landed weight and value for MS fleets operating in the SWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Temporal trends in the value and weight of landings have been influenced by fluctuations in TAC and quotas for Atlantic mackerel, blue whiting and hake. Mackerel went through a significant increase in 2014 followed by a decrease after 2015, which impacted the total value of landings for Member States targeting this species. European pilchard is of particular importance in the region, the biomass of which has been declining and, consequently, landings in 2018, even though there was a certain increase in landings in 2017 (Figure 3.82).





**Figure 3.82 Trends on landings of the top species in landed weight and value for MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

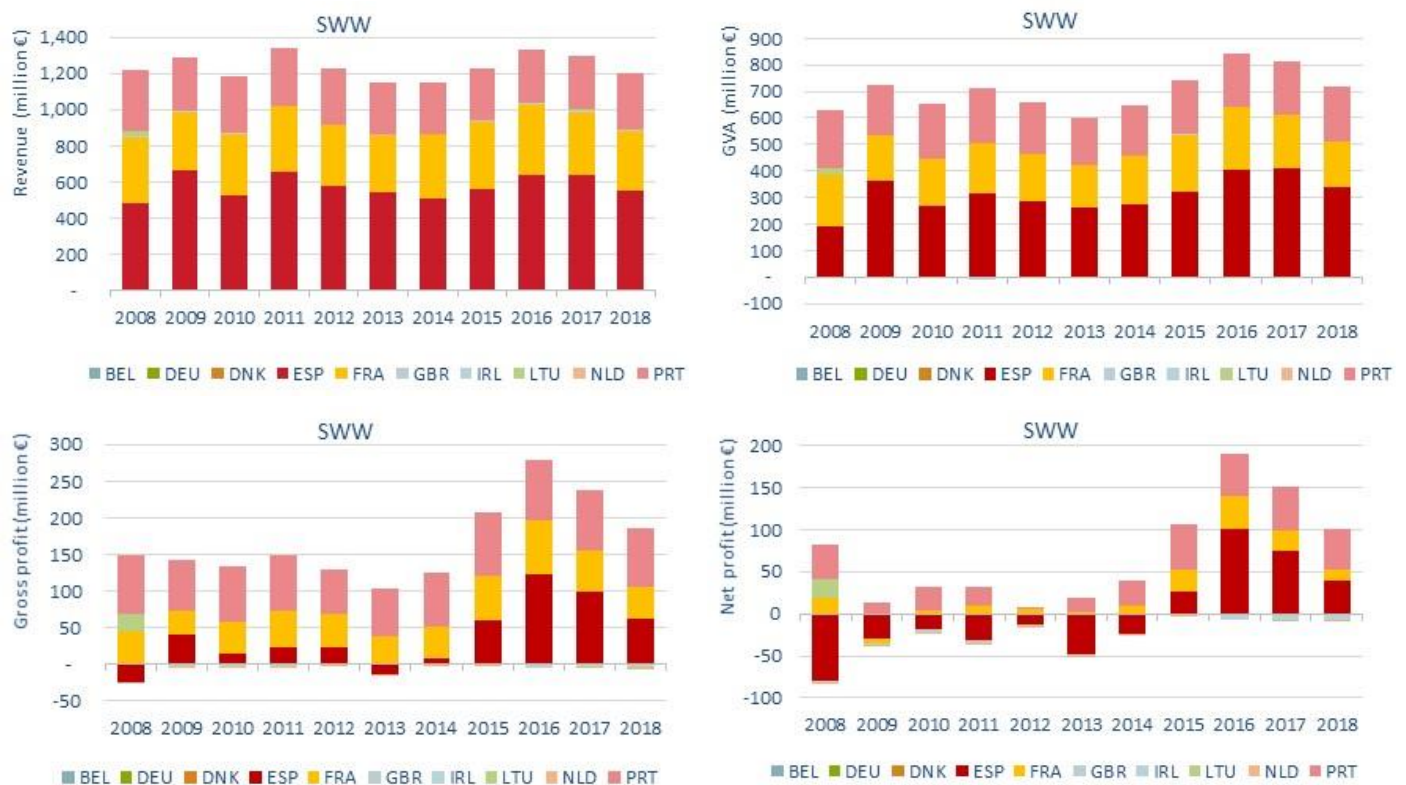
## Economic performance

The revenue generated by the SWW fleet in 2018 was estimated at EUR 1.2 billion, 99% produced by three Member States fleets: Spain (46%), France (28%) and Portugal (26%). Revenue decreased by 8% compared to 2017 (Figure 3.83).

The GVA generated amounted to EUR 715 million, a strong decrease of 12% compared to 2017. GVA decreased 18% for the Spanish and 11% for the French fleets while Portugal remained stable.

The fleet made EUR 182 million in gross profit, a decrease of 22% compared to 2017. By Member States, the Portuguese fleet produced the highest gross profit (EUR 82 million), followed by the Spanish fleet (EUR 62 million) and then the French fleet (EUR 42 million).

By fishing activity, the SWW SSCF generated EUR 278 million in revenue in 2018, while the LSF generated EUR 916 million in revenue (76%).



**Figure 3.83 Trends on revenue and profit for MS fleets operating in the SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

### Main drivers affecting fleet performance in the region

Factors that may have hampered economic performance in the region include:

- Decreased TACs for a number of stocks, e.g. mackerel, hake and blue whiting.
- Lower average prices for European anchovy and chub mackerel.
- Increase in fuel prices resulting in higher energy costs, especially for pelagic fisheries.

### Regulation and fisheries management in the region

Landing Obligation regulations:

- Commission Delegated Regulation (EU) No 1394/2014 establishing a discard plan for certain pelagic fisheries in south-western waters.
- Commission Delegated Regulation (EU) 2019/2237 specifying details of the landing obligation for certain demersal fisheries in South-Western waters for the period 2020-2021.

Other management measures that may affect economic performance of the fleets operating in SWW include marine protected areas and other legislation that has a multispecies impact. The EU is working in a new Regulation in order to include measures of landing obligation in NWW and SWW for the period 2021-2023.

### Status of important stocks

Fishing has generally progressed towards MSY in all areas of the Northeast Atlantic since 2006 and specifically in the SWW region.

Some important stocks in this area are: hake, mackerel and whiting are overfished (but inside safe biological limits or managed under LTMP). One of the main horse mackerel stocks (FAO 27.9), the main anchovy stocks, and since 2017, anglerfish are fished in correspondence with MSY. Only one horse mackerel stock (FAO 27.8c) and sardine (FAO 27.8c and FAO 27.9a) are outside safe biological limits. Sole (FAO 27.8c and 27.9a) stock status is unknown.

### TAC development of main species

The impact of changes in TACs and prices at Member State level varies as their species composition and species dependency of the fleets can differ considerably. In the SWW, the main fishing nations, Spain, France and Portugal, rely on a diversified group of species, while less relevant countries in this area, such as Belgium, Germany, the United Kingdom, Ireland, Lithuania or the Netherlands are strongly oriented to one specific species.

Concerning the year 2018, it is important to highlight the following quotas:

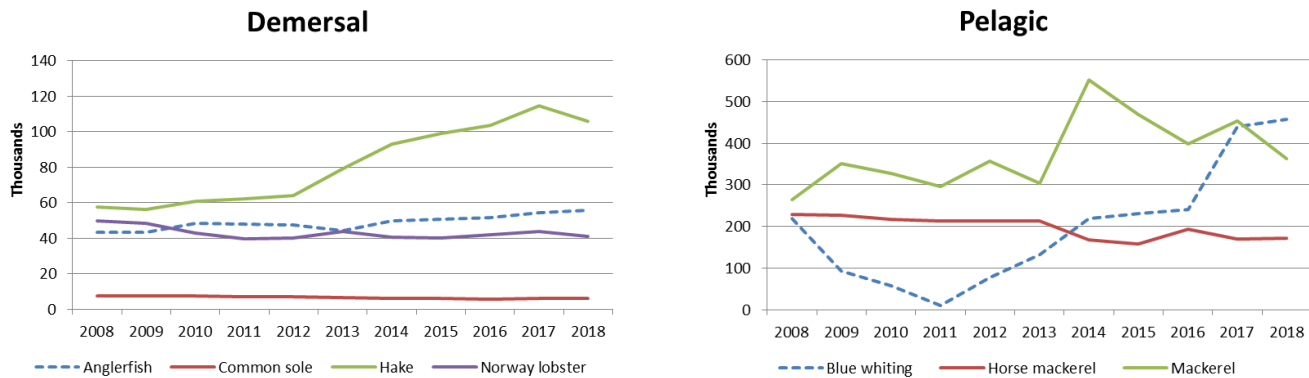
#### Demersal species:

- In 2018 there was a slight reduction in southern hake TAC instead of the biomass increase due to the model used for the evaluation and because of the objective of achieving the MSY level.
- In SWW anglerfish TAC increased slightly in 2017, 2018 and 2019. In 2018, the French TAC represented 59% of the SWW TAC.
- TAC of common sole is stable in the SWW.
- Norway lobster TAC in SWW remained quite stable. ICES advice was to limit the captures in fishing units 26 and 27 to a percentage of the TAC. In the Cantabrian Sea, TAC is zero and in Atlantic Iberian waters the fishing possibilities are currently reduced.

#### Pelagic Species:

- TAC for mackerel is a major determinant of fishing opportunities, peaking in 2014 and, from then on it has tended to decrease impacting mainly the Spanish and Portuguese fleets.
- TAC for horse mackerel: TAC has increased last two years in area FAO 27.8c, although in area FAO 27.9 it has decreased in recent years.
- TAC for anchovy significantly from 2014 to 2017. Spain and Portugal are the main Member States fishing anchovy in area FAO 27.9, where the TAC has been stable through years. In the case of area FAO 27.8, Spain has 90% of the initial and the remaining is held by France. Anchovy in area FAO 27.8 has had a stable TAC due to the management plan.

- TAC for blue whiting increased each year from 2014 to 2017. However, in 2018 and 2019 had a slightly decrease. It is also important to point that both TACs are negotiated at coastal states, where EU has a high percentage of the total TAC.



**Figure 3.84 Trends on TACs for major demersal (left) and pelagic (right) stocks in the SWW**

Source: Calculated based on 2017 TAC Council Regulations and BEMEF modelling

## Landing obligation

Certain potential economic and social impacts have been identified, such as additional handling time in sorting and storing of unwanted catches, regarding the LO. It should be also referred the difficulty in dealing with some catch composition rules currently in force, the role of choke species in mixed fisheries or, specifically, the loss of quota, low prices and technical difficulties for commercialization of fish sold for non-direct human consumption. In this area whiting, horse mackerel and alfonosinos are the most likely to become choke species and Spain, France and Portugal, the Member States most likely to be affected.

There are evidences of economic and social impacts mentioned by Member States in their scientific justifications of LO exemptions and in the annual report on the impact of the LO on their fleets.

## Description of relevant fisheries in the region

### Small-scale coastal fleet

Three Member States have SSCF in the SWW: Spain, France and Portugal. The dependency of these fleet of this area is different. While 100% of the Portuguese SSCF fished in the area in 2018, it represented 74% of the SSCF fishing activity for Spain and 20% for France. In terms of vessel numbers, Spain and Portugal had the highest number of active SSCF vessels with 2 932 vessels and 2 927 vessels, respectively.

Overall, the SSCF was profitable in 2018, totalling EUR 196 million in GVA and EUR 68 million in gross profit. The most profitable in terms of gross and net profit margins was the Portuguese SSCF with 39% and 30%, respectively. In terms of labour productivity, the GVA per FTE varied from EUR 22 000 (Spain) to EUR 73 000 (France).



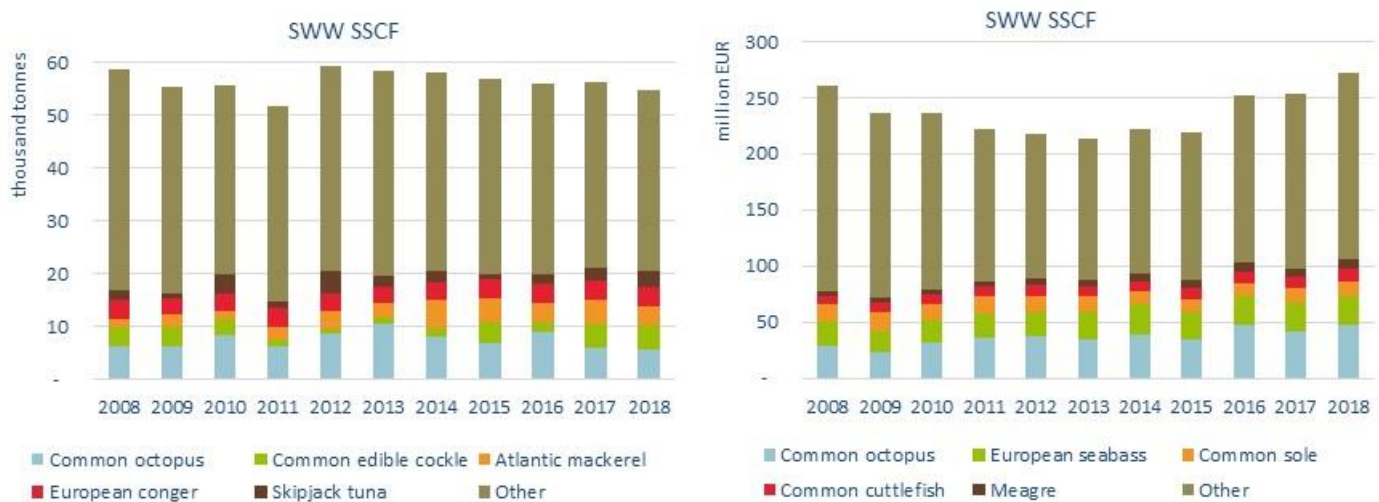
**Figure 3.85 Top 10 species landed by SSCF operating in the SWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Total employment for the SSCF is highest for Spain and Portugal, totalling 6 423 and 7 069, respectively, reflecting the high number of active vessels in these Member States. All of them in the SWW

demonstrated a much lower FTE figures than total employed indicating that a large majority of those employed in the SSCF are part-time employees.

The most important species catch by this fleet are the common octopus (17% of the landed value) followed by the European seabass (10%).



**Figure 3.86 Trends in landings of top species landed in weight and value by SSCF operating in SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Large-scale fleet

There were eight Member States LSF operating in SWW totalling 4 149 active vessels. Spain, Portugal and France had the largest number of active vessels and together account for 99.7% of the total number of vessels in the region.

The LSF was profitable in 2018, totalling EUR 519 million in GVA and EUR 116 million in gross profit. The Portuguese LSF is responsible for 40% of the gross profit of the LSF in the SWW region, followed by Spain that contributed with 37% and the French fleet with 26%. As for profitability, gross and net profit margins were 21% and 10% for the Portuguese fleet, 12% and 3% for the French and 10% and 6% for the Spanish fleet, respectively. When considering average GVA per vessel, differences are also noticeable; EUR 200 000 for the French fleet, EUR 180 300 for the Portuguese fleet and EUR 91 500 for the Spanish fleet.

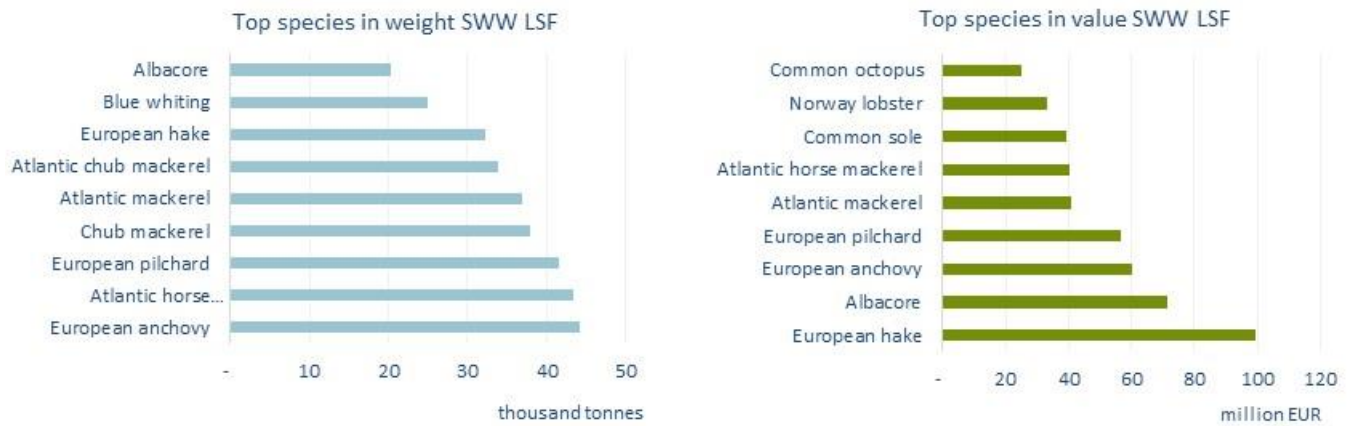
Additionally, two distant water fleets (Portuguese and Spanish fleets) had some activity in the region in 2018, as well as minor activity by the Lithuanian fleet. The EWG notes, however, that data on the EU distant water fleets operating in the region is limited and the economic indicators are to be interpreted with caution.

Total employment for the LSF for Spain and Portugal totalled 11 136 and 6 816, respectively, reflecting the high number of active vessels in these two Member States. While the SSCF, for all Member States, demonstrates a considerable difference between the numbers of total employed and total FTE, the LSF figures for total employed and FTE are closer in value indicating the high level of full-time employment in this segment.

Member States can be classified into different categories according to their dependency which is representative of their LSF landings composition in SWW:

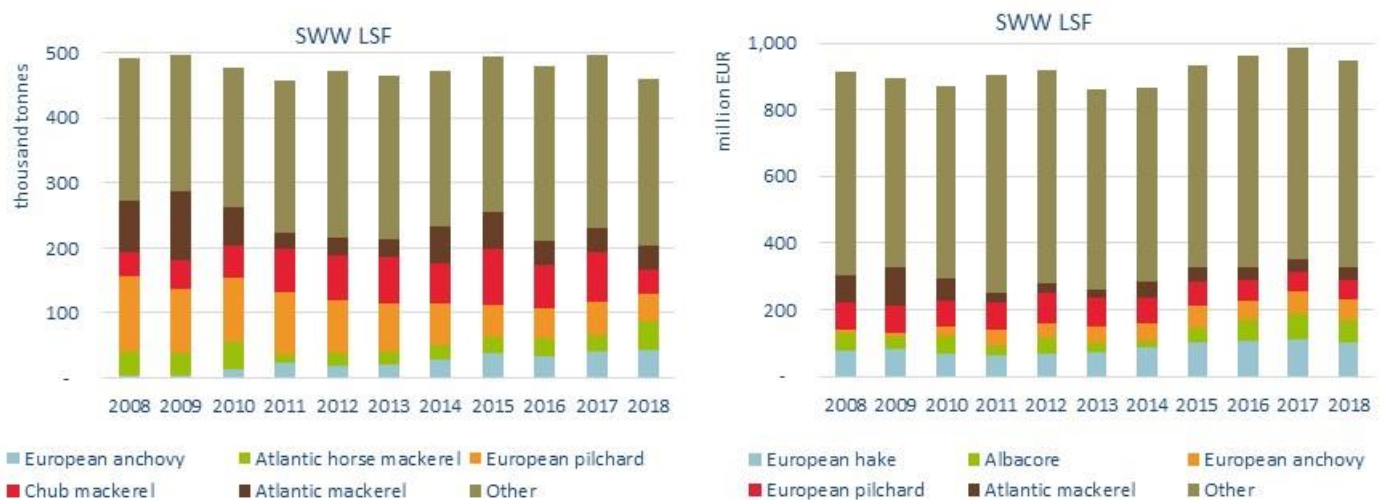
- Four Member States had a high dependency on one or two species in the region. For the Belgian fleet common sole constituted 82% of landing value, Atlantic mackerel represented 99% of the value of the Dutch LSF, while for the German Atlantic horse mackerel together with Atlantic mackerel represented 98%. Albacore represented 92% of the landing value of the Irish fleet.
- The United Kingdom, had medium-high dependency on two species: Atlantic mackerel, which constituted 63% of its landing value from the region and European hake that constituted 27%.
- For Spain, France and Portugal, the landing composition was more diverse, with hake playing a key role. The main species by landing value for Spain were albacore (12%), hake (11%), anchovy (10%) and Atlantic mackerel (6%). For France, hake (16%), common sole (12%), Norway lobster (10%), monkfishes (9%) and sardine (7%). Finally, the main species by landing value for Portugal were sardine (10%), Atlantic horse mackerel (9%), common octopus (8%), black scabbardfish (6%) and anchovy (5%).





**Figure 3.87 Top 10 species landed by LSF operating in the SWW, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.88 Trends in landings of top species landed in weight and value by LSF operating in SWW**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Performance by fleet segments

50 fleet segments, out of the 140 fleet segments identified in the area, represented over 83% of the vessels, 87% of the landed weight and 86% of the value generated by fleets in the region in 2018.

At fleet segment level, the Spanish purse seiners between 24 and 40 metres generated the most revenue (EUR 88 million), followed by the Spanish demersal trawlers between 24 and 40 metres (EUR 75 million) and the Spanish vessels with less than 10 metres using active and passive gears (EUR 75 million).

In this set of top 50, six fleet segments are not profitable and three of them are clustered. Disregarding the three clusters, whose analysis may be biased, stands out the Portuguese longliners between 24 and 40 metres, the Spanish longliners between 18 and 24 metres and the Spanish demersal trawlers between 24 and 40 metres which was the fleet with the second higher revenue. The segments with the higher profitability were the Portuguese vessels under 10 metres using polyvalent passive gears only or pots/traps.

Considering labour productivity within the top 50 fleet segments, 15 upper positions were occupied by French fleets, being the first one vessels than 10 metres using other active gears (EUR 155 000 GVA/FTE), followed by purse seiners between 12 and 18 metres (EUR 125 000 GVA/FTE) and pelagic trawlers between 18 and 24 metres (EUR 100 000 GVA/FTE). There is a wide gap between the most and the least efficient fleets, the latter occupied by Spanish demersal trawlers over 40 metres.

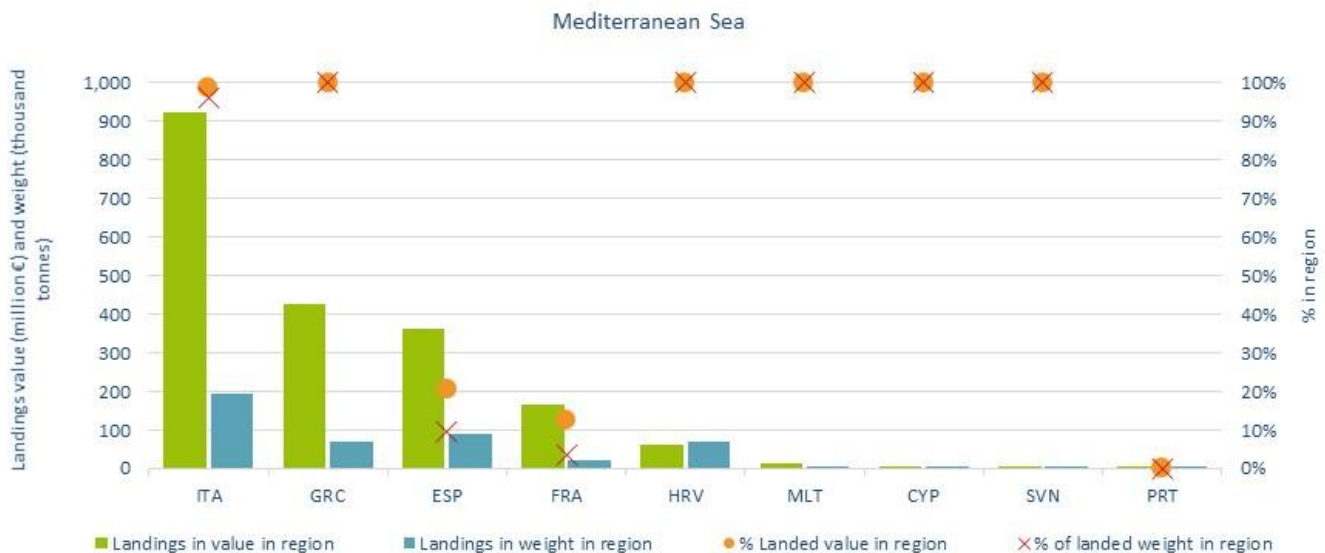
### 3.6 Mediterranean Sea

#### Regional Details

The Mediterranean region covers FAO fishing areas 37.1, 37.2, and 37.3 and nine Member States: Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Slovenia, and Spain. Due to incomplete datasets for time series, Greece, one of the main fishing nations in the region, is included for the 2018 analysis but excluded for trends analysis. Data for Croatia is available from 2012 onwards only (Croatia entered EU in 2013).

The Mediterranean fleet accounted for 52% of all EU vessels and 57% of the EU employment (FTE) in 2018. The Mediterranean fleet also contributed to 8% of the EU landing in weight and 27% of the landed value.

Most Member State's fleets were totally dependent on the Mediterranean basin for their primary fishery production. Almost all landings by the Cypriot, Croatian, Greek, Italian, Maltese, and Slovenian fleets were originated from the region. For Spain and France, the percentage of landings in weight originated from Mediterranean waters was less than 10%, and marginal for Portugal (Figure 3.89).

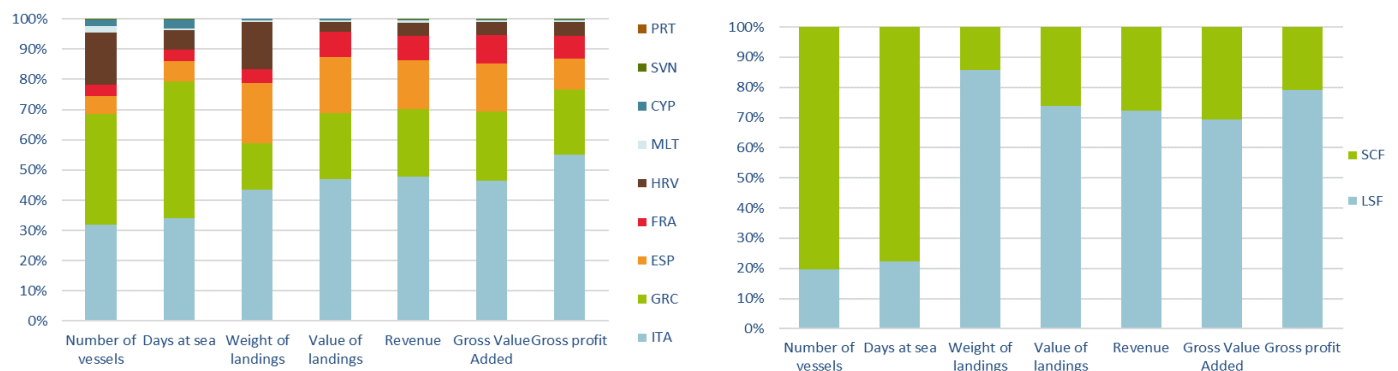


**Figure 3.89 Importance of the Mediterranean Sea for MS fisheries in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The Greek fleet is the first contributor in terms of the number of vessels (37%) and days-at-sea (45%) while the Italian one is the dominant fleet in terms of landings (43% in weight and 47% in value), revenue (48%), gross value added (46%) and gross profit (55%) (Figure 3.82).

In terms of landed weight, Spain caught 20% of the Mediterranean landings, followed by Croatia (16%) and Greece (15%). In terms of employment, Italy (40%), Greece (37%), and Spain (12%) accounted for 89% of it.



**Figure 3.90 Share by MS fleets and fishing activity in the Mediterranean Sea, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The economic performance was mostly driven by the LSF, which contributed to 74% of the landings value from the Mediterranean and to 86% of landings weight in 2018. In contrast, 80% of the vessels operating in the region belong to SSCF.



Around 78% of the days-at-sea were undertaken by SSCF vessels. LSF accounted for 22% of the days-at-sea, of which most were undertaken by the demersal fleet.

The Mediterranean SSCF generated 28% of the revenue in 2018, which remained stable compared to 2017. LSF generated EUR 1.4 billion in revenue.

The main SSCF fleet segments in terms of the number of vessel are the Italian polyvalent passive gears between 6 and 12 metres (5 154 vessels) and the Greek drift and/or fixed netters below 6 metres (3 294 vessels) and between 6 and 12 metres (5 162 vessels), which combined accounted for 55% of the Mediterranean fleet in 2018.

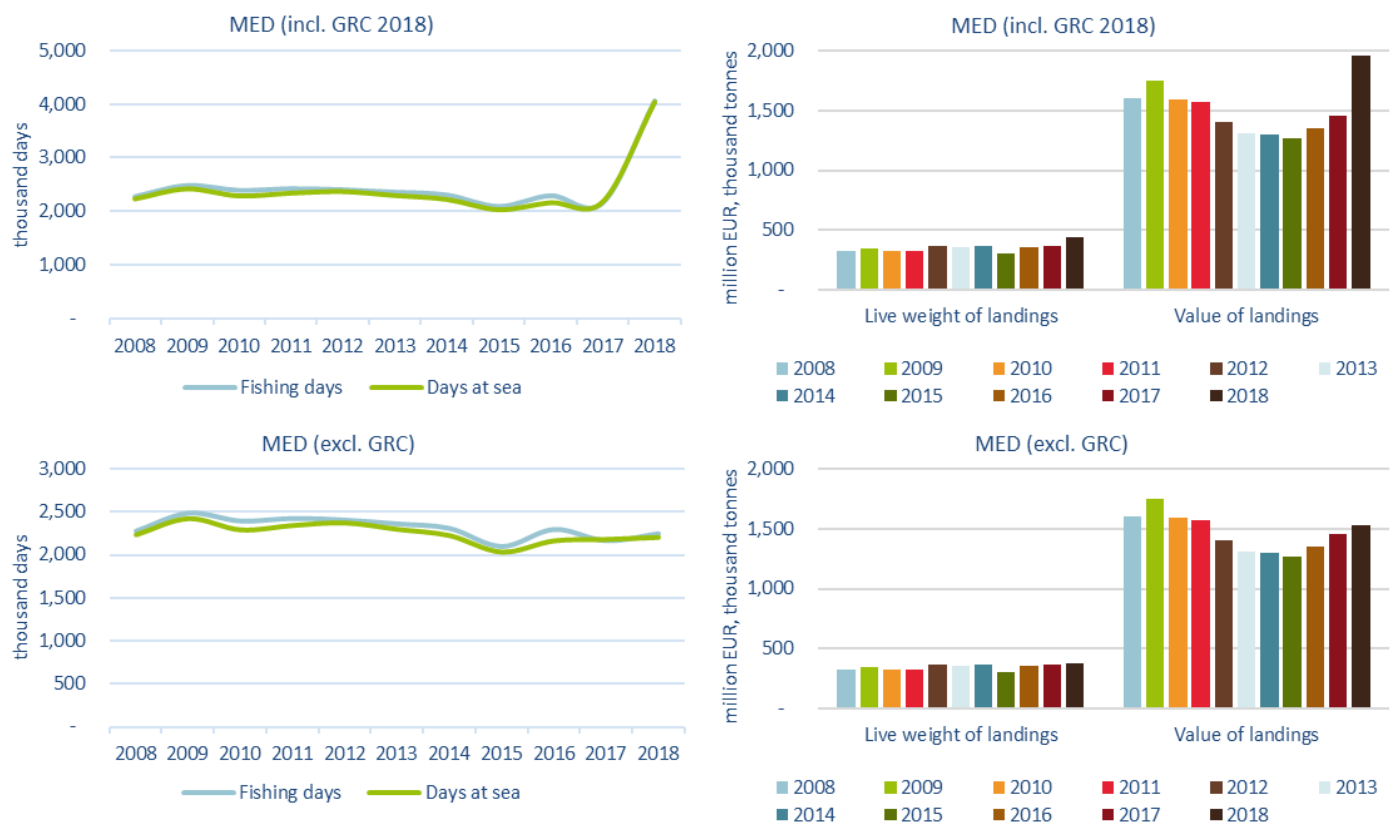
The main LSF fleet segments are the Italian demersal trawlers between 12-18m, 18-24m and 24 to 40 metres, and the Spanish demersal trawlers between 24 to 40 metres, which altogether represented around 40% of total revenue from the area and 9% of the fleet covered.

Tables in the Annex 4 contain a summary of the economic performance of the Mediterranean fleet by Member State, the main type of fishing activity, and fleet segment.

## Overview of the main results for EU Mediterranean Sea fleet

### Fishing effort and landings

Fishing effort marginally increased compared to 2017 (Figure 3.91), slightly recovering after reaching a ten-year minimum (4.03 million days-at-sea and 4.07 million fishing days in 2018, including Greece). However, generally effort decreased by 3% while landings, both in weight and value, have increased by 9% and 5%, respectively, between 2008 and 2017 (excluding Greece). The weight and value of landings were approximately 441 500 tonnes and EUR 1.96 billion in 2018.



**Figure 3.91 Trends on effort and landings for MS fleets operating in the Mediterranean Sea.**

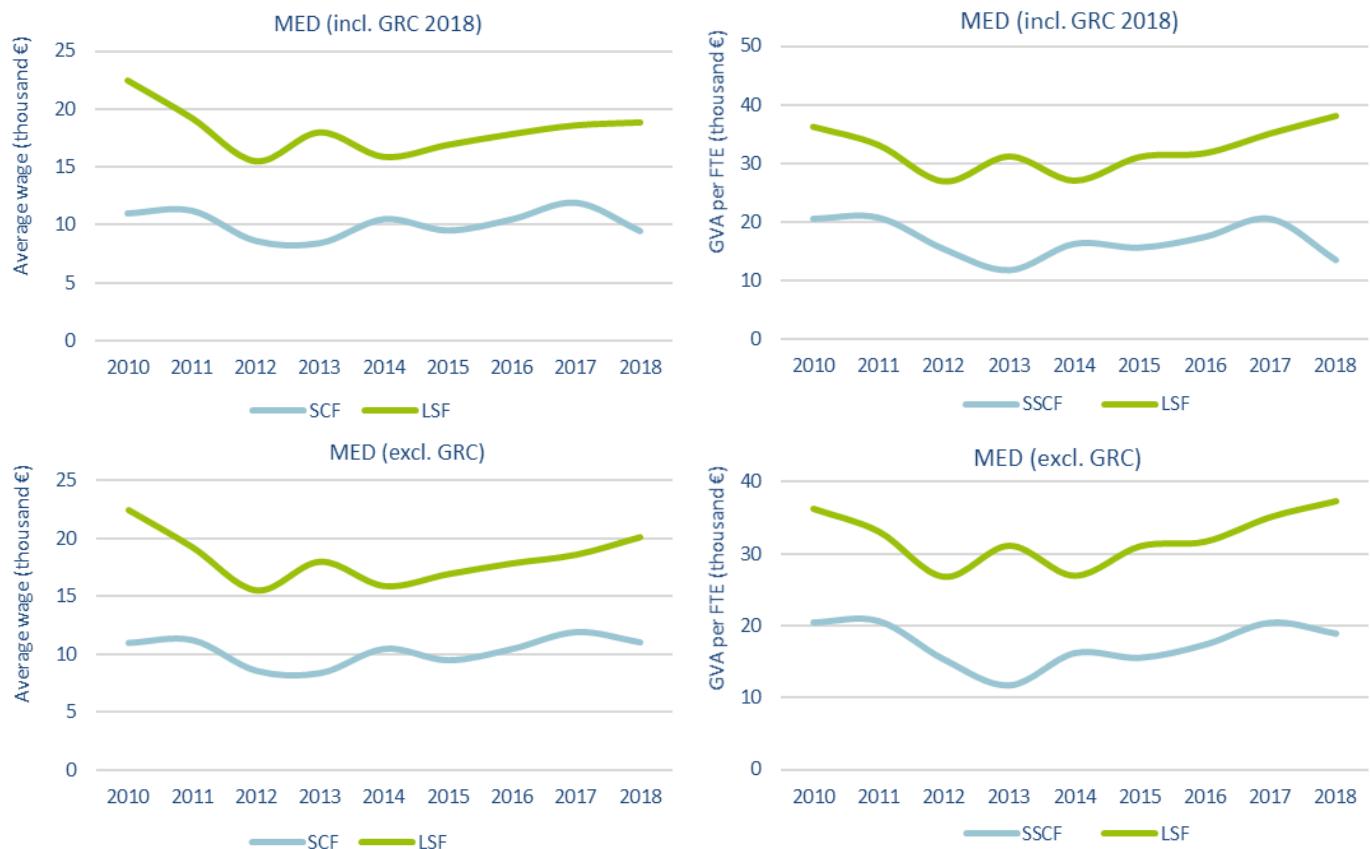
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Including and excluding GRC in 2018.

### Employment, wages and labour productivity

Employment in the Mediterranean fishing fleet (including Greece) in 2018 was estimated at 66 490 jobs, corresponding to 49 810 FTEs. Employment (measured as FTE) has decreased by about 3% relative to 2017 (excluding Greece). More than half of the employment is created by the SSCF; 39 332 jobs corresponding to more than 59% of total jobs, and 27 748 FTEs corresponding to almost 42% of total FTEs. The average employment per vessel is about 1.3. Additional information on capacity and employment are provided in the sections on trends and social aspects.

Annual average wages and salaries in 2018 for fishers in the SSCF and LSF were EUR 9 455 and EUR 18 824, respectively. After 2015, average wages for both segments followed a similar increasing trend until 2018. More specifically, average wages in the LSF increased by 8% relative to 2017 and 8% relative to 2015, however, in the SSCF, average wages decreased by 7% compared to 2017 (excluding Greece).

In LSF the labour productivity (GVA per FTE) increased by about 8% compared to 2017, estimated at EUR 38 148, while in the SSCF labour productivity decreased by 34% to EUR 13 477. LSF and SSCF followed the same trend since 2015, and therefore the gap between them is almost constant until 2018 (Figure 3.92).

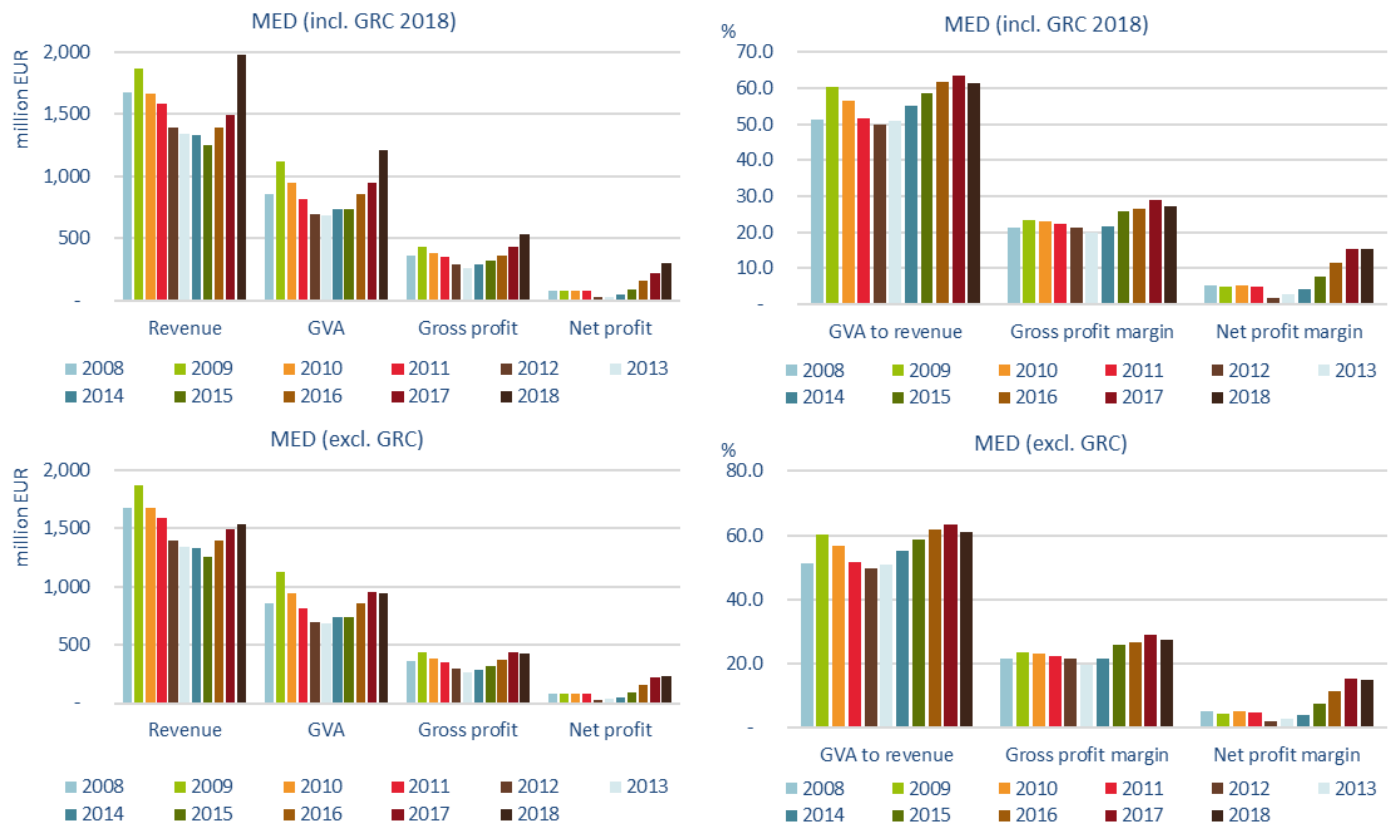


**Figure 3.92 Trends on average wage and labour productivity by fishing activity for MS fleets operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Including and excluding GRC in 2018.

## Economic performance

In 2018, after several years of continued improvement since 2015, the Mediterranean fleet (excluding Greece) reached a point of stagnation with respect to economic performance indicators analysed. The revenue was estimated at EUR 1.98 billion, including Greece, increasing by 3% compared to 2017 (the trend is analysed excluding Greece). GVA produced by the fleets amounted to EUR 1.22 billion, including Greece. Taking into account fleets covered by the analysis in previous years, GVA decreased by 1% compared to 2017. The Mediterranean fleets made almost EUR 538 million in gross profit, a decrease of 2% compared to 2017. Finally, net profit was EUR 306 million (increased by 2% compared to 2017). In addition, GVA to revenue as well as gross and net profit margin decreased by 2.4%, 1.4%, and 0.1%, respectively (Figure 3.93).



**Figure 3.93 Trends on revenue, profits and profit margins for MS fleets operating in the MED**

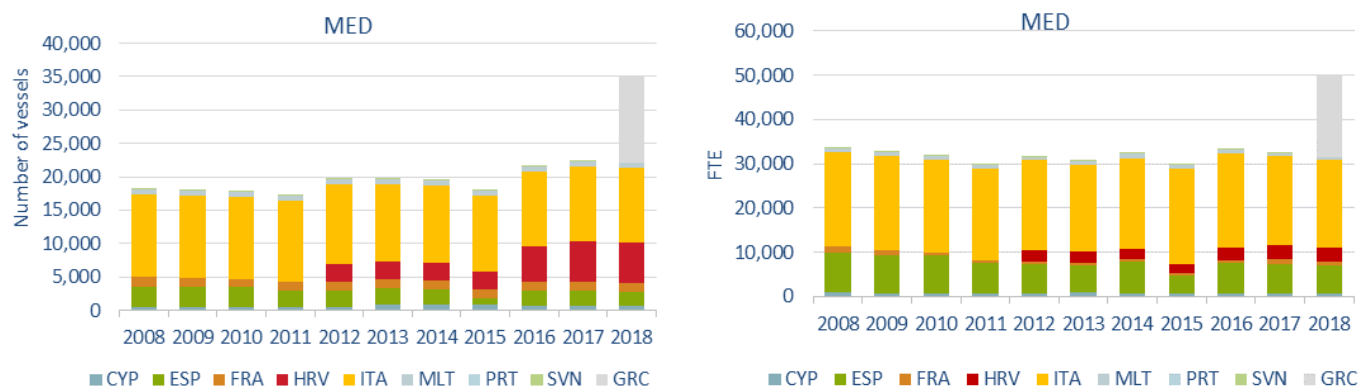
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Including and excluding GRC in 2018.

## Trends by Member State fleet

### Fleet capacity and employment

The Mediterranean fishing fleet numbered 34 898 active vessels. The SSCF comprised 28 074 vessels (80% of the regional fleet). Among them, 43% belonged to the Greek fleet. Total employment, including Greece, was estimated at 66 490 jobs (one third belonging to the Greek fleet), corresponding to 49 810 FTEs (Figure 3.94) in 2018.

Trends on the number of vessels have remained relatively stable, increasing in 2012 with the entry of the Croatian fleet. The decrease in 2015 was mainly due to a misreporting in the number of Spanish vessels.

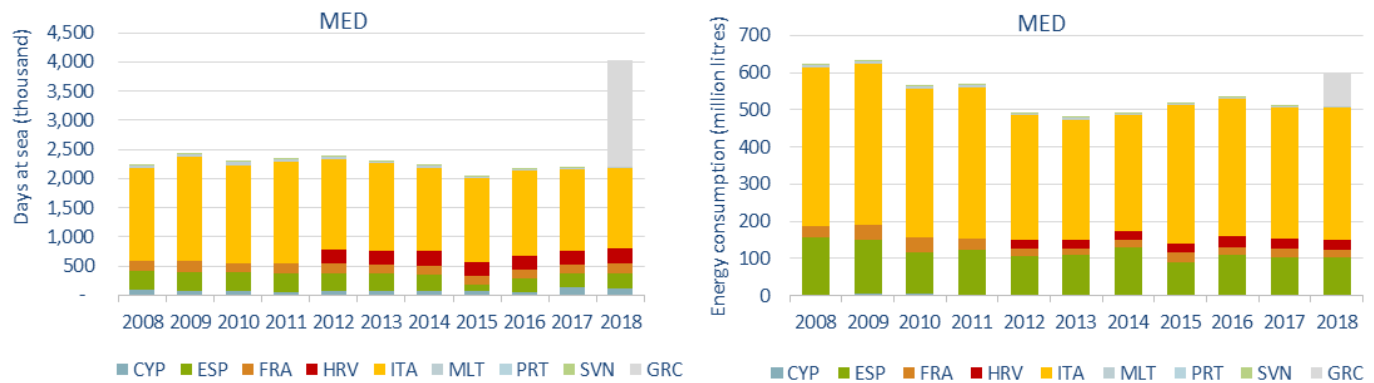


**Figure 3.94 Trends on the number of vessels and employment (in FTE) for the MS fleets operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)). Includes Greece in 2018.

### Fishing effort

The Mediterranean fleet (excluding Greece) spent 2.2 million days-at-sea in 2018. The Italian fleet accounted for about 63% of the number of days, followed by Croatia and Spain (together around 24% of the overall activity) (Figure 3.95). The SSCF accounted for 65% of the days-at-sea.



**Figure 3.95 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)).

Energy consumption in 2018 (510 million litres) increased by 1% compared to 2017 (- 10% compared to 2010). Effort (in days-at-sea) deployed in the region followed a general decreasing trend, a slight increase between 2013 and 2016 and stabilising somewhat in 2018 (Figure 3.95).

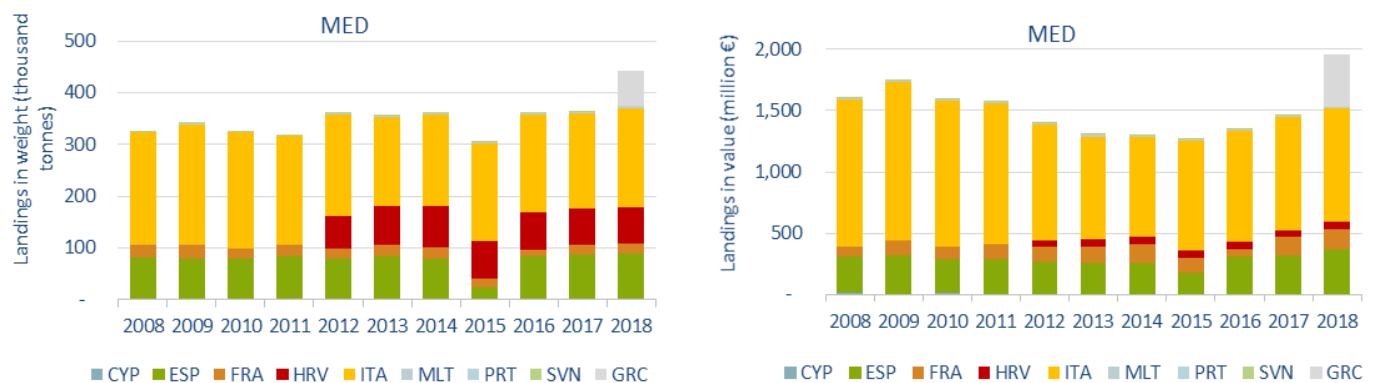
When including data energy consumption for Greece (available from 2014 onwards only), the energy consumed by the regional fleet amounted to almost 600 million litres in 2018, a 0.3% increase compared to 2017 (Figure 3.95).

### Landings and top species

The weight and value of landings generated by the regional fleet (excluding Greece) in 2018 amounted to approximately 373 000 tonnes (+ 3% compared to 2017) and EUR 1.53 billion (+ 5% compared to 2017), respectively.

Regarding landed weight, Italy (191 707 tonnes), Spain (87 443 tonnes) and Croatia (69 401 tonnes) were the leading countries, together accounting for 93% of the total weight and 88% of the value of landings from the EU Mediterranean basin, excluding Greece.

The Croatian fleet landed 19% of the seafood in weight but only generated 4% of the value, indicating the predominance of low valued species composition of the catch (i.e., small pelagic species). The Italian fleet landed 51% of the weight and generated 60% of the value (Figure 3.96).



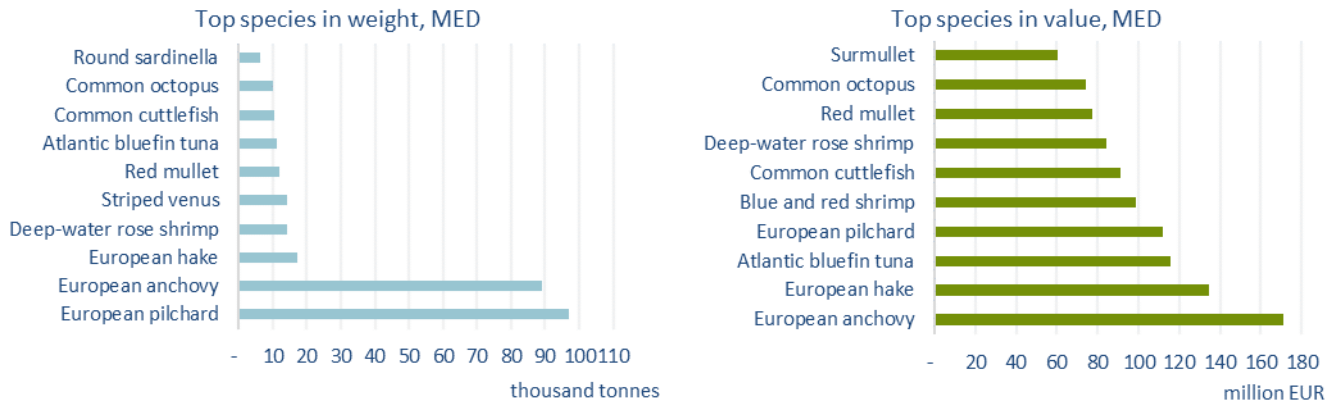
**Figure 3.96 Trends on landings in weight and value by MS fleets operating in the MED**

Includes GRC in 2018.

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018, the main species (by weight) were pilchard (sardine, 97 010 tonnes), followed by European anchovy (89 103 tonnes), hake (17 107 tonnes), deep-water rose shrimp (14 268 tonnes) and striped venus (14 020 tonnes).

By value, the most landed species were anchovy (EUR 171 million), hake (EUR 134 million), bluefin tuna (EUR 115 million), pilchard (EUR 111 million), blue and red shrimp (EUR 99 million) and common cuttlefish (EUR 91 million) (Figure 3.97).



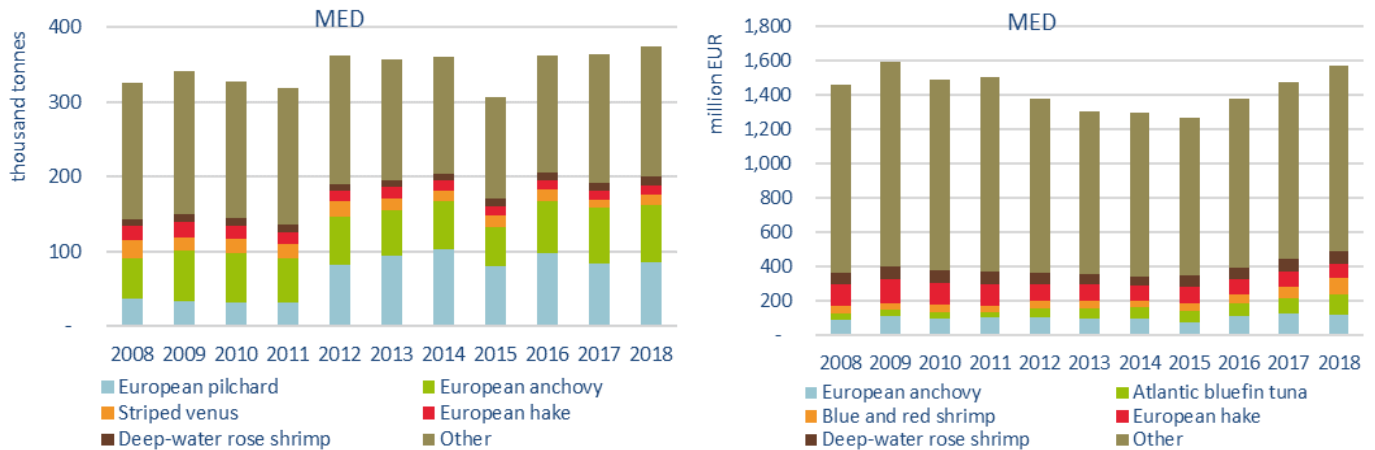
**Figure 3.97 Top 10 species in landed weight and value for MS fleets operating in the MED, 2018.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece.

Landings of small pelagic species have increased in the last decade. Considering 2012 for sake of homogeneity being that the first year of the Croatian data submission (and excluding Greece), anchovy landings increased 20% in weight and 15% in value. Deep water-rose shrimp landings also increased substantially (+ 7% in weight and 23% in value) while, on the other hand, a decrease in the total weight of landings for striped Venus was detected (- 7%), though an increase of 4% in value was detected in the period analysed.

Prices for sardines and anchovies show high variability between countries. In Croatia in 2018 the average price was and 0.41 EUR/kg for sardine and 0.85 EUR/kg for anchovies, while in Italy it was and 0.95 EUR/kg and 1.8 EUR/kg, respectively. The respective markets partly explain these price differences in each country; in Croatia, small pelagic species are used by the processing, salting, and marinating industries, as well as for fish feed for tuna farms, while in Italy, fish are sold fresh for local consumption and in minor quantities for export (mainly for processing in Spain).

A very large increase also for the overall value of bluefin tuna landings, mostly due to the increase in the overall Mediterranean quota – details in the section on management measures, quota and TAC –.



**Figure 3.98 Trends on landings for the top species in landed weight and value for MS fleets operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Excludes Greece

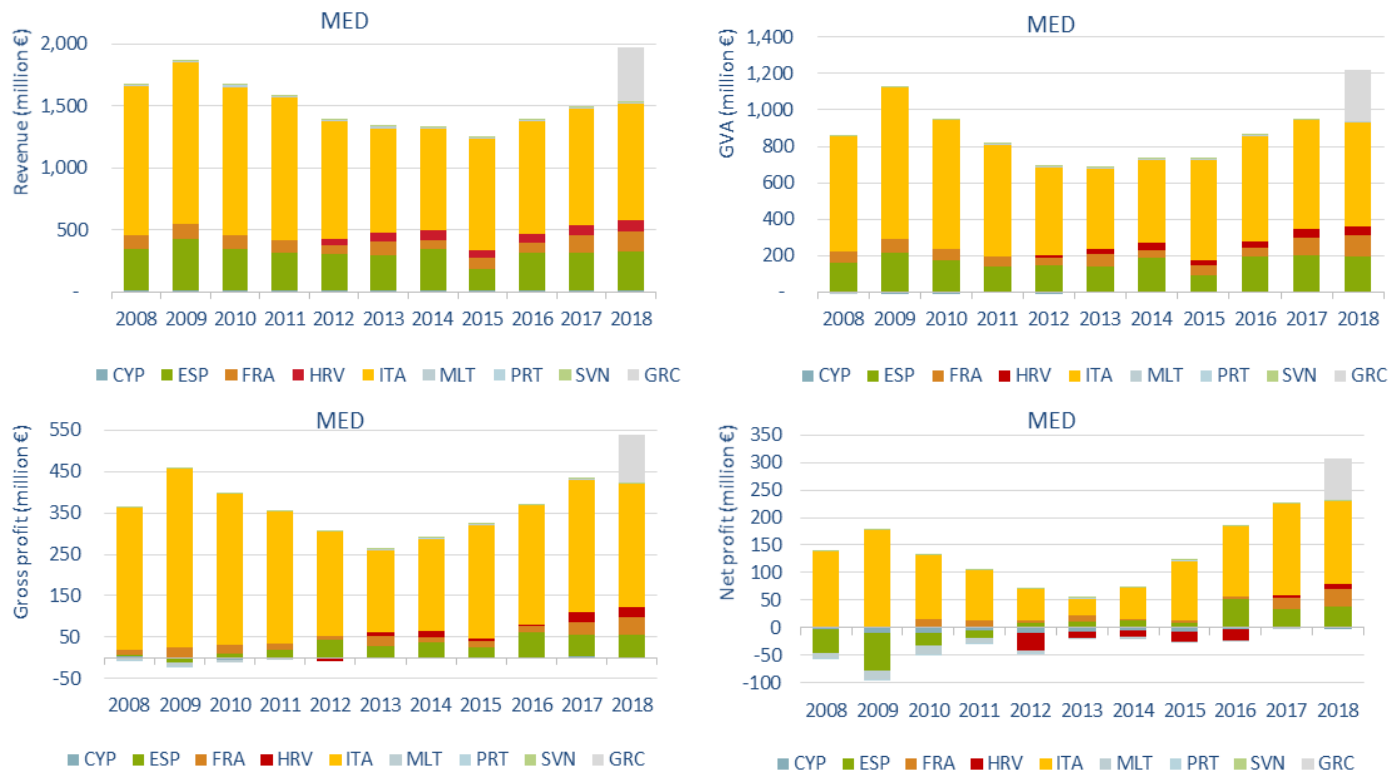
## Economic performance

The revenue (income from landings and other income) generated by the Mediterranean fleet in 2018 was almost EUR 1.5 billion, 98% of which was provided by four Member States: Italy (EUR 944 million), Spain (EUR 323 million), France (EUR 157 million) and Croatia (EUR 87 million) (Figure 3.99).

Revenue increased in 2018 by 3% compared to 2017: only Cyprus, Slovenia, and Portugal suffered a decrease compared to the previous year, where the other Member States have seen their revenues grow. In particular, Malta has had an increase of 33%, France +28%, and Croatia +6%.

GVA produced by Mediterranean fleet covered in the analysis was over EUR 939 million in 2018, a decrease of 1% compared to 2017. The largest decrease in GVA was recorded in Cyprus (-57%), followed by Portugal (-55%) and Italy (-5%). The fleets operating in the region made almost EUR 423 million in gross profit, an estimated 2% decrease compared to 2017.

The Mediterranean fleet generated net profits in 2018 of about EUR 230 million with an improvement of 2% compared to 2017. All Member States reported net profits in 2018, with the exception of Cyprus.



**Figure 3.99 Trends on revenue and profits for MS fleets operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece in 2018.

## Main factors affecting the performance of the fleet

In 2018, the regional fishing fleet's economic performance did not change significantly in respect to the previous year even if a different trend can be observed between LSF and SSCF. LSF continued to improve on all the economic performance indicators, while SSCF registered a decreased trend in GVA and gross profit, mainly due to a 4% reduction in the value of landings. The positive trend in LSF can be linked to the landings of small pelagic species that have increased in the last decade and, as for the demersal species, the positive trend in fish prices for some key species (such as blue and red shrimps and giant red shrimp). Value of landings in LSF increased by 9.4% due to 3.2% increase in the volume of the products landed.

Factors that may have contributed to an improved situation include:

- High average price for some key species: in the last years commercial strategies have been implemented aiming at improving traceability and quality of local seafood. In addition, the SSCF sold at higher prices compared to the large-scale fleet thanks to shorter fish supply chain, direct sales to end consumers and to restaurants.
- Changes in sales channel and improvement in the direct sales;
- Increase of the EU quota for bluefin tuna: this impacted positively the profitability of purse seiners and longliners involved in tuna fisheries (increase of more than 24% in value of bluefin tuna landing in 2018)
- Annual wages and salaries increased in LSF; the improvement can be linked to the positive trend in revenues as, in most countries, labour costs are directly related to revenues and variable costs as the traditional based income sharing system between the ship-owner and the crew is the most prevalent.

Factors that may affect negatively the fleet performance in the region:

- Stock status: the overall level of overfishing generally remains too high; in addition, the marine resources and ecosystems of this region have come under increasing pressure, driven by diversification and intensification of marine and maritime activities.



- Energy efficiency is not improved in the region; this is due to a low level of investment in new fishing gear and equipment with lower environmental impact. The small-scale vessels do not have sufficient financial resources for new investments, and the larger vessels have limited access to credit.
- Moderate increase in fuel prices resulting in slightly higher energy costs, especially for pelagic fisheries and trawlers.
- Lack of crew recruitment due to the fact that jobs on board fishing vessels are not particularly attractive for younger people due to the low wages and relatively poor working conditions.

Factors that may drive/hamper economic performance in the future include

- New management measures, in particular, the restrictions of the fishing effort introduced with the West Med MAP and spatial closures: fishers are concerned that these measures will have a negative impact on their profits in the future.

In 2020, the COVID-19 affects both SSCF and LSF, even if the economic impact on fisheries is heterogeneous in the region. Numerous measures across the region were taken to mitigate the effects of the crisis on the fisheries sector (e.g. ensuring the continuity of food supply, expanding home delivery and direct sales and supporting national and local production through consumer awareness campaigns), complemented with enhanced investment in the fisheries sector (GFCM, 2020)

## Regulation and fisheries management in the region

The management of Mediterranean demersal fisheries is based on input measures that control fishing effort by limiting the capacity of the fleet. The fishing capacity has been frozen or reduced in Mediterranean EU countries since mid '90s; despite this, an increase in effort and capacity is likely to still occur in the area also considering that the total GT of non-EU vessels is the 62% of the total fishing effort in the Mediterranean (FAO, 2018).

Additional measures of reductions of the fishing effort have been recently introduced with the West Med MAP; this plan lays down a 10% reduction in the first year (2019) and up to a further reduction of 30% in five years in terms of activity (annual fishing days). Fishing fleets from Italy, Spain and France are affected by the proposal with around 13 000 fishing vessels altogether, a large part of them belong to Italy and the great majority is represented by vessels using passive gears. Recent studies investigated the effects of the reduction in fishing effort based on fishing days; they highlighted a high socioeconomic impact for the fleet segments involved in the plan that might be mitigated with the introduction of complementary measures such as selectivity changes (Sola, 2020).

In the last years, a number of FRA and closed areas have been established; in the Adriatic sea, in 2015 Italy and Croatia adopted joint management measures at national level establishing no-take zone for bottom trawls in the area of Jabuka/Pomo pit 106 vessels are currently operating (51 Croatian vessels and 55 Italian vessels) in the area (FAO, 2018). From 2019, in the Strait of Sicily, trawling with any gear in three FRAs has been forbidden (Recommendation GFCM/40/2016/4 integrated by Recommendation GFCM 42/2018/5). West Med MAP plan restricts trawlers from operating in waters shallower than 100 m located within six nautical miles of the coast, for three months per year, to reserve the coastal zone for more selective fishing gear; by way of a derogation, some Member States established some closure areas in each geographical subarea. The socio-economic impact of this spatial based approach should be relevant to the coastal communities. Effects of FRAs and their impact on the demersal trawlers are still to be evaluated. Mantis project evaluated the possible consequences of the FRAs closure in the Strait of Sicily; the simulation showed that the spatial closures are expected to determine a significant improvement in the exploitation pattern for all the species, leading to the substantial recovery of spawning stock biomass for the stocks, but, in the short-medium term, the spatial closures will lead to a decrease of the profit for the fleet (Russo, 2019).

## Status of important stocks

The Mediterranean is facing significant challenges in terms of resources' sustainability. The total landings in the Mediterranean and Black Sea reached a maximum of about 2 million tonnes in the mid-1980s, then declined to a low of 1.1 million tonnes in 2014 and showed a slight recovery to 1.3 million tonnes in 2015. In 2015, the area had 38% of the assessed stocks at biologically sustainable levels, the lowest among all sea basins all over the world (FAO, 2018.a). Nevertheless, the recent trend is a decreasing one, especially since 2014 when the percentage of overexploited stocks decreased from 88% to 78% in 2016 (FAO, 2018.b). Demersal resources such as hake, red mullets, turbot, common sole, sea breams and small pelagic resources such as anchovy and sardine are overfished. Most stocks of sardinellas, deep-water shrimps and cephalopods are probably maximally sustainably fished to overfished.

Looking specifically to assessment of stocks falling under EU jurisdiction, according to the monitoring of CFP carried out by STECF (STECF, 2019), in evaluating the F status for 2016 (last year in Mediterranean stock assessments), out of 47 stocks (area/species combinations), only around 13% (six stocks) are not overfished, the majority are overfished.

The  $F/F_{MSY}$  indicator has remained at a very high level during the whole 2003 to 2016 period for a great number of stocks; on the other hand, it is important to stress that after the observed peak in 2011 where  $F/F_{MSY}$  has reached its highest historical level, there is a somewhat decreasing trend in overexploited stocks (STECF, 2019).

### TAC development of main species

The current 2018-2020 recovery plan (Recommendation 2017-07) provides an increase of the annual TAC for bluefin tuna stock; the EU quota was set at 15 850 in 2018 and at 17 536 tonnes in 2019 (+ 121% compared to 2014 EU quota). The fleet segments targeting this stock (purse seiners and longliners) were positively affected by this increase; in addition, the average price remains on a high level (about 10.50 EUR/kg), despite the largest production.

A TAC of 10 500 tonnes for swordfish for the year 2017 was identified. The TAC has been reduced by 3% in 2018, to achieve a reduction of 15% in five years. Swordfish is among the most valuable commercial species in the Mediterranean Sea.

The pelagic fleet segments operating in the Adriatic Sea have to respect a catch limit for anchovy and sardines (set at 112 700 tonnes in 2018). Except for the indication that the catch for Slovenia should not exceed 300 tonnes, the quota has not been allocated among Croatia and Italy. Small pelagic species are the main resources of the Adriatic Sea, accounting for a large part of the total catches and revenue.

### Landing obligation

De minimis exemptions for various single species and for some groups of species provided for a derogation to the landing obligation; derogations are in force until the end of 2020 for small-pelagic species and until the end of 2021 for demersal species.

## Description of relevant fisheries in the region

### Small-scale coastal fleet

The SSCF in the Mediterranean represents 80% of the total fleet by the number of vessels and 59% of the employment (55% of the FTE). In 2018, there were 28 074 small-scale vessels (Greece 34%, Italy 21%, and Croatia 15%) with a combined gross tonnage of 55 337 GT and total power of 741 123 kW, active in the region.

Although over 77% of the effort (fishing days) was deployed by the SSCF, these vessels landed only 14% by weight and 26% by value. SSCFs are important from a social point of view. In 2018, 39 332 fishers were directly employed in the Mediterranean SSCF, corresponding to 27 743 FTEs. The majority of them are family-based enterprises. Two Member States represented major employers: Greece with 14 834 FTEs and Italy with 8 610 FTEs. Also, in some Member States (e.g., Greece and Cyprus), women play a crucial role in many SSCFs, often through unpaid labour.

The SSCF in the Mediterranean involves a significant number of fishing techniques (static nets like trammel nets, gillnets, set longlines, pots, and traps) targeting a variety of species, including common octopus (mainly Italy, Croatia, Greece, Spain, France, and Malta), European hake (mostly Italy, Croatia, Spain, and France), gilthead seabream (mainly France, Italy, Greece, Spain, and Croatia), red mullet (mainly Italy, Spain, France, Greece, and Croatia) and surmullet (mainly Cyprus, Greece, Italy, France, Malta, and Spain). Other target species include common cuttlefish (mostly Italy, Croatia, Greece, and Spain) and common sole (mainly Croatia and Slovenia).

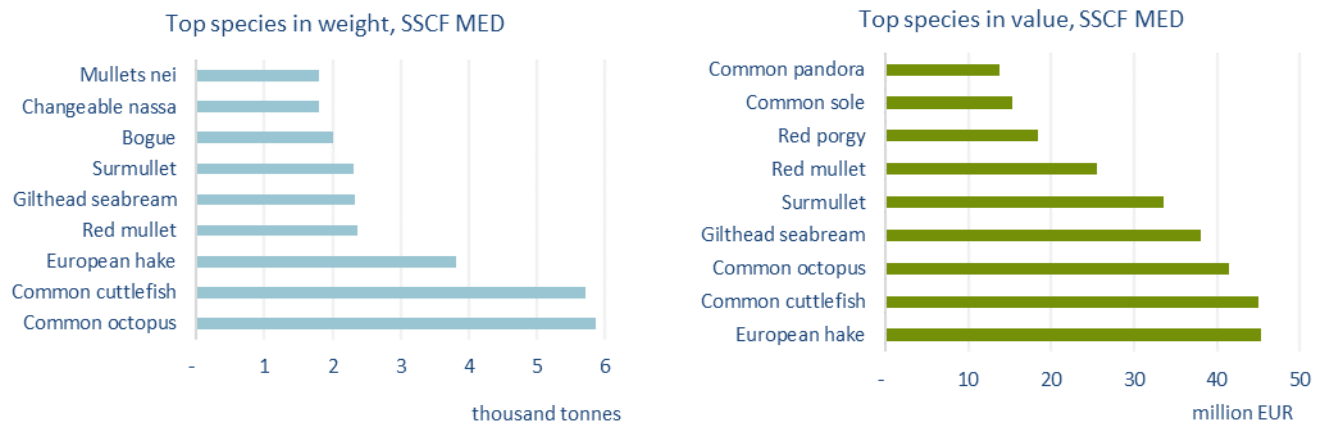
The higher value achieved by the SSCF (compared to the LSF) appears to reflect higher prices linked to differences in quality, freshness, product size, and the use of different marketing channels. The SSCF generally operates through very short supply-chains.

The weight of landings had a decreasing trend for many of the top species in 2018, like gilthead seabream (-21%), common cuttlefish (-16%), changeable nassa (-16%), and European hake (-15%) in compared to 2017 with the exemption of the octopus (+8%). The value of landings has also faced a decreasing trend, but some had an increased value like octopus (+18%) and gilthead seabream (+18%), while others went down like cuttlefish (-16%) and European hake (-13%) (Figure 3.100).

The Mediterranean SSCF generated 28% of the revenue (EUR 548 million) in 2018. GVA was around EUR 373.9 million (31% of the region) and gross profit EUR 111.5 million (21% of the region). Labour

productivity (GVA per FTE) was EUR 13 476, presenting a slight decrease (-7%, excl. Greece) compared to 2017.

Overall, the economic performance of the SSCF had a positive net profit margin but follows a decreasing trend. The Italian SSCF generated the highest net profit at EUR 30 900 unless the deteriorated performance faced during the last years. Only Malta reported gross and net losses but at a lower level than in 2017. Greece reported gross profit but net losses. Cyprus and Croatia reported weak net profits, but the economic performance has a slightly decreasing trend compared to 2017.



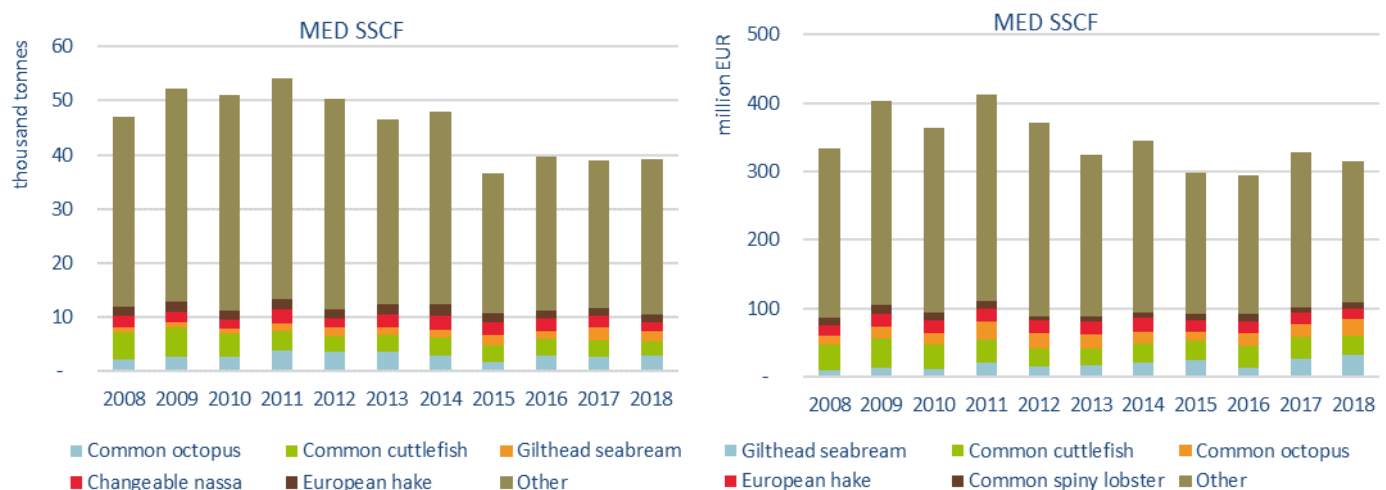
**Figure 3.100 Top 10 species landed by SSCF, 2018.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece

Higher average prices mainly drove the higher value of landings due to the use of other market channels like short supply chains or new attractive ways to contact consumers (e.g. the use of an interactive website connected with mobile technologies to inform consumers in real-time of the direct sales possibilities in their local area).

Among problems that negatively still affect the economic performance of small-scale fishers, there are:

- Competition with an increasing number of recreational fishers, who usually fish in coastal areas and sometimes illegally sell their catch at low prices.
- The conflict between the small-scale and large-scale fleets.
- Older age profile, if compared with LSF employment: there is a low generational change because small-scale fisheries, being less rewarding than large-scale ones, are less attractive.



**Figure 3.101 Trends on landings for the top species in landed weight and value for SSCF operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Excludes Greece

## Large-scale fleet

In 2018, the LSF fishing in the Mediterranean (including Greece) consisted on 6 823 vessels (19.5% of the overall Mediterranean fleet) split into 76 segments, with a total tonnage of 251 041 GT and engine power of 1.192 million kW, representing 82% and 62%, respectively. Italy, Spain, Croatia and Greece have the most important fleets in terms of the number of vessels, total tonnage and engine power.

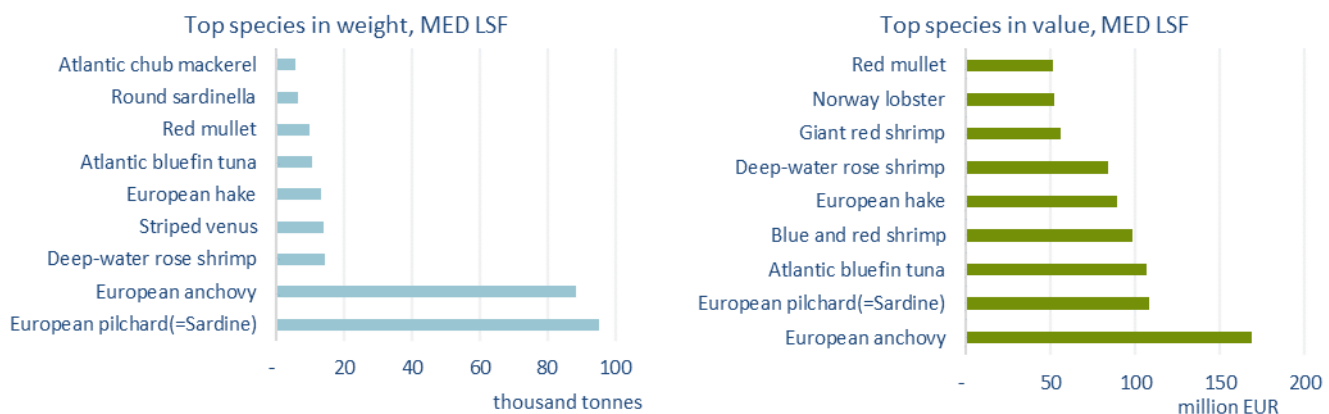
Italy, Spain, Croatia, and Greece had the largest number of active vessels in the region with numbers of 3 805, 1 012, 897, and 859 active vessels, respectively. Between 2017 and 2018, the number of vessels decreased by 3%.

In 2018, LSF continued to improve on all the economic performance indicators. LSF vessels generated, by far, the highest landed weight (86% of the total) and 74% of the landed value. The total weight landed by the LSF was 378 961 tonnes, confirming the positive trend of the previous years. With an estimated revenue of EUR 1.43 billion, these fleets recorded almost EUR 842 million in GVA and a gross profit of EUR 426 million. In addition, GVA to revenue and GVA per FTE reached 59% and EUR 38 147, respectively.

The main fleet segments in terms of the number of employees were the Italian demersal trawlers from 12 to 18 metres and from 18 to 24 metres and the Spanish demersal trawlers from 12 to 18 metres. These three segments represent 32% of the overall LSF-FTEs.

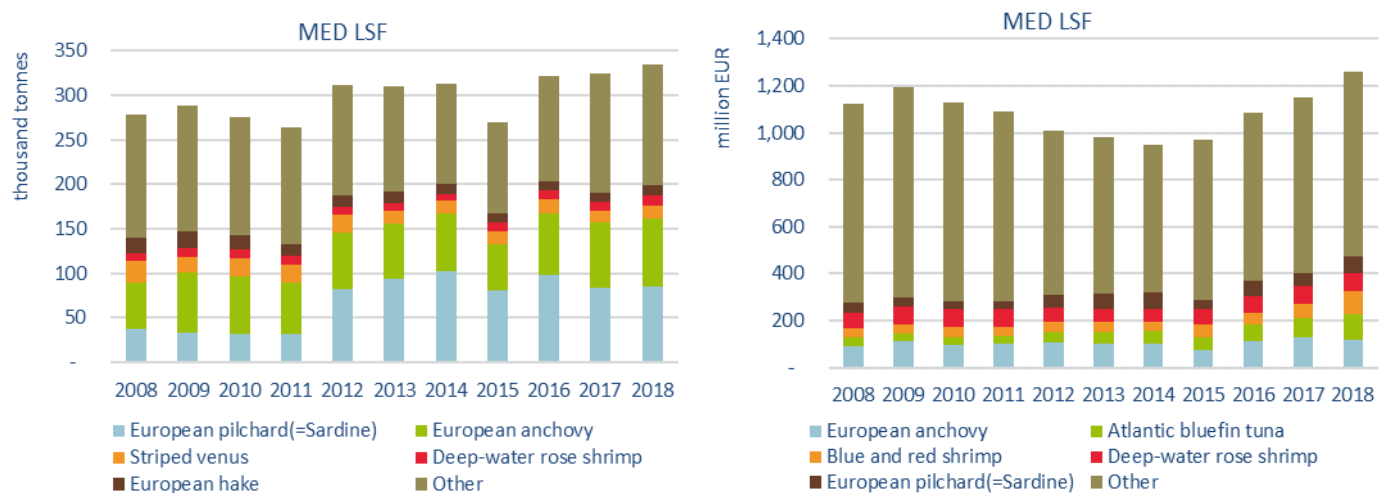
Small pelagic species accounted for 48% of the weight of the total landing of the area and 20% of landings value in 2018. In particular, these species are the main fisheries resources of the Adriatic Sea, accounting for bulk of the total catch. In the eastern part, Croatian vessels mainly target sardines, while anchovies are mainly landed by the Italian pelagic fleet.

The Mediterranean LSF is also heavily dependent on some demersal species such as the European hake, blue and red shrimps, deep-water rose shrimp, and giant red shrimp, combined accounted for 23% of total landings value in 2018. In addition, Atlantic bluefin tuna represented 7% of total landing value (Figure 3.102).



**Figure 3.102 Top 10 species landed by MS LSF operating in the MED, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece



**Figure 3.103 Trends on landings for the top species in landed weight and value for MS LSF operating in the MED**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015). Excludes Greece

## Large-pelagic fishery

Purse seiners and long lines are widely used to catch large-pelagic fish under the ICCAT jurisdiction. Large-scale purse seiners are dedicated only to this fishery, while longliners target both, pelagic and

demersal fish, with the lines set at a position in the water column to catch different species (longliner fleet segment); in most cases they are artisanal boats with a LOA lower than 18 metres.

In Italy, 30 vessels are authorised to catch bluefin tuna with longlines and about 250 vessels use pelagic longlines to fish swordfish and albacore; most of them are located in southern Tyrrhenian sea; in 2018, landings of swordfish amounted to 1 778 tonnes, followed by albacore (960 tonnes) and Atlantic bluefin tuna (a quota of 527 tonnes was set in 2018). The fishing areas are not distant from the coasts; they usually fish in Southern Sardinia and in Ligurian Sea; in some case, a small group of vessels moves up to Aegean Sea. The tuna purse seiners (PS40XX fleet segment) were 12 in 2018 and 14 in 2019; during the last three years the quota increased (2 886 tonnes in 2018 and 3 205 in 2019) and this led to a growth in revenues and profits.

In relation to Spanish fleet, bluefin tuna fishery is carried out mainly by six purse seiners for farming activity. They belong to the purse seiner from 24 to 40 metres segment, and are dedicated only to this fishery and fish near 90% in weight of the total landings. Longliners (six LSF vessels) and vessels using hooks (14 LSF vessels) represent 8% of weight of total landing. In 2018, total amount of bluefin tuna catch was 2 738 tonnes.

In Croatia, the number of purse seiner vessels engaged in bluefin tuna fishing season has increased from 15 vessels in 2018 to 16 in 2019; while the number of vessels using hook and line gears remained the same (12) in 2019 when compared to 2018. As Croatia is a tuna farming country, all catch of bluefin tuna in purse seine fisheries is transferred to farming cages, and a large quantity of small pelagic fish is designated for tuna feeding. National quota for 2019 was set by the Regulation (EU) No 124/2019 and amounted to 863 tonnes for Croatia.

## Performance by fleet segment

Demersal Trawlers and purse seiners segments are the most important Mediterranean fleet segments in terms of economic performance. They include 42 segments out of the 112 active ones in the region, represented 12% of the number of vessels; covered 16% of the effort deployed (in days-at-sea); 16% of jobs; 75% of energy consumption; generated 62% of the landing value (EUR 1.22 billion); 57% of the GVA (EUR 697 million); and 67% of the gross profit (EUR 360 million). Italy and Spain have the most important demersal trawlers and purse seiners fleet regarding the number of vessels, landing value, and GVA.

At the fleet segment level, the Italian demersal trawlers from 12 to 18 metres, with 3.4% of the number of vessels, generated the highest revenue, EUR 238 million, or 12% of the total from the Mediterranean region in 2018. The Italian demersal trawlers from 18 to 24 metres followed with 9% of the total revenue produced (EUR 182 million) and then by the Italian polyvalent/passive gear segment from 6 to 12 metres, with 6% of the revenue (EUR 137 million). The same fleet segments also generated the highest GVA, EUR 322 million combined, or 26% of the total GVA generated by the regional fleet.

In terms of GVA per vessel, purse seiners segments are in the five top, with more than EUR 1 million GVA per vessel, while the average of all Mediterranean segments is EUR 34 833. The Italian purse seiners over 40 metres produced the highest value, on average EUR 1.7 million per vessel and 47% GRP margin (targeting mainly bluefin tuna), followed by the French purse seiners from 24 to 40 metres (EUR 1.2 million per vessel and 45% GRP margin) and then the Spanish purse seiners from 24 to 40 metres (EUR 691.6 million per vessel and 47% margin).

Conversely, 27 out of 112 segments with negative gross profit represented 15% of the number of vessels (5 336 vessels) and 9,6 % of the number of jobs (6 383 jobs). Most of these vessels are included in segments of vessels using polyvalent active gears (3 324 vessels).

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### 3.7 Black Sea

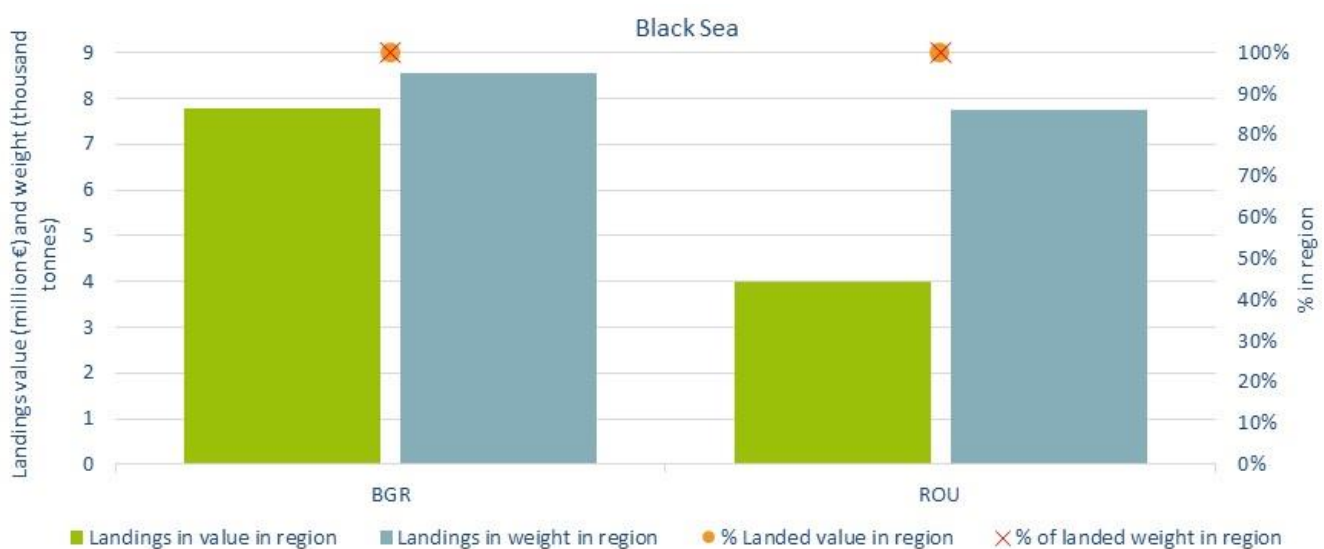
#### Regional Details

The Black Sea region covers FAO fishing area 37.4. Two Member States were involved in the Black Sea fisheries in 2018: Bulgaria and Romania. All landings by the Bulgarian and Romanian fishing fleets originate only from the Black Sea and both fleets operate mainly in waters under their respective national jurisdictional.

A comprehensive economic analysis, including both coastal Member States fishing fleets, was completed using data on the structure, activity and production for all vessels collected by Bulgaria and Romania. The data collection programme in place includes all economic and social variables.

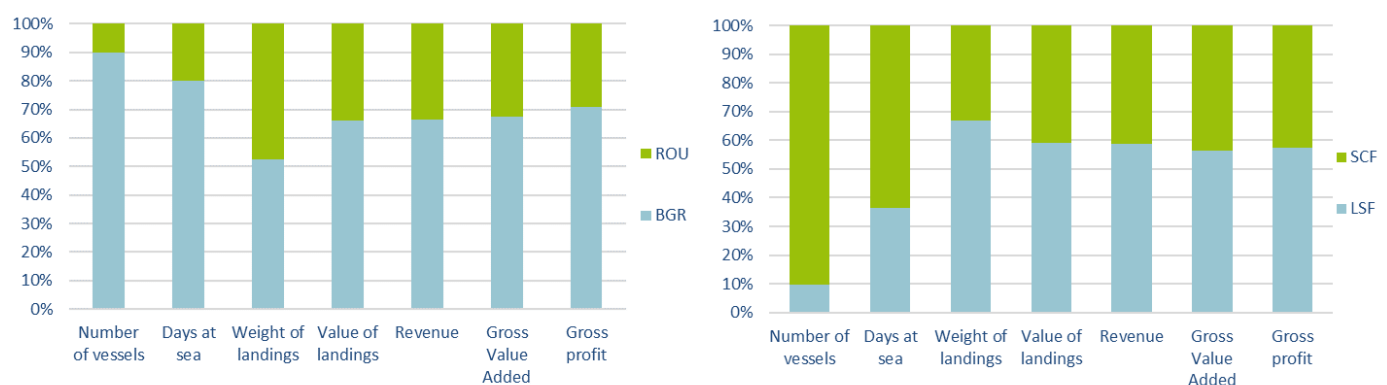
A trend analysis is provided for the period 2008-2018. Tables in the Annex 4 contains a summary of the economic performance of the Black Sea fleet by Member States, fishing activity and fleet segment, respectively.

There are two TAC species in the Black Sea: turbot and sprat. The quota for turbot is divided equally between Bulgaria and Romania. For sprat, Bulgarian and Romanian national quotas are set at 70% and 30% of the total EU quota, respectively.



**Figure 3.104 Importance of the Black Sea for MS fleets in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.105 Share of MS and fishing activity in the Black Sea, 2018**

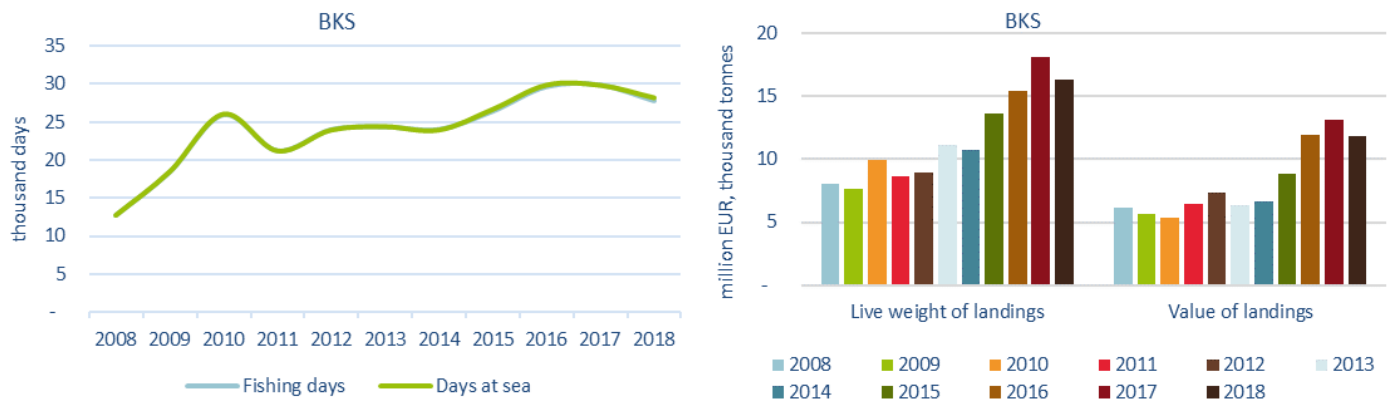
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## Overview of the main results for EU Baltic Sea fleet

### Fishing effort and landings

Fishing effort in the Black Sea fleet decreased by 5% in 2018, in comparison with 2017. The increase in the number of days-at-sea during the period 2014-2016 corresponds to the gradually growing weight of the landings in the same years. While in 2017 landings in weight and value increased, the days-at-sea remained unchanged, in 2018. Live weight and value of landings decreased. (Figure 3.106).



**Figure 3.106 Trends on effort and landings for MS fleets operating in the BKS**

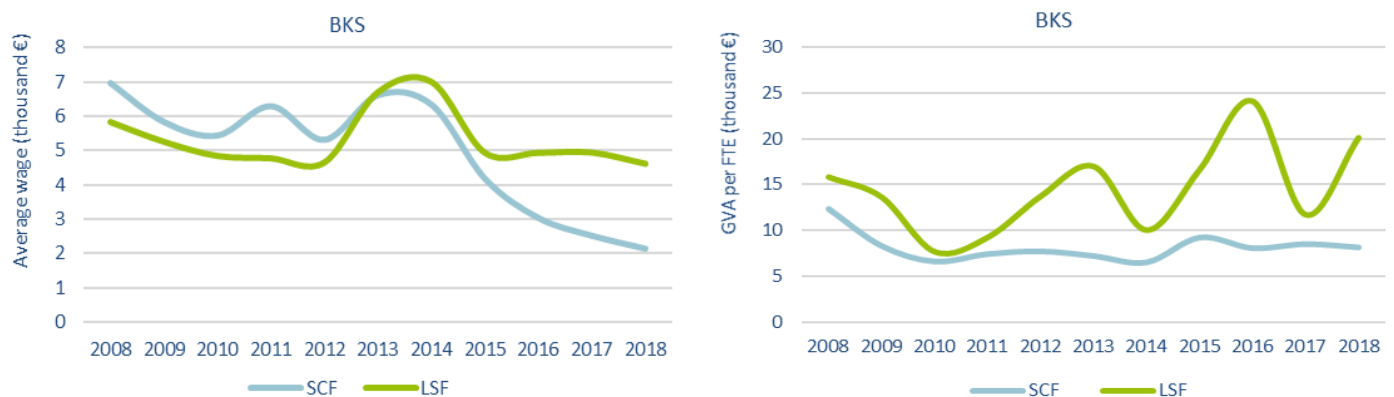
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

In 2018 the average wage per FTE in the SSCF fell by 15%, fluctuating between EUR 2 524 and EUR 2 146.

Wages for the LSF fell 7% in 2018 compared to 2017. The average wage in 2018 was EUR 4 631, 34% lower compared to the highest level seen in 2014 (Figure 3.107). The values of the average wages in 2018 for both LSF and SSCF were the lowest for the whole period 2008-2018.

Labour productivity (GVA/FTE) in the LSF segment was increasing gradually from 2014 to 2016, when it reached its' highest value around EUR 24 000, in 2017 it decreased significantly to EUR 11 600 and increased to EUR 20 000 in 2018. The situation for the SSCF is different from the LSF, labour productivity was stable in the last three years – between 8 000 and 8 500 euro (Figure 3.107).

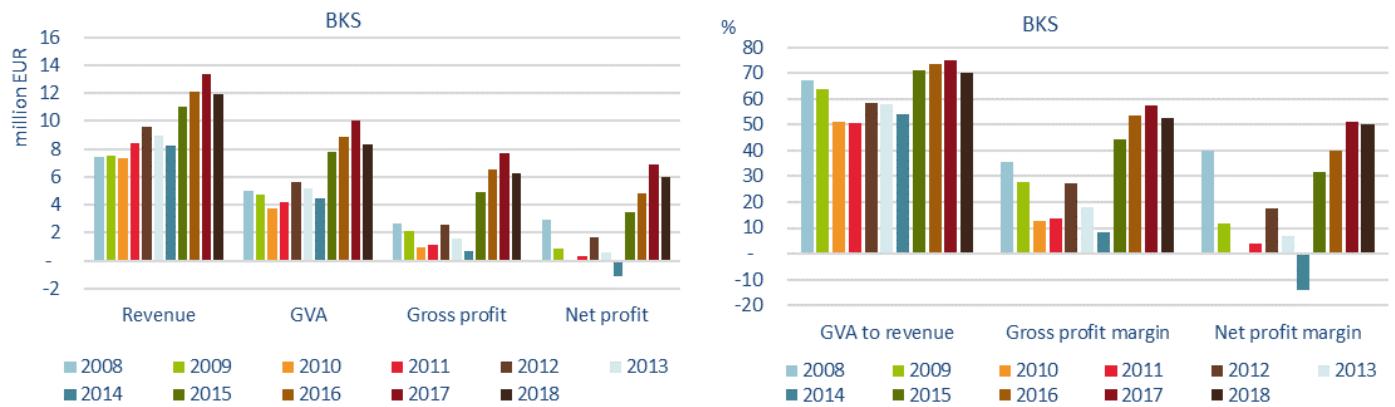


**Figure 3.107 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the BKS**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

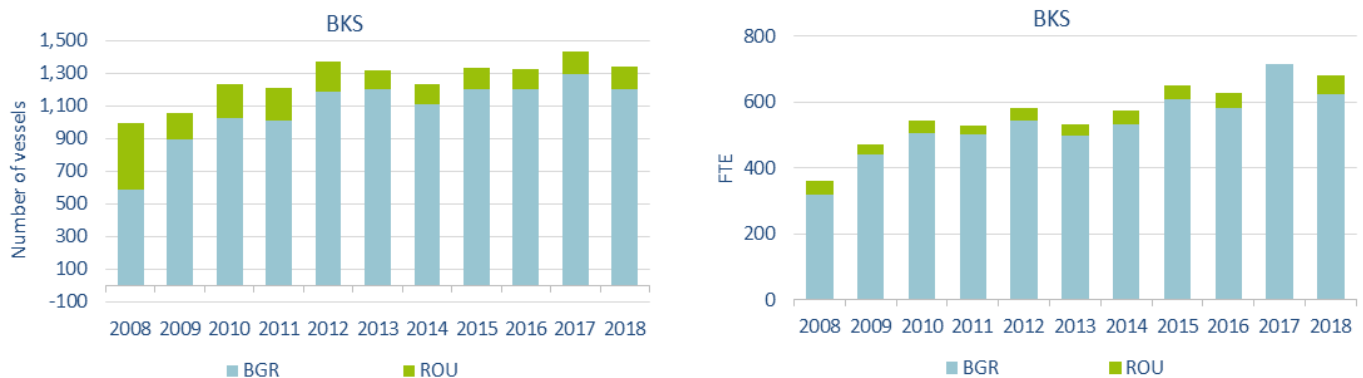
### Economic performance

Revenue was estimated at EUR 11.8 million, decreasing by 10% compared to 2017 although 34% more than the average 2008-2017 period. GVA produced was EUR 8.3 million, representing an overall decrease of 17% compared to 2017 and 28% higher than the average for the period from 2008 to 2017. Gross profit was estimated to be EUR 6.3 million, a 18% increase compared to 2017 (Figure 3.108).



Total employment in 2018 was estimated at 2 185 jobs, corresponding to 681 FTEs (Figure 3.101). Total employment in both countries is higher in the SSCF due to the larger number of vessels, but the FTE per vessel ratio is lower, due to the seasonal nature of the small-scale fishery and the lower effort. Note that some of the small vessels have less than 10 days at sea for the whole year.

Trend in the number of vessels in the Black Sea has remained relatively stable, the lowest number of vessels was registered in 2008 and the highest in 2017. The 6% decrease in the number of vessels was due to the decrease in the Bulgarian vessels in 2018, while the number of vessels of Romania was almost the same in 2017 and 2018, 135 and 136 vessels, respectively. While the number of vessels for the period 2012-2018 has not undergone any change, the days-at-sea for the same period increased by 20% (Figure 3.109). The total employment decreased by 21% between 2017 and 2018, due to the reduction of the active vessels from the SSCF and the decrease in the days at sea in the Bulgarian SSCF. The decrease in the FTE was not so significant, because the SSCF is generally not active all year round.



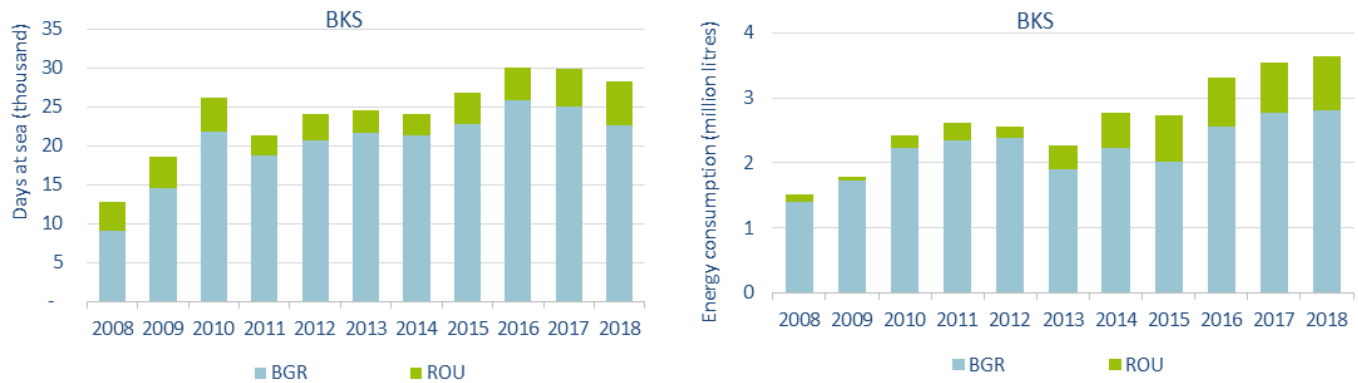
**Figure 3.109 Trends in the number of vessels and employment (in FTE) for the MS fleets operating in the BKS**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

## Fishing effort

The EU Black Sea fleet spent 28 300 days-at-sea in 2018, which is a 6% decrease compared to 2017 but 19% more than the average for the period 2008-2017. While Bulgarian days decreased by almost 2 500 compared to 2017, the days spent by the Romanian fleet increased in 791 days. The Bulgarian fleet accounted for 80% of the days, while the Romanian contribution was 20%. (Figure 3.110).

While the number of days-at-sea was stable in the period from 2010 to 2014, there has been a gradual increase in 2015 and 2016. The consistent number of days-at-sea in 2016 and 2017 can be explained by the growing interest in harvesting sea snails. The decrease in 2018 was due to the reduction of the number of vessels in Bulgaria.



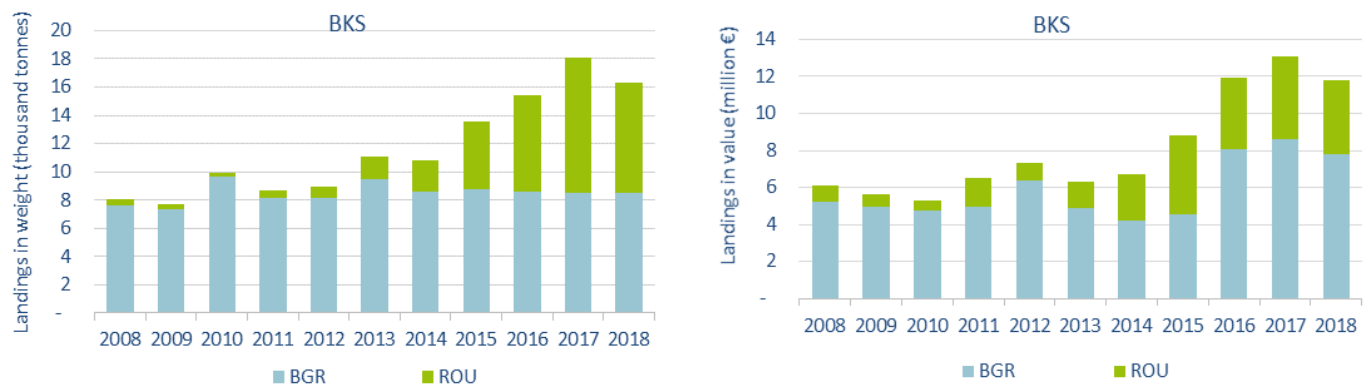
**Figure 3.110 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the BKS**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)).

### Landings and top species

The weight and value of landings generated by the Black Sea EU fleet in 2018 amounted to approximately 16 000 tonnes and EUR 12.13 million, respectively. In terms of landed weight, Bulgaria landed 8 500 tonnes and Romania 7 700 tonnes with the value of landings being EUR 7.77 million and EUR 4 million, respectively. The distribution of both the value and weight of landings, by country, is shown in Figure 3.111.

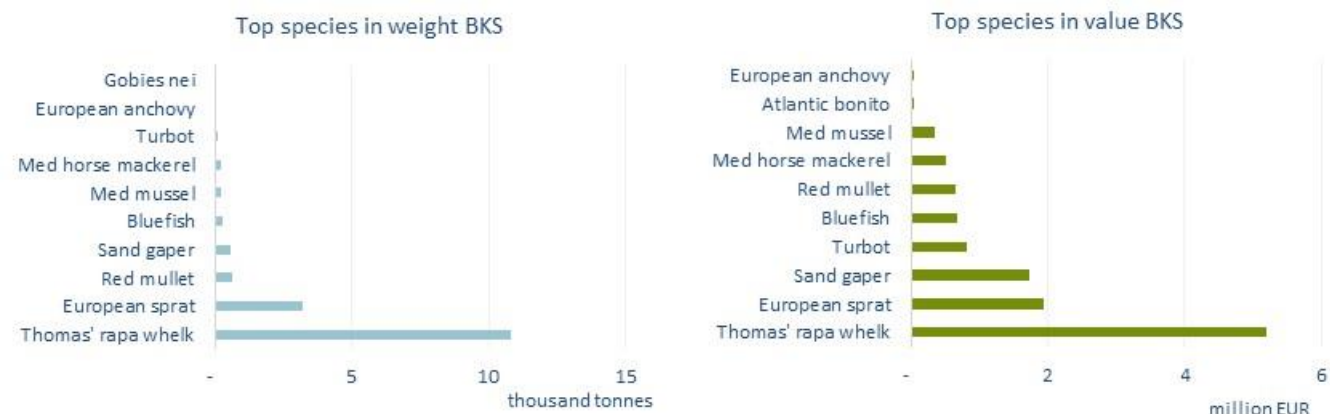
In 2018, LSF accounted for 67% of all landings by weight, equivalent to 59% of the landed value. Although over 64% of the effort was deployed by the SSCF, these vessels landed only 33% by weight and 41% by value. However, the SSCF is more important from a social point of view than the LSF, representing almost 83% of the total employment and 66% of FTEs.



**Figure 3.111 Trends on landings in weight and value by MS fleets operating in the BKS**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

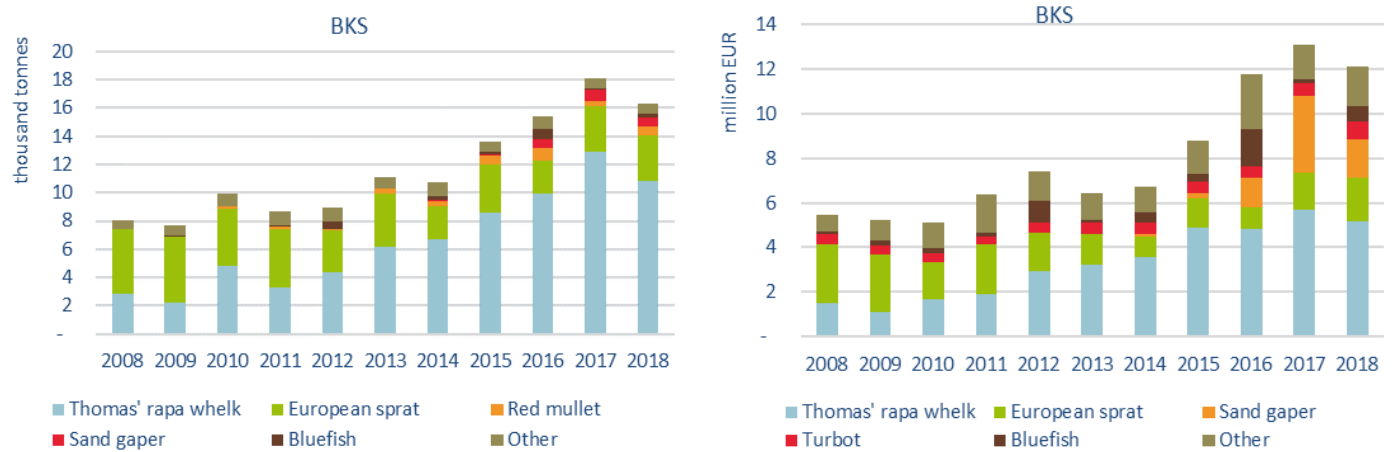
In 2018, the main species (by weight) were sea snails (10 800 tonnes), followed by European sprat (3 220 tonnes), red mullet (600 tonnes) and sand gaper (600 tonnes) (Figure 3.112).



**Figure 3.112 Top 10 species in landed weight and value for MS fleets operating in the BKS, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In value of landings, the most important species were sea snails (EUR 5.2 million), European sprat (EUR 1.9 million), sand gaper (EUR 1.7 million) and turbot (EUR 0.8 million) (Figure 3.113).



**Figure 3.113 Trends in landings of the top species in landed weight and value for MS fleets operating in the BKS**

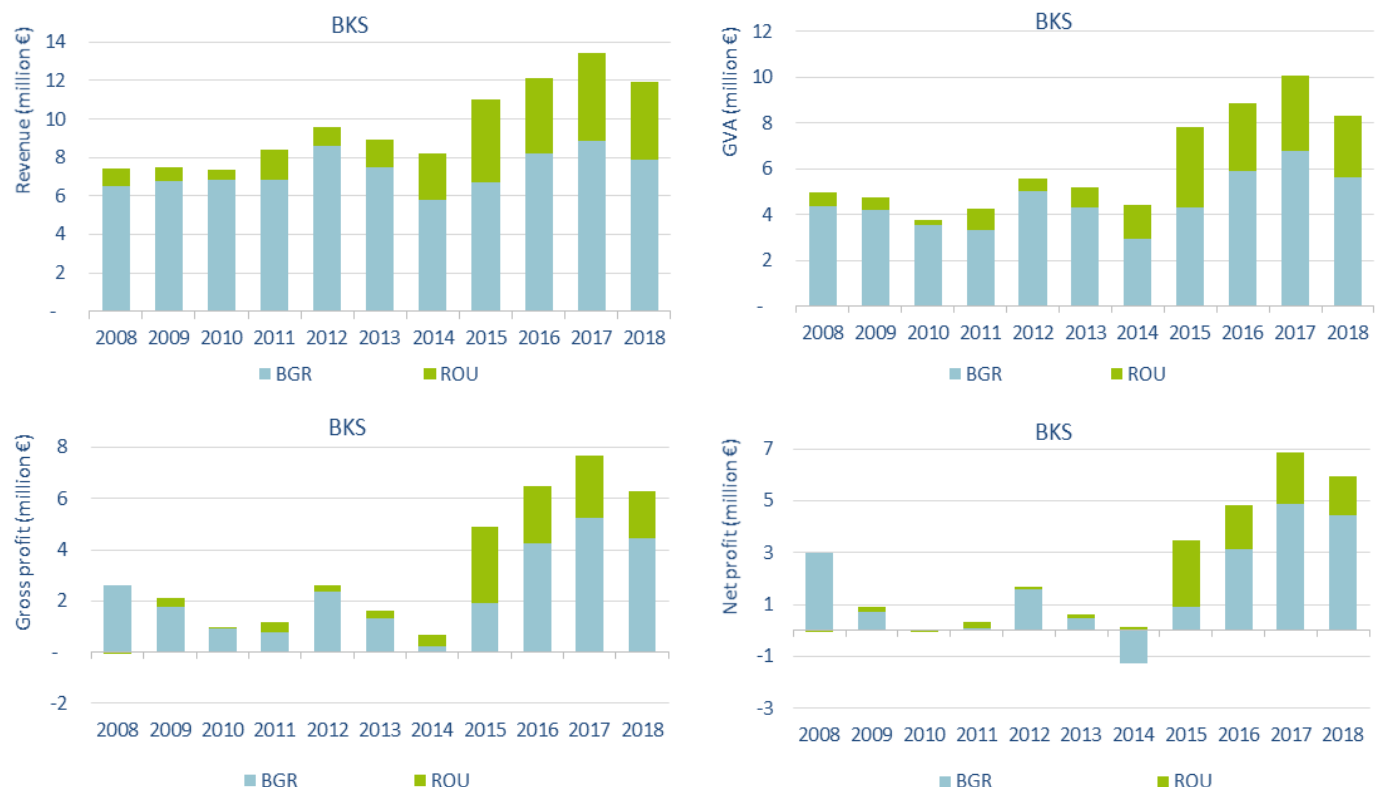
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

The revenue generated in 2018 was EUR 11.9 million, 66% of which was obtained by the Bulgarian fleet (EUR 7.9 million). The amount of GVA was EUR 8.3 million of which EUR 2.7 million was added by Romanian and EUR 5.6 million by the Bulgarian fleet.

Total gross profit for the region was estimated at EUR 6.2 million. The Bulgarian fleet generated the larger gross profit in 2018 amounting to EUR 4.5 million (Figure 3.114).

Five of Bulgaria's SSCF segments and one segment from the LSF reported gross losses in 2018: vessels under 6 metres using drift and/or fixed nets; vessels under 6 metres using hooks; vessels between 6 to 12 metres using polyvalent passive gears only; vessels from 6 to 12 metres using drift and/or fixed netters, vessels from 6 to 12 metres using hooks and from the LSF vessels from 6 to 12 metres using drift and/or fixed netters. These six segments represent 827 vessels (61%) from the whole Black sea fleet. From the 827 vessels, 588 had less than 10 days at sea for the whole year, and 181 vessels had between 10 and 19 days at sea. The gross losses of these segments were probably due to the low fishing activity of the majority of the vessels in them. These amounted to - EUR 226 000. Overall net profit amounted to EUR 5.9 million in 2018, but this includes six segments that recorded a net loss (- EUR 210 000).



**Figure 3.114 Trends in revenue and profit by MS fleets operating in the BKS**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

As in previous years, amongst the operating costs, the two major expenses remain energy costs and crew wages costs, accounting for EUR 2.1 and EUR 1.9 million, respectively. In terms of crew costs, Bulgaria was leading with EUR 1.04 million and Romanian costs were EUR 0.8 million. Regarding the energy costs, the situation was similar EUR 1.4 million for Bulgaria and EUR 0.7 million for Romania.

While the SSCF accounts for 90% of the total fleet by number (1 213 vessels) and accounts for 64% of the effort (17 973 days) it landed only 33% of the total by weight (5 387 tonnes) and 41% by value (EUR 4.8 million).

Overall, the LSF of both Member States were profitable, with gross profit margins estimated at 53.4% for the Romanian LSF and 50.8% for the Bulgarian LSF. For the SSCF the situation was different, while the Romanian SSCF recorded a 35.61% gross profit margin, the Bulgarian SSCF generated a 65%.

Net profit margins were estimated at 31.9% for the Romanian SSCF and 65.3% for Bulgarian SSCF while for the LSF the Romanian fleet reported a 43.6% margin and the Bulgarian LSF 49.7%.

## Main factors affecting the performance of the fleet

After the visible improvement of the fleet's economic performance between 2015 and 2017 with an increase in both gross and net profits, there was a small decrease in 2018 where the level of economic profitability was close 2017.

Factors that may have contributed to an improved situation include:

- An increase in the turbot quota for both Bulgaria and Romania in 2018 and 2019 together with fixed quotas for third countries fishing in the Black Sea.
- The stable average prices for some of the species with significant landings and maintaining the average prices for the other species.
- The sea snails stock in GSA 29 is fished below FMSY, which means that fishing vessels and processing plants utilising this species will continue to provide employment in the region.
- Keeping the trend with lower fuel costs at the regional level is directly connected with the energy costs, which remain the major percentage of the expenses.

Factors that may affect negatively the fleet performance in the region:

- The weather conditions in the Black Sea, including strong winds and large temperature differences between winter and summer, significantly affect fishing activities by the SSCF, which led to a reduction of the days at sea, landed fish and value, and of course a negative impact of the total employment.
- The LSF of both countries consists mainly of vessels with trawls and vessels with polyvalent active and passive gears. As trawling is fuel-intensive, the current trend of increasing the days-at-sea is leading to the relevant increase in the energy costs.

Other factors that affected fleet performance in the region include:

- The Black Sea fishery is highly dependent on very few species. In terms of landing weight and value, the sea snail is the most profitable species and according to the most recent available stock assessment from 2017, its stock in the Black Sea is fished below FMSY. Sprat, which is the second most important fishery in economic terms, is evaluated as sustainably exploited.
- The GFCM has established a set of emergency measures for stocks in the Black Sea region to align the implementation of management measures by all countries operating in the region.

The decrease in the number of active vessels in the Bulgarian fleet led to a decrease in the days at sea at a regional level, but it did not affect the weight and value of the landings, because the Romanian vessels are landing higher amount of fish per day than the Bulgarian fleet.

## Regulation and fisheries management in the region

The recommendations adopted by the GFCM in the last five years have established a set of emergency measures that look to align the implementation of management measures by all countries operating in the region.

During the 43rd session of GFC in 2019, one Recommendation was applicable for the Black Sea: Recommendation GFCM/43/2019/3 amending Recommendation GFCM/41/2017/4 on a multiannual management plan for turbot fisheries in the Black Sea (geographical subarea 29). At the initiative of the EU, the GFCM amended recommendation GFCM/41/2017/4 which provides a multiannual management plan for turbot fisheries in the Black Sea and lays down a list of measures. The specific objectives of the

multiannual management plan and transitional measures are to maintain fishing mortality for turbot within agreed precautionary reference points to achieve or maintain fishing mortality at MSY. The recommendation from 2017 established fleet management measures, management of fishing effort and monitoring, control and surveillance (MCS) programme (Note: Recommendation GFCM/41/2017/4 also repeals Recommendation 40/2016/6 see below).

The main amendment and the most important for the fisheries sector in the region was that for the years 2020–2022, the total allowable catch was increased based on scientific advice and considering the socio-economic importance of fisheries exploiting turbot and the need to ensure their sustainability.

In 2016 two other recommendations were adopted by the 40th session of the GFCM. Recommendation GFCM/40/2016/1 introduced a regional scheme of port-state measures to combat illegal, unreported and unregulated (IUU) activities in the GFCM area of application, while Recommendation GFCM/40/2016/6 introduced scientific monitoring, management and control of turbot fisheries in the Black Sea (GSA 29). Both recommendations contribute to the long-term conservation and sustainable use of living marine resources in the region, counteract turbot overfishing and seek to restore, to the extent possible, the size of the Black Sea turbot stock, to provide high long-term yields and to ensuring the sustainability of the fishery

### Status of important stocks

Commercially important stocks for the Black Sea fisheries in 2018 and 2019 remained the same as in the past decades - turbot, sea snails, sprat and picked dogfish.

Turbot in GSA 29 is considered to be overexploited and management measures (following GFCM recommendations) are in place. In terms of landing weight and value, the sea snail is the most profitable species and since there was no stock assessment in 2018 and 2019, according to the most recent available stock assessment from 2017, its stock in GSA 29 is fished below  $F_{MSY}$ . Sprat, which is the second most important fishery in economic terms, is evaluated as sustainably exploited. Both countries are fishing less quantity than their European sprat quotas. In 2018 and 2019 Bulgarian fleet landed 34% and 57%, respectively of the TAC, while Romanian fleet landed less than 1% in both years. For the picked dogfish in the Black Sea, there is an established catch limit agreed between both countries and the European Commission. While for the Romanian fleet it's mainly bycatch, for the Bulgarian fleet it is a target fishery. Both countries, limit their catches to 2015 catch levels and inform the European Commission quarterly of the actions taken to meet this objective.

### TAC development of main species

Quotas for turbot and sprat TAC were introduced in 2008 following the accession of Bulgaria and Romania to the EU. The quota for turbot is divided equally between both EU, while Bulgaria is allocated 70% of the EU sprat TAC and Romania 30%. In the period 2011 - 2017, the EU TACs were 86.4 tonnes for turbot and 11 475 tonnes for sprat per year.

With GFCM Recommendation GFCM/43/2019/3 the TAC for turbot for 2018 and 2019 was amended and for 2020 and 2021 the EU share of this TAC is set at 150 tonnes in each of the two years.

Council Regulation (EU) 2019/2236 sets the EU TAC and quotas for turbot and sprat. The quota for sprat was fixed at the same level as in 2019 and the quota for turbot, as recommended by GFCM/43/2019/3, was 150 tonnes, 32% more than 2019. For the EU Black Sea countries these 150 tonnes represent 17.5% of the total TAC.

## Description of relevant fisheries in the region

### Small-scale coastal fleet

The Black Sea fishery is dominated by SSCF vessels dispersed across 89 landing places (15 in Romania and 74 in Bulgaria). They utilise many different fishing techniques including set gillnets, hand-lines, pole-lines (mechanised or hand-operated), set longlines, drifting longlines, pots and traps, and vessels without gear (divers) all adapting to fishing seasons and fluctuations in species abundance.

The 1 213 vessels that comprise the SSCF had a combined capacity of 2 030 GT and 24 609 kW. The number of vessels in 2018 decreased by 7% compared to 2017 and GTs and kW by 6%. These are of vital importance to the region where they make up 90% of the total fleet by number and 83% of the total employment (66% of FTE). In 2018, 1 818 fishers were directly employed, corresponding to 448 FTEs. In the majority of cases, vessels are operated by the owner or a family member.

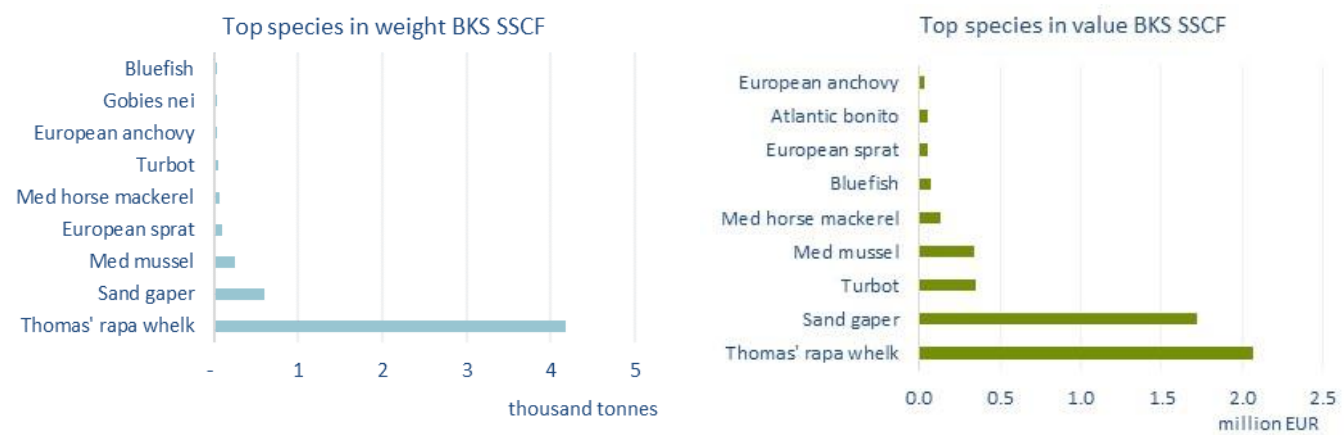


Landings by the Black Sea SSCF amounted to 33% of the total landed weight in the region and 41% of the total value. The lower value achieved by the SSCF (compared to the LSF) appears to reflect also the use of different marketing channels. The SSCF generally operates through very short supply-chains.

Even though SSCF vessels are small they are locally very important in the Black Sea. Besides generating revenue for the owner, there are vessels with a low activity where the catch is not intended for the market, but it is consumed directly by the owners and their families.

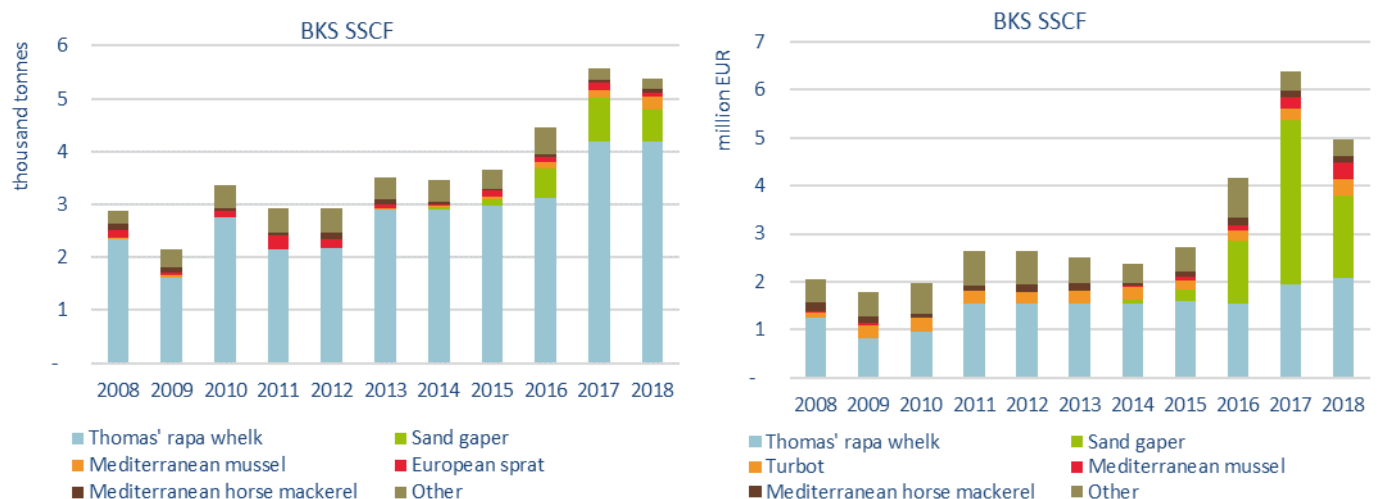
The SSCF accounted for 64% of the total days-at-sea in the region and generated revenues of EUR 4.9 million. GVA was estimated to be EUR 3.6 million, gross profit EUR 2.67 million and net profit EUR 2.6 million. Although five of the segments from the Bulgarian SSCF generated net losses, three Bulgarian SSCF segments together with the two Romanian SSCF generated a net profit that compensated the situation for the general view of the Black Sea SSCF. In 2018, labour productivity (GVA per FTE) decreased by 4% compared to 2017 and reached EUR 8 100 and compared to the average for 2008 to 2018, decreased by 1%.

The SSCF target several species including sea snails, Mediterranean mussel, bluefish, European sprat and Mediterranean horse mackerel, turbot, European anchovy and red mullet (Figure 3.115). In terms of value, the most important species for the SSCF were sea snails, followed by sand gaper, turbot, Mediterranean mussel and Mediterranean horse mackerel.



**Figure 3.115 Top 10 species landed by SSCF operating in the BKS, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.116 Trends in landings of top species landed by the SSCF operating in the BKS**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Large-scale fleet

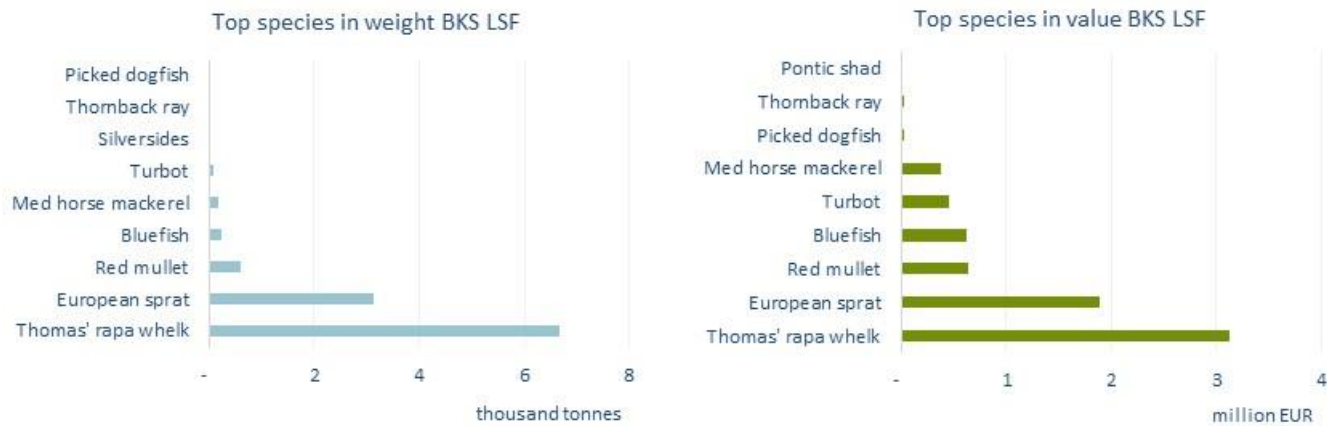
In 2018, the LSF in the Black Sea consisted on 128 vessels or 10% of the entire fleet. These had a total capacity of 4 150 GT and 20 557 kW. The Bulgarian LSF represents 82% of the EU Black Sea LSF with 105 vessels while the Romanian LSF consists of 23 vessels. The main gears used remained pelagic trawls. There were also vessels using passive and active gears during the year and vessels using beam trawls.

The LSF employed a total of 367 people, corresponding to 234 FTE. Total labour costs in 2018 were EUR 1.1 million (same as 2017) and the labour productivity (GVA per FTE) increased to EUR 20 000, which is 72% increase compared to 2017 and 44% compared to the average the 2008 to 2017 period.

Over the period 2011 to 2018, the LSF accounted for 30-37% of the total days-at-sea for the entire Black Sea fleet. However, while the proportion remained relatively constant, the total number of days in 2017 decreased compared to 2016 and 2015 and in 2018 (10 301) they increased by 7% compared to 2017 (9 594).

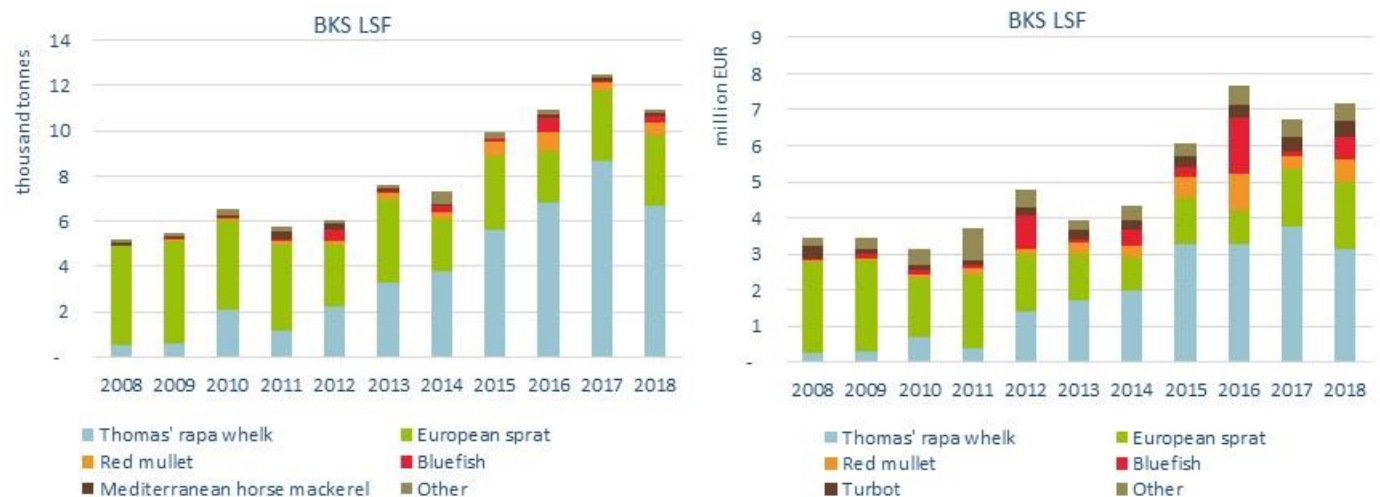
The LSF targets the same species as the SSCF with sea snails making up the highest proportion (by value) for both fleets. Other important species for the LSF are European sprat, red mullet, bluefish, turbot, and Mediterranean horse mackerel (Figure 3.117).

The LSF landed 67% (10 900 tonnes) of the total landed weight in the region in 2018 valued at EUR 6.9 million or 59% of the total value. This generated EUR 4.7 million in GVA and a net profit of EUR 3.3 million. Only one of the LSF segments reported a net loss in 2018. The LSF generally operates through longer supply-chains than the SSCF, but the marketing channels are better developed. In 2017 and 2018, the highest landings in terms of weight and value were polyvalent vessels with both active and passive gears, followed by the pelagic trawlers. Pelagic trawlers consumed more energy than polyvalent vessels and also consumed more energy per tonne landed.



**Figure 3.117 Top 10 species landed by LSF operating in the BKS, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.118 Trends in landings of top species landed by the LSF operating in the BKS, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Performance by fleet segment

In terms of revenue, live weight and value of landings the top five fleet segments operating in the Black Sea (out of 19 active fleet clustered segments) represented 24% of the total number of vessels; but these five segments (three LSF segments and two SSCF segment) landed 69% of the fish, corresponding to 66% of the value of landings and revenue. These segments provided work to 717 employees, corresponding to 233 FTEs.

There are five more segments (all of them are from the SSCF) which are with the largest number of vessels (67% of the active fleet – 898 vessels), which spent 32% of the total days-at-sea for the fleet but landed 7% of the fish, corresponding to 11% of the value. These five segments were not so profitable, but they provided work to 1220 employees or 325 FTEs.

At a fleet segment level, Romanian 12 to 18 metres polyvalent active and passive gears generated the highest revenue from the Black Sea region in 2018 (EUR 1.8 million), followed by the Bulgarian 6 to 12 metres segment with polyvalent active and passive gears (EUR 1.7 million).

## 3.8 Other Fishing Regions (OFR)

### Geographical scope

Although the main fishing grounds for the EU fishing fleet are located in FAO fishing areas 27 (Northeast Atlantic, Baltic and North seas) and FAO 37 (Mediterranean and Black seas), part of the EU fleet operates in fishing areas much further afield. These areas, including the EU outermost regions, are collectively termed "*Other Fishing Regions*" or OFR.

The areas in "*Other Fishing Regions*" (OFR) are divided into two main parts:

- 1) **EU Outermost Region** (OMR) waters, located in the EEZs of the Canary Islands (Spain); the Azores and Madeira (Portugal); French Guiana, Martinique, Guadeloupe, Reunion, Mayotte and Saint-Martin (France);
- 2) **Other Regions**, including all fishing areas outside EU waters and in Areas Beyond National Jurisdiction (ABNJ), covered by Regional Fisheries Bodies (RFBs), such as, the Northwest Atlantic Fisheries Organization (NAFO, FAO 21), the International Commission for the Conservation of Atlantic Tunas (ICCAT, FAO 21, 27, 31, 34, 37, 41, 47 and 48), the Indian Ocean Tuna Commission (IOTC, FAO 51 and 57), International waters of the Mediterranean Sea (FAO 37), the North-East Atlantic Fisheries Commission (NEAFC, FAO 27), the Western Central Atlantic Fishery Commission (WECAFC, FAO 31 and 41) and the Fishery Committee for the Eastern Central Atlantic (CECAF FAO 34); as well as, fishing areas within the EEZ of third countries regulated under the framework of EU sustainable fisheries partnership agreements (SFPAs) and private agreements /direct authorisations between fishing operators and third countries.

### Fleet selection

STECF EWG 17-09 strongly recommended that Member States make an effort to collect and recover economic data on their outermost region fishing fleets, including, where possible, historical time-series. STECF EWG 1803 agreed to analyse OFR activities in two distinct parts, separating the distant water fisheries from the outermost region fisheries (OMR). As part of this revision, STECF EWG 20-06 agreed that the OMR "local" fleet should include "all vessels below 24 metres LOA fishing inside the EEZ of the Canary Islands, Guadeloupe, Martinique, French Guiana, La Reunion, Mayotte, Saint-Martin, Azores or Madeira".

The distant water fleet (DWF), as analysed in other chapters of the AER - by scale of operation in the EU overview and national chapters - is defined as "all EU registered vessels above 24 metres LOA operating predominately in non-EU waters". This covers all DCF fleet segments over 24 metres allocated to the supra-region "OFR" by Member States in accordance with the dominance criteria, i.e. more than 50% of their effort (by days at sea) occurring in non-EU waters.

However, from a regional perspective this definition is not appropriate for analysing the activity of the EU distant water fleet as most of these fisheries are carried out under the umbrella of Regional Fisheries Bodies (RFBs), which differ widely in scope, species and geographical coverage.

Thus, for clarity the distant water fleet analysed here in Other Fishing Regions is termed LDF for long distant fisheries, and should not be considered as the same fleet analysed as DWF (defined as all vessels over 24m operating predominately in OFR).

In view of the above, the EWG 20-06 agreed to restructure the OFR region section into two distinct sections: (1) the Outermost Region (OMR) and (2) Long Distant Fisheries (LDF) both pertaining to Other Fishing Regions.

### 3.8.1 EU Outermost Regions (OMR)

#### Regional Details

The EU Outermost Regions refers to the nine remote territories belonging to three Member States: six French territories - Guadeloupe, French Guiana, Martinique, Mayotte, Reunion, and Saint-Martin<sup>13</sup>; one Spanish territory - Canary Islands; and two Portuguese autonomous regions - Azores and Madeira (Figure 3.119).

The outermost regions are islands, archipelagos and one land territory (French Guiana). They are located in the western Atlantic Ocean, the Caribbean basin, the Amazonian forest and the Indian Ocean. In total, they are home to 4.8 million citizens (DG REGIO).



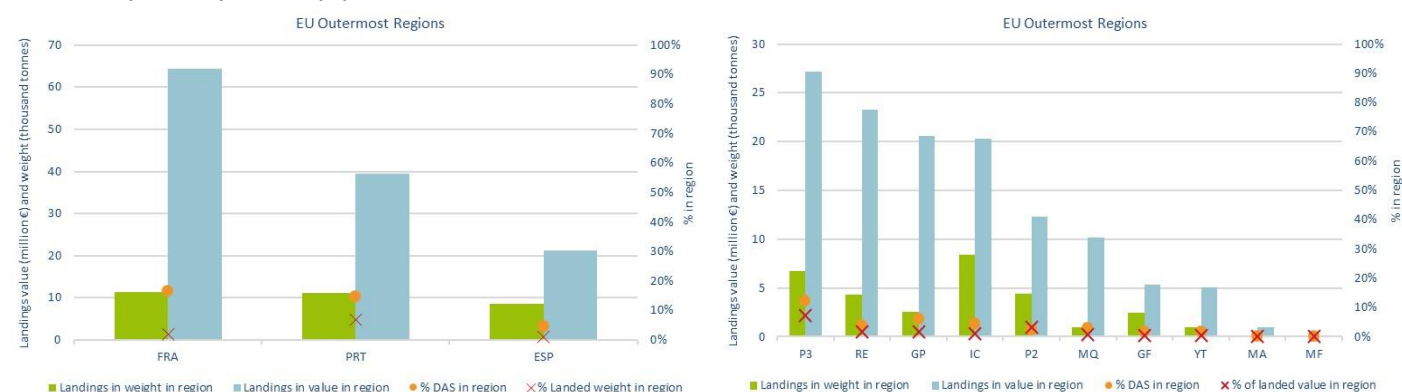
**Figure 3.119 The EU Outermost Regions**

Source: [https://ec.europa.eu/regional\\_policy/en/policy/themes/outermost-regions/](https://ec.europa.eu/regional_policy/en/policy/themes/outermost-regions/)

In this section, the 'local' OMR fishing fleet is analysed. EWG 20-06 decided to review the OMR fleet definition used in the previous AER reports in order to include the fleet segments with LOA between 24 and 40 m. The reason why is due to the activity of these fleet segments specially in Canary islands, Madeira and Azores are the same as the smaller fleet segments with catches and landings in the OMRs. There are a few exceptions, namely, the tuna longliners below 24 metres LOA with flag from Reunion but fishing in the EEZ of Madagascar and the tuna longliners from the Canaries with port of call in Las Palmas but operating under the SFPa with Morocco.

A comprehensive analysis of the EU OMR fleet is not possible due to incomplete datasets and time-series data for France and Spain. Time-series analysis from 2008 is possible only for the Portuguese OMR fleets. For Spain and France, data by OMR are available for 2017-2018 only. Furthermore, despite large improvement, data are still incomplete for several of the French OMRs.

According to data submitted for 2018, none of the Member States fleets are dependent on their OMRs for their primary fishery production.



**Figure 3.120 Importance of the Outermost regions MS fisheries in terms of landings in weight and value, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

<sup>13</sup> Since the adoption of the Lisbon Treaty, Mayotte is included in the list of EU Outermost Regions (Article 349 TFEU) as of 01.01.2014. Saint-Barthélemy changed status in 2012 to become part of the Overseas Countries and Territories (OCT) within the meaning of the TFEU.



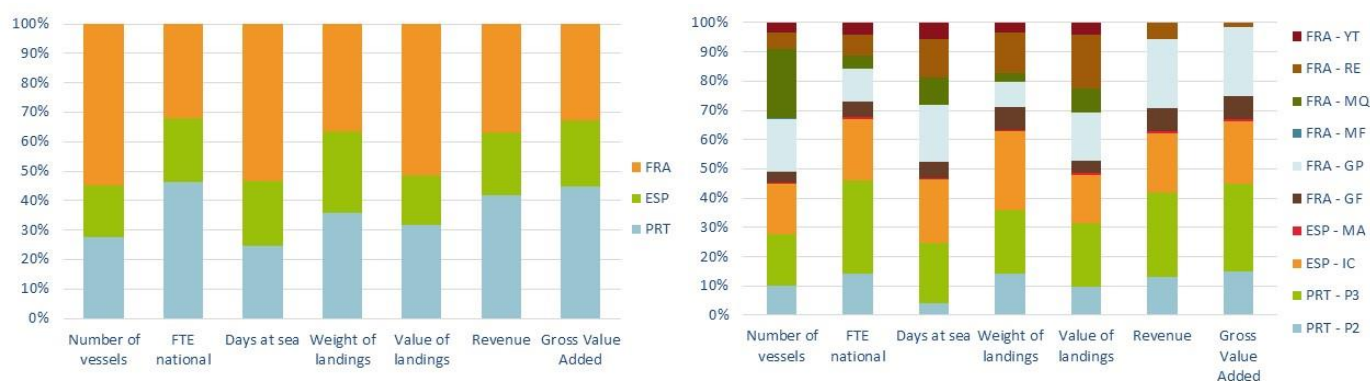
Combined, the French OMR fleets covered 16.5% of the total days at sea deployed by the French national fleet but only 2% of the landed weight and 5% of the landed value.

Combined, the Portuguese OMR fleets spent 14.7% of the days at sea deployed by the national fleet while landing 7% of the weight and 10% of the value of seafood.

For Spain, the Canaries fleet represented almost 5% of the days at sea and landed 1% of the weight and value of the total amount of seafood landed by the national fleet (Figure 3.120).

With 1 616 vessels, the French fleet was the most numerous, accounting for 57% of all active EU OMR vessels. The Portuguese fleet comprised 620 vessels (21.9%) and the Spanish fleet 590 vessels (20.9%). Martinique, with 639 active vessels, was the largest OMR fleet (by number), followed by Canary Islands (590), Azores (533), Guadeloupe (531), Reunion (196), French Guiana (120), Mayotte (114), Madeira (87) and St Martin (8).

The most important OMR by landed weight are the Canary Islands and the Azores while by value the OMRs of the Azores, Canary Islands and Guadeloupe are the most relevant (Figure 3.121). In terms of number of vessels, Martinique, Guadeloupe, Canarias and Azores comprise each around 20% of the OMR fleet; while in terms the fishing effort, Guadeloupean, Canaries and Azorean fleets dominate.



**Figure 3.121 Share of MS and fishing activity in the EU OMR, 2018**

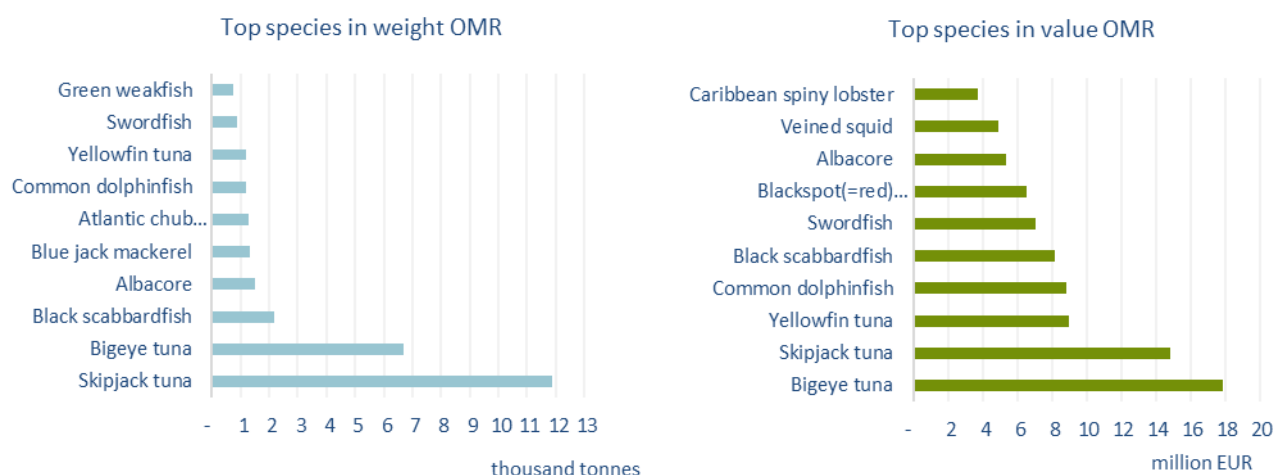
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Overview of the main results for the EU OMR fleet

### Fishing capacity, effort and landings

Combined, the EU OMR (local) fleet numbered 2 826 active vessels in 2018 (and additional 1 349 vessels were reported as inactive in 2018). This corresponds to a decrease of 0.3% in active vessels compared to 2017. About 93% of the active vessels belong to SSCF.

Excluding St Martin (data unavailable), the EU OMR local fleet spent over 208 000 days-at-sea in 2018 (-4% compared to 2017), to land approximately 42 918 tonnes of seafood (+4%) valued at EUR 149 million (-2.8%). Tuna and other large pelagic species represent a significant part of the landings with skipjack, bigeye tuna, yellowfin tuna, and albacore tuna the largest components by weight.



**Figure 3.122 Top 10 species in landed weight and value for EU OMR fleets operating in 2018**

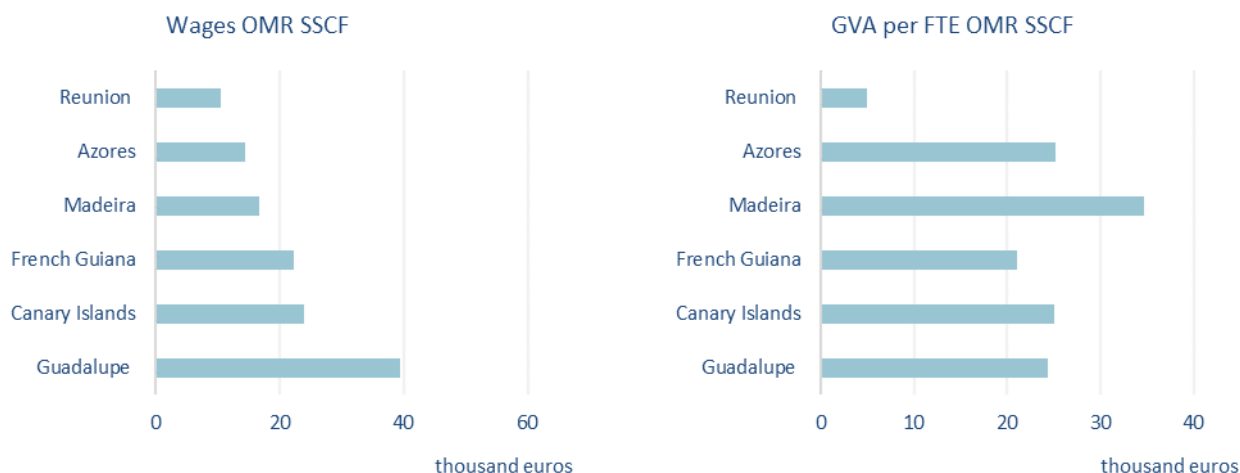
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



The Azores fleet was the most important (by landed weight and value), with total value of landings of EUR 40 million (33% of the total by weight and 26% by value), followed by Canary Islands (EUR 28 million), Reunion (EUR 23 million), Guadelupe (EUR 21 million), Madeira (EUR 15 million), Martinique (EUR 10 million) and French Guiana and Mayotte (EUR 5 million). It should be stressed that for some French OMRs no complete data were available for landings.

### Employment, wages and labour productivity

Like it was mention before time-series analysis is not possible for Canary Islands and French OMRs, so trends for employment, wages and labour productivity will not presented. Mayotte, Martinique and Saint Martin also didn't provided economic data.



**Figure 3.123 Average wage and GVA per FTE for PRT OMR fleets**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018 wages for Guadelupe were the highest ones (EUR 29 400) followed by Canary Islands (EUR 29 400), French Guiana (EUR 22 300), Madeira (EUR 16 700), Azores (EUR 14 500) and Reunion (EUR 10 640). All French OMRs presents values for labour productivity (GVA per FTE) lower than the wages (Figure 3.123).

### Economic performance

Overall, the revenue generated by the OMR fleets amounted to EUR 119.6 million in 2018 (not including Mayotte, St Martin and Martinique), representing an overall decrease of 21.1% compared to 2017 (EUR 151.6 million).

GVA was estimated at EUR 77.4 million in 2018, also representing an overall decrease of 28.6% compared to 2017 (EUR 99.5 million).

Overall, the OMR fleet generated a gross profit of EUR 17.6 million, a 18.2% decrease from the EUR 21.5 million in 2017. Net profit was estimated at almost EUR 7.6 million (-23.3%).

GVA to revenue in 2018 was 65%, almost unchanged compared to 2017, while gross profit margin increased to 15% (from 14% in 2017) and net profit margin to 6% (up from 7% in 2017). Main drivers affecting fleet performance in the region

OMR fleets mostly supply local markets with fresh fish. The exceptions are tunas and other large pelagics which are often processed (canned or frozen) and exported to the EU mainland. It is noteworthy that the price obtained for these species is very dependent on the international market price while landings depend on the status of stocks.

The economic performance of most OMR fleets has improved (even if these vessels do not seem very dependent on fuel prices and recorded relatively low fuel consumption).

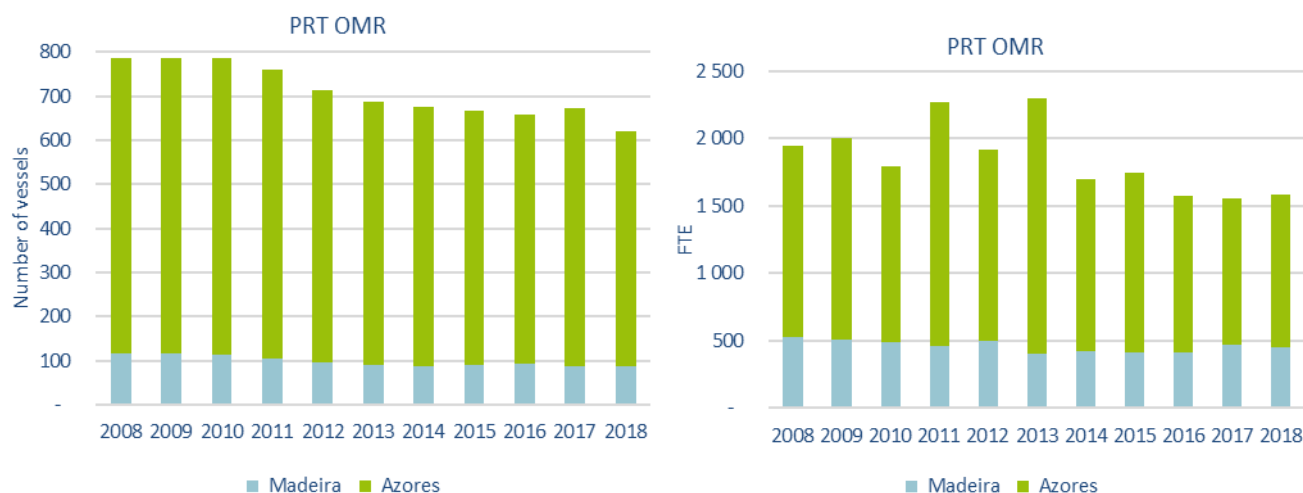
### Outlook for 2018 and beyond

Given the lack of OMR data submitted by France it is not possible to provide a comprehensive outlook for the OMR fleets. However, given the current trends in fish prices and fuel costs, it seems that these fleets will continue to be generally profitability in the coming year.

## Results by Member States OMR fleet: Portugal

### Fleet capacity and employment

Combined, the Portuguese OMR (local) fleet numbered 620 active vessels in 2018 (and additional 1 337 vessels were reported as inactive in 2018). This corresponds to a decrease of 7% in active vessels compared to 2017. About 93% of the active vessels belong to the small-scale coastal fleet (SSCF).

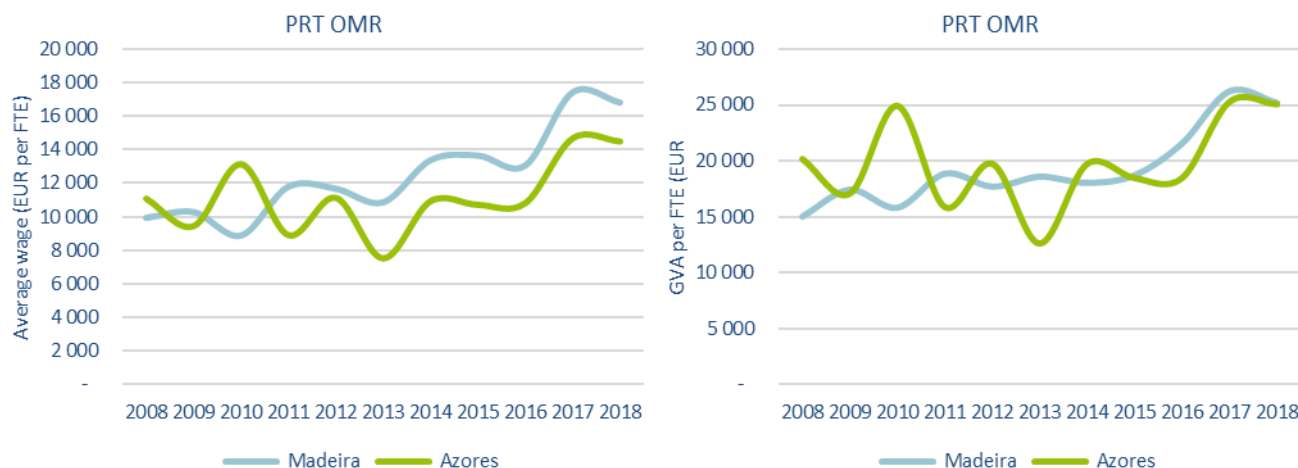


**Figure 3.124 Trends on the number of vessels and employment in FTE for PRT OMR fleets**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

FTE reached the maximum values in 2011-2013 (2 298 FTE and 4 091 engaged people) that can be explained by the 2010 economic crisis where young and unemployed people find jobs in primary sector, this tendency dropped in 2014, 30% in FTE and 26% in the total engaged crew. After 2014 it was observed a relatively stable behaviour in FTE and engaged crew.

### Wages and labour productivity



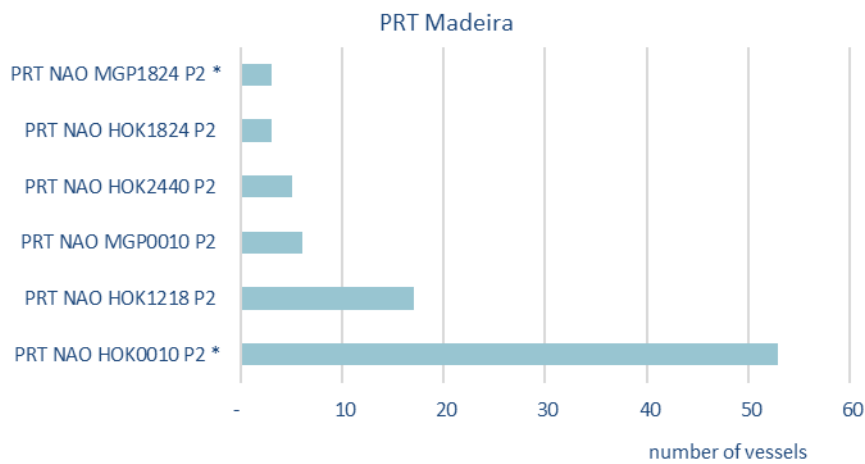
**Figure 3.125 Trends on average wage and GVA per FTE for PRT OMR fleets**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Crew costs and wages just go in opposite direction of the employment with a positive trend observed from 2014. It also can be explained in order to keep and try to call young people to this activity. Labour productivity shows also a positive trend explained to the increase of income and FTE decrease observed in the last years.

### Madeira (P2)

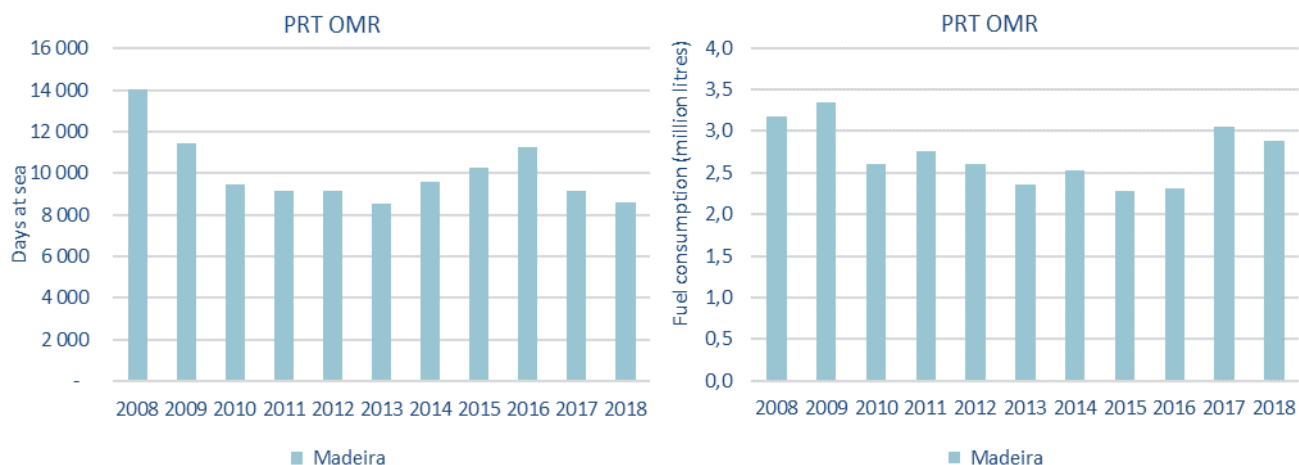
The Madeiran OMR fleet operates exclusively in the Portuguese Exclusive Economic Zone of CECAF 34.1.2 and is composed of 87 active vessels, the majority being small-scale. This fleet is dominated by longliners, which represented 84% of the active vessels in 2018. On the whole, 67% of the vessels are less than 10m LOA and 87% are less than 18 metres LOA (Figure 3.126).



**Figure 3.126 Fleet structure for the Madeira OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

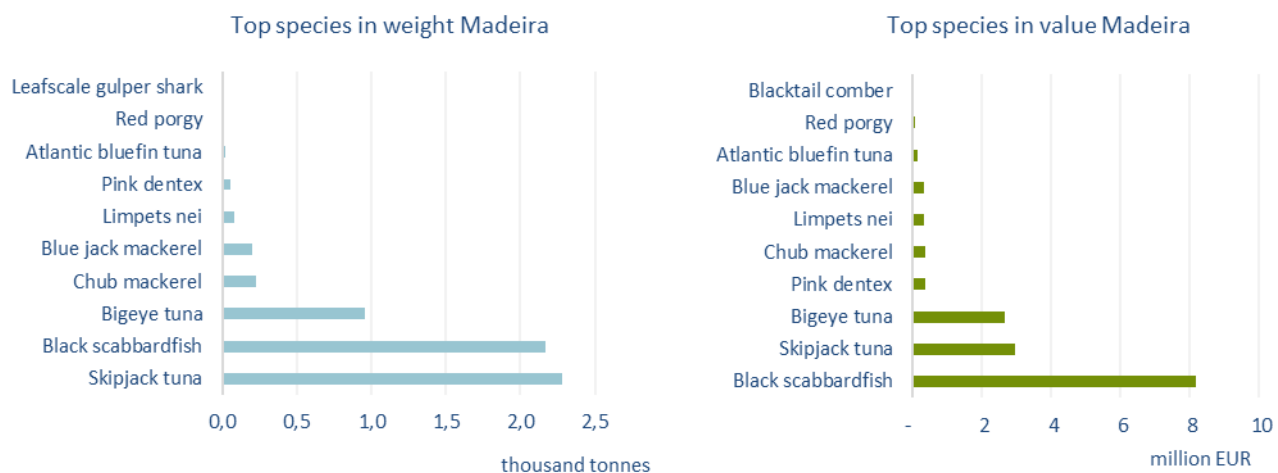
Effort in days at sea continuous to decrease reaching the lower value for all-time series while energy consumption stabilized in 2018, suggesting that some change in the activity pattern occurred. This can be explained for higher activity of bigger vessels operating with longer round trips.



**Figure 3.127 Trends on fishing effort (in days-at-sea) and energy consumption for Madeira OMR fleet**

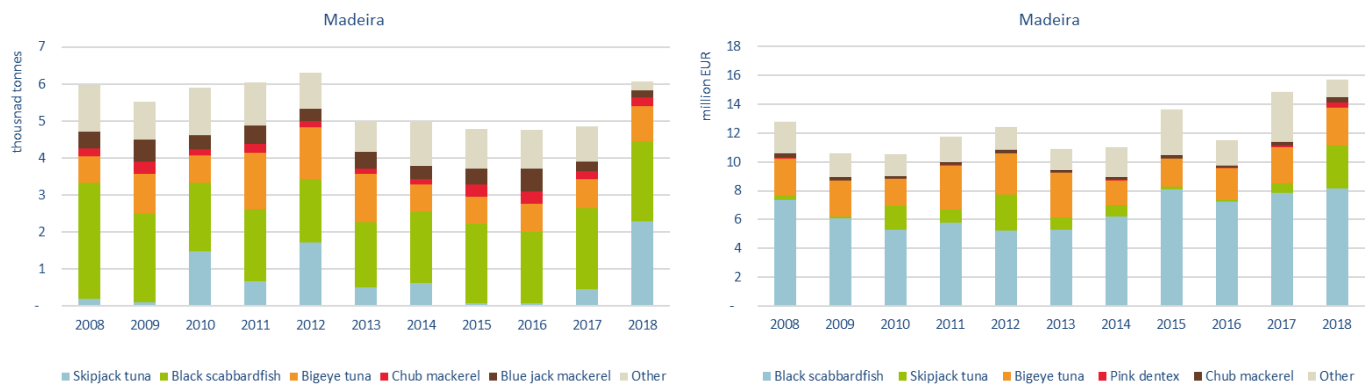
Data source: MS data submissions under the 2019 Fleet Economic data call (MARE/A3/AC(2019)).

The most important species are: black scabbardfish (53% of the total landed value), skipjack (19%) and bigeye tuna (17%) and blue skipjack (9%). Combined, these three top species represented 81% of the total landings in value. (Figure 3.128).



**Figure 3.128 Top ten species in landed weight and value for PRT OMR fleets operating in Madeira, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

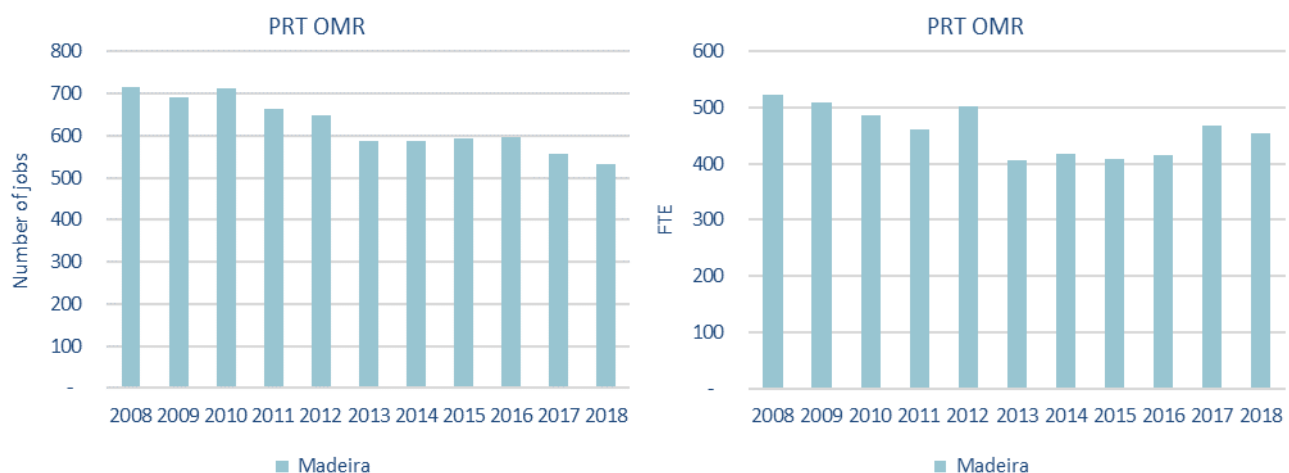


**Figure 3.129 Trends in landings of the top species in landed weight and value for PRT OMR fleets operating in Madeira**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Trends in landings reveals a recovering in landed weight after five years of lower catches mainly due to lower catches of large pelagic species (skipjack tuna) which affected the economic performance of the larger HOK fleets using pole and line with live baits.

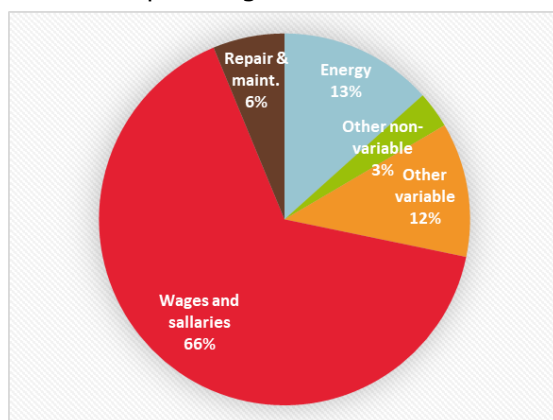
Despite the total number of jobs reached its lowest value in 2018, the FTE stabilizes, meaning the fishers are working more time in line with the relation between the days at sea and fuel consumption (vessels are spending more time at sea).



**Figure 3.130 Trends in engaged crew and FTE for PRT OMR fleets operating in Madeira**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

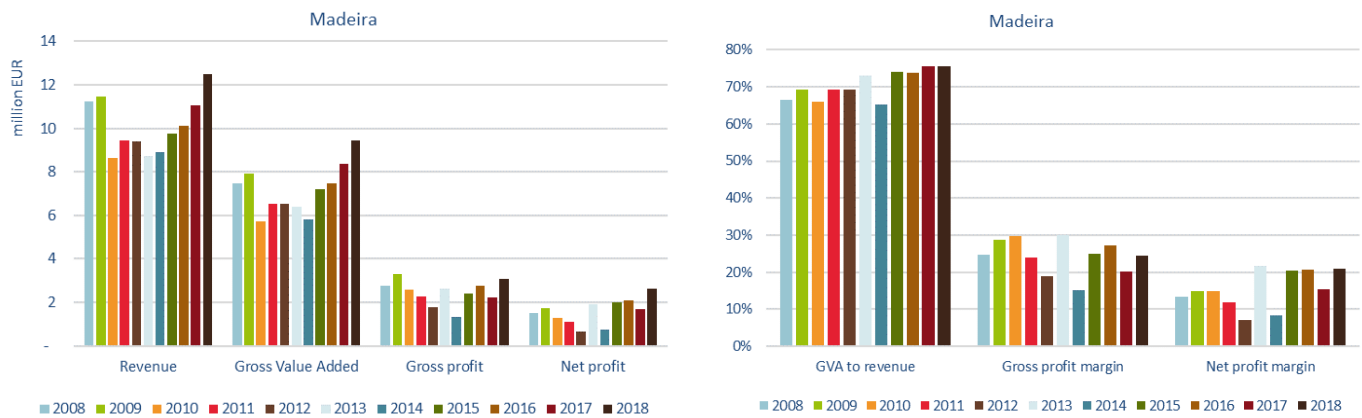
Average crew wages and wages have increased since 2010. This cost, together with other variable costs (12%), related to the activity of longliners (bait, ice, etc.) and fuel costs (13%), correspond to 91% of the total operating cost structure of the Madeira OMR fleet (Figure 3.131).



**Figure 3.131 Cost structure of the Madeira OMR fleet in 2018**

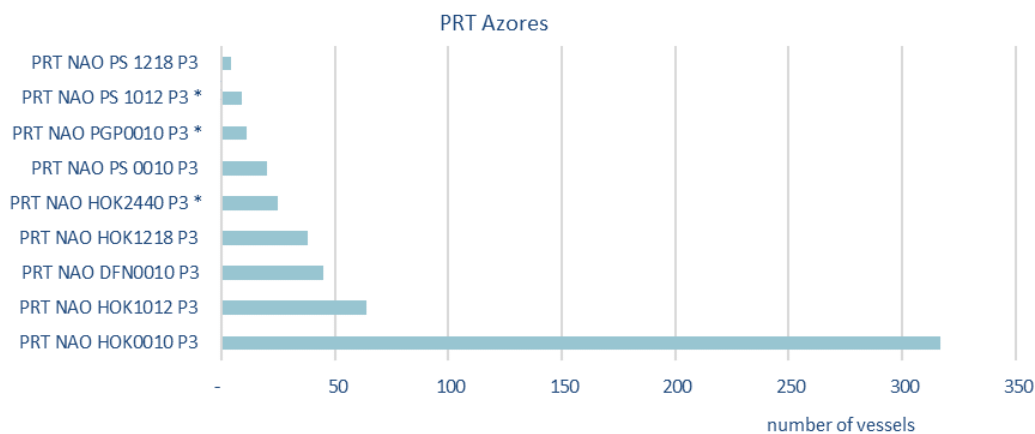
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The profitability of the Madeiran OMR fleet has been positive for the period 2008 to 2018. Positive trends were observed in all economic indicators, especially due to increase of revenue (13% increase comparing with 2017). In 2018, the GVA to revenue was 75%, the gross profit margin 25% and the net profit margin 21%.



### Azores (P3)

The Azorean OMR fleet, comprising 533 active vessels (down 9% from 562 vessels in 2017), operates exclusively in the Portuguese Exclusive Economic Zone (EEZ). There were 211 inactive vessels, 26% more than in 2017.



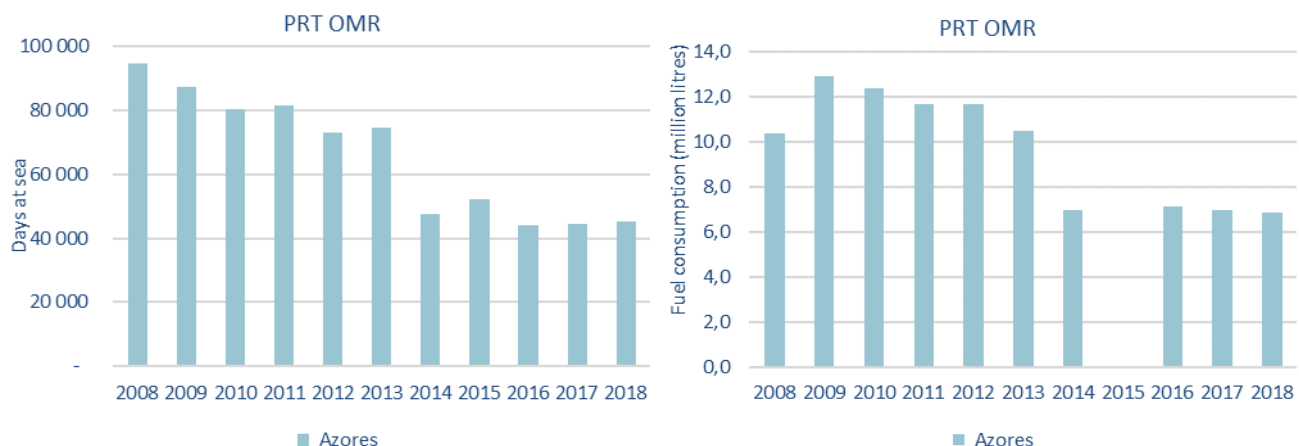
**Figure 3.133 Fleet structure for the Azores OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The fleet is dominated by hook and line vessels (HOK), which made up 83% of the active vessels in 2018 (-12% compared to 2017), followed by drift and fixed nets with 8% of the total (+15% compared to 2017).

The majority (72%) of the active vessels measured less than 10 metres in length (VL0010). When also including inactive vessels, this figure increases to 80% of the OMR fleet.

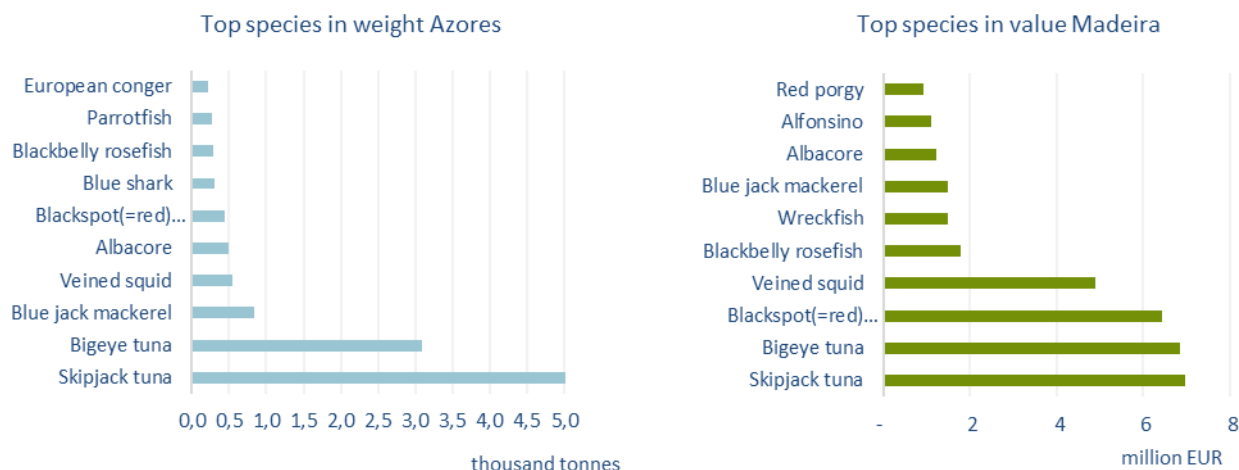
Between 2009 and 2018 the fleet fell by 14% in number and 7% in kW, while days-at-sea fell by 48% and energy consumed by 49%.



**Figure 3.134 Trends on fishing effort (in days-at-sea) and energy consumption for Madeira OMR fleet**

Data source: MS data submissions under the 2019 Fleet Economic data call (MARE/A3/AC(2019)).

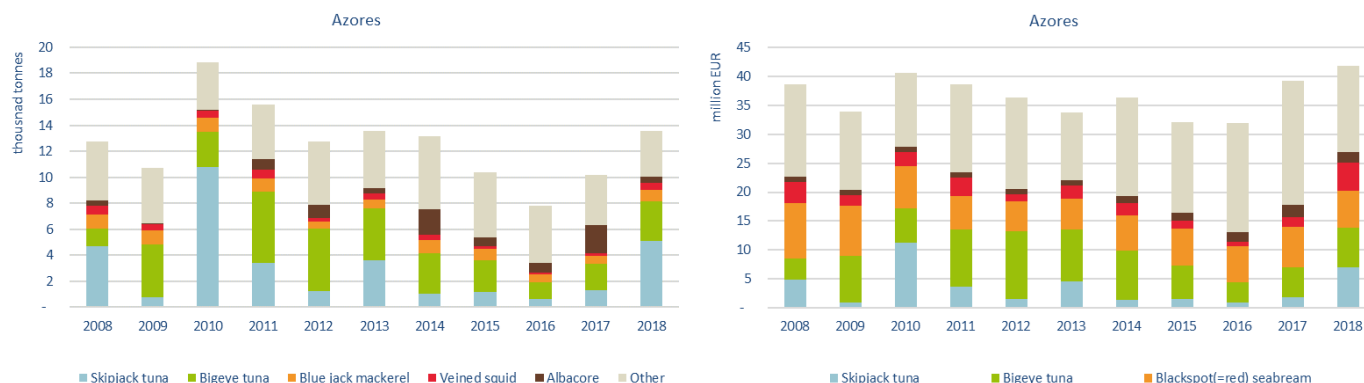
The Azores OMR is very rich in biodiversity and fishing fleets target both demersal and large pelagic species. The main species landed, by weight, were: skipjack (44%), bigeye tuna (27%), blue jack mackerel (7%), veined squid (5%) and albacore (4%). In terms of value, 21% of the landings are from skipjack and bigeye tuna, followed by red seabream (19%), veined squid (15%) and blackbelly rosefish (5%) (Figure 3.135).



**Figure 3.135 Top 10 species in landed weight and value for PRT OMR fleets in the Azores, 2018**

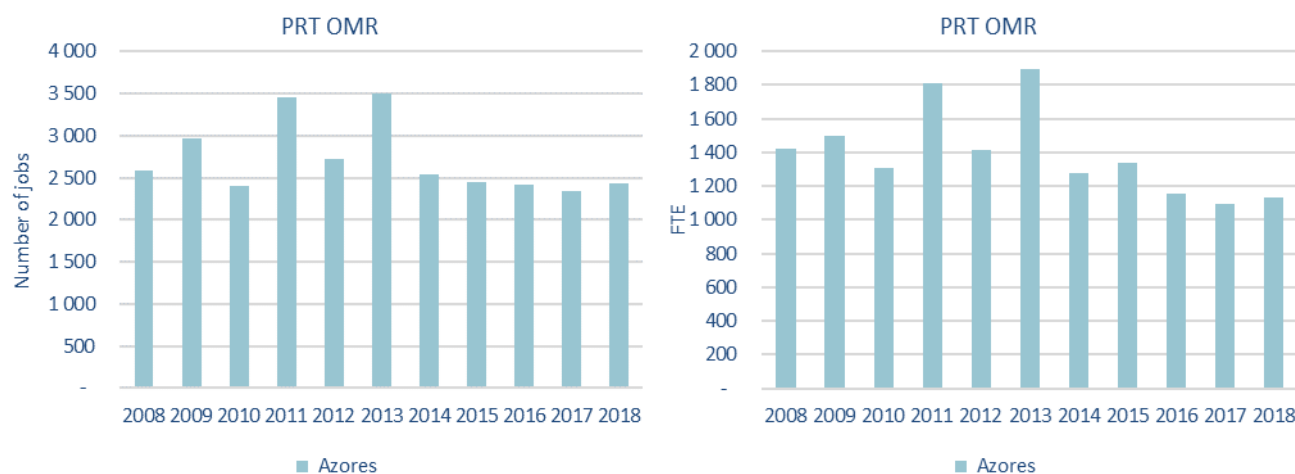
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

After 2016, where it was observed the lowest values for landing weight and value for all-time series, landings start to improve in a consistent, specially caused by the recovery of the large pelagic species (skipjack and bigeye tuna) catches. In terms of value of landings 2018 it was the highest one from 2008 to 2018.



**Figure 3.136 Trends in landings of the top species in landed weight and value for PRT fleets in the Azores**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.137 Employment trends in Azores**

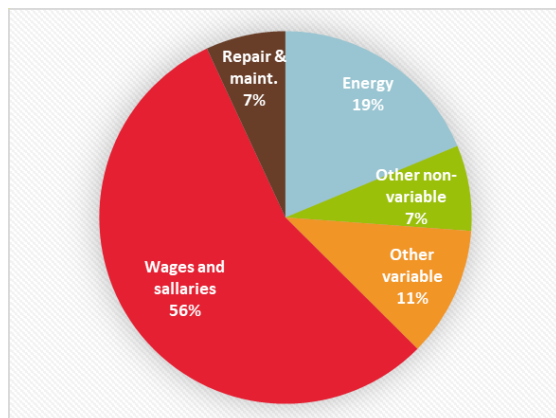
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Total employment peaked in 2013 with 3 503 persons employed full and part time, equivalent to 1 893 FTEs and fallen in 2014. Since then the values are stable with a mean value of 2 440 people engaged



and by 1 150 FTE. Like many other fleets, the Azorean OMR fleet today finds it difficult to attract sufficient crew.

Crew wages and salaries represent the biggest cost to operators (50% of the operating costs).



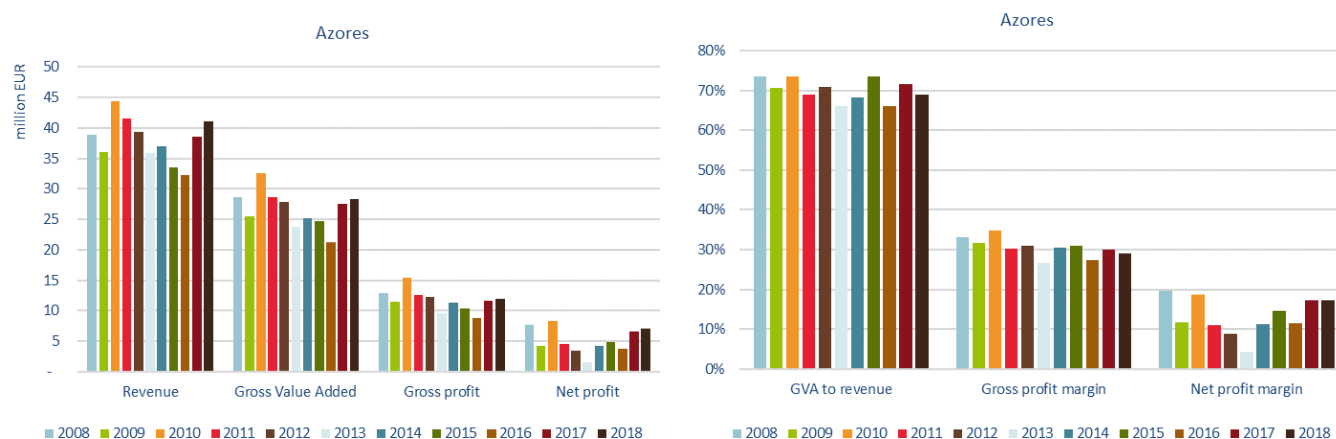
**Figure 3.138 Cost structure of the Azores OMR fleet in 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Amongst other important cost items were energy costs (19%) and other variable costs (11%). As with the OMR of Madeira, the three main cost items for the Azorean fleet make-up 93% of the total operating costs (Figure 3.138).

The profitability of the Azorean OMR fleet as a whole has been positive and relatively stable for the whole period 2008-2018.

In 2017, the GVA margin was 69%, the gross profit margin 29% and the net profit margin 17%.



**Figure 3.139 Trends on revenue, profits and profit margins for the Azores OMR fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Crew costs which represents the main costs can be affected in order to keep and recruit crew to operate the fleet. Beside the increase of the wages observed since 2014 the value is still low when compared with the mean salary in the OMR regions.

The observed fluctuation and catch restrictions of the large pelagic species, in particular skipjack, affect the fleet economic performance, specially the HOK2440 and HOK1824 fleet segments.

## Description of relevant fisheries in the region

### Small-scale coastal fleet

SSCF in OMR Portuguese has a large social and local economic impact. In most cases fishers have two different activities and income from fish acts like a complement in the family's income. In Azores is common that fishers' had also some activity in agriculture and livestock. The average ratio of FTE/engaged crew for OMR SSCF is equal to 0.3 reveals that fishing activity represents only one third of the full time job.

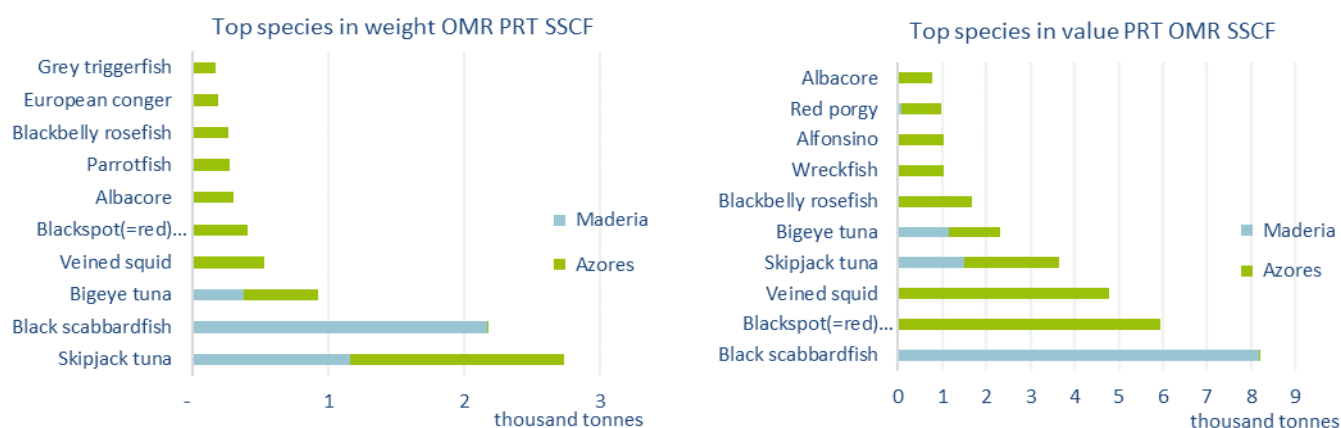


**Figure 3.140 Trends FTE/engaged crew and average wage for SSCF PRT OMR fleets**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The average FTE wage for SSCF reveals an increase in the time series with lower values for the Madeira SSCF with values (which are similar to the minimum salary in Portugal).

The SSCF targets pelagic, demersal and cephalopods species (black scabbardfish, red seabream veined squid, skipjack and bigeye tuna).



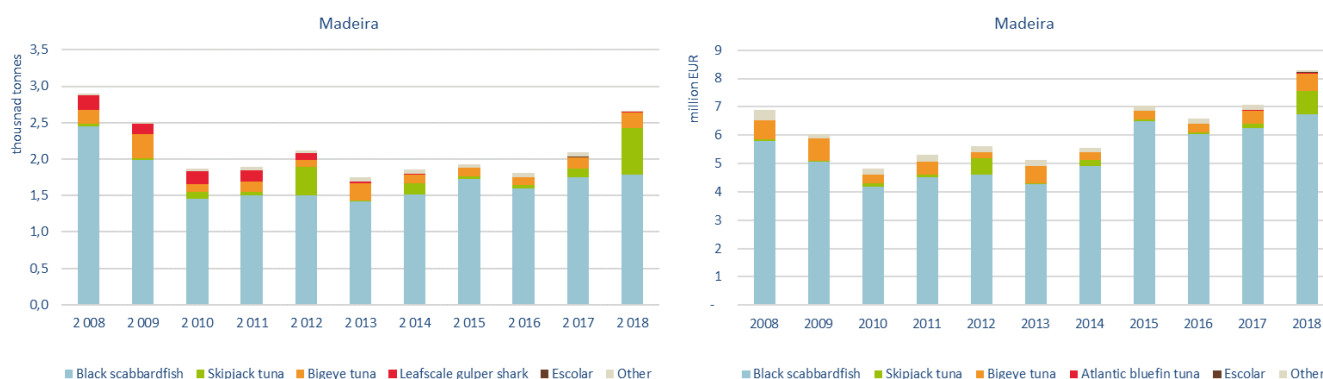
**Figure 3.141 Top 10 species landed by SSCF PRT OMR fleets, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Performance by fleet segment

### Madeira Hook and line 12-18m segment (PRT NAO HOK1218 P2)

This fleet segment generates over 53% of total landings value and around 44% of total weight in Madeira. It's composed by 17 vessels operating mainly in Area 34.3.2. The fleet targets mainly demersal species (black scabbardfish represents 67% in weight and 81% in value). In 2018, the total value from landings was EUR 8.3 million (17% higher than 2017). The fleet segment employed 180 FTEs. Economic indicators for this fleet reported a gross profit increase of 63%.



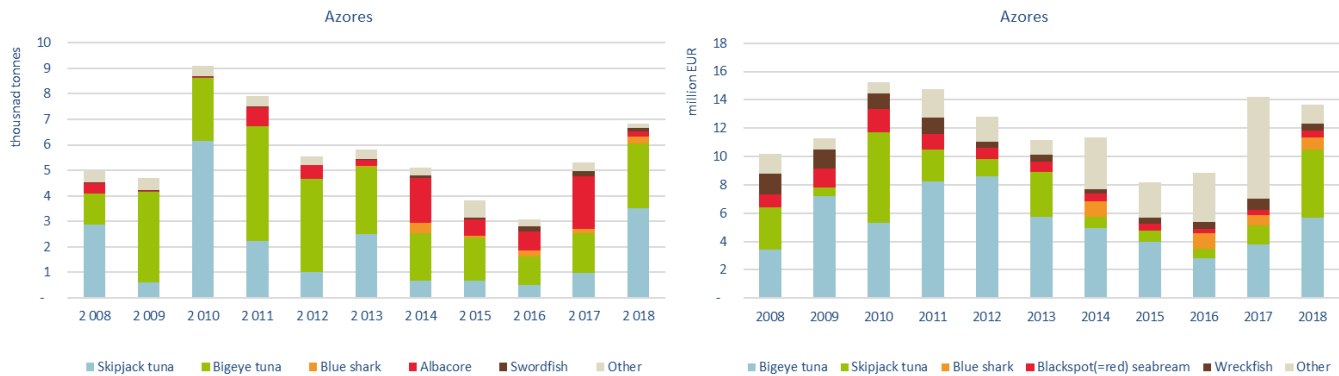
**Figure 3.142 Trends in landings of the top species in landed weight and value for PRT NAO HOK1824 fleet in Madeira**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Azores Hook and lines 24-40m (PRT NAO HOK2440 P3)

This fleet segment generates over 33% of total landings value and around 51% of total weight in Azores. It's composed by 25 vessels operating mainly in Area 27.X.a.

The fleet targets mainly tuna fishes (skipjack, bigeye tuna, blue shark and albacore). In 2018, the total value from landings was EUR 13.8 million similar to 2017 value that reflects a significant improvement comparing to the last years with very weak profitability, mainly related with the low values for landing. The fleet segment employed 285 FTEs. Economic indicators for this fleet reported a gross profit increase of 13%.



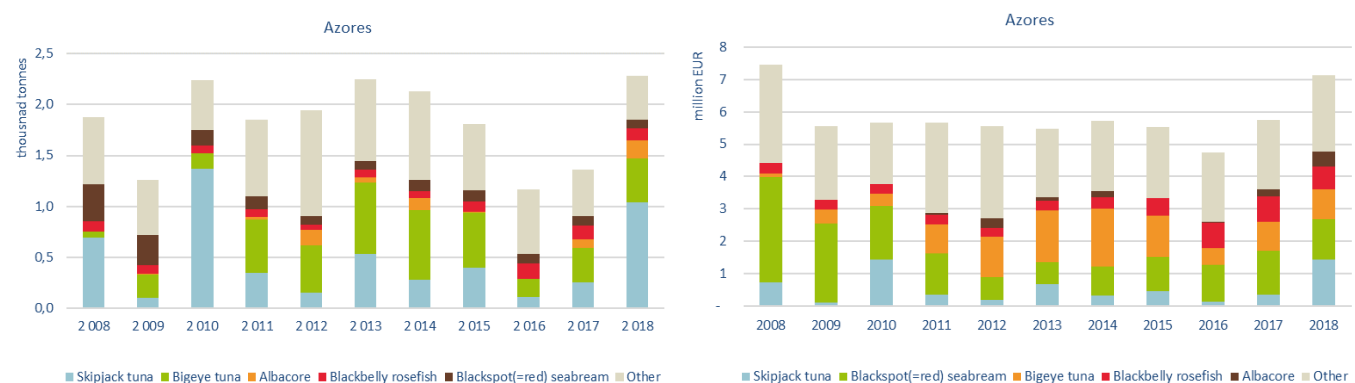
**Figure 3.143 Trends in landings of the top species in landed weight and value for PRT NAO HOK2440 fleet in the Azores**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Azores Hook and lines 12-18m (PRT NAO HOK1218 P3)

This fleet segment generates over 17% of total landings value and weight in Azores. It's composed by 38 vessels operating mainly in Area 27.X.a.

The fleet targets pelagic and demersal species (skipjack, red seabream, bigeye tuna, blackbelly rosefish and albacore). In 2018, the total value from landings was EUR 6.9 million (22% higher than 2017). The fleet segment employed 215 FTEs. Economic indicators for this fleet reported a gross profit increase of 21%. Despite the observed oscillations in landing weight over the period, mainly related with catches of pelagic species, the landing value was not so affected. That can be explained with fluctuations of fish prices and also demersal species plays an important role on the stability of the landing value for this fleet segment.



**Figure 3.144 Trends in landings of the top species in landed weight and value for PRT NAO HOK1218 fleet in the Azores**

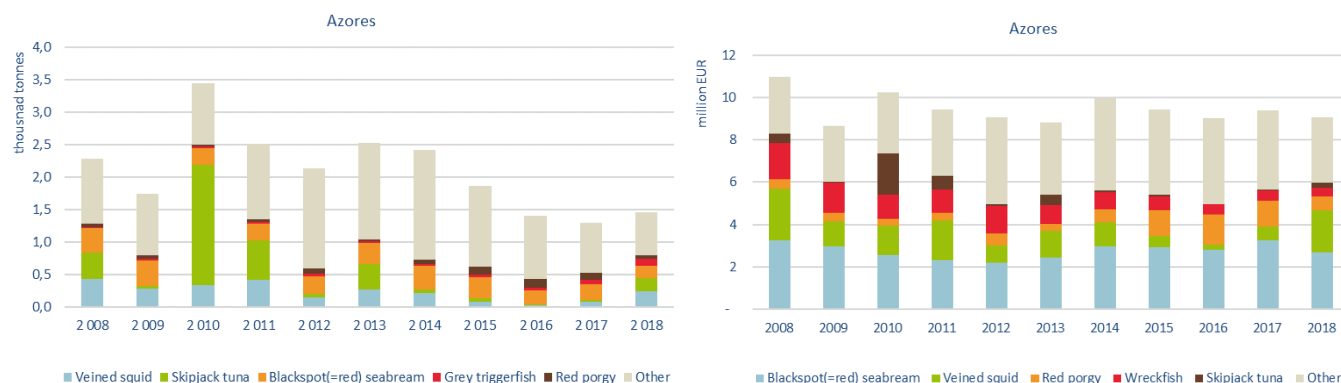
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Azores Hook and lines under 10m (PRT NAO HOK0010 P3)

This fleet segment generates over 22% of total landings value and around 11% of total weight in Azores. It's composed by 317 vessels operating in Area 27.X.a.

The fleet targets are pelagic, demersal and cephalopods species (veined squid, skipjack tuna and red seabream). In 2018, the total value from landings was EUR 8.8 million (4.8% lower than in 2017). The fleet segment employed 248 FTEs. Economic indicators for this fleet reported a gross profit decrease of 13%. In 2010 one can observed a peak in landing weight that was not reflected in landing value. Catches of skipjack tuna are related with the observed peak. Like in HOK1824 fleet segment the fluctuations of

fish prices and also demersal species plays an important role on the stability of the landing value for this fleet segment.



**Figure 3.145 Trends in landings of the top species in landed weight and value for PRT NAO HOK1012 fleet in the Azores**

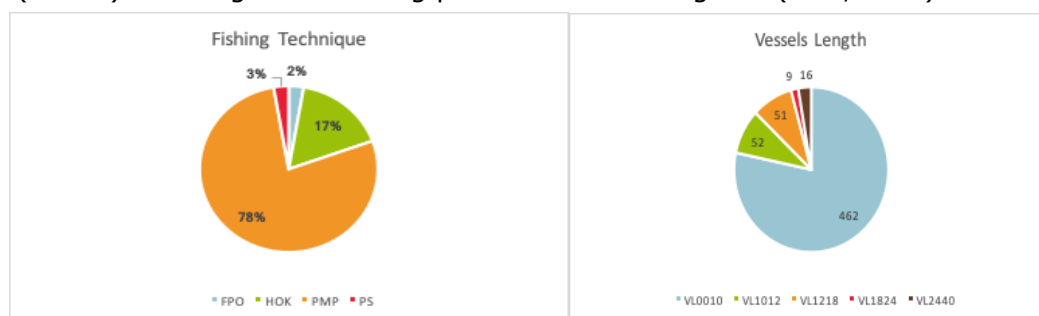
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Results by Member State OMR fleet: Spain

### Fleet capacity

Fishing activity in the Canaries OMR takes place mainly in FAO Area 34.1.2.

In 2018 this fleet numbered 590 active vessels, 2.4% less than in 2017. The majority (87%) are small-scale vessels (<12m) with engine and using passive and active gears (PMP, 78%).

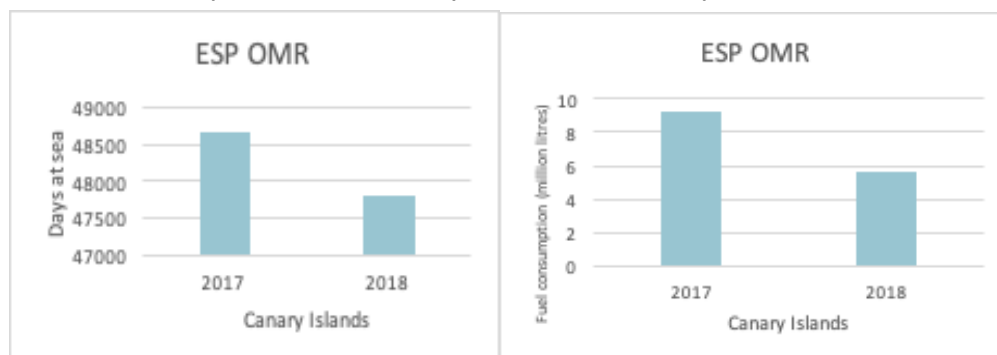


**Figure 3.146 Fleet structure by main gear type and vessel length group, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2019)).

### Effort and landings

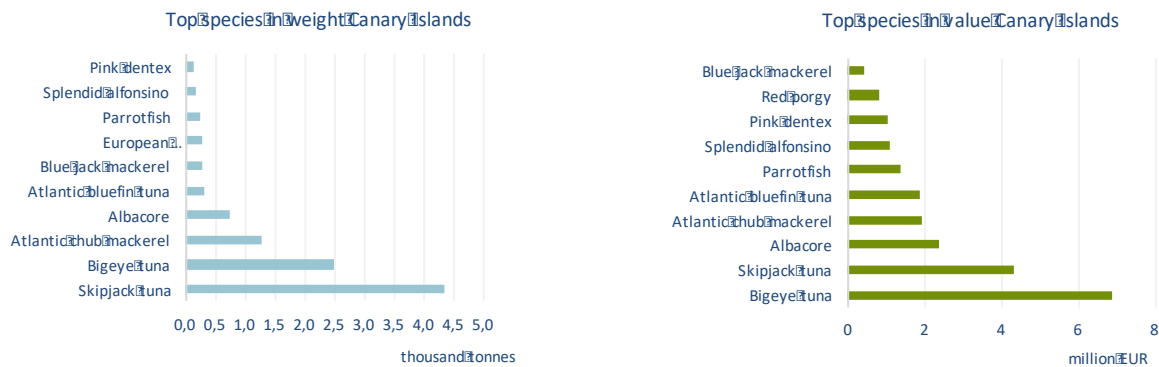
As the number of vessels decreased by 2.4%, effort (days at sea) decreased too (1.8% compared to 2017); however, fuel consumption decreased by almost 40% compared to 2017.



**Figure 3.147 Trends on fishing effort (in days-at-sea) and energy consumption for Canary Islands OMR fleet**

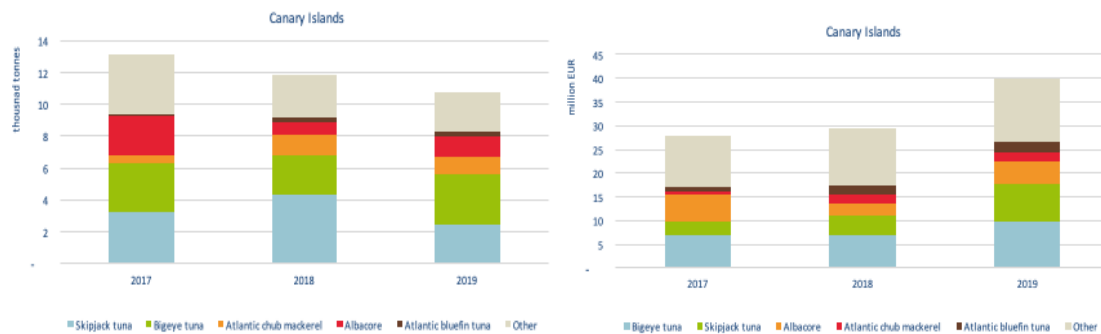
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2019)).

Landings (by weight) are dominated by skipjack tuna (43%), bigeye tuna (24%) and Atlantic chub mackerel (12%). In terms of value, the most representative species are bigeye tuna (31%), skipjack tuna (19%), albacore (11%) and Atlantic chub mackerel (9%).



**Figure 3.148 Top 10 landed species in term of weight (a) and value (b) for the Canary Islands OMR, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

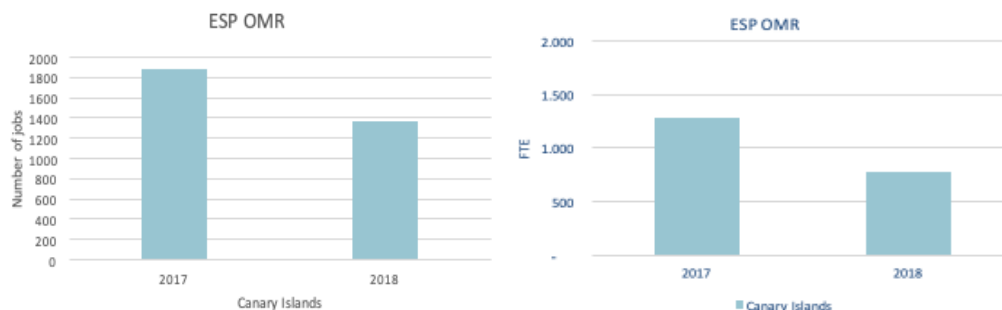


**Figure 3.149 Trends of landings of the top species in landed weight and value for the Canary Islands OMR.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Employment

In 2018, the number of jobs decreased by 27% in comparison to 2017, and FTE decreased by 40%. It means that most fishers had other activities, so income from the fishing activity is just a complement.

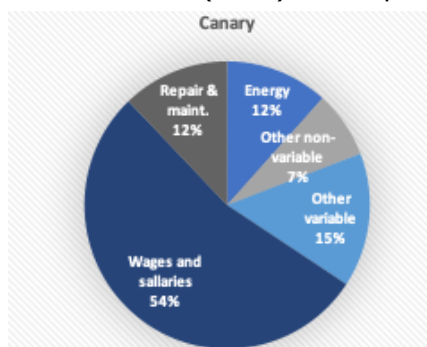


**Figure 3.150 Trends in engaged crew and FTE for the Canary Islands OMR.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic data

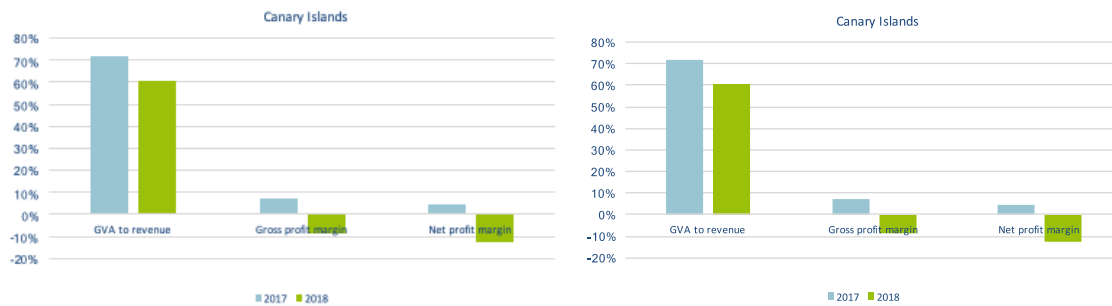
The cost structure of the Canary fleet is dominated by wages and salaries (56%) followed by other variable costs (15%) and repair and fuel costs (12% each one), values similar to previous years.



**Figure 3.151 Cost structure for the Canary Islands OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018 the GVA was EUR 16.3 million, while the GVA margin, gross profit margin and net profit margin reached 61%, - 9%, and - 13%, respectively.



**Figure 3.152 Profit graphs for the Canary Islands OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Value of landings increased by 3.7% in 2018 compared to 2017. However, revenue decreased by 46%. This can be explained by the methodology. Revenue is calculated with gross value of landings, which is obtained from statistical sampling, so the result of not many vessels are raised for the total of the fleet segment. Whereas the value of landing is obtained by the sales notes which have been declared from the vessel's owner. This year the EWG 20-03 and EWG 20-06 have tried to correct this difference as much as possible, so both results are now similar, and it can be considered that gross value of landings from submitted in 2017 was not representative of the real situation.

**Table 3.3 Overview for the Canary Islands OMR fleet, 2018**

Variable	Indicator	Euro
Capacity	Number of vessels	590
	Total vessel power	24,367
	Total vessel tonnage	4,886
Employment	Engaged crew	1,366
	FTE national	774
Effort	Days at sea	47,814
	Energy consumption	5,583,043
Landings	Live weight of landings	11,845,583
	Value of landings	28,435,991
Income	Gross value of landings	26,684,955
	Other income	136,819
Expenditure	Personnel costs	12,126,235
	Value of unpaid labour	6,490,285
	Energy costs	2,639,733
	Repair & maintenance costs	2,747,796
	Other variable costs	3,415,874
	Other non-variable costs	1,700,417
	Revenue	26,821,774
Indicator	Gross Value Added	16,317,954
	Gross profit	-2,298,566
	Net profit	-3,411,588

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



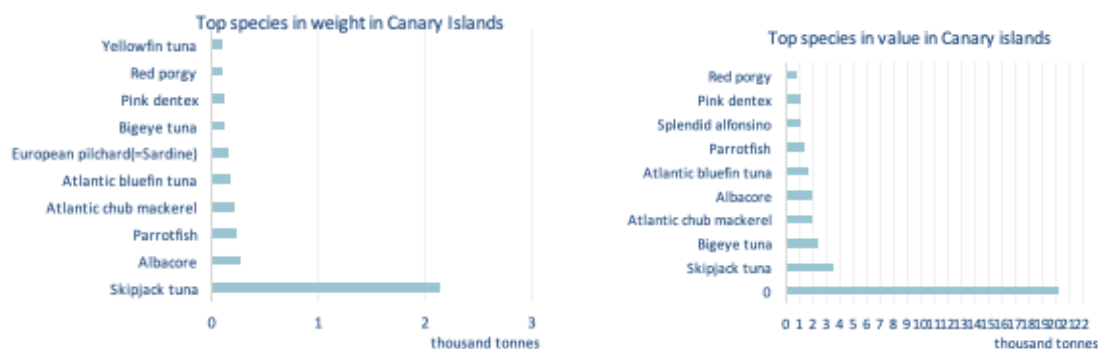
## Description of relevant fisheries in the region

### Small-scale coastal fleet

SSCF in Canary Islands has a large social and local economic impact. In most cases fishing activity is just a complementary activity of this job.

The average FTE wage for SSCF in Canary Islands is EUR 25 752, this similar to previous year. However, both FTE and labour cost decreased by 57% compared to 2017. It will be necessary to wait to have a historical series data for at least four years to evaluate these results.

The fleet SSCF targets are really similar to the whole Canary Islands fleet: skipjack tuna, albacore, bigeye Tuna and Atlantic club mackerel.



**Figure 3.153 Top 10 species landed by SSCF Canary Islands OMR fleets, 2018**

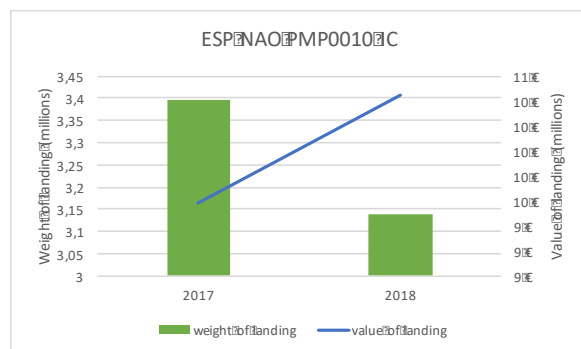
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Performance by fleet segment

### Canary Islands 00-10m segment (ESP NAO PMP0010)

This fleet segment is composed by 459 vessels and it gives employment to 777 people, that means the 56% of the total jobs generated by the Canary's fleet. However, just 40% of this people work a full time (308 FTE).

This fleet generates 36.7% of total landings value and 26.5% of total weight in Canary Islands. Economic indicators show a weak profitability mainly related with the low incomes and the highly variable costs (especially labour costs).



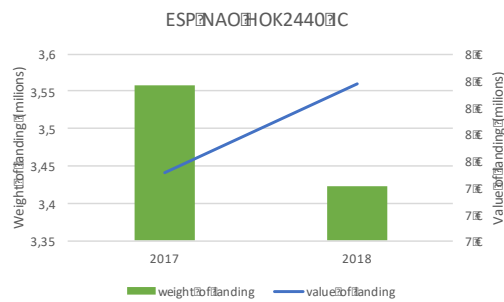
**Figure 3.154 Trend of Weight and value of landing of ESP NAO PMP0010 IC**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Canary Islands hook 24-40m segment (ESP NAO HOK2440)

This fleet segment is composed by 25 vessels and it gives employment to 218 people, that means the 15% of the total jobs generated by the Canary's fleet. However, the 98% of this people work a full time (308 FTE).

This fleet generates 28.7% of total landings value and 29% of total weight in Canary Islands. Economic indicators show a weak profitability mainly related with the low incomes and the high variable costs (especially labour costs).



**Figure 3.155. Trend of Weight and value of landing of ESP NAO HOK2440 IC**

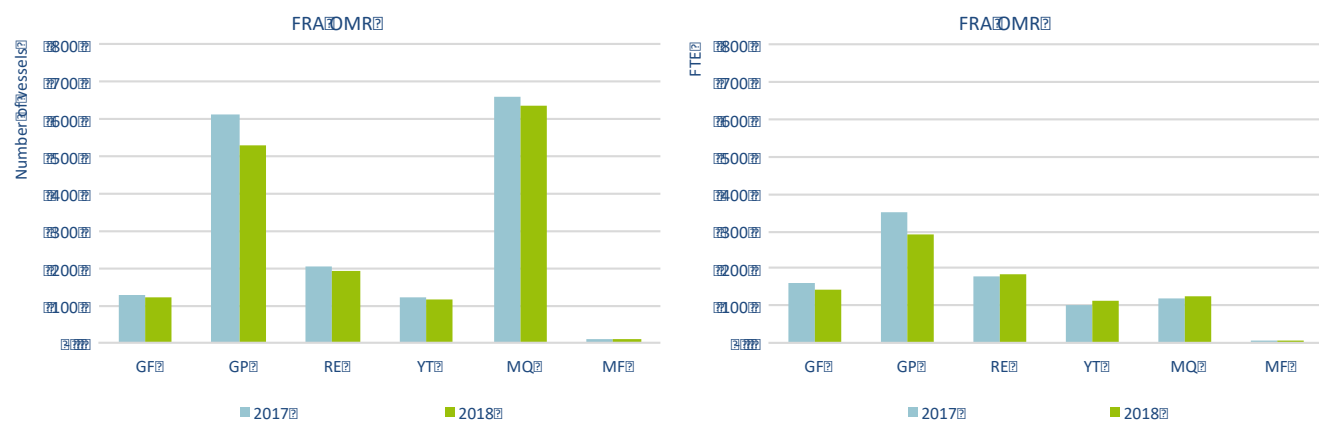
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Results by Member State OMR fleet: France

For France the introduction of geo-indicator to distinguish OMR fleets from the mainland data was established for 2017 and 2018. In 2020 it was planned to extend the geo-indicator to a broader scale of the time series, however, this project had to be postponed due to COVID-19 crisis. The project is still pending and will be hopefully implemented for the AER 2021.

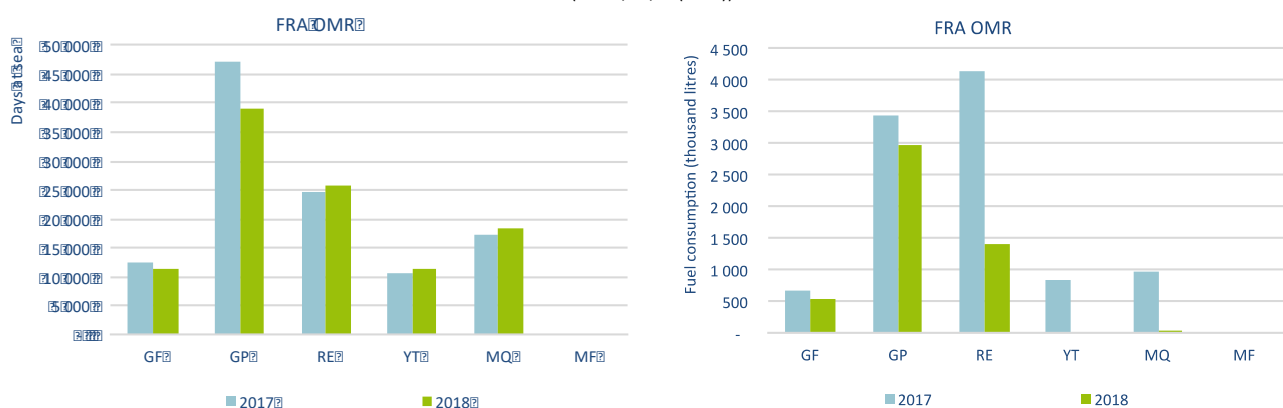
### Fishing capacity, effort and landings

All combined, the French OMR fleet numbered 1 608 active vessels in 2018. Almost all OMR French active vessels belong to the SSCF. Only 2% of the vessels are more than 18m (one fleet in French Guiana and one fleet in Reunion Island)



**Figure 3.156 Trends on the number of vessels and employment in FTE for FRA OMR fleets**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

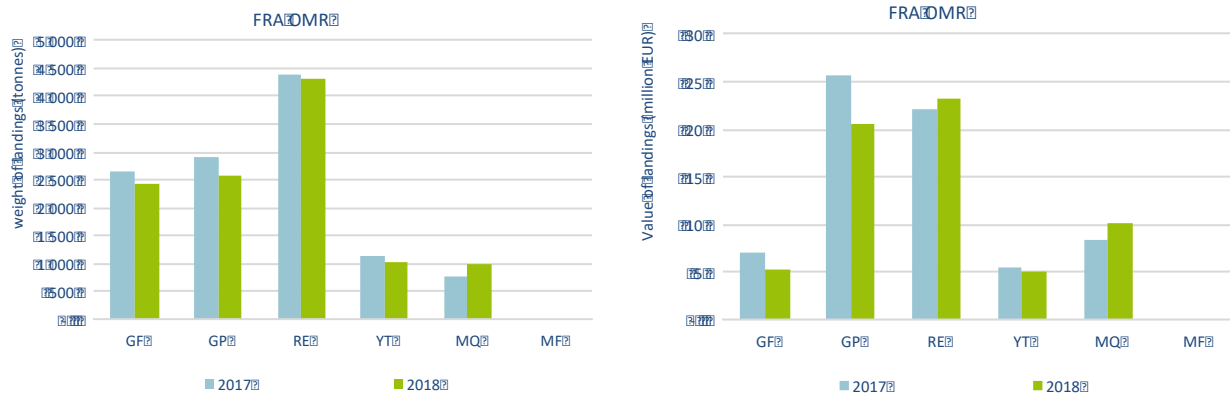


**Figure 3.157 Trends on the number of days at sea and energy consumption for FRA OMR fleets**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

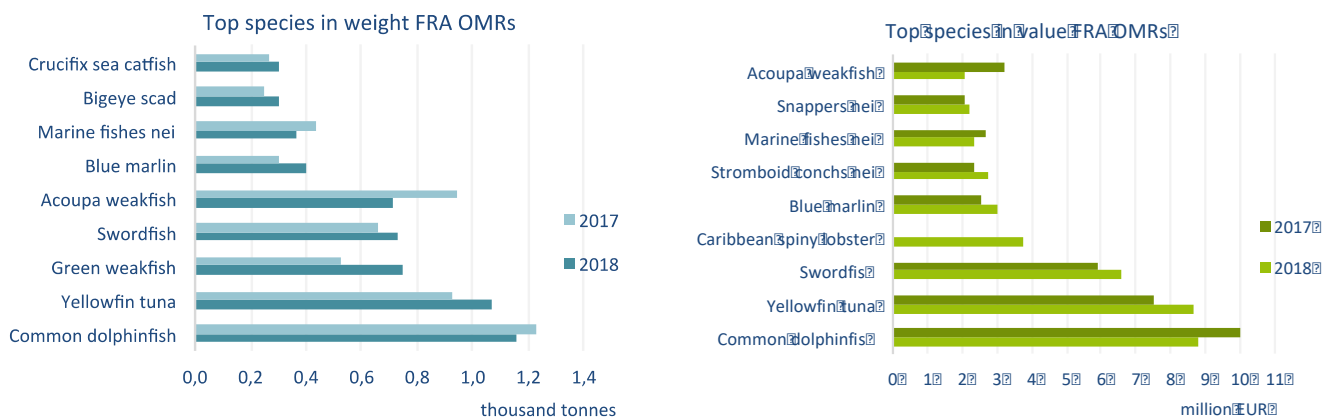
FTE for 2018 was 855, with Guadeloupe being the main job provider. There is a tendency to an increase in FTE between 2017 and 2018 except for Guadeloupe and French Guiana (Figure 3.156).

Major species in value for French OMR are large pelagic species (common dolphinfish, yellowfin tuna, swordfish and blue marlin), followed by Caribbean spiny lobster, small pelagics and demersal species.



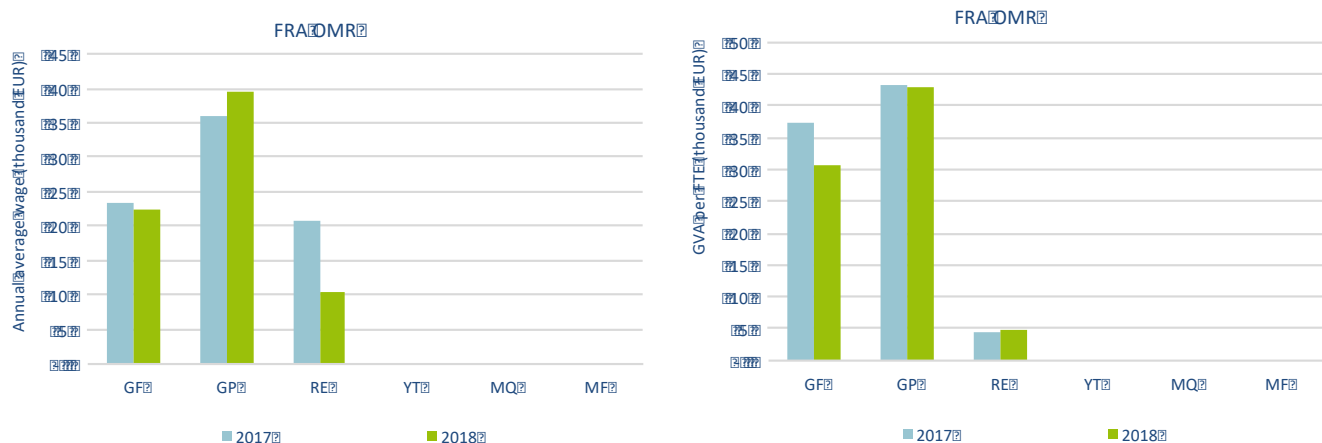
**Figure 3.158 Trends in landings (live weight, tonnes) by French OMR**

Source: FAO <http://www.fao.org/figis/geoserver/factsheets/rfbs.html>



**Figure 3.159 Landings (live weight, tonnes) by French OMR, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



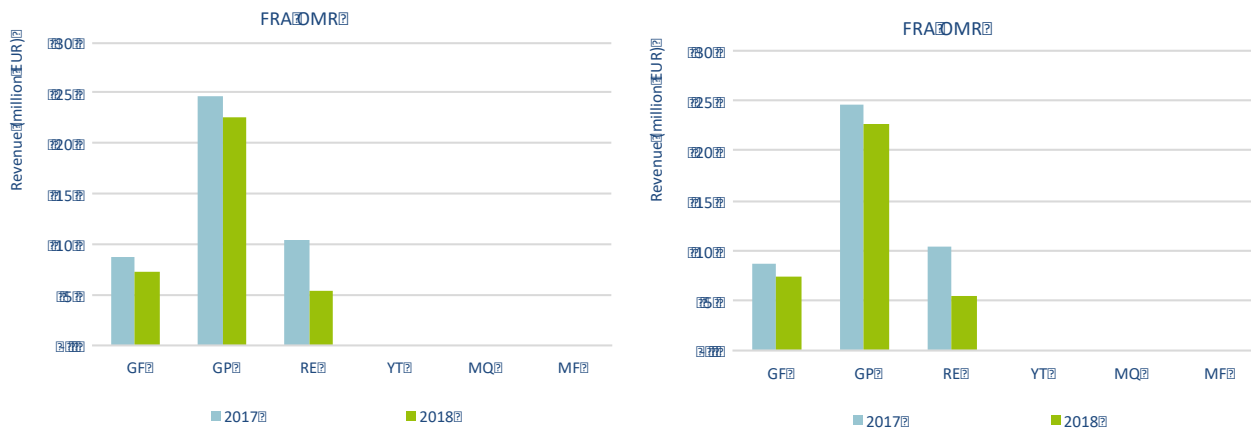
**Figure 3.160 Trends on average wage and GVA per FTE for FRA OMR fleets (Reunion and Guadeloupe only)**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

Economic data were available for French Guiana, Guadeloupe and Reunion for 2017 and 2018, although not covering all the fleets: for Reunion only HOK 12-18m and HOK 18-24m were included whereas, for French Guiana SSCF was fully covered and data excluded the shrimp trawler fishery DTS 18-24m.

SSCF in OMR French has a large social and local economic impact, however, due to incomplete data set no real tendency can be highlighted from the 2020 data call.



**Figure 3.161 Trends on revenue, profits and profit margins for the FRA OMR fleets ( Only for Guadeloupe and partial for French Guiana and Reunion)**

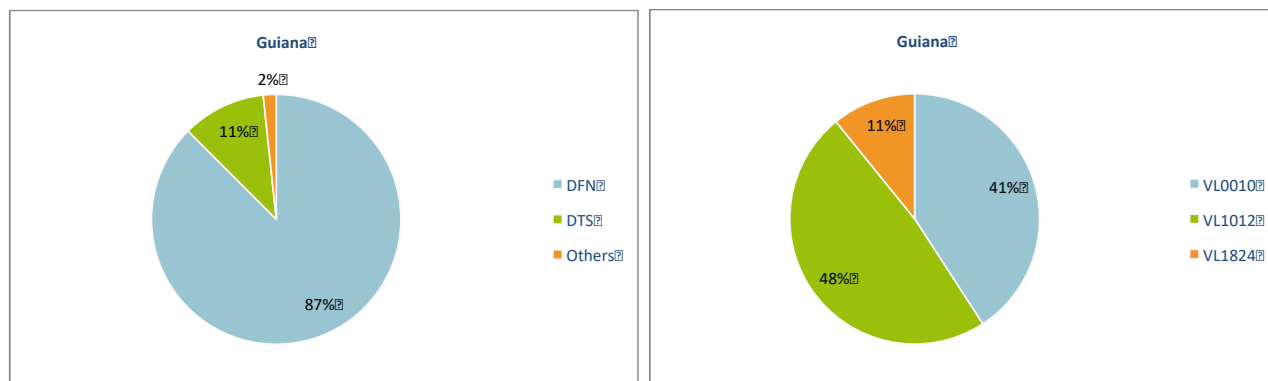
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## French Guiana

Income and costs data are not available for French Guiana Bottom shrimp trawlers (more than 18 metres LOA vessels).

### Fleet capacity

The French Guiana OMR fleet comprised 120 active vessels in 2018, mainly coastal, 00-12 metres, units fishing with drift nets. Employment in 2018 was estimated to be 371 persons, corresponding to 140 FTE. The fleet is mainly based around the main city of Cayenne 45% of the fleet (36 vessels in Cayenne and 18 vessels in Rémire Montjoly). The rest of the fleet is distributed along the coast in harbours located in the river mouths.



**Figure 3.162 Fleet structure by main gear type and vessel length group, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The French Guiana fleet is composed of two main fleet segments depending on their fishing activities. The first one, with 107 active vessels, is the artisanal or small-scale commercial fishing vessels from French Guiana under 12 metres LOA. This segment is mainly composed of non-decked vessels with outboard engines called "pirogue", "canots créole" and "canots creoles améliorés". There are also some decked vessels with inboard engine called "tapouille". They operate on coastal areas and mainly use driftnets to catch demersal species.

The second one is an offshore fishery composed of 13 bottom shrimp trawlers.

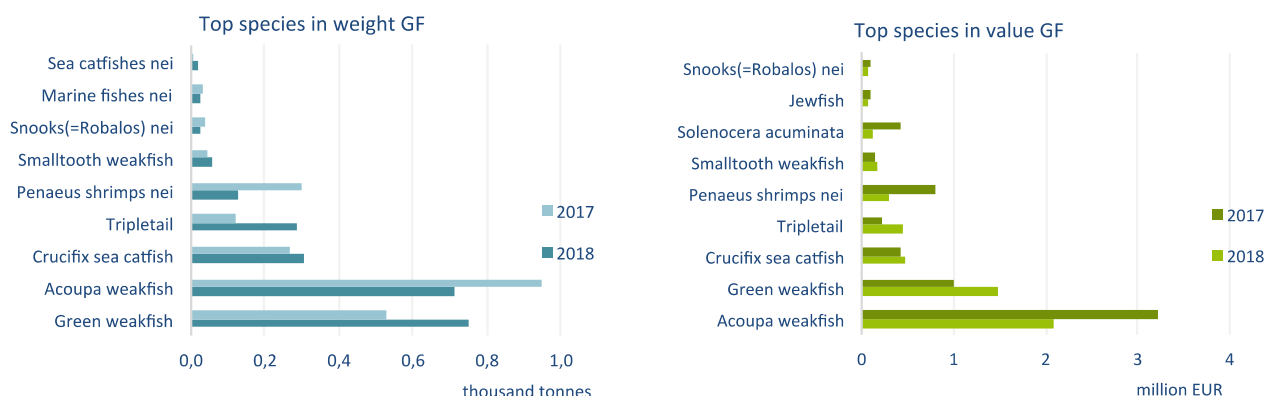
There is also a third fishery in EEZ French Guiana targeting snappers offshore and composed of around 45 Venezuelan vessels having a European license and using hand lines. Their landings were estimated at 1 500 tonnes in 2015. Snappers are also targeting by some French West Indies vessels using traps contributing to less than 10% of total snappers landings.

### Effort and landings

In 2018, the fishing effort and landings values of the active vessels measuring less than 12 metres LOA of the French Guiana fleet amounted around 2 294 trips, 2 284 tonnes and EUR 5 million in terms of the

value of landings (Figure 3.163), contributing to 95% and 90% of total landed weight and value. Bottom shrimp trawler fleet amounted for 152 tonnes and EUR 457 000 in landings value for 2018.

Landings are mainly composed of demersal species with the first two species, Acoupa weakfish and Green weakfish, together contributed to more than 60% of landed weight and more than 75% of landed value (Figure 3.163). The Penaeus shrimps targeted by bottom trawlers fleet represented the fifth species in landed weight and value in 2018. The fish prices are in overall very low with values below 3 EUR/kg (Table 3.9).



**Figure 3.163 Top 10 landed species in term of weight and value of French Guiana OMR, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

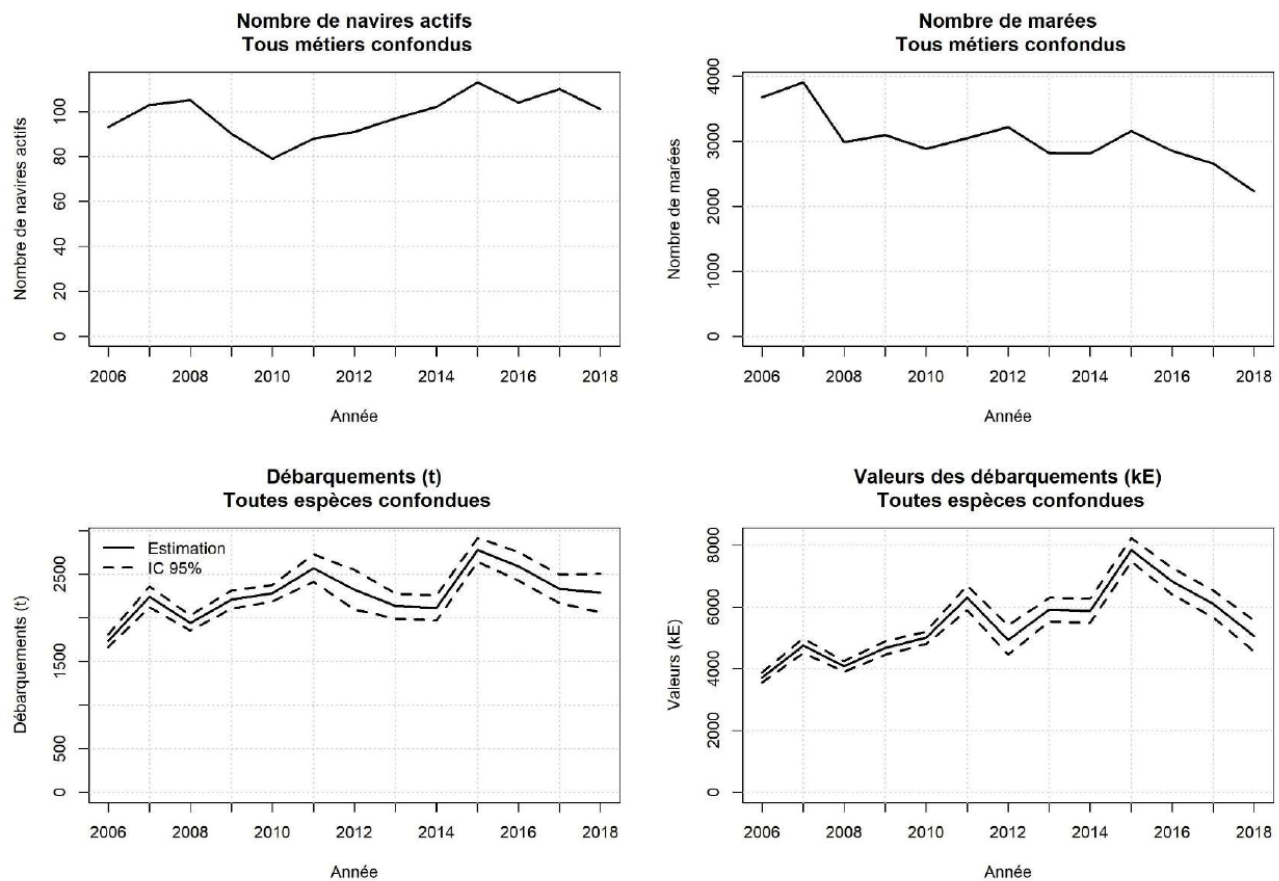
**Table 3.4 Average price per species group for French Guiana fleet (average 2012-2016)**

Species groups	Units	Average price
Large pelagics	EUR/kg	1.8
Fishes	EUR/kg	2.4
Small pelagics	EUR/kg	1.5
Crustaceans	EUR/kg	0.4
Gasteropods	EUR/kg	
Cephalopods	EUR/kg	2.7
Overall	EUR/kg	2.2

Data source: Data source: Berthou et al., 2019. <https://archimer.ifremer.fr/doc/00628/74011/>

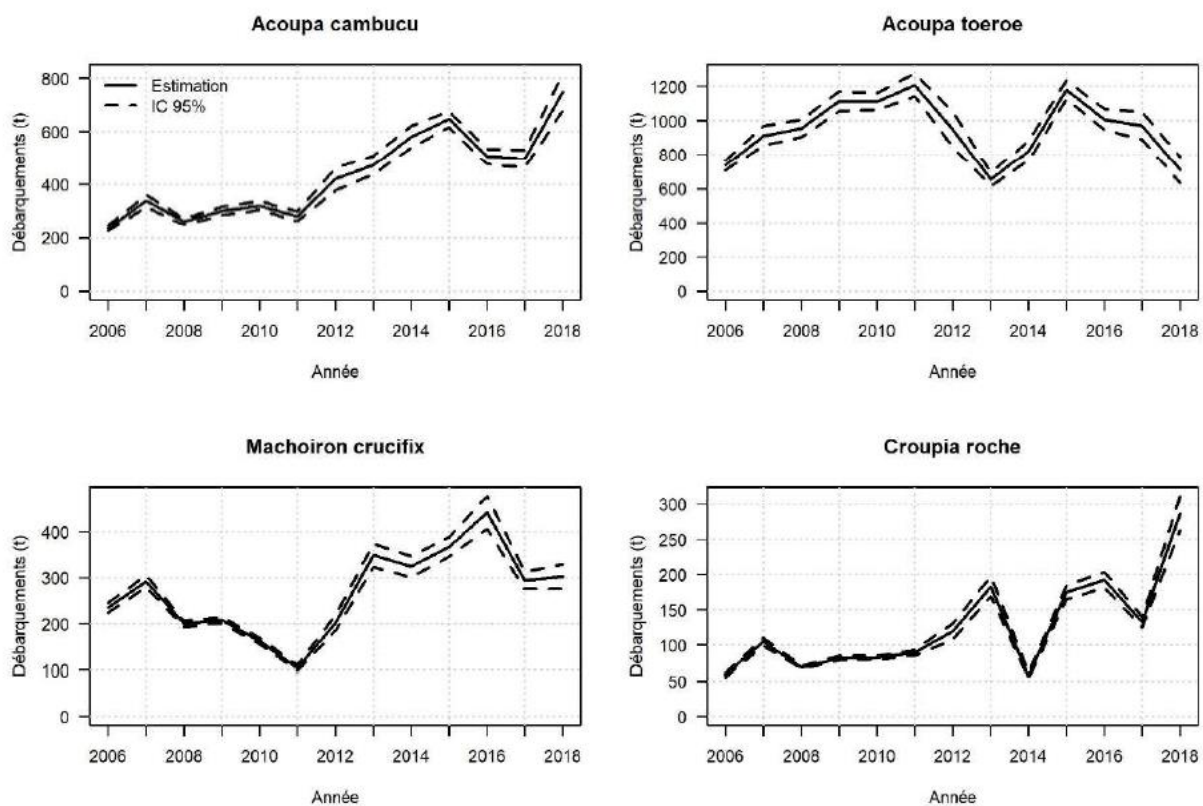
For the SSCF, fishing effort has followed a general decreasing trend over the period analysed while landings weight and value remained globally stable on the meantime. Due to a compulsory training plan for fishers, the fishing effort decreased a bit more again in 2018 compared to previous years.

The first species landings (Acoupa weakfish) have been multiplied by four from 2006 to 2018. The recent increase for Acoupa swim blades in Asian market has deeply transformed the fishing activity in French Guiana. The demand and the value for this organ generated a switch in an annexe activity of processing swim blade for crew complementary salary into an organized sector linked to China through Brazilian and Surinamese retailers. Acoupa were caught by the coastal drift net fishery and now targeted mainly for the value of the swim blade. This situation represent an asset for the fisheries in French Guiana, however these Acoupa species are subject to concerns and the activity will gain to be carefully manage.



**Figure 3.164 Trends in number of vessels, fishing effort (in trips) and landed weight and value for French Guiana fleet (excluding Bottom shrimp trawlers more than 12 metres LOA)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).



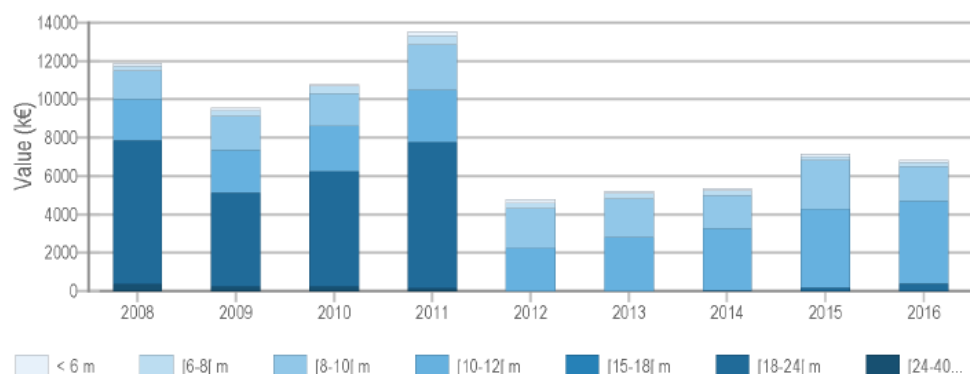
**Figure 3.165 Trends in landed weight and value of some species for French Guiana fleet (excluding Bottom shrimp trawlers more than 12 metres LOA)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

Shrimp landings from the trawlers operating on the shelf have strongly decreased in recent years and a bit more in 2018 compared to 2017 (Figure 3.165). *Penaeus* shrimps fisheries has decreased is now representing 5% of the landing weight and 6% of the landing value.



The bottom shrimp trawlers activity has decreased since the beginning of the 2000's. Various factors could explain this: the decrease of fleet economic performance explained by a degradation of stock status due to global environmental changes ; the decrease of shrimp price on the market in competition with Asian aquaculture shrimp as well as the increase of the fuel price have also affected this fleet.



**Figure 3.166 Trends in landed value for French Guiana fleet (including Bottom shrimp trawlers more than 12 metres LOA)**

Data source: Leaflets Guadeloupe 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

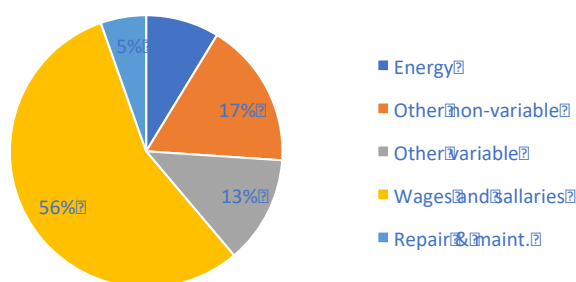
## Economic performance

Income and costs data are not available for French Guiana Bottom shrimp trawlers (more than 18 metres LOA vessels).

In 2018 revenue was around EUR 7.6 million for the French Guiana SSCF fleet, other income contributing to at least 22% of the total revenue thanks to Acoupa swim blades sold in Asian market. The cost structure was dominated by wages and salaries (56%) followed by other non-variable (fixed) costs (17%) and other variable costs (13%); fuel costs represented 9% of the total (Figure 3.167).

Cost structure varies between fleet segments as other variable costs including ice and provisions costs are higher in value and in proportion for the fleet segment "Tapouille" which combines bigger vessels with several days fishing trips. Fuel costs represent a bigger share for the fleet segment "Canot créole". The main fleet segment "canot créole amélioré", accounting around 75 vessels, presented in 2018 the higher gross profit (in percentage of the revenue).

French Guiana

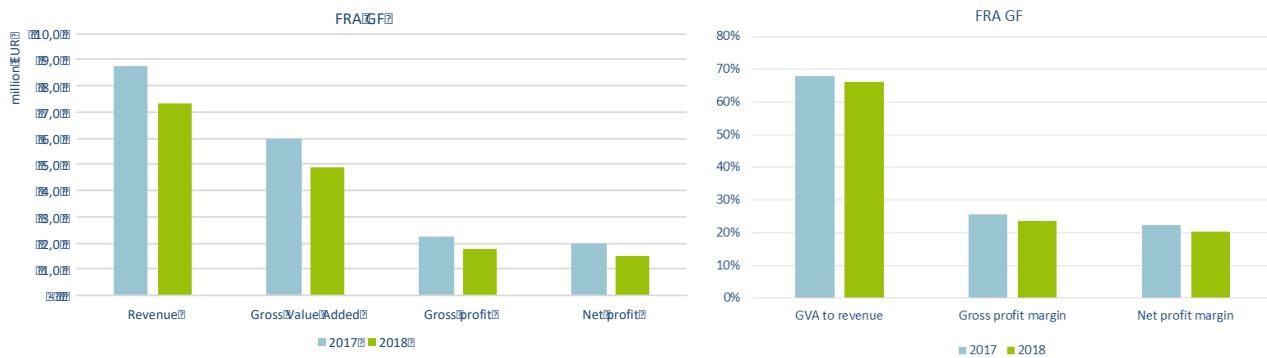


**Figure 3.167 Cost structure of the French Guiana OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018, the fleet generated almost EUR 4.8 million in GVA and a gross profit of EUR 1.7 million (Figure 3.168), representing 66% and 24% of the total revenue.

Revenue, GVA and profits decreased in 2018 compared to 2017, maybe due to the compulsory training plan for fishers. Despite that, they were still positive with net profit estimated at EUR 1.5 million, 20% of the total revenue of the SSCF fleet. However, taking into account that other income generated by Acoupa swim blades sold in Asian market generated around EUR 1.7 million in 2018, the net profit would not be as high as it was without this market.



**Figure 3.168 Trends on revenue, profits and profit margins for the FRA OMR fleet from Guiana**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

One of the major factors affecting performance of the fleet is the other income generated by Acoupa swim blades sold in Asian market that generates additional wages for fishers who are in charge of selling them. Some illegal fishing occurs for these species. Another factor is the price value of demersal fishes which is very low.

Additionally, national illegal fishing is observed on the west side of the coastal shelf, and moreover, a very significant foreign illegal fishing (IUU) occurs. IUU in French Guiana has been evaluated to represent the same amount of vessels than the national legal fleet, creating serious issues in term of economic but also resource management.

Finally, the harbour infrastructures are scarce in French Guiana. Landings in some places depend on the high tide time. There are less than 10 landing points for all the SSCF that are sometimes also used by recreational fishers, so that it is not always easy for landings. This specific situation is generating spatial conflict with sport fishing and general marine leisure sectors ; the level of interaction can be considered as high.

## Guadeloupe

'Effort & landings' and 'Economic Data' sections do not take into account vessels from St Martin and St Barthelemy (45 vessels in 2018, including inactive vessels).

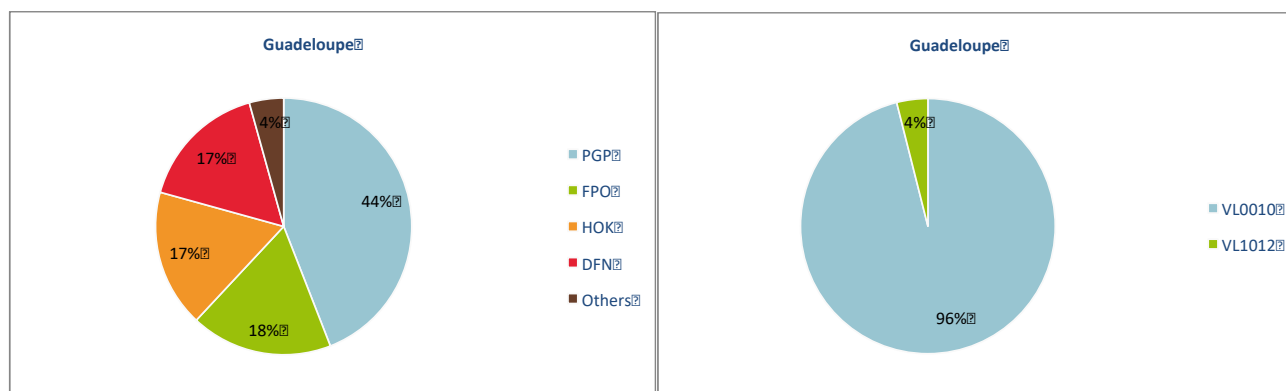
## Fleet capacity

The Guadeloupe OMR fleet numbered over 531 active vessels (including St Martin and St Barthelemy) in 2018, all of which below 12 metres LOA and 96% of which below 10 metres LOA (Figure 3.169). The main part of the fleet belongs to the SSCF fleet using passive gears, mainly traps, pelagic lines, and nets. It is mainly composed of non-decked vessels with outboard engines operating on a one-day trip basis. The segment also includes around 11 decked vessels with more than one-day trip.

The Guadeloupe fleet can be divided into two main categories with equal size depending on their fishing activities. The first one brings vessels harvesting migratory large pelagic species using hooks and lines together, three quarters of those operating on Moored Fishing Aggregating Devices (MFADs). The majority of them also operate other métiers. The second one represents vessels not targeting large pelagic species and operating a great diversity of métiers on other fisheries as:

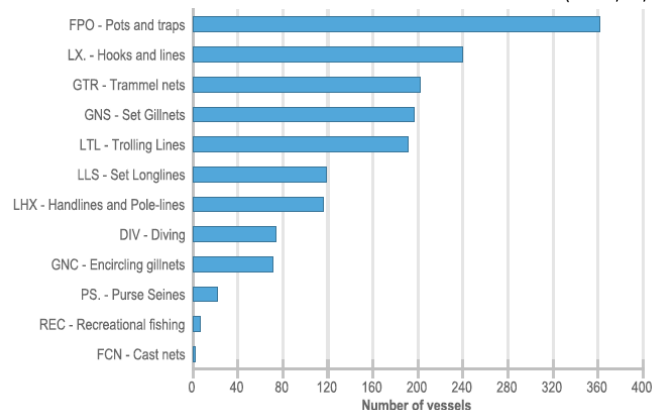
- Coastal fisheries: vessels using mainly traps, nets, hand line to catch a great diversity of demersal and benthic species, trammel nets to target spiny lobster or stromboid conch, and encircle nets to target small pelagic species ;
- Slope fisheries: vessels mainly targeting snappers mainly using set-longlines and traps.

Most of active vessels are polyvalent as they use two gears and operate around three different métiers in average (Figure 3.170).



**Figure 3.169 Fleet structure by main gear type and vessel length group for Guadeloupe fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)).



**Figure 3.170 Diversity of gears used by vessels in Guadeloupe in 2016 (including St Barthelemy and St Martin)**

Data source: Leaflets Guadeloupe 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

Fleet capacity had followed an overall decreasing trend over the period from 2008 to 2016 in terms of number of vessels (-24%) (Figure 3.171), especially vessels less than 8 metres LOA. In the meantime, total horse power remained stable, thanks to increase of number of 8-10 metres LOA vessels (+25%) and average horse power by vessel.



**Figure 3.171 Trends on number of vessels per length class for Guadeloupe fleet (including St Barthelemy and St Martin)**

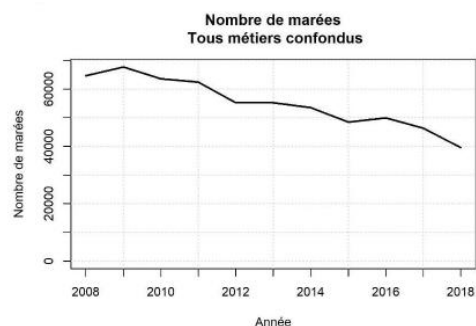
Data source: Leaflets Guadeloupe 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

## Effort and landings

In 2018, the fishing effort and landings of the 500 active vessels of the Guadeloupe fleet amounted around 39 500 trips, 2 670 tonnes and EUR 22 million (Figures 3.172 and 3.173).

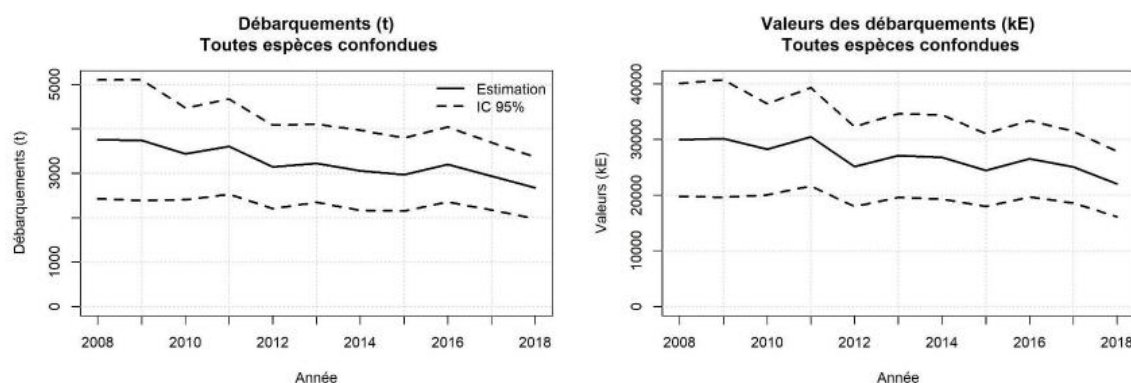
There is heterogeneity within vessels as on the recent years, a third of vessels were fishing less than 50 days per year, a third fishing between 50 and 100 days per year, and the last third fishing more than 100 days at sea per year. The last category amounted 70% of total fishing effort of the overall Guadeloupe fleet in 2018.

Fishing effort and landings weight and value have followed a general decreasing trend over the period analysed.



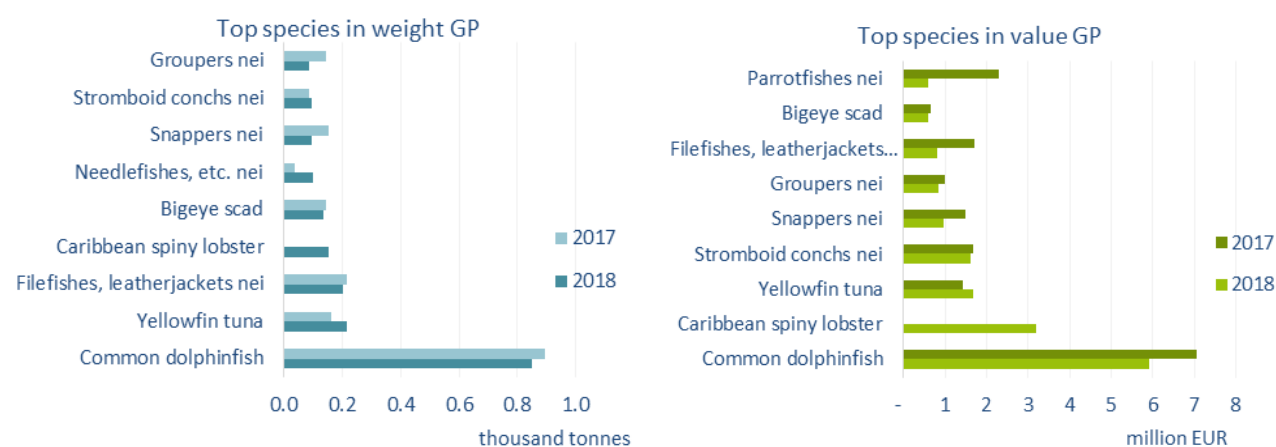
**Figure 3.172 Trends on fishing effort (in trips) for Guadeloupe fleet (500 vessels, excluding St Barthelemy and St Martin)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).



**Figure 3.173 Trends in landed weight and value for Guadeloupe fleet (excluding St Barthelemy and St Martin)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).



**Figure 3.174 Top 10 landed species in term of weight and value in Guadeloupe OMR, 2018 (excluding St Barthelemy and St Martin)**

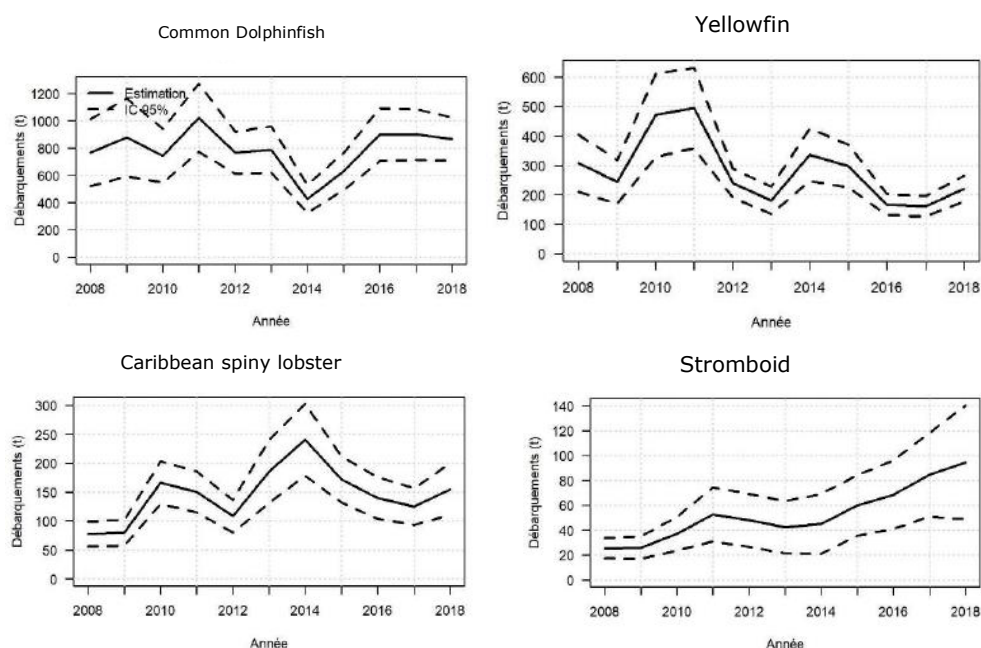
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)).

The most important species in 2018 was common dolphinfish (33% by weight and 28% by value), followed by yellowfin tuna in weight and Caribbean spiny lobster in value (Figure 3.174).

Both common dolphinfish and yellowfin tuna landings collectively contributing to 33% of the total landed value in 2018 have followed a trend with important variations depending on the year. Large pelagics availability and landings are one of the main factors influencing the performance of the vessels targeting those species (around half of the fleet), even though most of them are polyvalent and target others species. From 2008 to 2018, yellowfin tuna landed weight decreased by 30% (Figure 3.175) while Leatherjacket filefishes increased by 100%.

Landings trends for small pelagics species also presented variations on the time series with either stability (e.g. bigeye scad) or decrease by 50% (needlefishes).

Among demersal and benthic species, landed weight of Caribbean spiny lobster and Stromboid conchs, species with high prices, steadily increased on the period analysed (respectively multiplied by 2 and by 5) while landings weight of groupers decreased by 50% in the meantime.



**Figure 3.175 Trends in landed weight and value of some species for Guadeloupe fleet (excluding St Barthelemy and St Martin)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

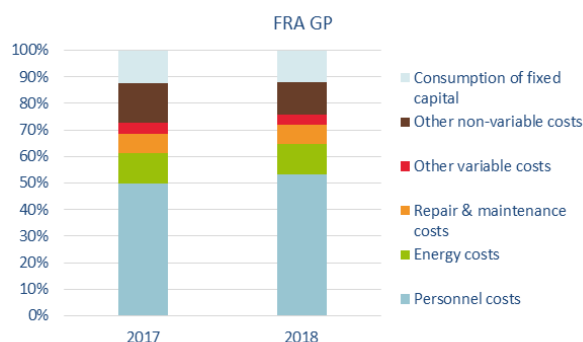
## Employment

In 2018, the total number of jobs reached 1 024 and 293 FTE with an average of nearly two people on board by vessel.

## Economic performance

Personnel costs (53%), together with other non-variable costs (12%) and fuel costs (11%), correspond to 76% of the total costs structure of the Guadeloupe OMR fleet (Figure 3.176).

Cost structure varies between fleet segments as fuel costs represent a bigger share for vessels targeting large pelagics on MFADs compared to vessel only operating on shore or coastal fisheries. Variable costs including fuel costs, ice and provisions costs are higher in value and in proportion for decked vessels between 10 and 12 metres LOA with more than one day trips. The gears included in other non-variable costs represent a significant share of the total costs for all fleet segments.



**Figure 3.176 Cost structure of the Guadeloupe OMR fleet, 2018 (excluding St Barthelemy and St Martin)**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Other non-variable costs decreased by 31% in 2018 from 2017 while wages only decreased by 9% on the same period, leading to a slight change in cost structure between those 2 years.



**Figure 3.177 Trends on revenue, profits and profit margins for the FRA OMR fleets in Guadeloupe (excluding St Barthelemy and St Martin)**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Compared to 2017, the net profit became positive in 2018 reaching EUR 1 million (5% of revenue). The gross value added remained stable from 2017 amounted EUR 15 million (67% of revenue). Gross profit increased by 36% in 2018 from 2017 reaching EUR 3.5 million (16% of revenue).

### Main factors affecting the performance of the fleet

- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet.
- Internal competition within the SSCF sector is a key issue in Guadeloupe. The main reason is the lack of regulation for access to the fishing stocks and fishing grounds. Except the entry permit to the fleet, there are few licences schemes with fixed numbers for the different fisheries. Illegal fishing and recreational fishers are also serious competitors. The sustainability of the sector is also threatened by the quality of habitats environment dependent on coastal development and agriculture. Pollution of coastal habitats by pesticide (Chlordecone) used by agriculture led to the ban of fishing areas for commercial fishers<sup>14</sup>.
- Additionally, massive Sargassum algae inflows (stranded and floating blankets) in the Caribbean over the past years and the ten hurricanes that occurred between 2004 and 2017 have also impacted the SSCF.
- Currently, no solution is within sight to resolve these issues except fisher's financial compensation for the prohibited fishing areas due to pesticides. Dedicated projects are aiming to studying the effects of the Sargassum on the environment as well as research for bio-solution to use the amount of algae.

### Reunion

The OMR fleet of Reunion Island is composed of 195 active vessels, employing 345 persons for a FTE of 184 in 2018. Fishing activity takes place in FAO areas 51.6 and 51.7 in the south-west Indian Ocean.

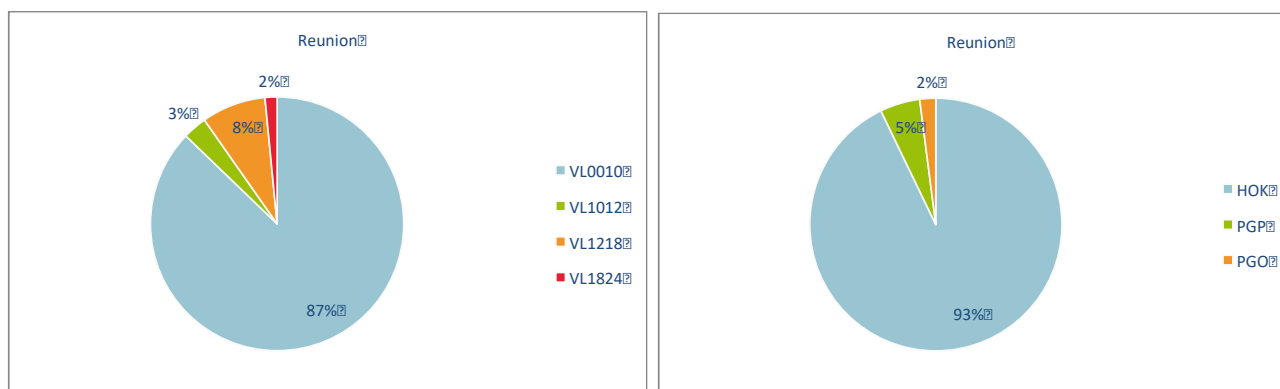
Income and costs data are only available for the fleet segment HOK 12-24 composed of 19 vessels in 2018. The two purse seiners more than 40 metres LOA based in Seychelles are not considered into account in this section but in the DWF section.

### Fleet capacity

The Reunion fleet is mainly composed of coastal small scale liners (87% below 10m, 70% below 8m LOA). 10% of the fleet is represented by 20 large vessels (12-18m) which have an offshore fishing activity around Reunion island and in western waters up to Madagascar. The overall fleet is mainly targeting large pelagic species. The total number of vessels are globally decreasing over the time especially small fishing units below 6m LOA (Figure 3.178)

<sup>14</sup> Berthou et al., 2019. <https://archimer.ifremer.fr/doc/00628/74011/>





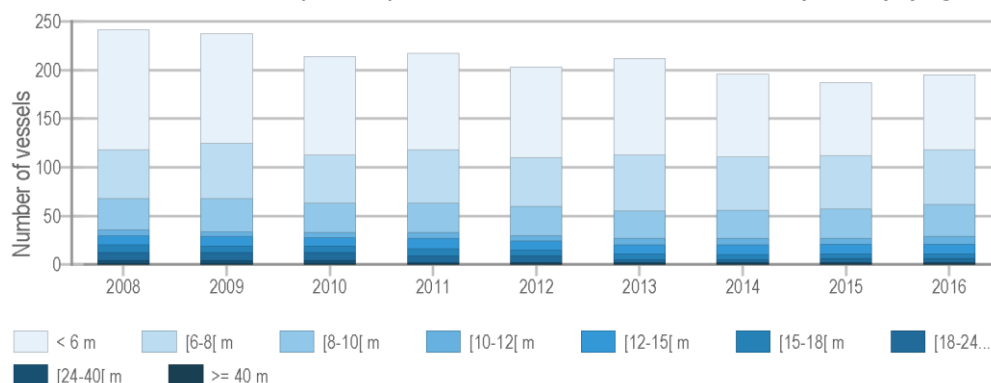
**Figure 3.178 Fleet structure by main gear type and vessel length group, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The Reunion fleet can be divided into three main fleet segments :

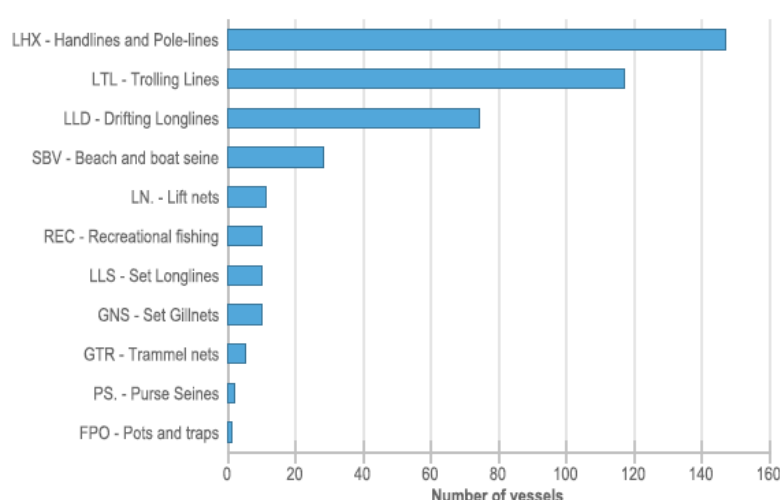
- Around 20 high-sea longliners more than 12 metres LOA operating beyond NM20;
- Around 20 coastal vessels (from 8 to 12 metres LOA) operating between NM12 and NM20 ;
- Around 160 coastal vessels below 12 metres LOA operating inside NM12, half of which are less 6 metres LOA and less than 20 kW horsepower.

Fleet capacity had followed an overall decreasing trend over the period from 2008 to 2016 in terms of number of vessels, especially vessels below 6 metres LOA (-37%) (Figure 3.179).



**Figure 3.179 Trends on number of vessels per length class for Reunion fleet**

Data source: Leaflets Guadeloupe 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).



**Figure 3.180 Diversity of gears used by vessels in Reunion in 2016**

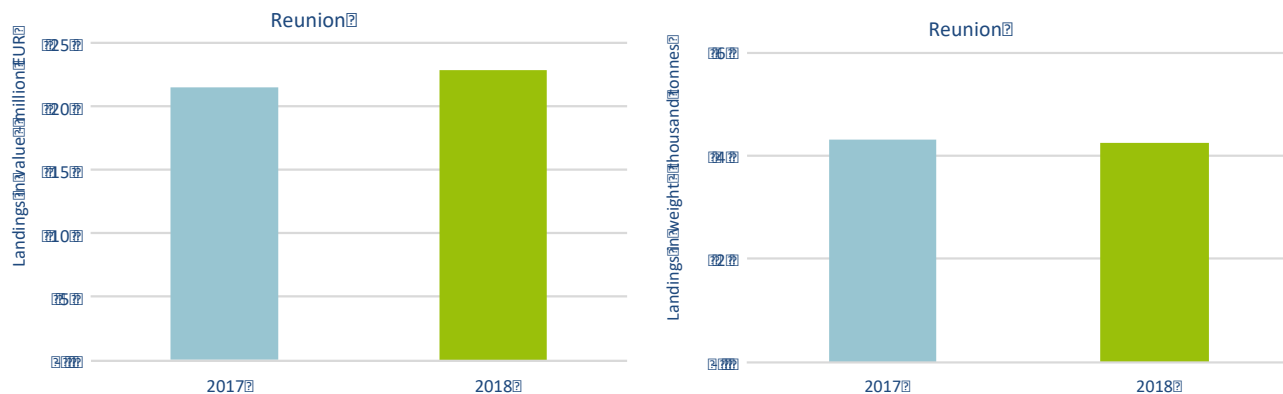
Data source: Leaflets Guadeloupe 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

The main métier operating by Reunion fleet is trolling lines to target large pelagic species, followed by handlines used to target demersal fish, large and small pelagic fish (Figure 3.180). Drifting longlines are also used to catch large pelagic species, especially by bigger vessels. In a lesser extent, other gears as beach seines and various nets are used to target small pelagic species and demersal fish and crustaceans.

Total employment slightly increase in 2018 reached 345 jobs with 184 FTEs.

## Effort and landings

Overall fleet generated landing of 4 200 tonnes of sea products in 2018 corresponding to EUR 23.3 million in value, which represent a slight decrease compared to 2017.



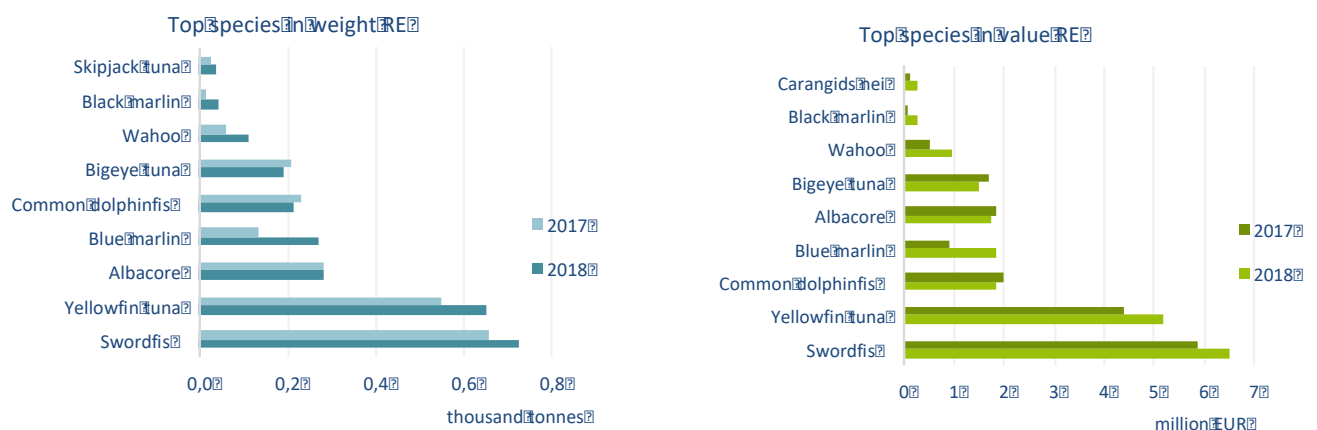
**Figure 3.181 Values of Landings in weight and economic value for the FRA OMR fleets from Reunion.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020))

The large majority of the landings are composed of large pelagic species (90% by weight) consisting of swordfish (29% in weight and 23% in value), yellowfin tuna (26% in weight and value) and albacore (11% in weight and 9% in value), common dolphinfish (11% in weight and 9% in value) and blue marlin (11% in weight and 9% in value) (Figure 3.182).

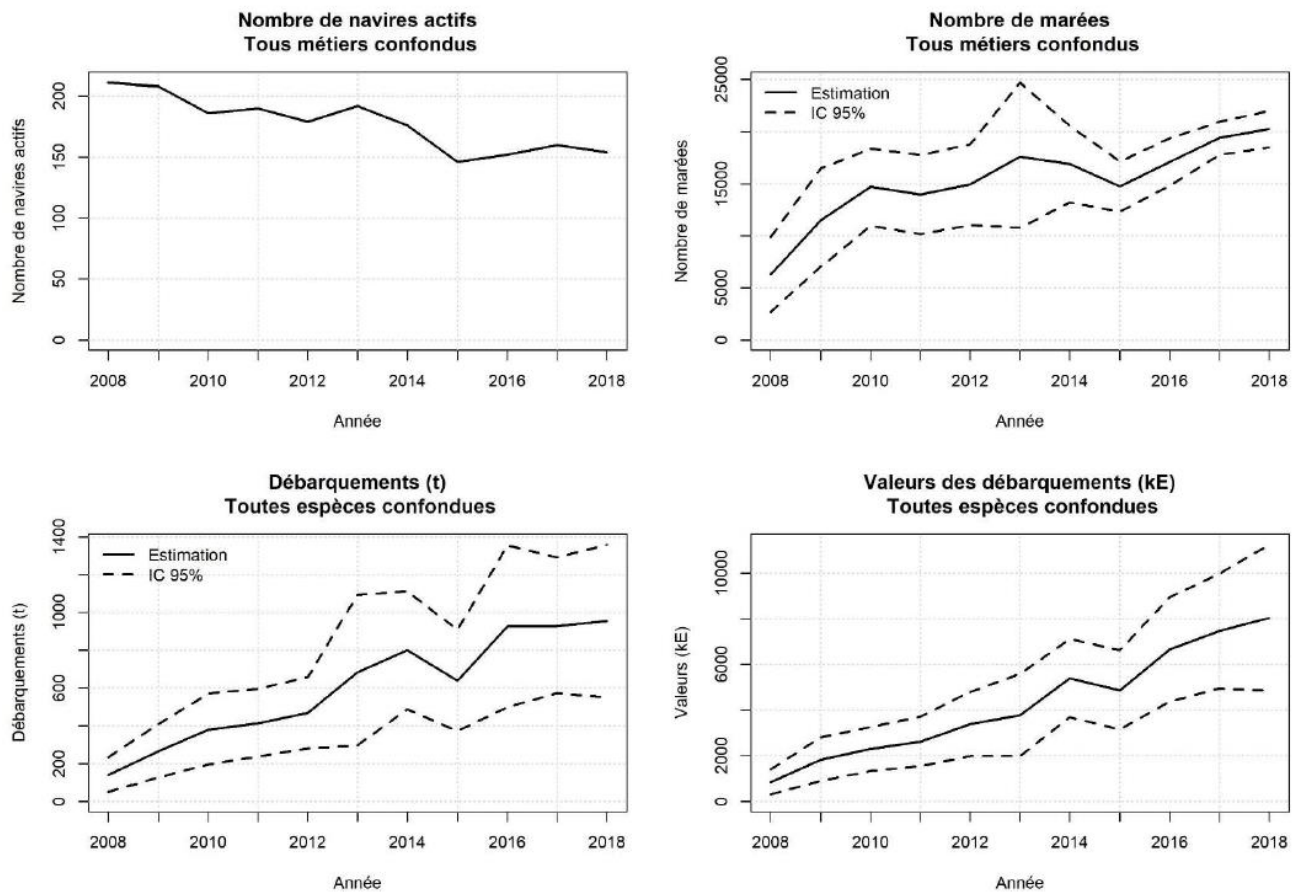
Fishing effort and landings trends are only available for one fleet segment: the 160 coastal vessels below 12 metres LOA operating inside NM12.

Despite a slight decrease of the number of vessels on the time series, fishing effort and landings weight and value had followed a general increasing trend over the period for that fleet segment (Figure 3.183). It is due to an increase of landings for the main large pelagic species as yellowfin tuna, common dolphinfish and wahoo from 2008, and also blue marlin and skipjack in the most recent years.



**Figure 3.182 Top 10 species, by weight, landed by the La Reunion Island OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



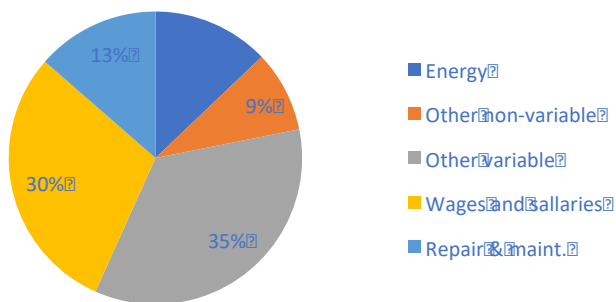
**Figure 3.183 Trends in number of vessels, number of trips and landed weight and value for Reunion fleet (excluding 20 vessels more than 12 metres LOA operating beyond NM20 and 20 coastal vessels (from 8 to 12 metres LOA) operating between NM12 and NM20)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

## Economic performance

The following description only includes the fleet segment HOK 12-24m composed of 19 vessels in 2018.

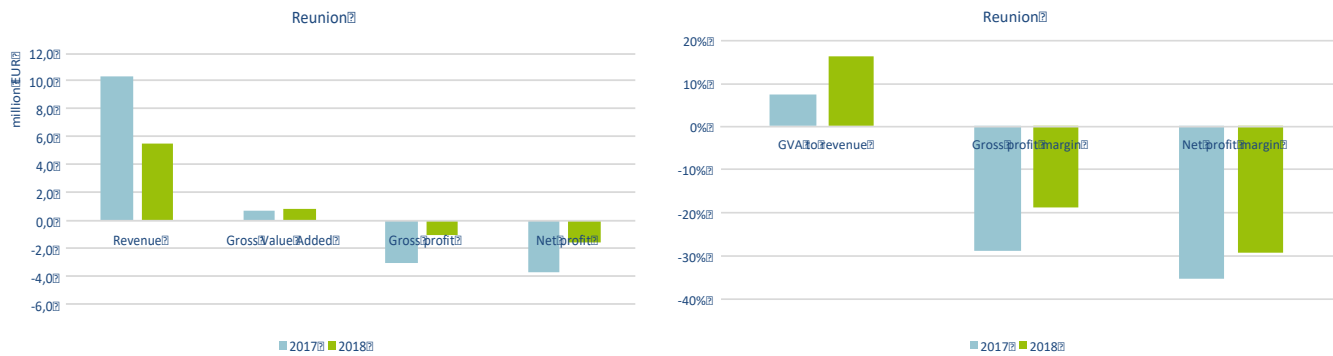
### Reunion



**Figure 3.184 Cost structure of the Reunion OMR fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018 income from landings was EUR 5.5 million. The cost structure was dominated by other variable costs (35%) followed by wages and salaries (30%); fuel costs represented and repair and maintenance both 13% of the total other non-variable (fixed) costs (Figure 3.185). In 2018, the fleet covered was reported to have generated EUR 0.9 million in GVA and suffered negative gross and net profits (Figure 3.185).



**Figure 3.185 Trends on revenue, profits and profit margins for the FRA OMR fleets in Reunion**

It should be noted that some inconsistencies in the economic data were highlighted during the EWG 20-06 without possibility to correct or provide an explanation.

### Main factors affecting the performance of the fleet

Fuel price and large pelagics species availability are one of the main factors affecting the performance of the fleet.

Competition with recreational fishing is particularly important. It encompasses different practices, both fishing by vessel or on-foot. There is no recent study on recreational fishing vessels activities in Reunion but an assessment carried out in 2006 estimated at 320 the number of recreational fishing vessel (Pulcherie, 2007). Recreational spearfishing and all fishing practices on demersal and pelagic fishes (beach seine, fishing rod, octopus on reef flat and shoreline fishers...). This competition exists both to access fishing areas and for targeted stocks, such as pelagic fishes on MFADs and the demersal fishes on the insular shelf or on reef flats.

Even if sometimes difficult to distinguish recreational and illegal fishing, illegal fishing can be considered as significant and concerns such species as spiny lobsters, and more generally all species with high commercial values.

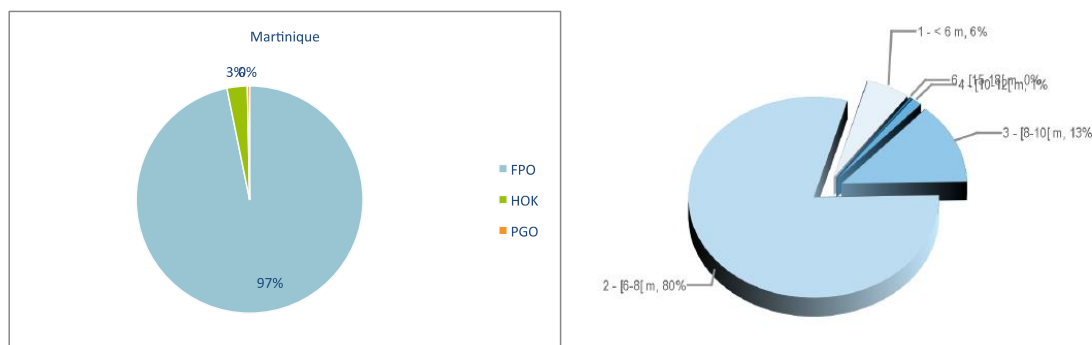
If difficult to quantify, the level of competition with other fisheries resource use (sharks, mammals, birds...) has to be considered with potential interaction with sharks' depredation, mostly on demersal fishery using handline seasonally, exceptionally on moored FAD.

### Martinique

Income and costs data are not available for Martinique fleet. Effort and landings data do not always take into account the 6 to 12 metres LOA vessels.

### Fleet capacity

The Martinique OMR fleet numbered over 639 active vessels (960 vessels in the fishing fleet register, including inactive vessels) in 2018. Nearly all of them were below 12 metres LOA as only three vessels were more than 12 metres LOA. The 636 vessels less than 12 metres LOA, mainly between 6 and 8 metres LOA, belong to the SSCF fleet using passive gears, mainly traps, hooks and lines, trolling lines, set gillnets and diving.



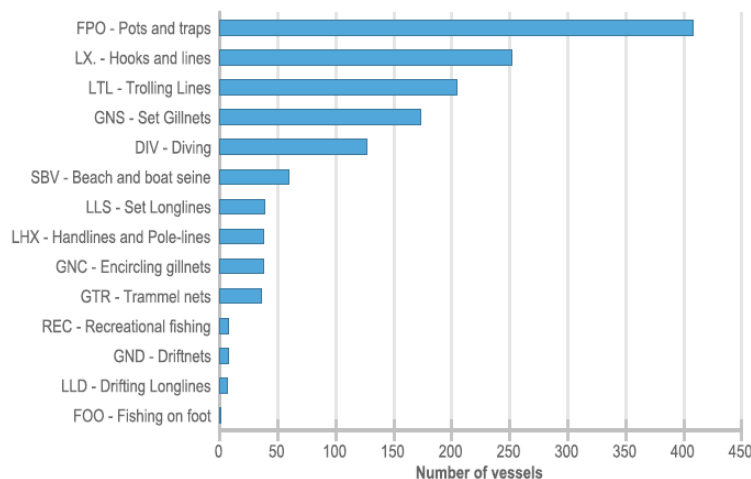
**Figure 3.186 Fleet structure by main gear type and vessel length group for Martinique fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)) and Data source: Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

The Martinique fleet can be divided into two main fleet segments with equal size depending on their fishing activities. The first one brings vessels harvesting migratory large pelagic species using hooks and trolling lines together, three quarters of those operating on Moored Fishing Aggregating Devices (MFADs). The majority of them also operate other métiers.

The second fleet segment represents vessels not targeting large pelagic species and operating a great diversity of métiers on shore and coastal fisheries: vessels using mainly traps and gillnets to target benthic and demersal species, but also encircling gillnets to catch small pelagics.

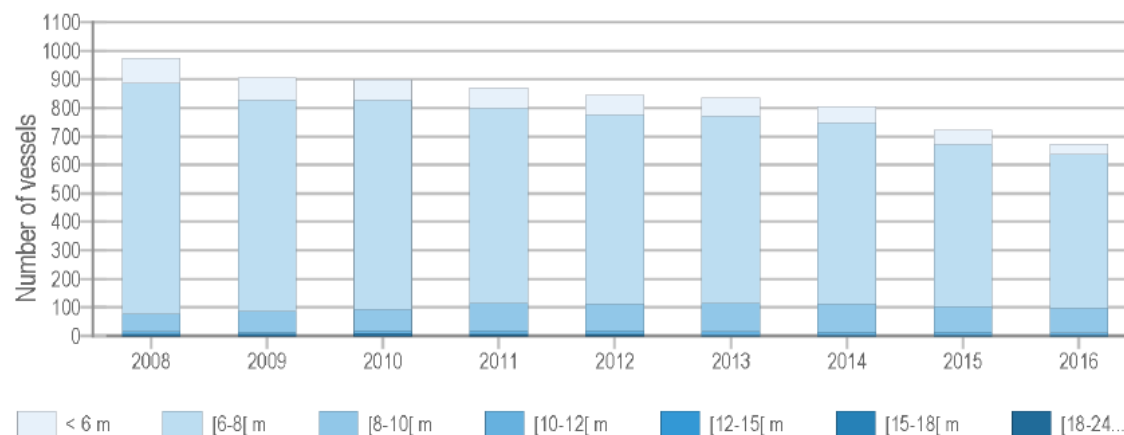
Most of active vessels are polyvalent as they use 2.2 gears and operate around 2.5 different métiers in average (Figure 3.187).



**Figure 3.187 Diversity of gears used by vessels in Martinique in 2016**

Data source: Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

Fleet capacity had followed an overall decreasing trend over the period from 2008 to 2016 in terms of number of vessels (-31%) (Figure 3.188), especially vessels less than 8 metres LOA. In the meantime, total horse power remained stable, thanks to increase of number of 8 to 10 metres LOA vessels (+40%) and average horse power by vessel.



**Figure 3.188 Trends on number of vessels per length class for Martinique fleet**

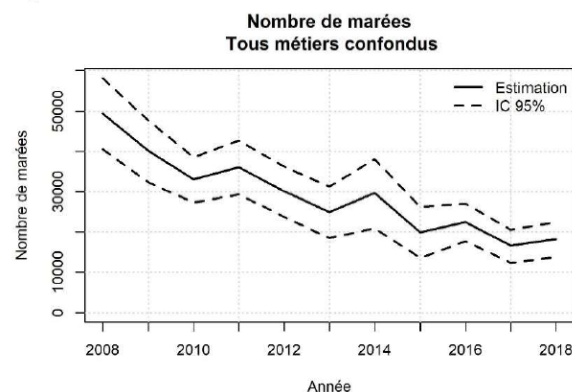
Data source: Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

## Landings

In 2018, the fishing effort and landings of the less than 12 metres LOA active vessels of the Martinique fleet amounted around 18 200 trips, 950 tonnes and EUR 10.2 million (Figures 3.189 and 3.190).

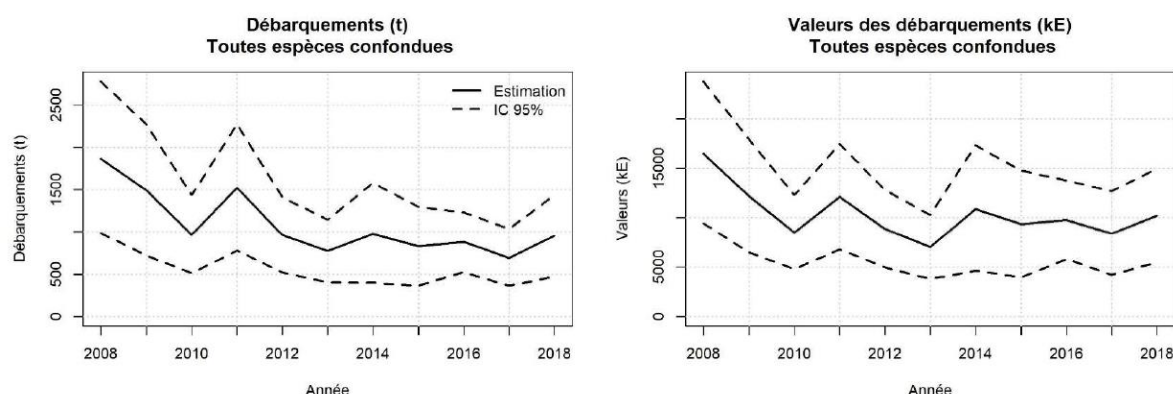
In average, vessels less than 12 metres LOA were fishing between 33 to 44 days-at-sea per year in the recent years, reflecting a low fishing activity.

Fishing effort has followed a general decreasing trend over the period analysed while landings weight and value remained globally stable on the meantime.



**Figure 3.189 Trends on fishing effort (in trips) for Martinique fleet**

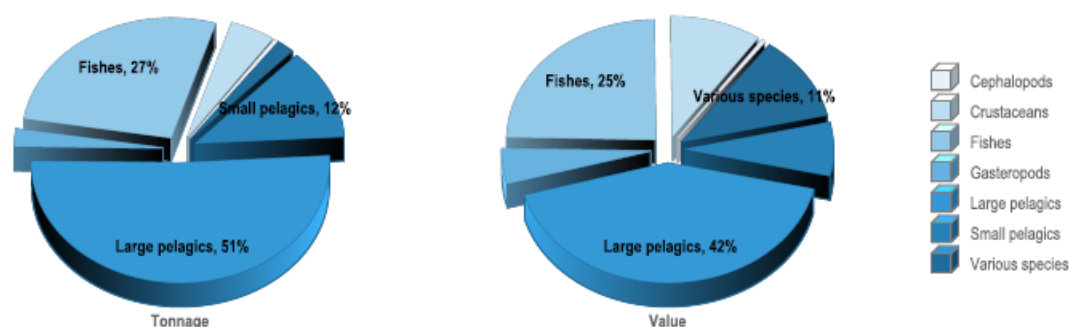
Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).



**Figure 3.190 Trends in landed weight and value for Martinique fleet (excluding vessels more than 12 metres LOA)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

Due to the different fisheries in which vessels are involved in, the landings are composed of several species groups with large pelagics (51% of landed weight) and fishes (27%) as the dominant ones, followed by small pelagics contributing to 12% of total landed weight in 2016 (Figure 3.191). Thanks to higher prices for crustaceans and gastropods, those species groups represented in the recent years a bigger proportion of the landings in value compared to landed weight (Table 3.5).



**Figure 3.191 Distribution of landed weight and value by species groups in 2016 for Martinique fleet**

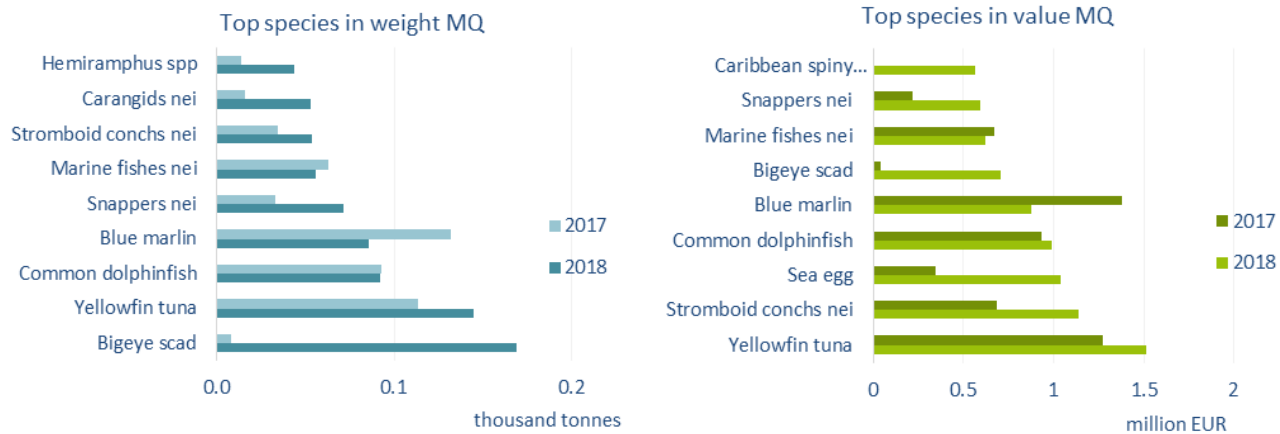
Data source: Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

**Table 3.5 Average price per species group for Martinique fleet (average 2012-2016)**

Species groups	Units	Average price
Large pelagics	EUR/kg	9.8
Fishes	EUR/kg	9.9
Small pelagics	EUR/kg	5.6
Crustaceans	EUR/kg	21.4
Gastropods	EUR/kg	16.7
Cephalopods	EUR/kg	9.4
Overall	EUR/kg	10.1

Data source: Data source: Berthou et al., 2019. <https://archimer.ifremer.fr/doc/00628/74011/>



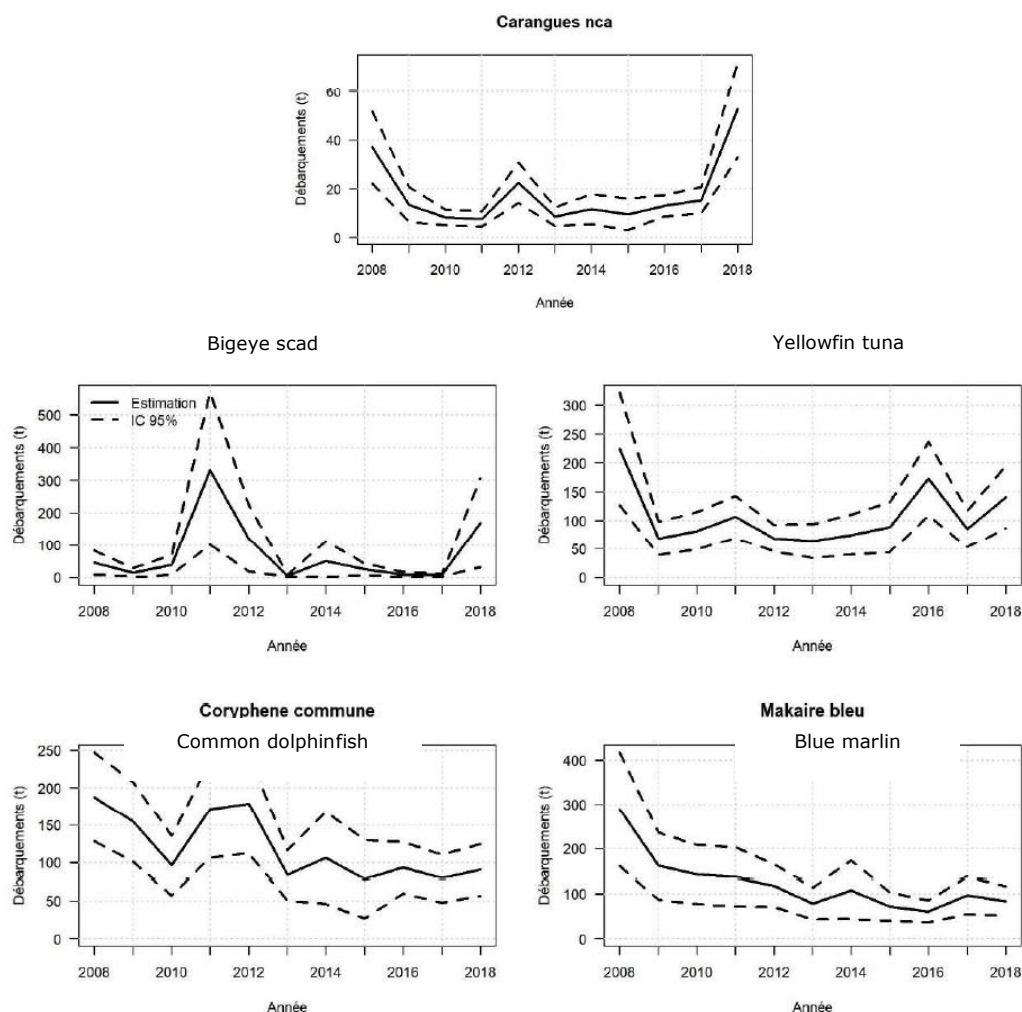


**Figure 3.192 Top 10 landed species in term of weight and value in Martinique OMR, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

The most important species fished in 2018 were bigeye scad, yellowfin tuna, common dolphinfish and blue marlin together accounting for over 50% of the total landed weight (Figure 3.192). In value, bigeye scad was only on the sixth position and two other species were in the top five position (Stomboids conchs and Sea egg) thanks to their higher price value.

All pelagic species have followed a trend with important variations depending on the year. Large pelagics availability and landings are one of the main factors influencing the performance of the vessels targeting those species (around half of the fleet), even though most of them are polyvalent and target others species. From 2008 to 2018, blue marlin landed weight decreased steadily (Figure 3.192) while bigeye scad and carangids increased significantly in 2018 compared to 2017.



**Figure 3.193 Trends in landed weight and value of some species for Martinique fleet (excluding vessels more than 12 metres LOA)**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

## Employment

In 2018, the total number of jobs reached 1 060 for 124 FTE with an average of 1.7 people on board that varied from 1.5 for less than 10 metres LOA vessels to 5.5 for 15-18 metres LOA boats.

## Main factors affecting the performance of the fleet

Fuel price and large pelagics species availability are one of the main factors affecting the performance of the fleet.

Internal competition within the SSCF sector is a key issue in Martinique. The main reason is the lack of regulation for access to the fishing stocks and fishing grounds. Illegal fishing and recreational are also serious competitors. The sustainability of the sector is threatened by the quality of habitats environment and the main competitors are coastal development and agriculture. Pollution of coastal habitats by pesticide used by agriculture (Chlordecone) led to the ban of fishing areas for commercial fishers.

Moreover, massive Sargassum algae inflows in the Caribbean over the past years have also impacted the small-scale fisheries.

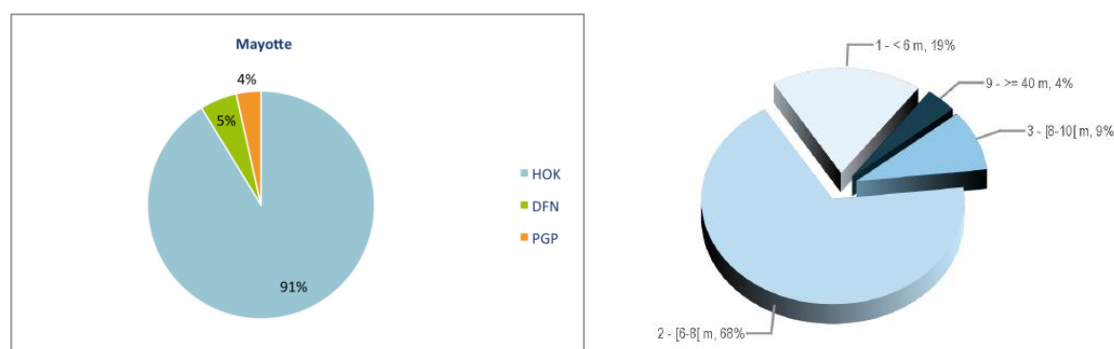
Currently, no solution is within sight to resolve these conflicts except fisher's financial compensation for the prohibited fishing areas due to pesticides.

## Mayotte

Income and costs data are not available for Mayotte fleet. The five purse seiners more than 40 metres LOA based in Mayotte are not taken into account in that section but in the long-distant water fleet.

## Fleet capacity

The Mayotte OMR fleet numbered over 114 undecked active vessels in 2018, all of which below 10 metres LOA (Figure 3.194).



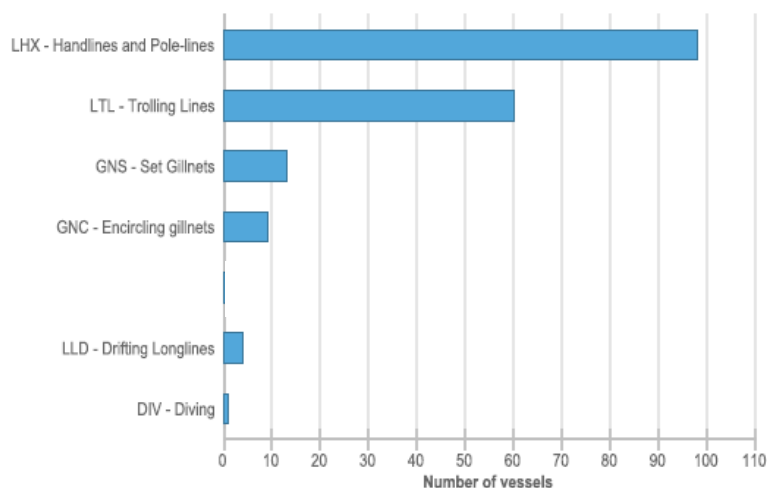
**Figure 3.194 Fleet structure by main gear type and vessel length group for Mayotte fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)) and Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

The main gears used are Handlines and trolling Lines, followed by nets (Gillnets and Encircling gillnets), drifting longlines and diving (Figure 3.194).

The Mayotte fleet can be divided into three main fleet segments depending on their fishing activities. The first one that contributes to 50% of number of vessels brings together handliners targeting demersal species on coastal area together. The second one represents handliners targeting demersal species offshore. The third one brings trolling liners targeting large pelagics species together on free schools or around the ten MFADs anchored around the barrier reef. A few boats use nets to target small pelagic fish. A few boats target swordfish and tuna (bigeye and yellowfin tuna) within the 20 nautical miles around the barrier reef, above 1 800 metres deep grounds.

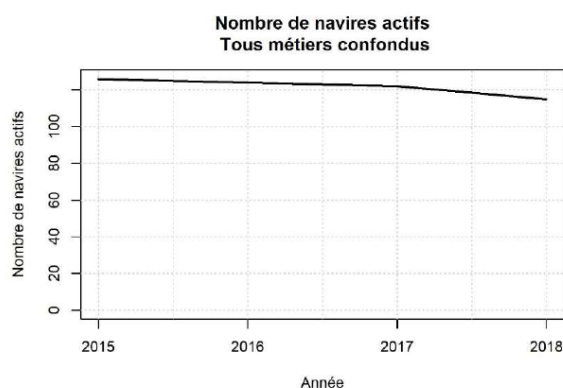
The trips are usually daily but can reach 4 to 5 days for the fleets operating on the outer reefs.



**Figure 3.195 Diversity of gears used by vessels in Mayotte in 2016**

Data source: Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

Fleet capacity overall remained stable in the recent years despite a slight decrease in 2018 (Figure 3.196).



**Figure 3.196 Trends on number of active vessels for Mayotte fleet**

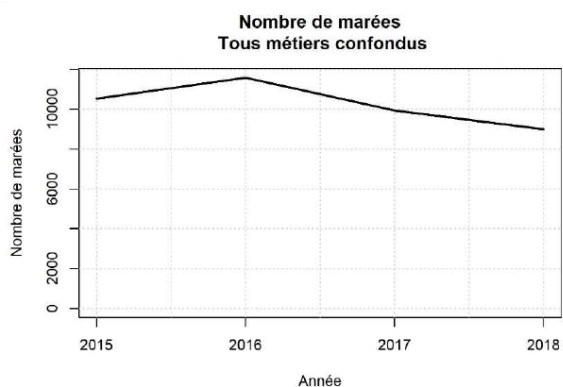
Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

## Landings

In 2018, the fishing effort and landings of the 114 active vessels of the Mayotte fleet amounted around 9 005 trips, 1 046 tonnes and EUR 5.4 million (Figures 3.197 and 3.198).

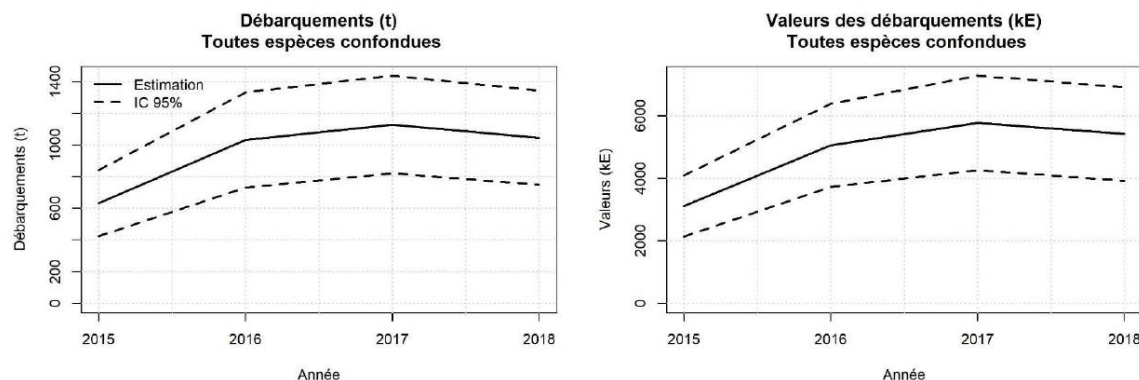
There is heterogeneity within vessels as on the recent years, vessels less than eight metres LOA operated nearly 100 days-at-sea per year in average, while vessels between 8 and 10 metres LOA operated only 45 days-at-sea per year in average.

Fishing effort has followed a slight decrease since 2016 while landings weight and value remained stable on that period (Figure 3.197).



**Figure 3.197 Trends on fishing effort (in trips) for Mayotte fleet**

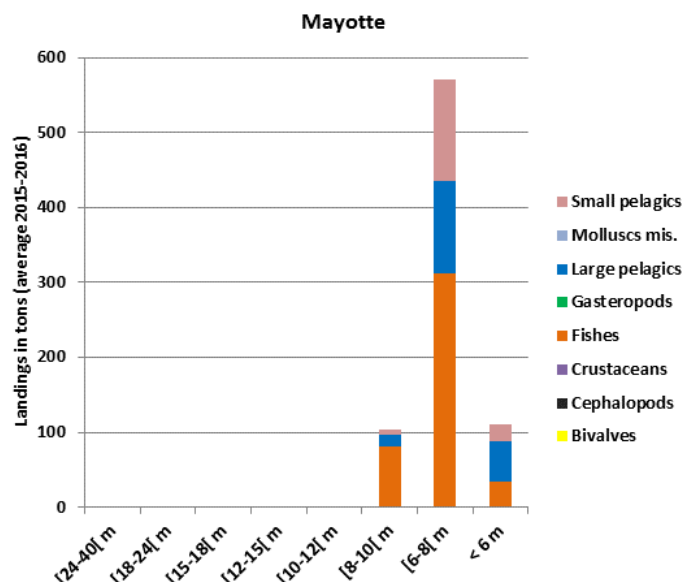
Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).



**Figure 3.198 Trends in landed weight and value for Mayotte fleet**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

Due to the different fisheries the vessels are involved in, the landings are composed of several species groups with marine fishes as the dominant one in terms of landed value followed by large and small pelagics (Figure 3.199). With prices nearly the same for those three species groups, from 3.7 EUR/kg in average for small pelagics to 5 EUR/kg for marine fishes, the share between those groups is equivalent for landed value than for landed weight.



**Figure 3.199 Distribution of landed weight by species groups and length class in 2016 for Mayotte fleet**

Data source: Leaflets Martinique 2016 ORFISH <https://orfish.eu/data-collection> (Ifremer, 2018).

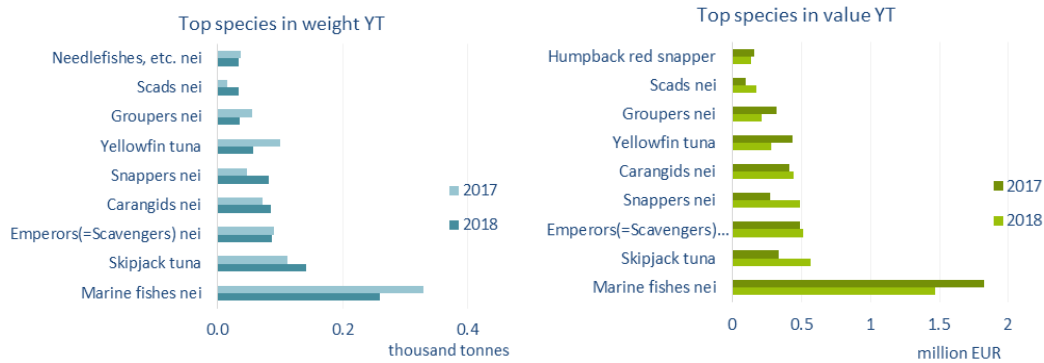
**Table 3.6 Average price per species group for Mayotte fleet (average 2012-2016)**

Species groups	Units	Average price
Large pelagics	EUR/kg	4.1
Fishes	EUR/kg	5.0
Small pelagics	EUR/kg	3.7
Crustaceans	EUR/kg	
Gasteropods	EUR/kg	
Cephalopods	EUR/kg	2.4
Overall	EUR/kg	4.5

Data source: Data source: Berthou et al., 2019. <https://archimer.ifremer.fr/doc/00628/74011/>

The most important species landed in 2018 was 'marine fishes nei' which represented 25% of landed weight and 27% of landed value. Marine fishes are not identified at species level as it's very difficult for observers to be able to see those demersal fishes caught offshore.

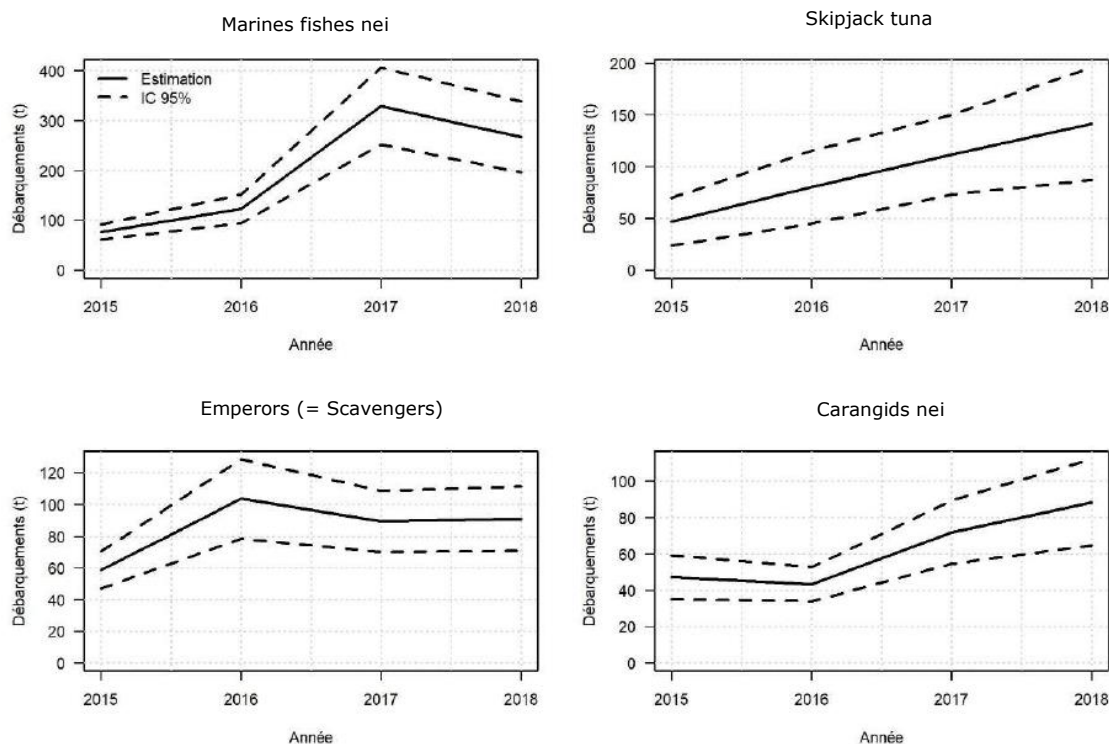
Large pelagics species were also part of the top ten species in 2018 in landed weight and value with particularly Skipjack tuna and yellowfin tuna, followed by demersal species and small pelagics ones (scads and needlefishes) (Figure 3.200).



**Figure 3.200 Top 10 landed species in term of weight and value in Mayotte OMR, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

If the overall landings trend is stable on the two last years, landings have followed an significant increase trend from 2015 to 2018 for three of the four main species: Marines fishes, skipjack and carangids.



**Figure 3.201 Trends in landed weight and value of some species for Mayotte fleet**

Data source: Fishing efforts and landings estimations in French outermost regions for vessels less than 12 metres LOA (Weiss J. et al., 2019).

## Employment

In 2018, the total number of jobs reached 268 for 111 FTE with an average of 3 people on board by vessel for longliners targeting demersal species offshore and 2 people on board for the others.

## Main factors affecting the performance of the fleet

The main challenges for Mayotte commercial artisanal fisheries are:

- the competition for skipjack and tuna resources with oceanic purse seiners, especially because of their use of FADs in the Indian Ocean;
- the competition for markets with illegal resellers and recreational fishers;
- the competition for demersal resources within the segment and with other fleets.

Professional fishing fleets coexist with a fleet of subsistence, non-commercial fishing boats composed of around 350 similar undecked boats targeting the same resources with hand lines and nets, and around 700 pirogues, exploiting inner lagoon and barrier reef demersal resources, and also a recreational fleet.

Despite the lack of historical data on fisheries, it appears that demersal resources on coastal reefs and barrier reefs have drastically dropped over the last 20 years according to fishers. Today, most of fishers turned to pelagic resources or demersal stocks of outer reefs, which are also told to be declining.

Mayotte EEZ is also exploited by French, Spanish and Seychelles purse-seiners targeting tropical tunas. Those fleets have a very common use of drifting fishing aggregating devices (FAD) in their whole fishing area. The use of FAD is told by local fishers to disrupt tuna school's migration paths.

CFP allows Member States to limit the access to their outermost territories' 100NM area to local fishing boats and European boats that can prove historical activity in these areas. This decision has been taken by the French government, but has yet not been notified to EU Commission by the French ministry in charge of fisheries. Lobbying has been and is still made from fishers representative, local politic representative and marine Natural Park in order to inform the EU Commission of this decision from French government.

In order to try to address the demersal resources decline problem, local authorities and marine Natural Park encourage fishers to exploit pelagic species, by settling a new park of moored FAD around the island.

## Saint-Martin

Saint-Martin is situated in the Lesser Antilles archipelago of the West Indies, in the Caribbean Sea.

No information at all was providing for St Martin so that the sparse description bellow remains the same as the 2019 AER. Landings and economic data were not available.

Information about the Saint Martin OMR fleet and fisheries is sparse, the EU fleet register mentioned four fleet segments for 2017: FPO VL0010 (2 vessels), HOK VL0010 (2 vessels), PGP VL0010 (6 vessels) and PS VL0010 (1 vessel). All the segments combined employ 16 persons for a FTE of 1.5.

According to FAO estimates, in 2017, 90 tonnes of marine fishes were landed, and all were taken in the Western Central Atlantic (FAO area 31).

**Table 3.7 Overview of the Saint Martin OMR fleet, 2017**

			2017
Capacity	Number of vessels	(#)	11
	Total vessel tonnage	(GT)	45
	Total vessel power	(kW)	1 882
Effort	Days at sea	(days)	
	Energy consumption	(thousand litres)	
Employment	Engaged crew	(person)	16
	FTE national	(#)	2

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

Saint Martin, as the Lesser Antilles is also contaminated by Chlordecone contaminant from agriculture activity in the area. Some temporal prohibition occurred in polluted areas for sanitary reason as the Chlordecone makes the fish unfit to consumption.

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### 3.8.2 Long Distant Fisheries (LDF)

#### ICCAT - International Commission for the Conservation of Atlantic Tunas

##### Area of competence

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is an intergovernmental regional fisheries management organization responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas. The organization was legally established in 1966 and the Convention entered formally into force in 1969 following a ratification process.

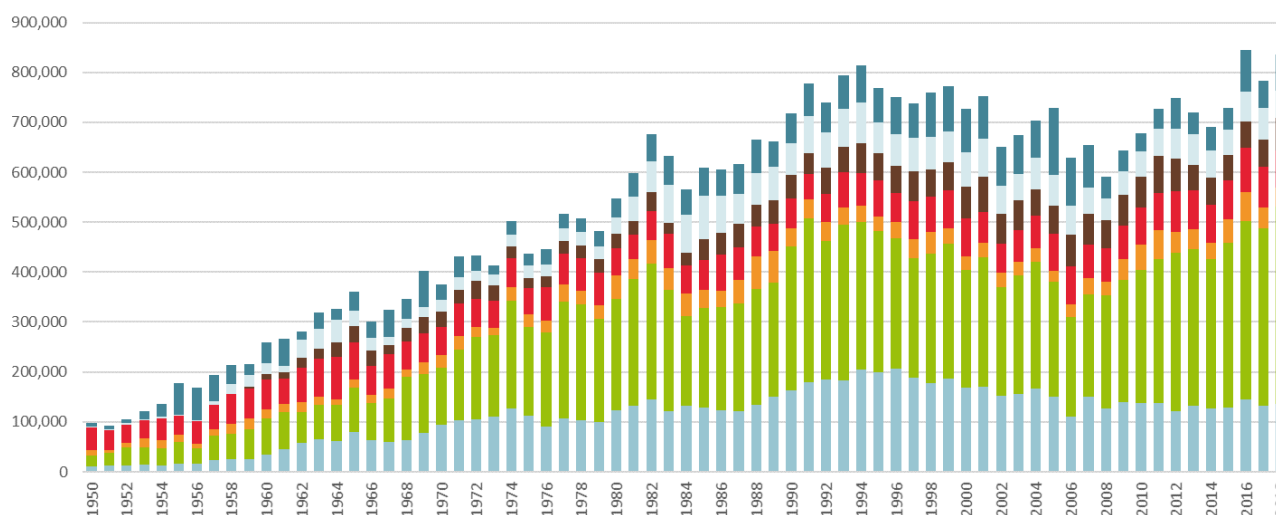
ICCAT's area of competence covers all waters of the Atlantic Ocean, including adjacent seas (FAO areas 21, 27, 31, 34, 37, 41, 47 and 48). There are currently 53 ICCAT members or Contracting Parties (as of October 2020).

About 30 species are covered by the Convention. Southern bluefin tuna is also covered, although currently the primary responsibility for assessing and managing this species rests with the Commission for the Conservation of Southern Bluefin Tuna (CCSBT).

The Commission adopted at its 26<sup>th</sup> Regular Meeting (November 2019) the protocol to amend the International Convention for the Conservation of Atlantic Tunas, which had been developed over the past six years. The new text modernizes the Commission and provides an extended mandate to manage pelagic oceanic and highly migratory species of sharks and rays. Before 2019, these species, although not explicitly mentioned in the Convention, were considered to be caught incidentally by fleets targeting tunas and were not managed directly through other international arrangements. These currently include pelagic oceanic sharks such as shortfin mako and blue shark, which have a track record of historical catch levels reported by some EU fleet segments such as Spanish and Portuguese surface pelagic longliners. As a result, these species can now be dealt with as target species subject to ICCAT management regulations.

According to ICCAT official statistics, nominal catches (all stocks, all flags), amounted to 835 532 tonnes in 2018; a 6.7% increase on the reported catch in 2017, namely 782 908 tonnes<sup>15</sup>.

The trends show a steady increase from 2008 until 2012, followed by a decrease in 2014 and then fluctuations at a level around 800 000 tonnes.

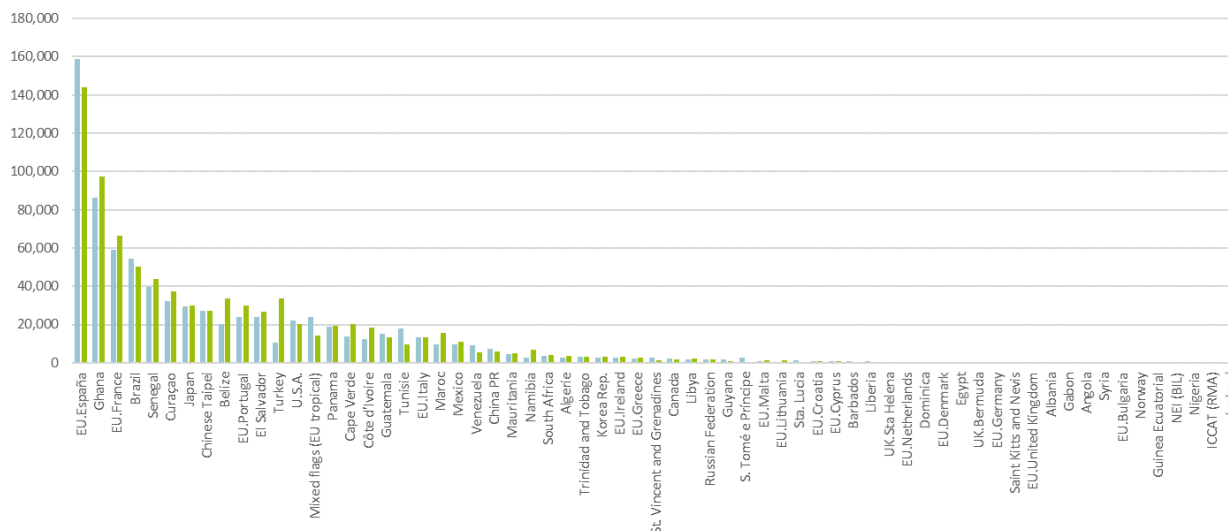


**Figure 3.202 Trends in ICCAT catches (nominal, t) for all stocks and flag countries**

Source: <https://www.iccat.int/en/accesingdb.html>

Spain was the main producer, with 17.2% of the total reported ICCAT catch in 2018 (143 877 tonnes), down from 20.3% in 2017 (158 917 tonnes). France stood in third place with 8% of the total reported catch in 2018 (66 574 tonnes), an increase in comparison to 7.6% in 2017 (59 279 tonnes). For Spain, this translated into a 9% decrease in catch; and for France, a 12% increase compared to 2017. Portugal was positioned as the third Member State in volume of catch, ranked globally in tenth position in ICCAT, with a total reported catch of 29 892 tonnes in 2018, a 25% increase compared to 2017.

<sup>15</sup> <https://www.iccat.int/en/accesingdb.html>



**Figure 3.203 ICCAT catches (nominal, tonnes) for all stocks by flag country, 2017 and 2018**

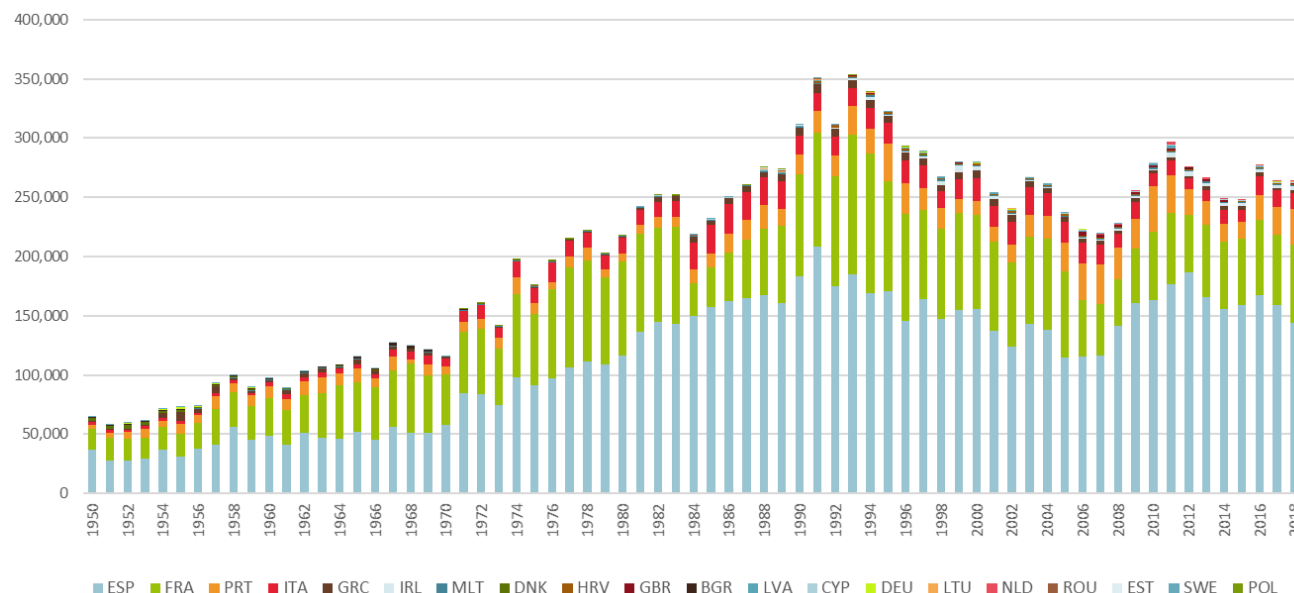
Source: <https://www.iccat.int/en/accesingdb.html>

## Regional details

Based on ICCAT official data<sup>16</sup>, general trends show that Member States' catch increased steadily from 1950, to record high levels in 1991 and 1993 (353 072 tonnes), subsequently falling to lows in 2006 and 2007 (219 279 tonnes). Over the last decade, catches have oscillated between 250 000 and 300 000 tonnes (Figure 3.204).

Overall, 15 Member States reported catches in 2018, amounting to 264 259 tonnes, representing a 0.3% increase compared to 2017 and a 0.2% increase compared to the average over the period 2008-2017, showing a stable overall trend in the last 10 years.

In 2018, the reported catch from Spain amounted to 54% of the total EU ICCAT catches; France followed with 25% of the EU catch, Portugal 11% and Italy 5%.



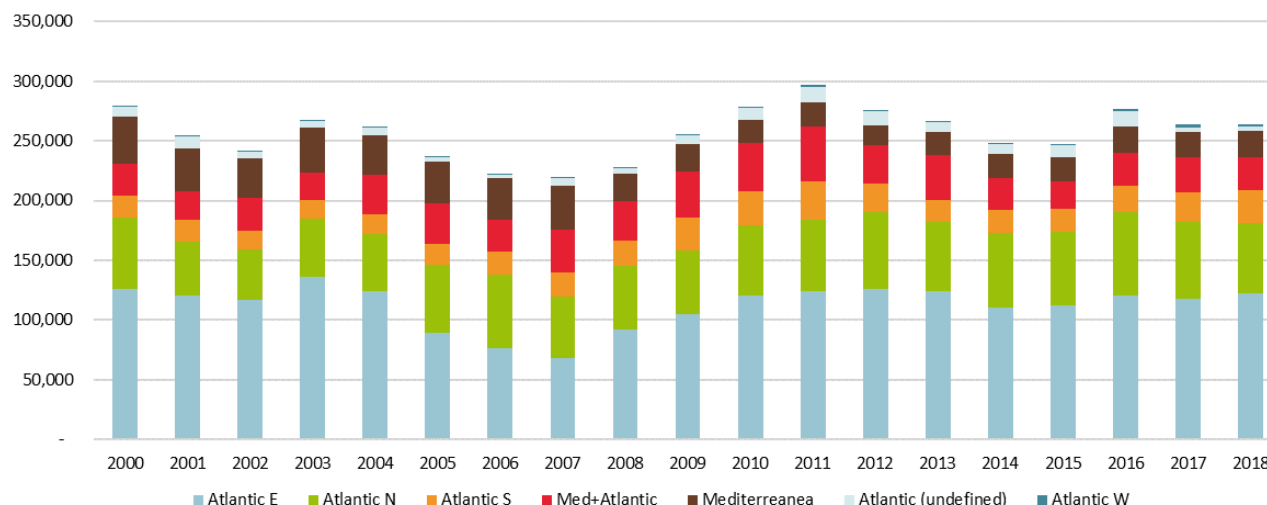
**Figure 3.204 Trends in ICCAT catches (nominal, tonnes) by EU MS fleets (all stocks)**

Source: <https://www.iccat.int/en/accesingdb.html>

However, there are some significant differences between the EU fleet performance if we compare the catch reports of 2018 with the average period 2008-2017 individually by Member State. There is a decrease of nearly 20 000 tonnes, representing 12% of the Spanish catch in 2018 (143 877 tonnes) vis à vis 2008-2017 (163 493 tonnes). This is compensated by a 21% increase in catch by French fleets (66 574 tonnes vs 54 989 tonnes); and a 25% increase by Portuguese fleets (29 892 tonnes vs 23 849 tonnes) catch, with Italy remaining stable at around 12 000 to 13 000 tonnes.

<sup>16</sup> <https://www.iccat.int/en/accesingdb.html>

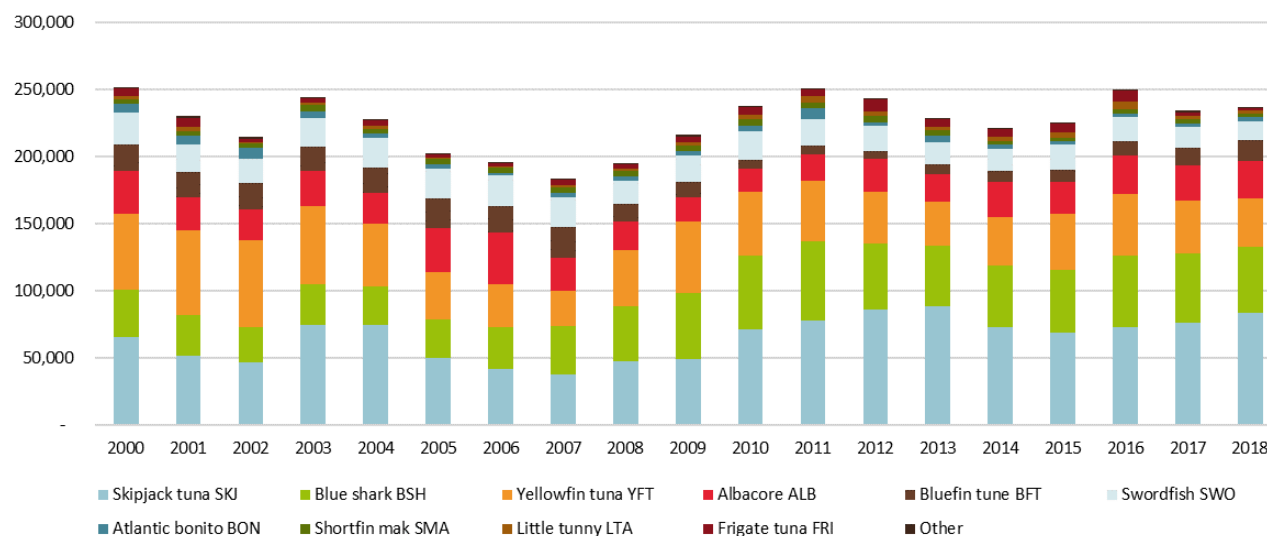
In 2018, catch from Atlantic stocks made up 81% of the total EU catch, taken by 11 Member States fleets, amounting to 214 876 tonnes; a 1% increase compared to 2017. Eight fleets reported catches of Mediterranean stocks, amounting to 22 381 tonnes in 2018 (8% of the total reported EU ICCAT catch) and corresponding to a 5.3% increase compared to 2017. Additionally, 14 Member States fleets reported catches of Atlantic and Mediterranean stocks combined (10% of the total EU ICCAT catch), amounting to 27 002 tonnes in 2018; a 7.6% decrease compared to 2017 (Figure 3.205).



**Figure 3.205 Historical ICCAT catches (nominal, t) by EU MS fleets by stock**

Data source: <https://www.iccat.int/en/accesingdb.html>

Catches of the most important species for the Member States' fleets for Atlantic and Mediterranean stocks have been quite stable in the last three years (2016-2018). In 2018, the reported catch for skipjack tuna was 83 796 tonnes, representing a 9.6% increase compared to 2017 (76 434 tonnes). Albacore, the fourth most important species in terms of catch volume, also saw an increase (+5.6%), from 26 345 tonnes in 2017 to 27 812 tonnes in 2018. Conversely, reported catches for the other three top species in 2018 decreased compared to 2017: -5.5% for blue shark (from 51 372 tonnes in 2017 to 48 551 tonnes in 2018); -6.1% for yellowfin tuna (from 39 042 tonnes to 36 655 tonnes) and, -10.1% for bigeye tuna (from 18 767 tonnes to 16 869 tonnes in 2018).



**Figure 3.206 Historical ICCAT catches (nominal, t) by MS fleets of top Atlantic and Mediterranean stocks, 2000-2018**

Data source: <https://www.iccat.int/en/accesingdb.html>

## EU fleet activity in the ICCAT Convention area based on EU-MAP data

### Fleet selection

EWG 20-06 followed the same criteria and definitions agreed in previous years (EWG 19-06 and EWG 18-07) for fleet selection, i.e. fleet segments over 24m LOA and with a high degree of dependency on the ICCAT Regulatory Area (RA) in terms of value of landings, to analyse the performance of the EU fleet

in the region. To include EU Mediterranean fleets in this year's analysis, fleet segments over 18m LOA were considered for this region.

High degree of dependency was set at 40% of the value of landings of ICCAT species in the convention areas. This is a continuation of the previous AER 2019 report, but deviates from the 60% used in the AER 2018. The reason for this change was based on including several key fleet segments, which would otherwise be excluded, namely:

- 22 French purse seine vessels over 40 metres.
- A Spanish segment of hook, pole and longline vessels (LLD) based in Canarias (IC) operating in ICCAT RA, composed of 22 vessels of which 9 are active in the area following the predominance criteria.
- The Spanish purse seine vessels between 24 and 40 metres operating in the North Atlantic (Bay of Biscay and NWW) which did not meet the criteria in 2018 as their landings value ranged 22-29%; targeting mainly albacore in FAO 27. Now they are reporting 51% of their landing value, consolidating its presence in the area.

Therefore, to assess the performance of the EU fleet operating in the ICCAT RA using DCF/EU-MAP data, the following criteria were used to identify the fleet segments for analysis:

- Vessel length: over 24m LOA for the Atlantic stocks and over 18m for the Mediterranean stocks
- Target species: highly migratory tuna and tuna like stocks
- Geographical coverage: ICCAT RA covering waters of the Atlantic Ocean and adjacent seas (Mediterranean and Black Sea)
- High degree of dependency: at least 40% of a fleet segment's total landed value taken from the ICCAT RA in 2018.

The 26 vessels from the Spanish purse seine fleet over 40 metres targeting tropical tunas, of which six are active in the Atlantic, have been excluded from the analysis for not meeting the dependency criteria (calculated at 23% in 2018 and 21% in 2017). The bulk of this fleet's catch (over 70%) took place in the Indian Ocean and, to a lesser extent, in the Pacific Ocean. Even though this segment also operates in the ICCAT RA – there are six individual vessels within this fleet segment where the share is much higher, however, with the level of aggregation (fleet segmentation) provided through the DCF data, they cannot be identified and extracted for the analysis.

As the effort deployed is 100% in many cases, seeing that the ICCAT RA covers the Atlantic Ocean, the value of landings (provided by sub-region) is used to disaggregate the economic data provided by fleet segment (by supra-region), instead of a combination of effort and landings variables by fleet segment (as is the case with the other regional analyses). As a result of this methodology, not all fleet segments with ICCAT activity are included in the performance analysis due to the low levels of activity. Furthermore, results on capacity (number of vessels, GT, kW) economic (revenue, GVA, etc.) and employment (FTE, etc.) may be over or under-estimated.

According to ICCAT, the only other Member State fleet with noteworthy catches besides France, Portugal and Spain are: Italy for the Mediterranean stocks mainly, with reported catches of 13 500 and 13 200 tonnes in 2017 and 2018, respectively, and Ireland for the Atlantic stocks, with 2 500 and 3 100 tonnes in 2017 and 2018, respectively. Nonetheless, Mediterranean Member States fleets with high dependency on ICCAT stocks are considered.

On the other hand, when analysing the EU-MAP data for 2018, three Irish fleet segments and one from the UK formally meet the criteria for inclusion but are not considered. These are:

- Irish Demersal trawlers/seiners between 24 to 40 metres (IRL NAO DTS 2440)
- Irish Pelagic trawlers 24 to 40 metres and over 40 metres LOA (IRL NAO TM 2440 and 40XX)
- UK Pelagic trawlers over 40 metres (GBR NAO TM40XX NGI).

The bulk of landings for these fleets are made up of demersal (e.g. black hake, cephalopods...) and/or small pelagic (sardinella, mackerel...) species and should rather be analysed under the CECAF (for the mid and south Atlantic) and/or NEAFC (for the North East Atlantic), sections.

Below is a brief description of the EU ICCAT fleets. The Atlantic and Mediterranean fisheries are analysed separately, followed by an account of the main drivers affecting the performance in the regions. This is then followed by a brief analysis of the main fleets by Member State.

Tables in the Annex 4 provide summary results on the main activity and profitability indicators for the selected fleet segments by Member States in 2018.

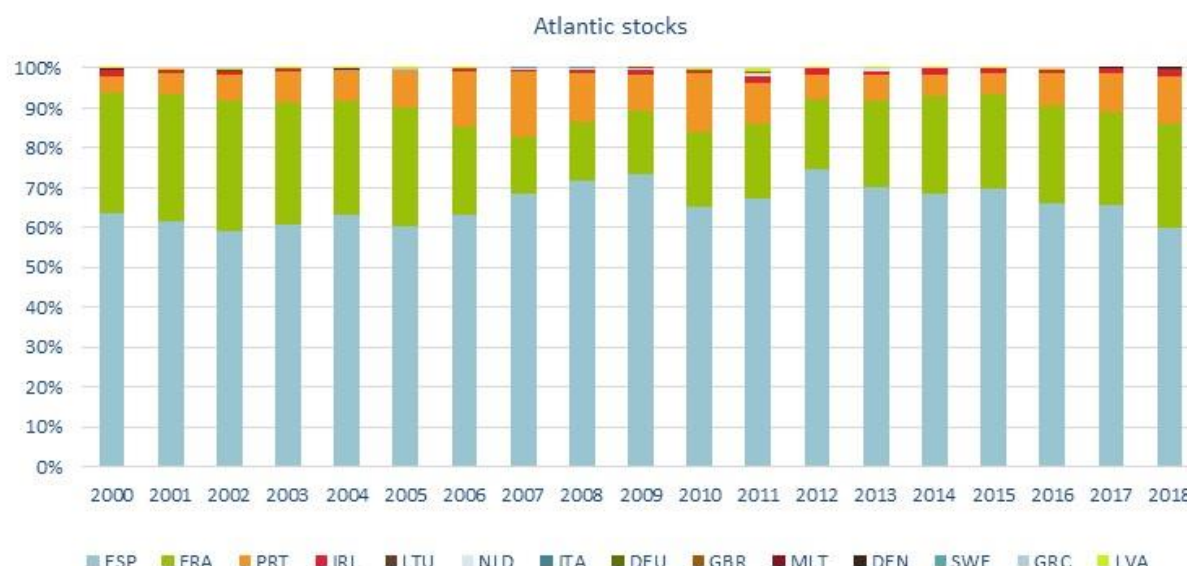
## EU fleet activity in the ICCAT Convention area – Atlantic Ocean (FAO areas 21, 27, 31, 34, 41, 47 and 48)

Since 2000, 14 Member States fleets have been active in the ICCAT RA targeting Atlantic stocks. In 2018, catch reported by the 11 Member States fleets amounted to 214 876 tonnes; almost unchanged compared to 2017. Additionally, 14 Member States fleets reported catches of Atlantic and Mediterranean stocks combined (10% of the total EU ICCAT catch), amounting to 27 002 tonnes in 2018; these are not covered in this section.

The majority of the EU catch from Atlantic stocks is taken from the East Atlantic stock (57% in 2018 and 55% in 2017), followed by the North Atlantic (27% in 2018 and 30% in 2017), the South Atlantic (13% and 11%) and West Atlantic (1% 2017 and 2018) stocks (Figure 3.208). The remaining 2% of the catch is undefined.

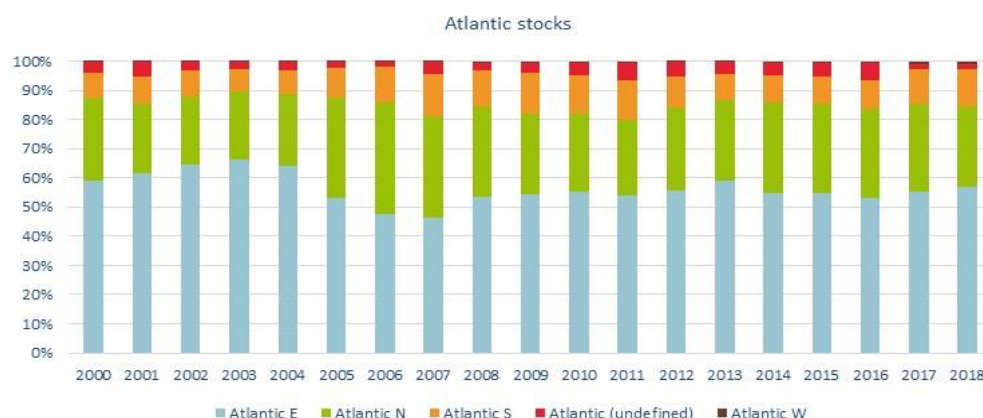
Spain is the main EU fishing nation in the area, responsible for 60% of the Atlantic stock catch in 2018, followed by France with 26%, Portugal 11.8% and Ireland 1.5%.

As the Atlantic stocks make up 81% of the total EU catch, the top species in the area are largely the same as those for the global ICCAT RA. Skipjack, caught exclusively as an Atlantic stock, made up 39% of the total catch in 2018 (83 796 tonnes, +9.6% compared to 2017), followed by blue shark at 23% of the total (48 510 tonnes, -5.4% compared to 2017). Yellowfin tuna, also caught exclusively as an Atlantic stock, comprised 17% of the catch in the region (36 655 tonnes, -6.1% compared to 2017). Albacore, the fourth most caught species with 25 446 tonnes (12% of the total), saw an increase of 7.8% compared to 2017. Swordfish at 9 747 tonnes, comprised 5% of the total catch, and decreased 8.6% compared to 2017.



**Figure 3.207 Trends on catch share by the EU MS fishing fleet targeting Atlantic stocks in the ICCAT RA**

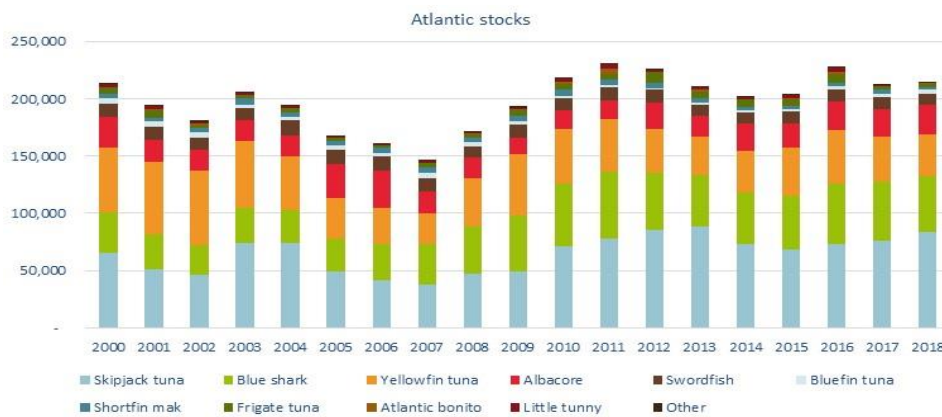
Data source: <https://www.iccat.int/en/accesingdb.html>



**Figure 3.208 Trends on catch share by region for EU fishing fleets targeting Atlantic stocks in the ICCAT RA**

Data source: <https://www.iccat.int/en/accesingdb.html>





**Figure 3.209 Trends on catch by species (tonnes) by the EU fishing fleet targeting Atlantic stocks in the ICCAT RA**

Data source: <https://www.iccat.int/en/accessingdb.html>

### *Selected Atlantic fisheries*

Based on the criteria described above, 12 DCF fleet segments were identified for analysis: six Spanish, five Portuguese and one French, namely:

1. Spanish surface (drifting) longliners 24-40m LOA fishing predominately in the North Atlantic (ESP NAO HOK2440 LLD)
2. Spanish surface (drifting) longliners 24-40m LOA fishing predominately in Other Fishing Regions (ESP OFR HOK2440 LLD)
3. Spanish hook, pole and line vessels 24-40m LOA based in the Canarias (ESP NAO HOK2440 IC)
4. Spanish purse seiners 24-40m LOA operating predominately in the North Atlantic (ESP NAO PS 2440 NGI)
5. Spanish hook, pole and line vessels 24-40m LOA fishing in the North Atlantic (ESP NAO HOK2440 NGI)
6. Spanish hook, pole and line vessels 24-40m LOA fishing predominately in Other Fishing Regions (OFR HOK 2440 NGI)
7. Portuguese hook, pole and line and surface longliners 24-40m LOA operating in the North Atlantic (PRT NAO HOK2440 NGI)
8. Azorean (Portuguese) pole and line vessels 24-40m LOA operating in the North Atlantic (PRT NAO HOK2440 P3)
9. Portuguese pole and line and surface longliners 24-40m LOA fishing exclusively in international waters (PRT OFR HOK2440 IWE);
10. Portuguese pole and line and surface longliners over 40m LOA fishing in international waters (PRT OFR HOK40XX IWE)
11. Madeiran (Portuguese) pole and line 24-40m LOA operating in Other Fishing Regions (OFR HOK 2440 P2)
12. French purse seiners over 40m LOA operating exclusively in international waters (FRA OFR PS 40XX IWE)

Note: the fleet segments above identified are exactly the same as those identified in last year's analysis (AER 2019), showing a consolidation of the methodology and allowing further comparisons on their economic performance. However, due to inconsistencies found in the data sets for the French purse seine fleet over 40 metres, these were excluded from further analysis this year.

### *Main results for 2018 and recent trends – ICCAT Atlantic fisheries*

In 2018, based on the EU-MAP data, the 11 fleet segments from Spain and Portugal targeting Atlantic stocks spent 40 852 days-at-sea (+15.5% compared to 2017), to land around 95 566 tonnes (+28%) valued at EUR 184.6 million (+14%) (only landings of ICCAT species are included). The estimated number of regional EU vessels amounted to 217 in 2018, a 23% increase compared to 176 vessels in 2017 (Figure 3.187).

The number of fishing vessels with high dependency on ICCAT activity have steadily increased since 2016 coming back closer to 2010-2012 levels following a decrease in the period 2013-2015. Fleet capacity and fishing activity, expressed in GT, kW, days at sea, energy consumption and landings have all increased in the period from 2015 to 2017. The average number of jobs per vessel has also generally

increased since 2015, while the average days at sea has decreased and fuel consumption has levelled off at around 250 000 litres per vessel.

Trends on employment show a steady decrease from the high levels observed in 2009 to a low in 2015, increasing steadily afterwards. However, the average employment per vessel has remained fairly stable, oscillating between 12 and 16 FTE; thus, variability is more likely related to changes in the number of vessels included in the analysis. The number of jobs and FTE increased 33% and 36% respectively compared to 2017, corresponding to the 23% increase in vessel number. The average crew number is stable for vessels with high presence and activity in ICCAT, whereas the total number depends on the number of vessels involved in the fishery, which can be variable among the years due to the high dependency criteria utilised.

The annual average wage for crew on the fleets covered was estimated at EUR 22 219 per employee and EUR 20 688 per FTE in 2018; corresponding to a decrease of 11% and 13% respectively when compared to the figures for 2017 (EUR 23 813 per employee and EUR 24 927 per FTE). The 19% increase in personnel costs in 2018 was insufficient to accommodate the 33-36% increase in jobs and maintain the average wage of 2017. Similarly, a 2% decrease in GVA with the increase in jobs translated into a 28% decrease in labour productivity (GVA per FTE) in 2018 compared to 2017.

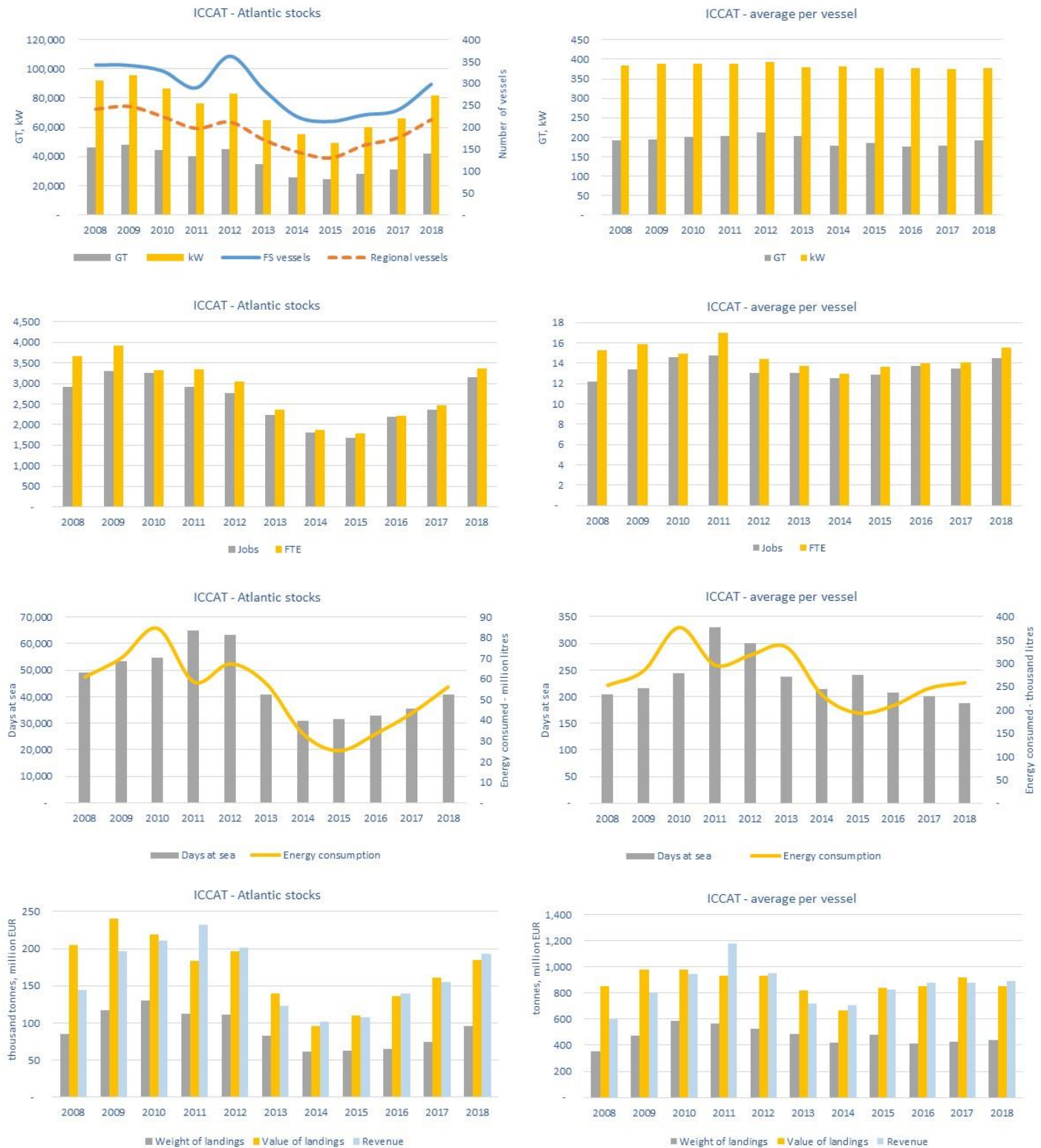
Average landings per vessel have remained rather steady of the last three years, increasing slightly in weight, from an average of 411 tonnes in 2016, to 423 tonnes in 2017 to 441 tonnes in 2018. In terms of value, average landings increased in 2017 to EUR 917 600 per vessel, returning back to the 2016 level around EUR 851 00 in 2018.

The GVA produced by the fleets with high dependency on Atlantic stocks in the ICCAT RA in 2018 was estimated at over EUR 93.3 million, decreasing 2% compared to EUR 95.6 million 2017, although it is a 23% increase when compared to the average over the period 2008-2016 (EUR 74 million).

The fleets made EUR 23.5 million in gross profit, a 36% drop from the record high profits seen in 2017 (EUR 36.7 million) but still above the average reported for the period 2008-2016 (Figure 3.211).

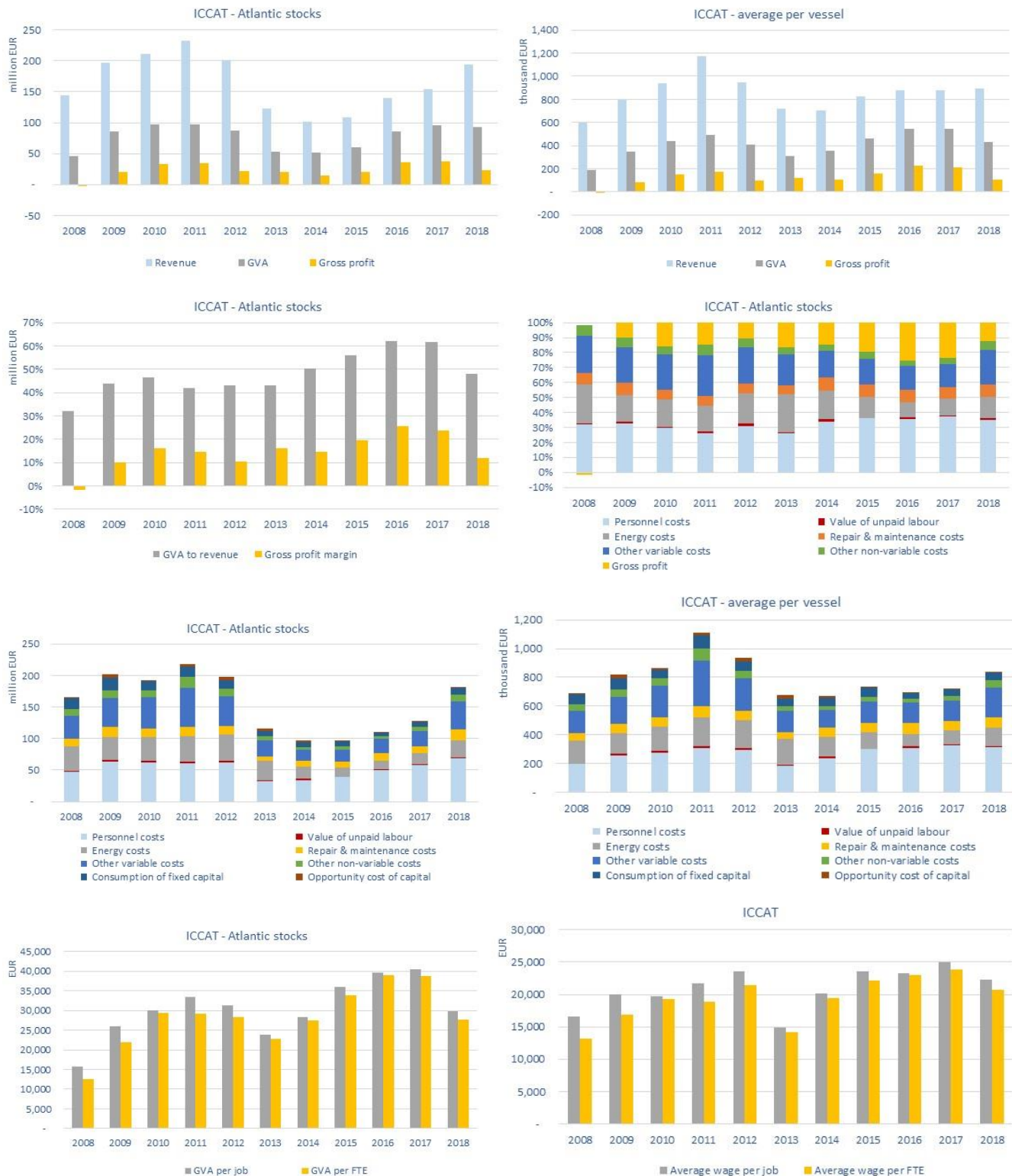
In relative terms, the combined fleet produced a GVA to revenue of 48% and gross profit margin of 12%. This translates into a 22% decrease in GVA to revenue and almost 50% decrease in the gross profit margin when compared to 2017. Total operating cost items increased substantially (+44%) in 2018 compared to 2017: labour costs (+19%), other variable costs (+87%) and fuel costs (+59%).

Overall, all the Member States fleets analysed generated gross profits in 2018 with ample variability except for 2 fleet segments which reported gross losses: the Portuguese longline, hook, pole and line vessels of the 24 to 40 metres segment fishing in the North Atlantic (PRT NAO HOK2440 NGI), and the Spanish longline, hook, pole and line vessels of the 24 to 40 metres segment from the Canary Islands.



**Figure 3.210 Trends on capacity, employment, fishing effort and landings (totals and average per vessel) for MS fleets with high dependency on Atlantic stocks in the ICCAT RA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.211 Trends on revenue, operating costs and performance indicators (totals and average per vessel) for MS fleets with high dependency on Atlantic stocks in the ICCAT RA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



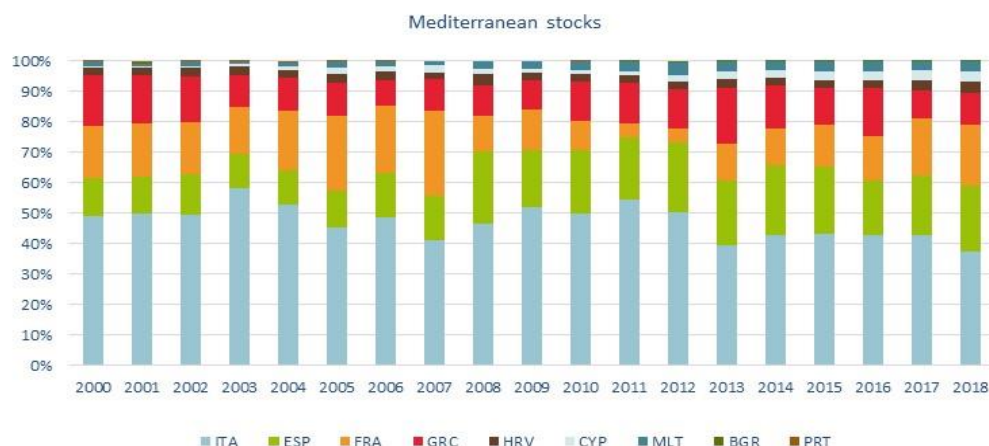
### EU fleet activity in the ICCAT - Mediterranean & Black Sea Convention area (FAO area 37)

According to ICCAT data, there were eight Member States fleets with reported catch of Mediterranean stocks in the ICCAT RA in 2018, amounting to 22 381 tonnes; 5% more than in 2017 (21 251 tonnes). The eight MS are: Bulgaria, Croatia, Cyprus, France, Greece, Italy, Malta and Spain.

Italy is the dominate EU fishing nation, responsible for 37% of the Mediterranean stock catch, followed by Spain with 22%, France 20%, Greece 10%, Croatia 3.8%, Cyprus 3.6% and Malta 3.3%.

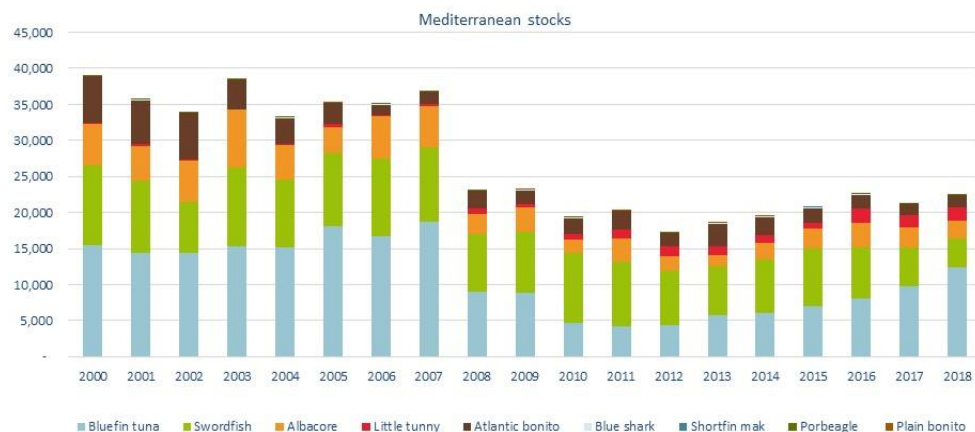
Mediterranean stocks comprised 8% of the total EU ICCAT catch (all stocks) in 2018, roughly unchanged since 2014. Regarding Mediterranean stocks, the EU catch comprised 31% of the total regional catch, down from 30% in 2017 and, 56% in 2009 (the highest observed over the period analysed).

Bluefin tuna was by far the most important species caught by the EU fleets, amounting to 12 378 tonnes in 2018, or 55% of the total catch (+26% compared to 2017). Swordfish was the second most important species at 18% of the total catch (4 067 tonnes in 2018; -24% compared to 2017). Albacore, with almost 11% of the catch share (2 366 tonnes), also saw a decreased (-14%) compared to 2017. Little tunny, with 8% of the catch share amounting to 1 857 tonnes, saw an increase of 7% compared to 2017 and Atlantic bonito, comprising 7.5% of the catch (1 671) also saw an increase compared to 2017 (+11%). The remaining three species reported all comprised less than 0.2% of the total catch in 2018.



**Figure 3.212 Trends on catch share by MS fishing fleet targeting Mediterranean stocks in the ICCAT RA**

Data source: <https://www.iccat.int/en/accesingdb.html>



**Figure 3.213 Trends on catch by species (tonnes) by the EU fishing fleet targeting Mediterranean stocks in the ICCAT RA**

Data source: <https://www.iccat.int/en/accesingdb.html>

Catch composition has remained relatively stable over the period analysed (2000-2018), while quantity fell considerably in 2007, coinciding with major quotas reductions of bluefin tuna as part of the ICCAT (2006) recovery plan for bluefin tuna in the Eastern Atlantic and Mediterranean, which was incorporated into Community Law in December 2007<sup>17</sup>. In fact, Mediterranean stocks comprised 17% of all EU ICCAT catch in 2007, the highest of the period analysed (2000-2018). Catch of bluefin tuna went from an annual average of 16 000 tonnes in 2000-2007, to almost half from 2008 to 2009 and, halving again to 4 400

<sup>17</sup> Community law by Council Regulation (EC) No 1559/2007 of 17 December 2007 establishing a multi-annual recovery plan for bluefin tuna in the Eastern Atlantic and Mediterranean

between 2010 and 2012. With improved stock status, quotas have been increasing gradually, and catch has increased steadily from 5 817 tonnes in 2013 to 12 378 tonnes in 2018 (Figure 3.213).

### *Selected Mediterranean fisheries*

Based on the criteria described above, nine fleet segments operating predominately in the Mediterranean Sea were identified for analysis in 2018: one Cypriot, one French, two Spanish, two Italian and three Maltese:

1. Cypriot purse seiners 24-40m LOA (CYP MBS PS2440)
2. French purse seiners 24-40m LOA (FRA MBS PS2440)
3. Spanish longliners 18-24m LOA (ESP MBS HOK1824 LLD)
4. Spanish purse seiners 24-40m LOA (ESP MBS PS2440)
5. Italian purse seiners over 40m LOA (ITA MBS PS40XX)
6. Italian hook and line vessels 18-24m LOA (ITA MBS HOK1824)
7. Maltese purse seiners 18-24m LOA (MLT MBS PS1824)
8. Maltese active gear 18-24m LOA (MLT MBS MGO1824)
9. Maltese hook and line vessels 18-24m LOA (MLT MBS HOK1824)

Thus, the Mediterranean fleet meeting the criteria, i.e., fleet segments >18m with high dependency on ICCAT species in the region, comprised five purse seine fleet segments, three line and longline fleets and one active gear segment from five Member States, totalling 146 vessels in 2018. The Cypriot purse seine fleet consists in only one vessel, active in 2017 and 2018 only. Due to confidentiality issues, economic data were not available for this segment. None of the Black Sea fleet segments (Bulgaria) are included as none met the criteria established by the EWG 20-06.

### *Main results for 2018 and recent trends – ICCAT Mediterranean fisheries*

Due to variations<sup>18</sup> in the number of fleet segments covered over the time-series, results are presented and discussed for 2017 and 2018 only (time series results are presented by graphs), for the selected nine fleet segments from Cyprus, France, Malta, Portugal and Spain.

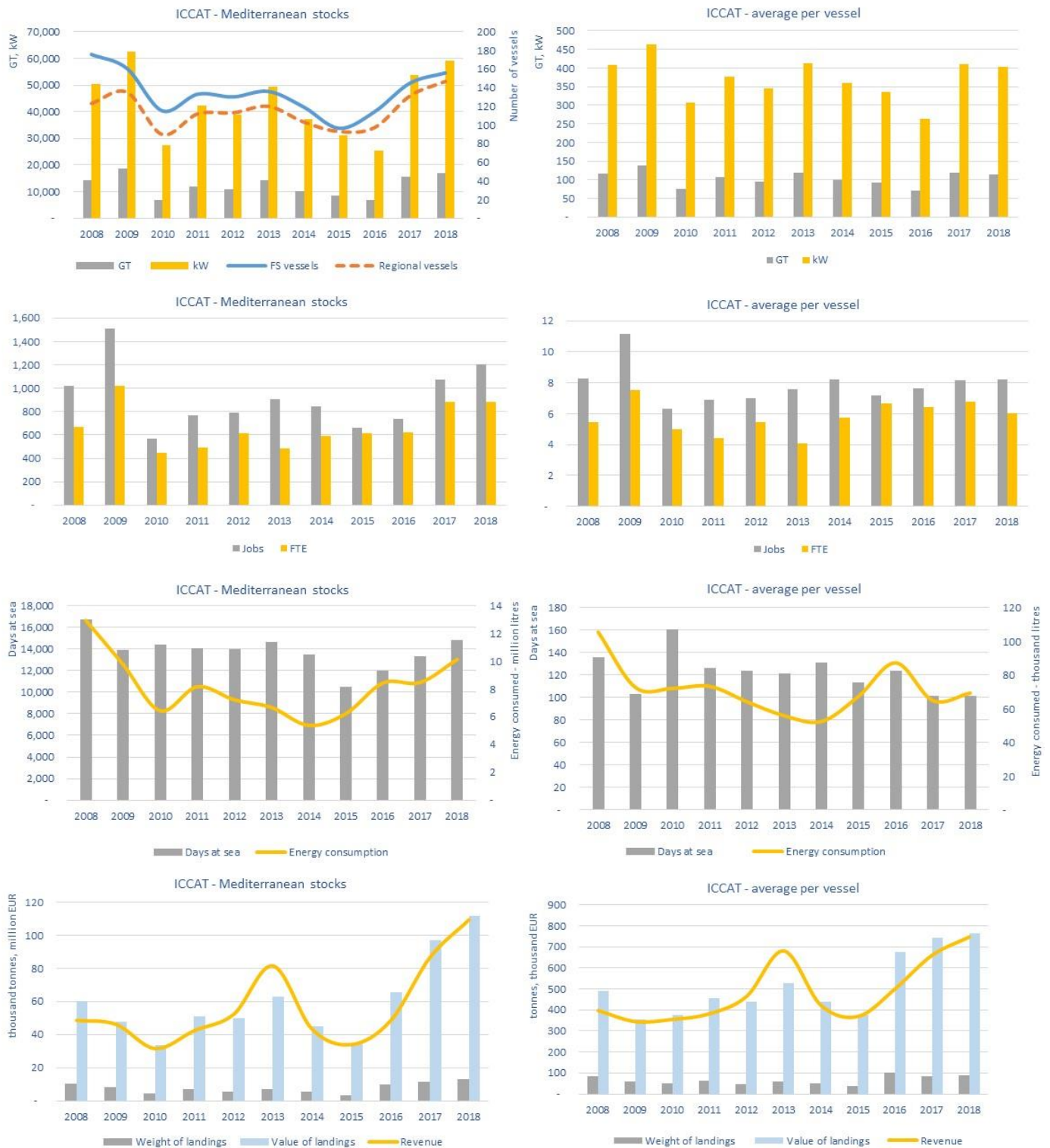
The number of estimated regional vessels increased by 12% while increasing by only 8% at the fleet segment level. This is due to the increase in days at sea (+11%) and landings (+17% in weight and 15% in value) when compared to 2017. In line with the increase in fishing effort, fuel consumption increased by 20% while fuel costs remained stable. At the vessel level, days at sea remained steady at around 100 days per vessel, while fuel consumption increased by 7%, from an average of 64 850 litres per vessel in 2017 to 69 400 litres per vessel in 2018.

Landings by the fleet amounted to 13 142 tonnes (up 17% from 11 214 tonnes in 2017) valued at EUR 111.6 million (up 15% from EUR 97.1 million in 2017). At the vessel level, landings increased by 5% in weight and 3% in value, amounting to an average of 89.8 tonnes valued at EUR 762 258 per vessel in 2018. Whereas the value of landings increased by 15%, revenue (income from landings plus other income) increased by 26%, from EUR 86.5 million in 2017 to EUR 109.3 million in 2018. However, with total operating costs increasing 28% in 2018, the increase in GVA and gross profit was less, +19% and +24% respectively. GVA to revenue decreased from 82% in 2017 to 77% in 2018 while gross profit margin decreased from 43% to 42%.

Personnel costs increased by 15% compared to 2017, averaging around EUR 262 793 per vessel in 2018. With FTE remaining stable in 2018, average wage increased by 15% (EUR 43 666 per FTE) and labour productivity by 20% (EUR 95 679 per FTE).

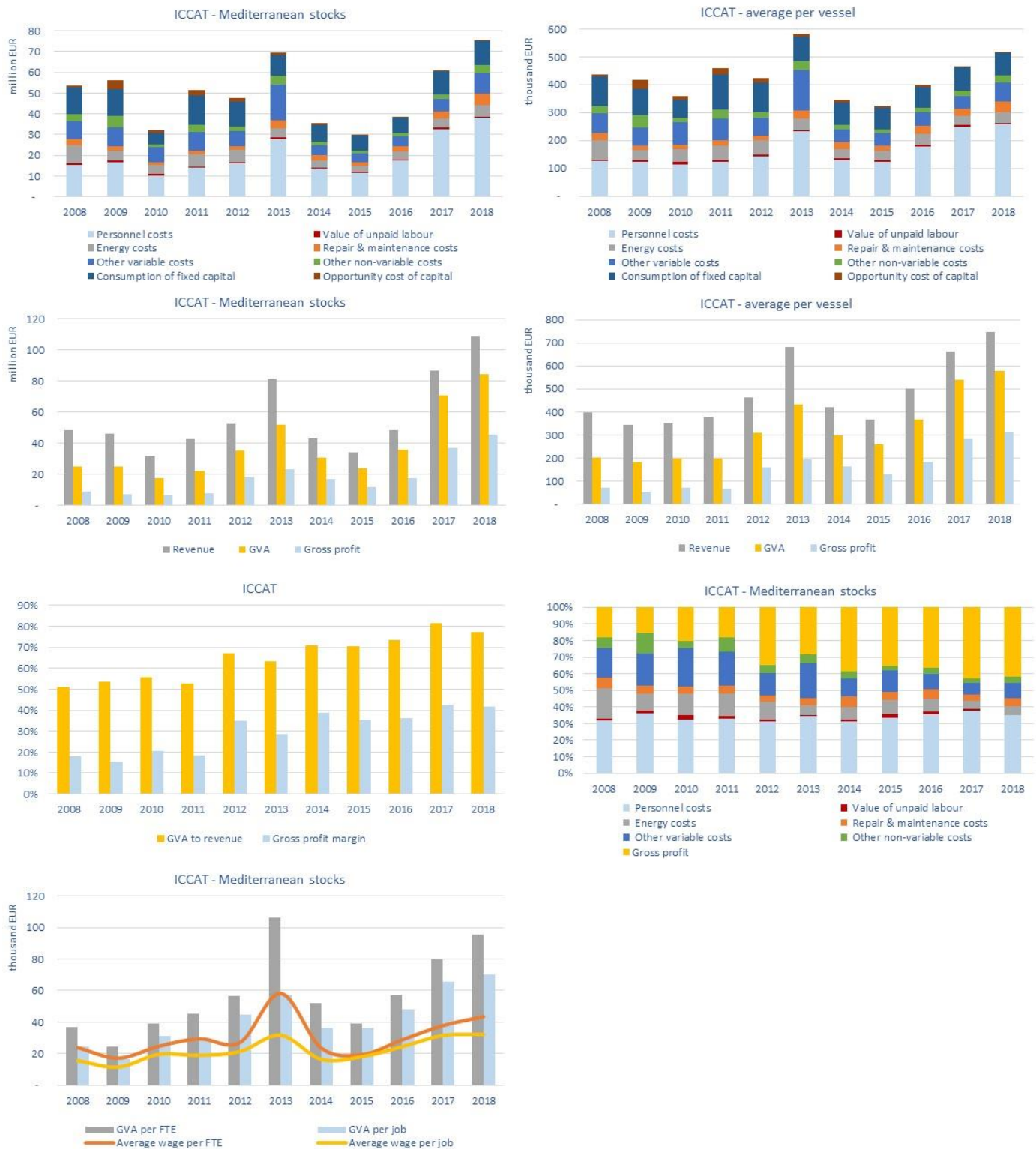
<sup>18</sup> Variations in the time-series data are largely due to the number of fleet segments analysed in a particular year (due to data availability). For example, in 2017 and 2018, there were nine fleet segments (with the inclusion of the Cypriot fleet), yet in 2016, only seven fleet segments are present (the French purse seiner segment is missing) and in 2010 only 5 fleet segments are available. The Italian purse seiners are missing in 2010; French purse seiners are missing in 2010, 2012, 2014-2016 and the Maltese fleets are missing in several years. In the case of Malta, this is largely due to low number of vessels and hence, confidentiality issues. It is less clear for the Italian and French fleets, as these segments are composed of more than 10 vessels, generally even more than 20 vessels. It is possible that these fleet segments were clustered with other fleets in some years, or their fishing technique changed due to the DCF dominance criteria.





**Figure 3.214 Trends on capacity, employment, fishing effort and landings (totals and average per vessel) for MS fleets with high dependency on Mediterranean stocks in the ICCAT RA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.215 Trends on revenue, operating costs and performance indicators (totals and average per vessel) for MS fleets with high dependency on Mediterranean stocks in the ICCAT RA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## EU fleet active in the ICCAT - Mediterranean & Atlantic stocks combined

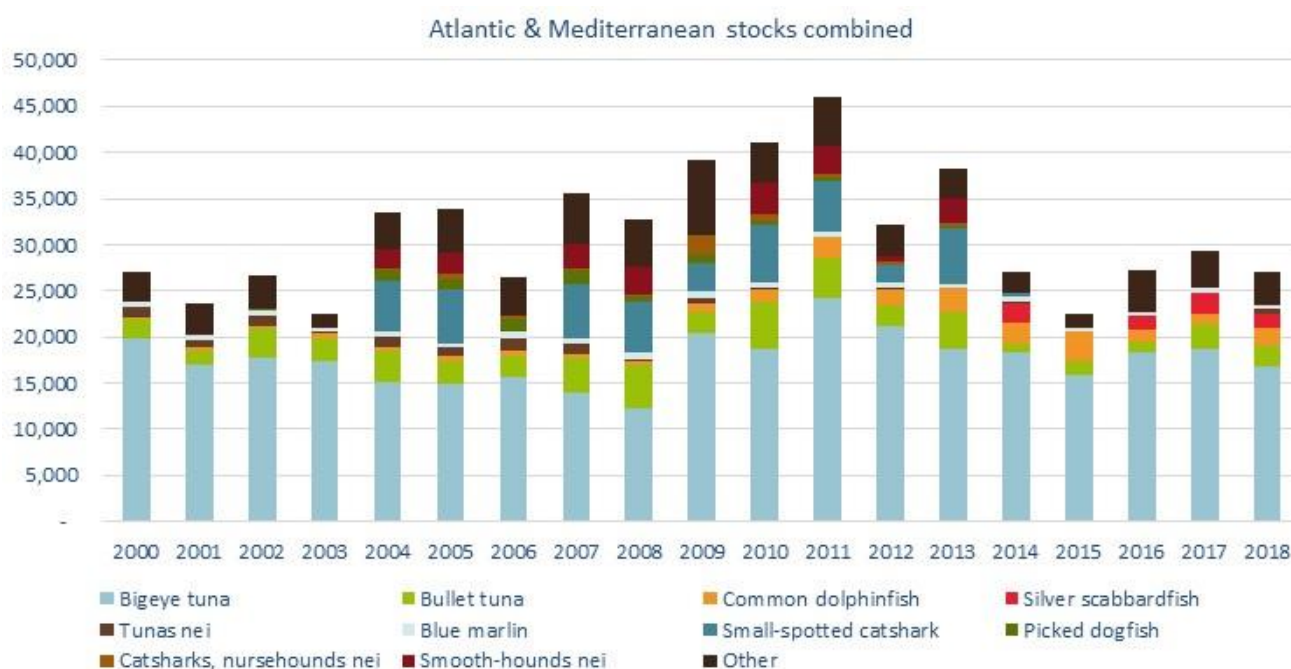
In 2018, 13 EU fleets reported catches of Atlantic and Mediterranean stocks combined in the ICCAT RA, amounting to 27 002 tonnes; 7.6% less than in 2017 (29 224 tonnes). These combined stocks comprised 10% of the total EU ICCAT catch (all stocks) in 2018, roughly unchanged since 2016 but a drop from the 15-16% seen over the period 2007-2011. This could be due to a displacement of fishing effort related to the introduction of the bluefin recovery plan, seeing that in the 2000 to 2006 period, the average share of these stock was roughly 11%.

Spain is the main EU fishing nation targeting these stocks, responsible for 36% of the total catch in 2018, followed by France with 22%, Italy 18%, Portugal 17% and Lithuania 3%.

Bigeye tuna was by far the most important species caught by the EU fishing fleets, amounting to 16 869 tonnes in 2018, or 62% of the total (A+M stock) catch (+26% compared to 2017). Bullet tuna and common dolphinfish were the second most important species, each contributing around 8% to the total catch (2 115 tonnes and 2 026 tonnes, respectively in 2018). While the catch of bullet tuna decreased by 16% compared to 2017, common dolphinfish catches increased by 61%.

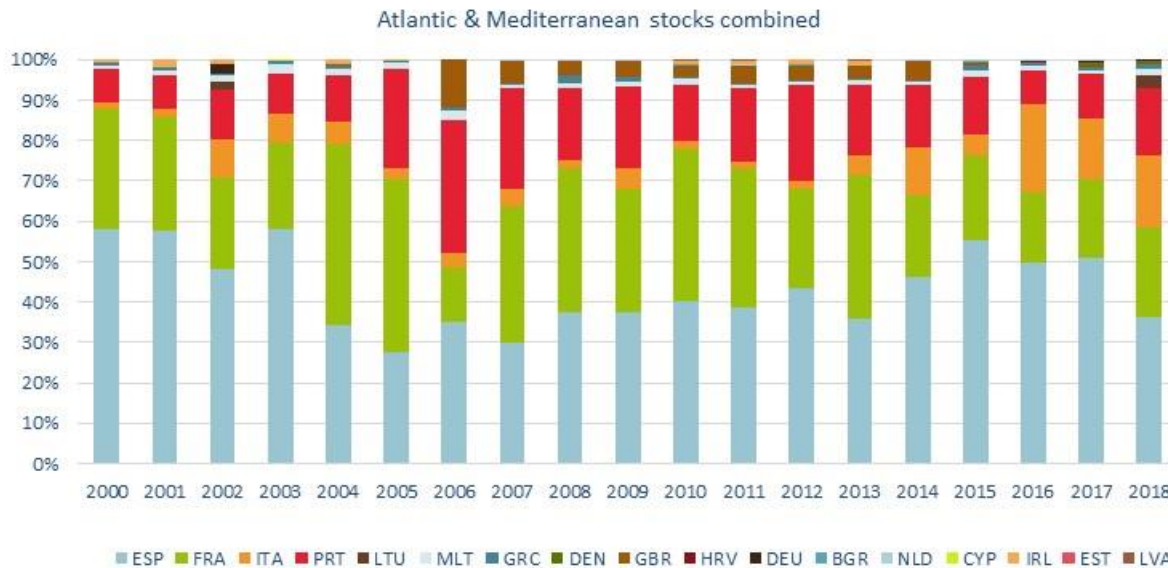
Catch quantity and composition have varied over the period analysed (2000-2018), largely due to variations in the catch reported for bigeye tuna, bullet tuna, small-spotted catshark and, to a lesser degree, common dolphinfish. Small-spotted catshark catches were substantial over the period 2004-2013, contributing up to 17% of the total catch in some years (e.g., 2004-05, 2007-08, 2013), while during the same period, the share of bigeye tuna catch dropped to levels around 37-45%. The catch share of common dolphinfish has increased more recently from levels around 1-3% over the period 2000-2010, to 7-14% over the years 2013-2018 (apart from 5% in 2016 to 2017) (Figure 3.216).

No detailed analysis by Member States fleet can be made regarding these stocks. They are incorporated in either the Atlantic or Mediterranean sections (in some cases, noticeable in the catch compositions of the various fleet segments).



**Figure 3.216 Trends on catch by species (tonnes) by the EU fishing fleet targeting Atlantic and Mediterranean stocks combined (A+M) in the ICCAT RA**

Data source: <https://www.iccat.int/en/accesingdb.html>



**Figure 3.217 Trends on catch (tonnes) by EU MS fishing fleet targeting Atlantic and Mediterranean stocks combined (A+M) in the ICCAT RA**

Data source: <https://www.iccat.int/en/accesingdb.html>

### Main drivers affecting fleet performance in the ICCAT RA

- Tropical tuna stocks (yellowfin and bigeye), skipjack, albacore, swordfish and blue shark are the main fisheries in the area, in terms of both volume and value of landings. For some of these species, particularly swordfish and blue shark, the average market price remains at the same high levels as in the previous years.
- Both low fuel costs and high average prices (for key stocks) remained relatively stable in 2018.
- In terms of fleet segments, most of EU surface longliners and purse seiners have managed to reach positive gross profit margins with the exception of hook, pole and line from 24 to 40 metres LOA fleets from Canary and Portugal.
- Stable regulatory frameworks and adoption of conservation and management measures are keys components for the future economic stability and planning of the EU fleets targeting tropical tuna stocks. In 2016 ICCAT adopted Recommendation 16/01 establishing management measures for tropical tuna including catch and effort limits and technical measures for tropical tuna fisheries, which affects both EU purse seiners and longliners. In 2019, progress was made in the ongoing discussions towards the adoption of a new multi-annual conservation and management programme for tropical tunas. The Commission agreed a TAC for bigeye tuna of 62 500 and 61 500 tonnes, for 2020 and 2021, respectively. The annual TAC for yellowfin will remain at the current level of 110 000 tonnes. In addition, in order to reduce the fishing mortality of juvenile bigeye and yellowfin tuna, it was also agreed to reduce the maximum number of fish aggregating devices (FADs) deployed by vessels and to prohibit the use of FADs for two and three months in 2020 and 2021, respectively.
- The previously mentioned regulatory changes and enhanced control might have a negative impact in terms of fleet presence of French and Spanish purse seine active vessels in ICCAT (the Spanish purse seine are already excluded from this analysis as they fish 20% of their value of landings in the area)
- Regarding shortfin mako, the Commission could not reach a consensus on annual catch limits but agreed to impose restrictions for vessels to catch and retain on board, tranship or land North Atlantic shortfin mako. Stringent measures and increases in observer coverage might likely have as well an impact in terms of catches of these species reported by Spanish and Portuguese surface longliners and a possible displacement of effort to other areas including the Indian Ocean.
- A full assessment of Atlantic bigeye tuna stock was conducted in 2018 with worrying results in terms of biomass. Efforts are being made to gather and collect missing datasets particularly from non-European longliners and purse seiners. However, the lack of a comprehensive and periodic control system to monitor quota uptake and the unilateral increase of capacity by many CPCs could hamper the process.
- In 2019, full scientific stock assessments were carried out for two species: yellowfin tuna and white marlin, while new projections were provided for the northern shortfin mako shark. Ongoing work will continue in 2020 in terms of assessment for mako which seems to be in a dire situation (according to SC, even with 0t catch, biomass will decline until 2035) where ambitious rebuilding measures



might be adopted including an improved data collection and registration of dead individuals as by-catches and release of alive specimens of the sea.

## Landing obligation

The Commission adopted in 18 November 2014 a Delegated Regulation (EU) 2015/98 establishing a number of derogations to the landing obligation as defined under art 15.1 of CFP Regulation for RFMOs such as ICCAT and NAFO. This was coherent with on the implementation of the Union's international obligations, as referred to in Article 15(2) of Basic CFP Regulation (EU) No 1380/2013, under the International Convention for the Conservation of Atlantic Tunas and the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries.

This legislative act was subsequently amended by the Commission Delegated Regulation (EU) 2018/191, of 30 November 2017, to also establish a specific derogation to the landing obligation for the Mediterranean stock of swordfish.

As a result, a number of specific derogations apply to the following stocks:

- Bigeye tuna in the Atlantic Ocean
- Bluefin tuna in the eastern Atlantic and the Mediterranean
- Swordfish in the North Atlantic Ocean
- Swordfish in the Mediterranean Sea

## Outlook for 2020 and beyond

- Due to the relatively poor situation of the Atlantic bigeye stock, it is possible that the overall TAC for tropical tuna might be reduced and ICCAT may adopt more stringent management measures for all three tropical species (skipjack, yellowfin and bigeye); this might include temporary closures expanded in time (e.g. from 2 to 3 months in 2020 and 2021) or coverage (e.g. extending the FAD closure from Gulf of Guinea to the entire Atlantic Ocean) together with limits and reductions in the number of FADs deployed and number of supply vessels per PS fleets. Such measures could have detrimental economic consequences in the performance of the EU fleet in the medium-term. They might also bring about unintended shifts in fishing patterns and, potentially, displace fishing effort towards the Indian and, in a lesser extent, the Pacific Oceans.
- As was the case for bluefin and albacore, developing a Management Strategy Evaluation (MSE) for the tropical tuna species (yellowfin, skipjack and bigeye) remains key to setting clear objectives and improving the effectiveness of management measures currently in place. There are also significant information gaps for some parts of these fisheries (in particular longliners, pole and lines, etc.) and specific allocation keys cannot be set for yellowfin or skipjack for this reason. If data issues were to be overcome and possibilities of setting HCR for each of the stocks coupled with mitigation measures to avoid unintended catches of juveniles of bigeye tuna, this could provide economic stability for the fleets in the long term.
- The adoption of further management measures for FADs will also, potentially, have an impact on the way FAD dependant fisheries are conducted. Such management measures on FADs might include inter alia a limit on the number of deployed FADs, the use of non-entangling and further research on biodegradable ones, monitoring and tracking systems for lost or abandoned FADs, etc. Such measures can be expected to impact the economic performance and profitability of the purse seiners and could, once again, bring about changes to fishing patterns and/or displacement of effort.
- The introduction of a Harvest Control Rule for Northern Atlantic Albacore Tuna in 2018, together with a 20% TAC increase has given increased certainty to EU operators, particularly in Spain and France, around future management of this stock using a set of clear rules. This could bring about increased landings by Spanish and French purse seiners and longliners for the years to come.
- Further scientific work is needed to get more reliable and robust data for both the North and South Atlantic swordfish stocks. While total catches are below the EU TAC, at least one EU Member State (Spain) is near full exploitation of its individual quota. In addition, the EU fleet may retain, as by-catch, up to 15% of individuals below the minimum landing size (by number) within its declared catches thereby reducing the degree of discarding.
- Following previous measures in place since 2017, ICCAT adopted its Recommendation 19-06 on the conservation of North Atlantic stock of shortfin mako caught in association with ICCAT fisheries. Technical and spatial conservation measures are already in place, including enhanced reporting of catch, safe handling and release of live specimens to reduce incidental mortality due to high survivability. This will likely have a short-term economic impact in terms of lower landings for the concerned Portuguese and Spanish surface longline fleets. For 2020 and beyond, some ICCAT CPCs

are proposing to immediately stop any direct fishing by adopting a non-retention policy of both death and alive specimens with no exceptions, to increase the chances of rebuilding the North Atlantic stock of such species. This would mean a *de facto* close of the fishery with the corresponding loss of economic data for future years.

- Several conservation and management measures were adopted for sharks, with special attention being dedicated to the shortfin mako. In 2020, the Commission will discuss additional measures for the multi-annual conservation and management programme for tropical tunas. The Commission also agreed to hold intersessional meetings in 2020 and 2021 to develop and propose additional measures towards achieving conservation and management objectives for this stock.
- The ICCAT Commission finalized the protocol to amend the International Convention for the Conservation of Atlantic Tunas, which had been developed over the past six years. The new text modernizes the Commission and provides a mandate to manage oceanic sharks and rays as directed or by-catch fisheries. This will likely result in better accountability and reporting of catch and landings data along with improved control systems for these species.
- Regarding blue shark, ICCAT established for the first time at its Annual Meeting in November 2019 a total TAC for the southern Atlantic blue shark of 28 923 tonnes; and a quota allocation for the northern Atlantic blue shark stock of 39 102 tonnes [Rec. 19-07, amending the Rec 16-12]. The EU got a quota allocation for the northern blue shark stock of 32 578 tonnes for 2020. This is in line with current levels of reported catches in the area so there should be no big alterations in forthcoming years.
- In March 2019, the International Union for the Conservation of Nature (IUCN) classified the Atlantic shortfin mako and the longfin mako as Endangered Species. In August, they were included in the Appendix II Listing of the Convention on International Trade in Endangered Species (CITES), together with other 16 threatened species of sharks and rays this is a valuable fishery for Spanish and Portuguese surface longliners operating in ICCAT RA and it requires extra verification and documentation. This means that a new trade measure is in place in addition to the conservation and management measures, requiring on the operators to provide evidence and documentation on sustainability of the fishery to be sold. This has already raised specific problems in terms of operations and logistics. For example, in 2020, the Spanish Trade Ministry set a quota unilaterally established which does not let allow operators to commercialise legally caught makos from ICCAT which are kept in the meantime stored in freezing facilities. This will likely produce financial losses as a result of storage and freezing costs and potential loss of income if they cannot sell their catch.
- ICCAT will conduct its 2020 Annual meeting virtually as a result of COVID-19 pandemic. Due to huge operational and technical constraints as a result of 53 CPC and more than 500 delegates attending, there will not be possible to organise a fully-fledged meeting. The meeting is expected to focus on the following stocks:
  - a) Bluefin tuna
  - b) North Atlantic albacore
  - c) Mediterranean swordfish
  - d) Northern shortfin Mako
  - e) Tropical tunas.
- Intersessional and Delegations Consultations are taking place by correspondence procedure. There is a lot of uncertainty about the outcome. A roll-over of some of the measures would likely have little impact in changes of fleet activity in these areas, while drastic decisions could have a knock-on effect on landings and presence in the area in future years.
- Also, there might be risks related to lower control and monitoring pressure of fishing activities as a result of current problems with travel restrictions and crew rotations at ports in third countries as a result of the application of health and sanitary protocols.
- In terms of commercial aspects, there was a temporary close of markets for restaurants and wholesalers with diverse impacts depending on EU fleets segments: for example, Shellfish (shrimp) trawl fleet saw big fall in sales (collapsed markets) with even no public auctions, obliging them to store their product.
- Similarly, Spanish and Portuguese surface longliners witnessed a sharp fall in demand in target countries (Italy, Brazil, Senegal...) for swordfish and frozen sharks so the catches are also stored in freezing facilities in Galicia (Vigo, A Guarda, Marín) or Portugal (Viana do Castelo, Porto).
- Tuna purse seiners saw a drop in the prices due to frozen tuna and tuna loins purchased from China.
- Tuna pole and line vessels had to moor their boats several weeks in March, April and May 2020 in third countries (e.g. Senegal)



## Summary by ICCAT RA stocks, Member State and fleet segments

The EU fleet's activity<sup>19</sup> in the ICCAT RA involved 372 vessels and employed around 4 500 FTE in 2018. Fleets targeting Atlantic stocks numbered 217, or 61% of the total number of vessels and employed 3 600 FTE (80% of the total). Landings from these stocks accounted for 92% of the weight and 70% of the value, generating 71% of the revenue, 60% of the GVA but only 44% of the gross profit. In both the Atlantic and Mediterranean fisheries, personnel costs amounted to circa 35% of revenue. Profitability was higher in the fleet targeting Mediterranean stocks in the ICCAT RA because all fleet segments generated gross profits while two fleet segments targeting Atlantic stocks in the ICCAT RA suffered gross losses in 2018; the Spanish longline fleet from 24 to 40 metres LOA based in the Canary Islands and the Portuguese hook and line fleet from 24 to 40 metres LOA mainland fleet.

Overall, the EU fleet's activity in the ICCAT RA is dominated by the Spanish fleet segments. Combined these fleets were responsible in 2018 for: 53% of the number of active vessels; 64% of the FTE; 62% of the days at sea deployed, 51% of the weight and 46% of the value of landings; 48% of the revenue; 46% of the GVA and 38% of the gross profit. With only 8% of the vessels, the French fleets caught 34% of the catch in weight and 33% in value.

By fleet segment, the OFR French purse seiner segment over 40m<sup>20</sup> was the top producer with a catch of 51 200 tonnes in 2018, valued at EUR 77.4 million. The OFR Spanish surface longliners 24 to 40 metres were the second largest producers with 28 800 tonnes, followed by Spanish purse seiner segment 24-40m with 18 100 tonnes, closely followed by the NAO Spanish longline fleet from 24 to 40 metres LOA with 17 400 tonnes.



**Figure 3.218 Share of capacity, employment, fishing activity and landings for fleets with high dependency on ICCAT activity, 2018**

Source: Estimated from MS data submissions under the DCF 2018 Fleet Economic (MARE/A3/AC(2018))

Note: French data on employment and effort may be incomplete

## Spain

On the whole, the Spanish fleet segments with high dependency on Atlantic or Mediterranean stocks in the ICCAT RA were profitable in 2018. Combined, the segments targeting Atlantic stocks generated higher revenues and profits albeit lower profit margins compared to the segments targeting ICCAT Mediterranean stocks. One fleet segment –longline fleet from 24 to 40 metres LOA based in the OMR of the Canary Islands targeting Atlantic stocks suffered gross losses (almost EUR 1.9 million). Most of the revenue of these vessels came from bigeye tuna, skipjack and albacore catches.

The purse seiners targeting Mediterranean stocks (almost exclusively bluefin tuna in 2018) generated EUR 22.7 million in revenue and the highest profit margin (49%) while the purse seiners fleet from 24 to 40 metres LOA targeting Atlantic stocks (mainly albacore) generated the highest gross profit (EUR 11.6 million) and second highest profit margin (25%). The two surface longline fleet 24 to 40 metres LOA segments targeting Atlantic stocks (mainly blue shark and swordfish) reported the lowest gross profit margins (1.6% and 4.7%). The purse seine vessels operating in the Atlantic made most of the revenue from albacore, with a significant part of the catch also being made up of mackerel (in weight) in 2018.

<sup>19</sup> Of the selected fleet segments based on the dependency criteria

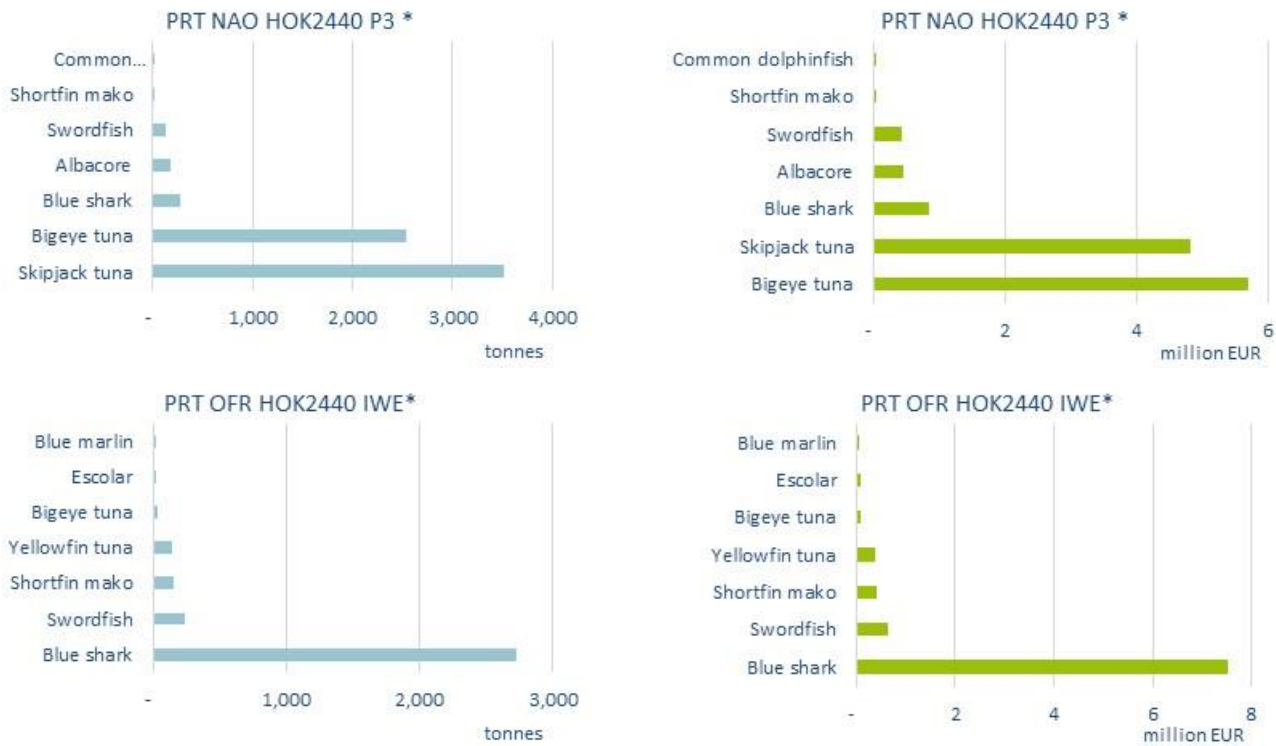
<sup>20</sup> Excluded from the ICCAT Atlantic stock time-series analysis due to data inconsistencies.



**Figure 3.219 Landings of top species by main Spanish fleet segments with high dependency on stocks in the ICCAT RA, 2018**

### Portugal

Overall, the Portuguese fleet segments with high dependency on Atlantic stocks in the ICCAT RA were profitable in 2018. Out of the five fleet segments selected, one – the hook and line segment from 24 to 40 metres suffered gross losses (almost EUR 1 million). This fleet segment, which mainly caught blue shark and swordfish in 2018, had the third highest revenue (EUR 8.6 million), yet with personnel costs amounting to 40% of revenue in 2018, the fleet generated a GVA to revenue of 29%. With other high operating cost items, the fleet performed at a gross loss in 2018. The most profitable fleet in 2018 was the hook and line 24-40m segment based in the Azores; generating a revenue of EUR 12.5 million, a GVA to revenue of 69.5% and a healthy profit margin of 28%. Most of this segment's revenue in 2018 came from bigeye tuna and skipjack catch.



**Figure 3.220 Landings of top species by main Portuguese fleet segments with high dependency on stocks in the ICCAT RA, 2018**

### France

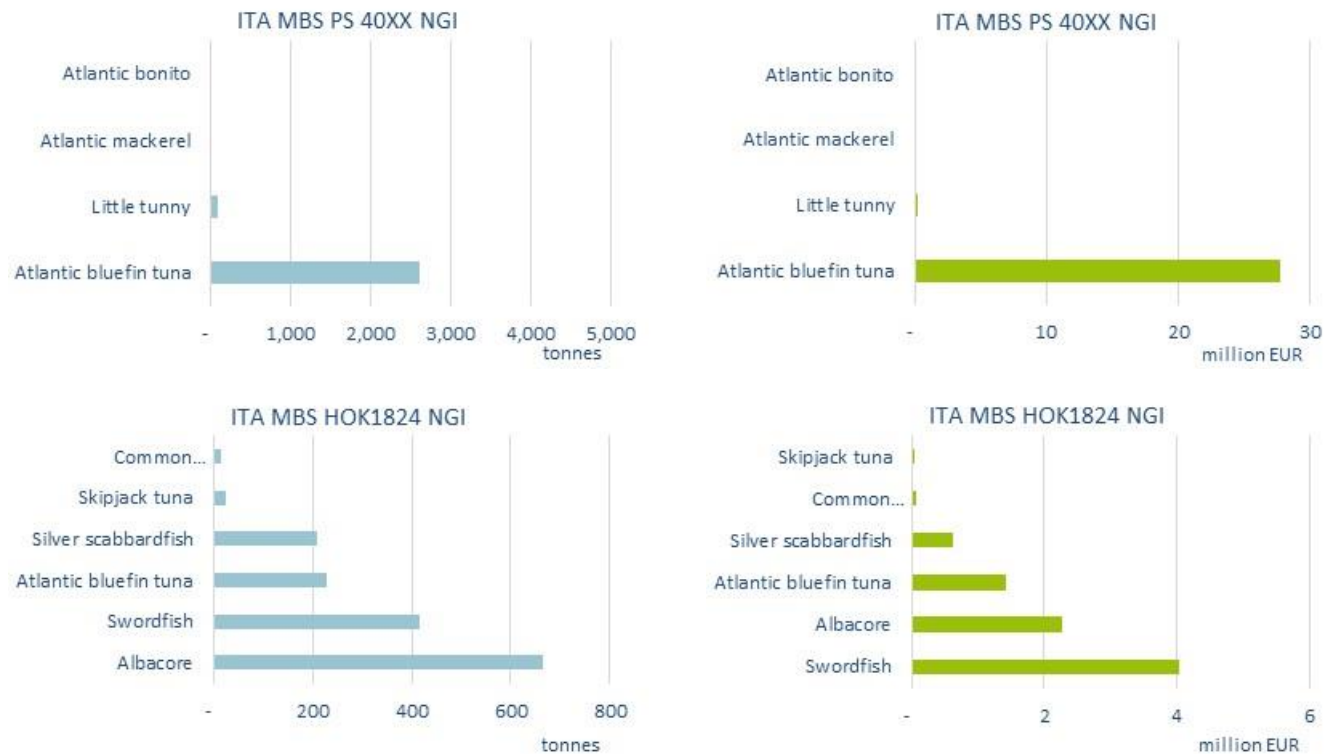
Both the French purse seiner fleet segments with high dependency on Atlantic and/or Mediterranean stocks in the ICCAT RA were profitable in 2018. Similar to the Spanish fleet, vessels targeting Atlantic stocks generated higher revenues while vessels operating in the Mediterranean obtained higher profits and better margins. The Mediterranean fleet's revenue from the ICCAT RA came solely from bluefin tuna while most of the revenue of the fleet operating in international waters in the Atlantic came from yellowfin tuna and skipjack.



**Figure 3.221 Landings of top species by the French fleet segments with high dependency on stocks in the ICCAT RA, 2018**

## Italy

Both the Italian fleet segments with high dependency on Mediterranean stocks in the ICCAT RA were profitable in 2018, with the purse seiner generating higher revenues and better profit margins than the hook and line segment. Most of the purse seiner's revenue came from landings of bluefin tuna while for the line segments swordfish and albacore landings dominated.



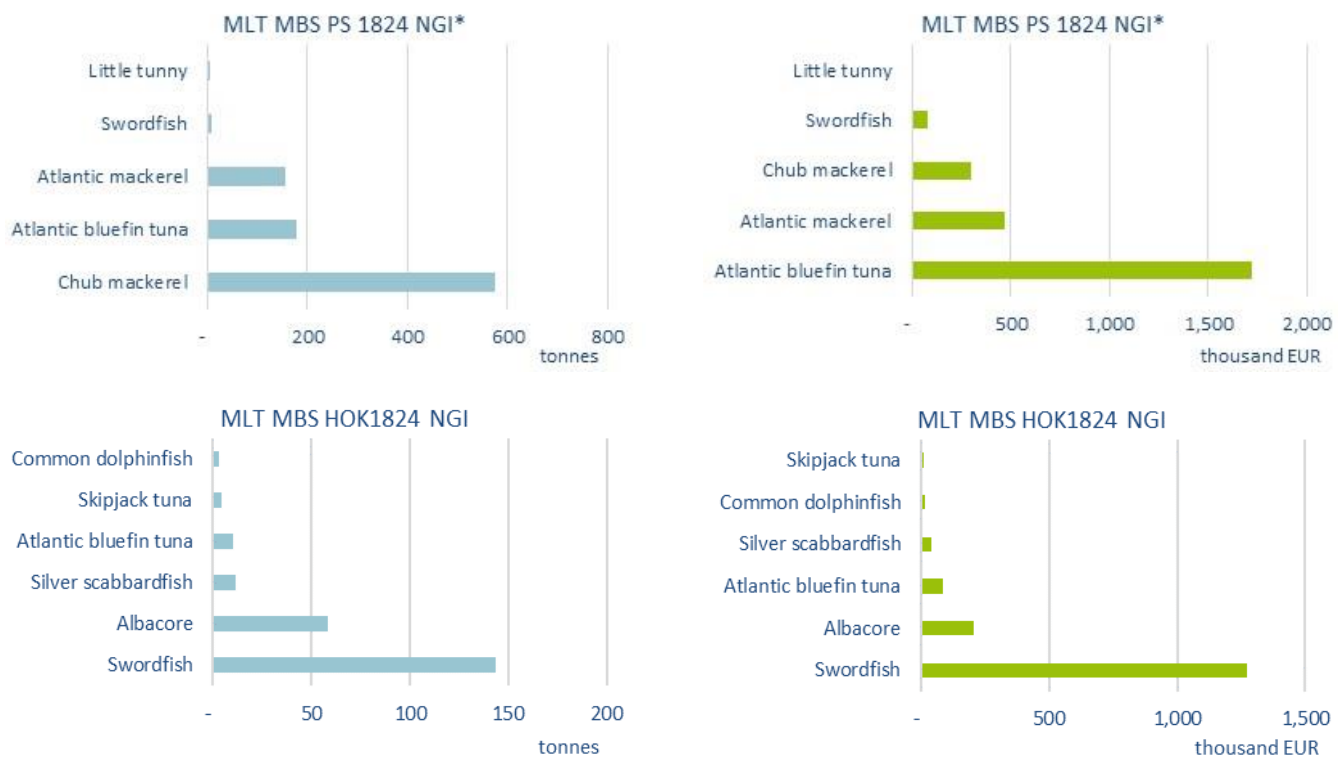
**Figure 3.222 Landings of top species by the Italian fleet segments with high dependency on stocks in the ICCAT RA, 2018**

## Cyprus

According to the reported data, only one purse seine vessel was active in 2017 and 2018. This single vessel spent 5 days at sea in 2018 and landed 74.9 tonnes valued at EUR 476 393; an average price of 6.4 EUR/kg. In 2017, the vessel spent 54 days at sea but landed 19% less in weight (60.9 tonnes) and valued at 3% more (EUR 490 132); averaging 8 EUR/kg.

## Malta

The three Maltese fleet segments with high dependency on Mediterranean stocks in the ICCAT RA were profitable in 2018 and, similar to the Italian fleet, the purse seiners generated higher revenues and better profit margins than the others segments. Most of the purse seiner's revenue came from landings of bluefin tuna while chub mackerel made up most of the landings in weight. For the line and active gear segments, swordfish, common dolphinfish and to a lesser extent, bluefin tuna were the main source of revenue in 2018.



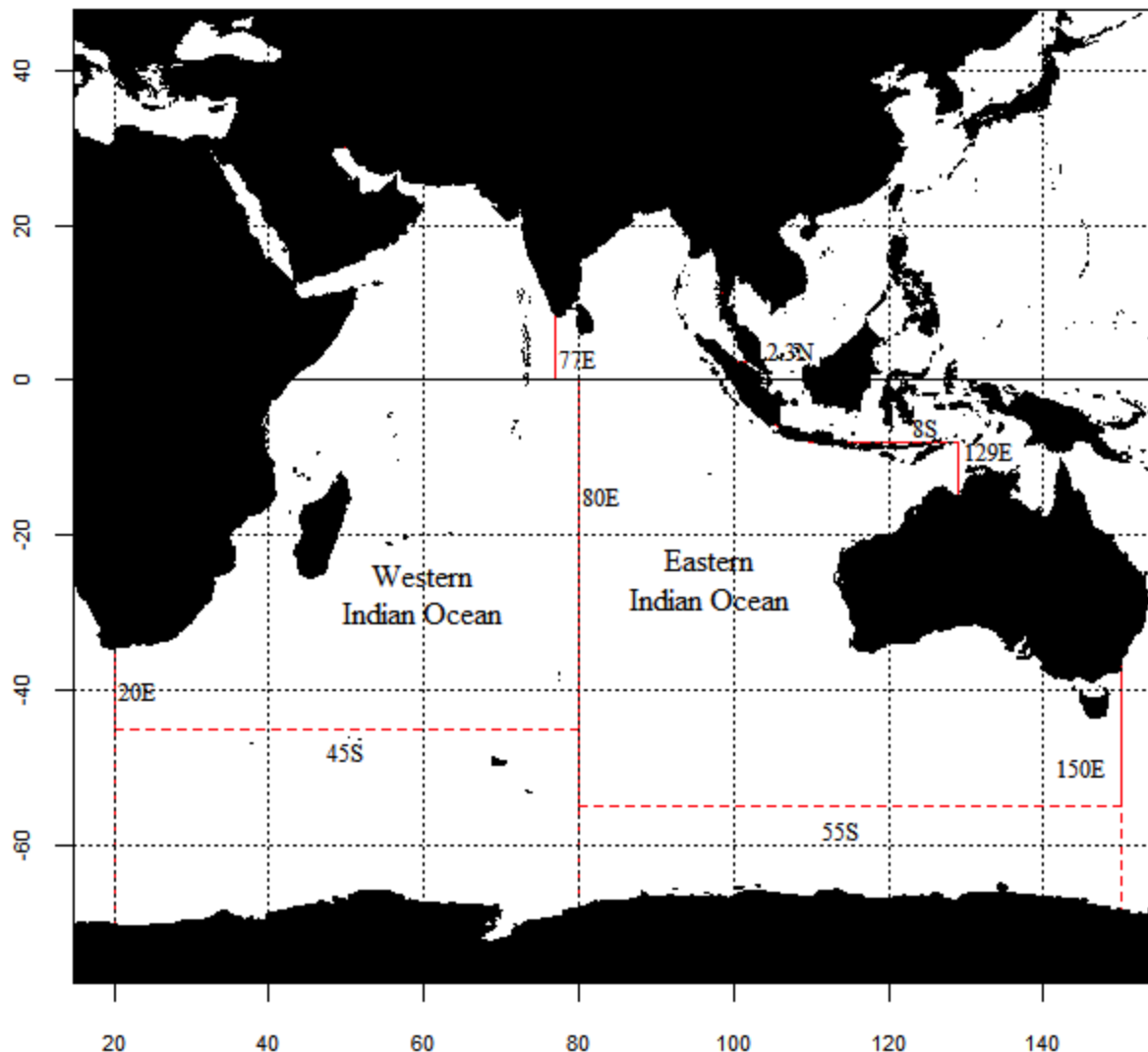
**Figure 3.223 Landings of top species by main Maltese fleet segments with high dependency on stocks in the ICCAT RA, 2018**

## IOTC - Indian Ocean Tuna Commission

### Area of competence

Under article II of the IOTC Agreement "The area of competence of the Commission shall be the Indian Ocean (defined for the purpose of this Agreement as being FAO statistical areas 51 and 57 in the map below) and adjacent seas, north of the Antarctic Convergence, insofar as it is necessary to cover such seas for the purpose of conserving and managing stocks that migrate into or out of the Indian Ocean".

Note: The Commission, at its 4th Session in 1999 agreed to modify the western boundary of the IOTC area of competence from 30°E to 20°E, thus eliminating the gap between the areas covered by IOTC and ICCAT.



**Figure 3.224 General overview of the EU fleet in IOTC Convention area**

### Species under IOTC management

The species under the management mandate of IOTC which are of commercial interest for the EU distant water fleets, are tropical tuna stocks (i.e. skipjack, yellowfin and bigeye), albacore tuna, frigate tuna and swordfish. In addition, the Commission's Secretariat collates data on non-target, associated, and dependent species affected by tuna fishing operations, i.e. marine turtles, marine mammals, seabirds, sharks and fish species caught incidentally (bycatch).

### Fleet selection and data limitations

Five EU Member States were active in the IOTC Convention region in 2018: France, Italy, Portugal, Spain and the United Kingdom. Owing to data limitations and confidentiality issues, it was not possible to produce a complete overview of the EU IOTC fleet.



Detailed analyses for the Italian and UK vessels operating in the region could not be performed as: (1) only one Italian vessel was active in 2018 and hence, only capacity and landings were provided and (2) reduced activity and negligible catches reported for the UK fleet.

Following EWG 20-06 assessment of data, a decision was made by the EWG to include in the present analysis the French flagged vessels from Reunion, even if they do not qualify as distant water fleet according to STECF methodology, i.e. they are either artisanal or small industrial fleets from Outermost Regions (OMR) under 24 metres LOA (except one which is clustered) and/or its main activity (more than 50% of their days at sea) taking place within their EEZs. This is done only for illustrative purposes as they are included in the report of the Outermost Regions (OMR).

According to IOTC data, the EU industrial fleet active in 2018 consisted of 19 longliners (excluding 19 from Reunion) and 26 purse seiners (Table 3.49):

- Longliners: 3 from Portugal, 14 from Spain and 2 from the United Kingdom
- Purse seines: 12 from France (+two supply vessels) and 14 from Spain

### Member States fishing activity in IOTC as reported by IOTC database

According to IOTC database, the EU as Contracting Party (CPC) has been stable both in absolute and relative terms in their level of catch around 11-13% of the total catch reported by all IOTC countries and gears. This means an average level of catch of 210 800 tonnes for the period 2010-2016, reaching a peak in 2018 of 14% of the total catch with 310 075 tonnes out of the 1.8 million tonnes caught in the IOTC Regulatory Area (RA).



**Figure 3.225 IOTC total catch by all fleets and gears evidencing the EU fleet's catch and main target species**

Data Source: IOTC Database – [www.iotc.org](http://www.iotc.org)

The EU catch amounted to a total of 310 075 tonnes in 2018, the highest in the time-series, with a sharp increase of 30% compared to 2017. This variation contrasts with the sustained catch reported over the period from 2010 to 2016 ranging between 190 500 and 230 000 tonnes. This might be explained partially from more activity in the area by the Spanish and French purse seine vessels, which have generally increased their volume of catch in the ICCAT RA since 2016.

In terms of species, the increase in catch was mainly due to skipjack (187 878 tonnes, +57% compared to 2017), representing 61% of the total catch in 2018, up from 50% in 2017. There was a decrease of 8 000 tonnes in the catch of yellowfin tuna reported, which in 2018 made up 25% of the total catch. Bigeye tuna comprised a further 10% of the total reported catch, with a sharp (+81%) increase from 17 765 tonnes in 2017 to 32 218 in 2018 (Figure 3.225).

Looking at all the IOTC species caught by the EU fleet, the French and Spanish purse seiners targeting three tropical tuna stocks combined take near 96% of the total catch, with the remaining 4% taken by longliners from France, Spain, Portugal and United Kingdom targeting mainly swordfish, sharks, albacore and frigate tuna.

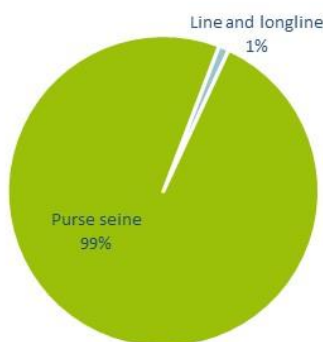
In terms of allocation of catch between Member States, Spain reported 68% of the total EU catch, followed by France with 28%, Italy with 3% Reunion with 1% and, Portugal with less than 1%.

**Table 3.8 EU industrial fleets operating in IOTC in the period 2010-2018 (latest data available)**

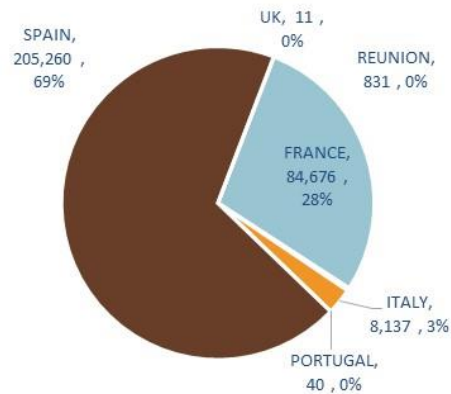
Fishery Type	Gear Group	Gear	MS	Length group	2010	2011	2012	2013	2014	2015	2016	2017	2018
Artisanal Fishing	Line	Coastal longline	FRA REUNION	0m-15m				11	15	20	22	24	21
		Hand line and Troll line	FRA						120	82	119	120	112
			FRA REUNION	5m-14m	168	167	141	138	138	117	130	136	131
Industrial Fishing	Longline	Longline targeting swordfish	FRA	0m-15m					6	4	3		2
			FRA MAYOTTE		3	3	4	4					
					26	26	28						
			FRA REUNION	15m-24m	12	12	13	21	22	19	19	17	19
				24m-40m	3	1							
			PRT		2	2	1	2	4	4	5	2	2
				40m-60m	2	2	2	6	2	2	2	4	1
			ESP		7	8	12	17	17	14	15	10	11
				24m-40m	6	7	7	5	5	4	4	3	3
			UK		2	1	1					1	1
	Purse Seine	Purse seine		60m-80m	2	2	2	2	2	1	1	1	1
					2	2	2	2	2	1	1	1	1
			FRA	80m-100m	6	6	6	5	4	4	4	4	4
			FRA MAYOTTE		2	2	4	3	9	8	8	8	8
				60m-80m	5	5	5	5					
			ITA							1	1	1	
				100m-120m									
			ESP		5	5	6	5	6	5	7	7	7
				40m-60m							2		
				60m-80m	4	4	5	2	2	3	2		
				80m-100m	4	4	4	6	7	7	7	7	7
		Supply vessel	FRA	24m-40m								1	2

Data source: IOTC Database – www.iotc.org

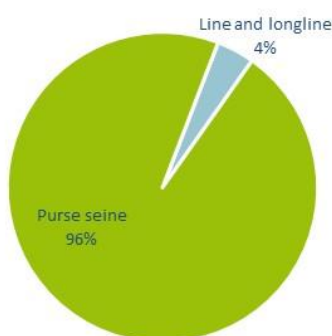
IOTC catch - tropical tuna species



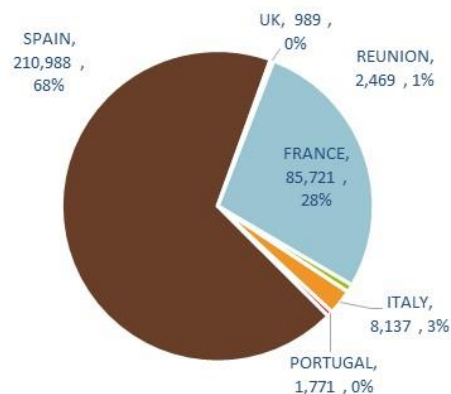
IOTC catch - tropical tuna species



IOTC catch - all species



IOTC catch - all species

**Figure 3.226 Share of catch volume by main fishing gear type and MS fleet, 2018**

Data source: IOTC Database – www.iotc.org

## Description of Member States fleets and segments operating in the IOTC region in 2018

### Spain

The Spanish industrial fishing fleet operating in the IOTC RA is composed of large (over 40 metres) purse seine and longline vessels. The purse seiners target tropical tuna stocks while longliners target swordfish and blue shark. According to IOTC data, there were a total of 28 Spanish industrial vessels operating in 2018: 14 purse seiners (7 vessels between 80-100m and 7 between 100-120m in length) and 14 longliners (11 between 24-40m and 3 between 40-60m). The number of purse seine vessels have remained relatively stable over the last three years, with the number of larger vessels increasing by two units, from five in 2015 to seven in 2016. Contrarily, the number of longliners have generally decreased, from the record high (over the period analysed) of 22 vessels in 2013 and 2014.

The combined catch composition is reflected in the fleet dynamics, with tropical tuna species dominating. Skipjack tuna catch remained relatively stable over the period analysed, increasing since 2016, and +58% in 2018 compared to 2017. Bigeye tuna catches in 2018 increased 110% compared to 2017 while swordfish and blue shark catch decreased by 32% and 29% respectively (Figure 3.227).

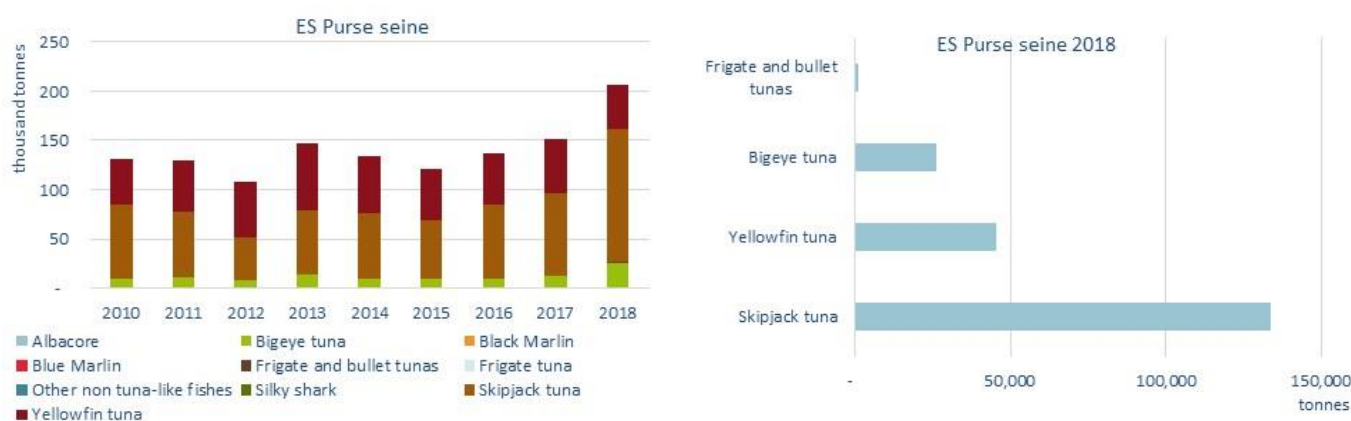


**Figure 3.227 Trends on total catch (in tonnes) by the Spanish fleet (purse seiners and longliners) operating in IOTC**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

### Spanish purse seiners fleet over 40m LOA (ESP OFR PS VL40XX):

The Spanish industrial purse seiner fleet is the most important EU fleet in the IOTC RA in terms of volume of catch reported. Its main target species consist of skipjack (65% of the total catch in 2018), yellowfin tuna (22%) and bigeye tuna (13%). Frigate and bullet tunas composed the remaining 1% of the total catch in 2018.



**Figure 3.228 Trends on catch (in tonnes) by the Spanish purse seine fleet operating in IOTC and top species caught in 2018**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

If we look at the degree of dependency<sup>21</sup>, in 2018, around 70% of this purse seine fleet's activity, in terms of share of value of landings, took place in the IOTC RA. The total number of days at sea was of 3 723, which represents an increase of almost 60% in respect to 2017. The volume of landings<sup>22</sup> in weight

<sup>21</sup> Based on effort and landings data submitted under the EU DCF.

<sup>22</sup> Based on DCF data and covers only IOTC tuna and large pelagic species (excludes sharks). IOTC catch data reports a total catch of 206 154 tonnes in 2018; skipjack tuna catch amounted to 133 626 tonnes.

was 204 628 tonnes in 2018, an increase of 34% compared to 2017. The increase was not translated into higher landed value, which was estimated at around EUR 243 million, 27% less than in 2017. This could imply that the average market prices were lower than in the previous year.

On economic performance, in 2018, overall variable and fixed expenditures were similar to 2017. To this regard, fuel cost increased by 11% and the cost in repair and maintenance by 46%, while labour costs decreased by 11% and other variable costs by 7%. The decrease in labour costs matches with the decrease in the number of jobs, however, jobs decreased by just 5%. Conversely, the number of FTE increased by 6%, meaning an increase in the number of full-time job but a worsening of the average annual wage (-16%) and labour productivity (-26%) compared to 2017.

In general terms, this segment (comprising 14 vessels) was profitable in 2018, generating a revenue of EUR 281 million and an estimated GVA of EUR 163 million, a gross profit of EUR 111 million and net profit of EUR 86 million, although all indicator values decreased compared to 2017 results: revenue -14%; GVA -22%; gross profit -26% and net profit -33%.

At the fleet segment level, i.e., including the activity of all vessels in all fishing regions, these vessels generated a combined revenue of over EUR 378.7 million, a GVA of EUR 157.5 million (GVA to revenue of 42%), a gross profit of EUR 87.4 million (23% profit margin) and a net profit of EUR 40.6 million (11% net margin). In fact, this fleet segment as a whole, comprising 26 vessels, was the most important segment in the Spanish national fleet, accounting for 21% of the total revenue generated in 2018 and employed around 1 700 FTE. The fleet segment, as a whole, saw a 16% fall in revenue, -32% in GVA, -42% in gross profit and -62% in net profit when compared to 2017. Hence, vessels in the segment operating in the IOTC area appear to have performed better than their counterparts in other fishing areas.



**Figure 3.229 Trends on capacity, employment, landings and performance estimates for Spanish purse seine vessels operating in IOTC**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

When comparing the IOTC catch data against data submitted by Member State under the EU-MAP (of the main tuna and large pelagic species) for these fleet segments, absolute values differ slightly, yet, similar trends on catch (landings) and relative catch (landings) compositions are maintained (Figure 3.230).



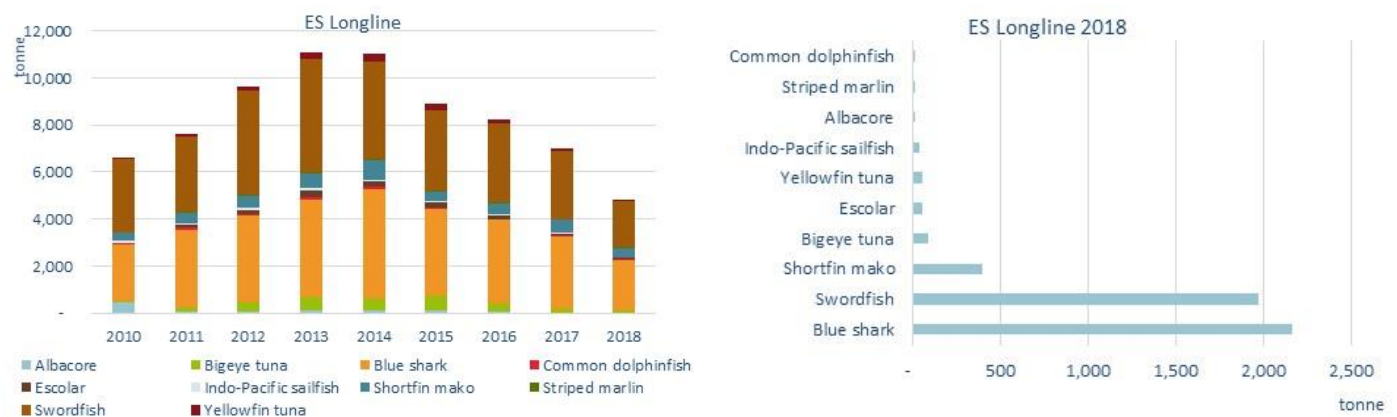


**Figure 3.230 Comparison trends on catch(landings) in weight and share by data source of the main tuna and large pelagic species for the Spanish longline fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015) and IOTC

### Spanish longliners (ESP OFR HOK VL2440 LLD and ESP OFR HOK VL40XX LLD):

The Spanish surface longline fleet operating in the IOTC RA consists of 83 vessels over 24 metres LOA and target species include blue shark (45% of the total catch in 2018) and swordfish (42%).



**Figure 3.231 Catch trends for the Spanish longline fleet operating in IOTC and top species in 2018**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

This segment had a lower presence in the IOTC area in 2018 than in the previous year. Less than 10% of this fleet's activity, in terms of landed value, took place in the region with a total number of 2 930 days at sea (5% less than 2017). This translated into overall lower revenues (-30%) and lower operating costs (-26%).

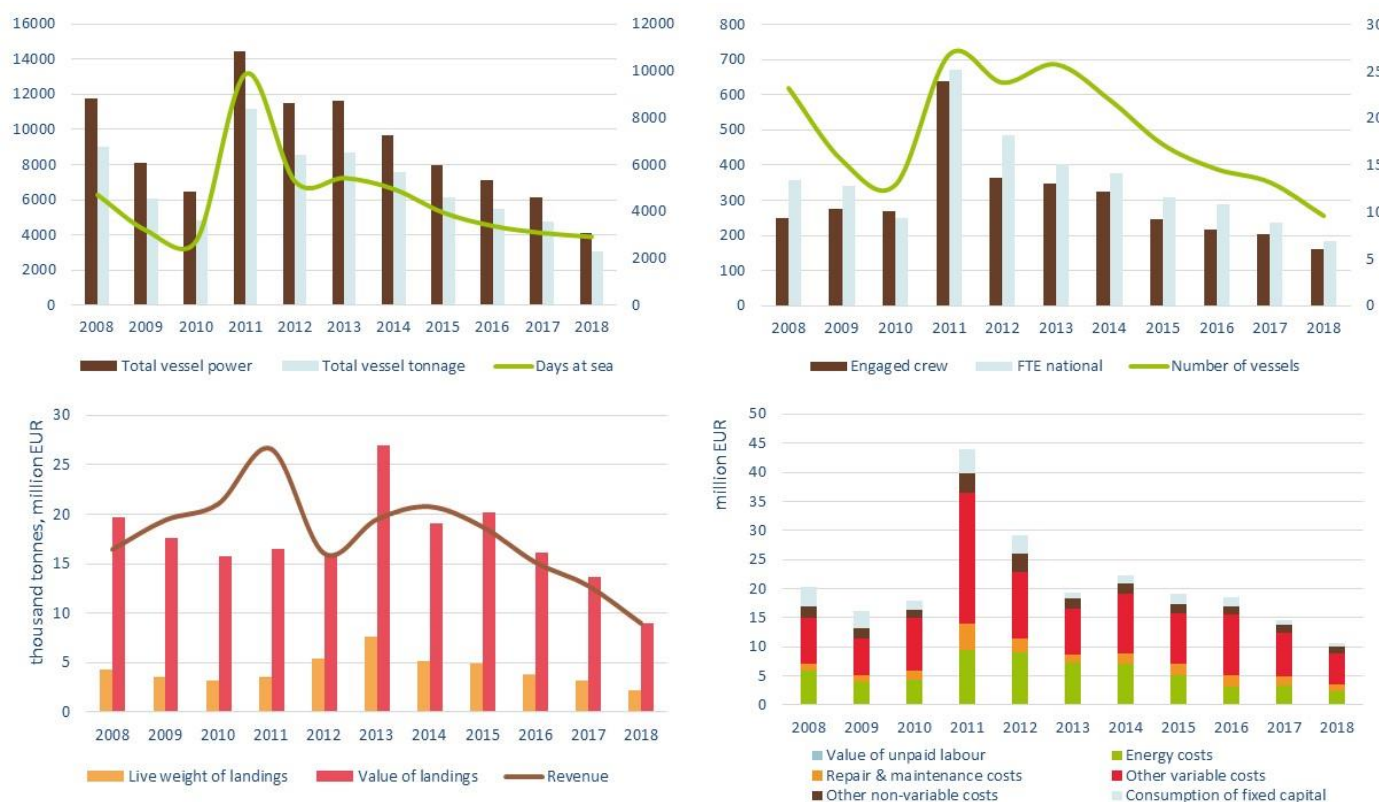
The segment reported landings in weight<sup>23</sup> of 2 194 tonnes in 2018, a considerable decrease of 32% compared to 2017. The value of landings also decreased at a similar rate by 34%, with a total of EUR 9 million.

In 2018, all costs items<sup>24</sup> decreased compared to 2017, apart from costs related to leasing/rental of fishing rights and quota, which increased by 52% (covered entirely by the VL24-40 segment). As effort

<sup>23</sup> Covers only IOTC tuna and large pelagic species (excludes sharks). IOTC catch data reports a total catch of 4 810 tonnes in 2018; blue shark catch amounted to 2 162 tonnes.

<sup>24</sup> Related to activity in the IOTC RA only.

decreased, so did fuel consumption, corresponding to a 28% decrease in energy costs. As revenue decreased, so did crew wages (-23% compared to 2017), as did all other variable and fixed costs. In line with the fall in capacity and effort in the region in 2018, the number of jobs and FTE also decreased, by 20% and 21%, respectively, when compared to 2017. Hence, annual average wage per FTE decreased only moderately (-2%).



**Figure 3.232 Trends on capacity, employment, landings and costs for Spanish longline vessels operating in IOTC**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015) and IOTC

As the activity of these vessels is low in this area, no further economic performance estimates have been made. At the fleet segment level, i.e., including the activity of all vessels and fishing regions, these 83 vessels generated a revenue of over EUR 132 million in 2018, a gross profit of EUR 10 million (8% gross profit margin) and net profit of EUR 3.9 million (3% net margin). Performance of the over 40 metres LOA segment was better, generating a GVA to revenue of 35%, a 16% gross profit margin and 11.5% net profit margin in 2018 (see Spanish National chapter). When comparing the IOTC catch data against the data submitted under the EU-MAP, absolute values differ to some degree, yet similar trends on catch/landings and relative catch composition are observed (Figure 3.233).





**Figure 3.233 Comparison trends on catch/landings (in tonnes and share) by data source of main tuna and large pelagic species for the Spanish longline fleet.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015) and IOTC

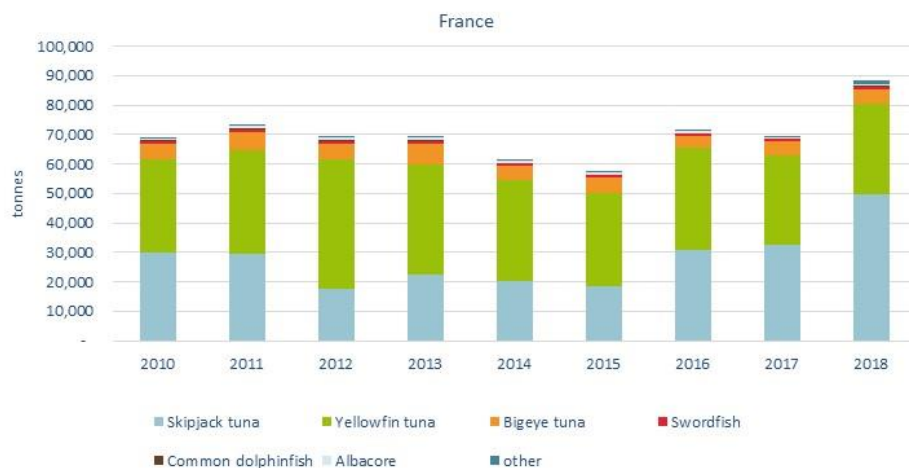
## France

The French industrial fishing fleet operating in the IOTC RA is composed of twelve large (over 60 metres) purse seine vessels, as well as some smaller line vessels (under 24 metres) and one 33 metres longline vessel that are based in the French Outermost Region of Reunion. IOTC data on vessels based in Mayotte are available up to 2013 only. The purse seiners almost exclusively target the tropical tuna stocks skipjack, yellowfin and bigeye tuna, while the smaller coastal vessels of Reunion target swordfish, yellowfin tuna, albacore and blue marlin.

According to IOTC data, the 12 French industrial purse seine vessels operating in 2018 were classified as follows: 4 vessels between 60-80 metres from France mainland and 8 vessels between 80-100m based in Reunion. Purse seine vessel numbers have remained steady since 2014.

The longline fleet comprised 2 French vessels under 15m and 19 Reunion vessels between 15-24m. The artisanal fleet comprised 264 line and longline vessels under 15m in 2018: 152 from Reunion and 112 from France, with the number of vessels varying year to year.

The fleet dynamics is reflected in the combined catch composition of the fleet, with tropical tuna species dominating. Skipjack, making up 56% of the total catch, has fluctuated over the time series analysed and similarly to that observed for the Spanish fleet, catch has increased since 2016. In 2018, skipjack tuna catch was at a record high at almost 50 000 tonnes, a 54% increase compared to 2017. Yellowfin tuna, comprising 35% of the total catch, has remained at around 34 000 tonnes a year, apart from 2012 when it reached 44 000 tonnes. Bigeye tuna catches (6% of the total) has also remained steady at around 5 300 tonnes. (Figure 3.234).



**Figure 3.234 Trends on total catch (in tonnes) by the French fleets operating in IOTC, 2018**

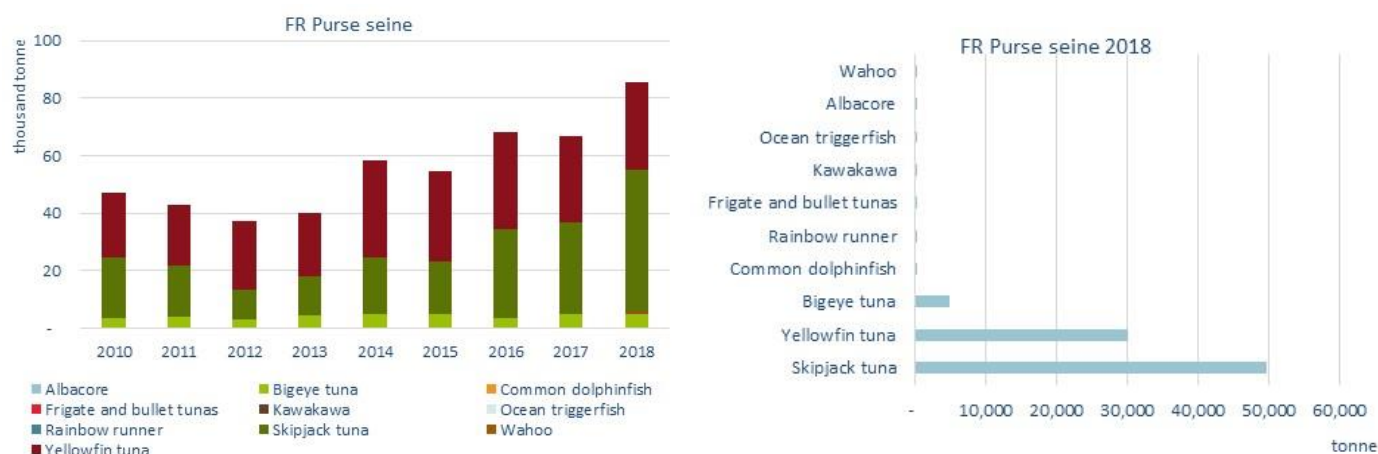
Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

### French industrial purse seiners

The French industrial fleet of freezer tuna purse seiners consisted of 22 vessels in 2018, including 5 vessels registered on the island of Mayotte. From these 22 vessels, 12 were operating in the Indian Ocean. The average age of the 12 vessels in this fleet segment reached almost 18 years in 2018. The average length of this segment is 78 metres LOA. The average full-time employment was around 25 employees per vessel in 2018 including fishers from France and foreign (mostly African) countries.

In 2018, total volume of landings of the 22 tropical seiners operating in the Indian and/or Atlantic Oceans (no disaggregation made) amounted to 135 900 tonnes and EUR 194.7 million. When disaggregating for activity in IOTC, landings reached almost 84 600 tonnes, valued at EUR 117.2 million in 2018<sup>25</sup>.

In terms of catch composition, tuna species caught were skipjack tuna (58% of the total volumes of landings), yellowfin tuna (35%), and bigeye tuna (6%).



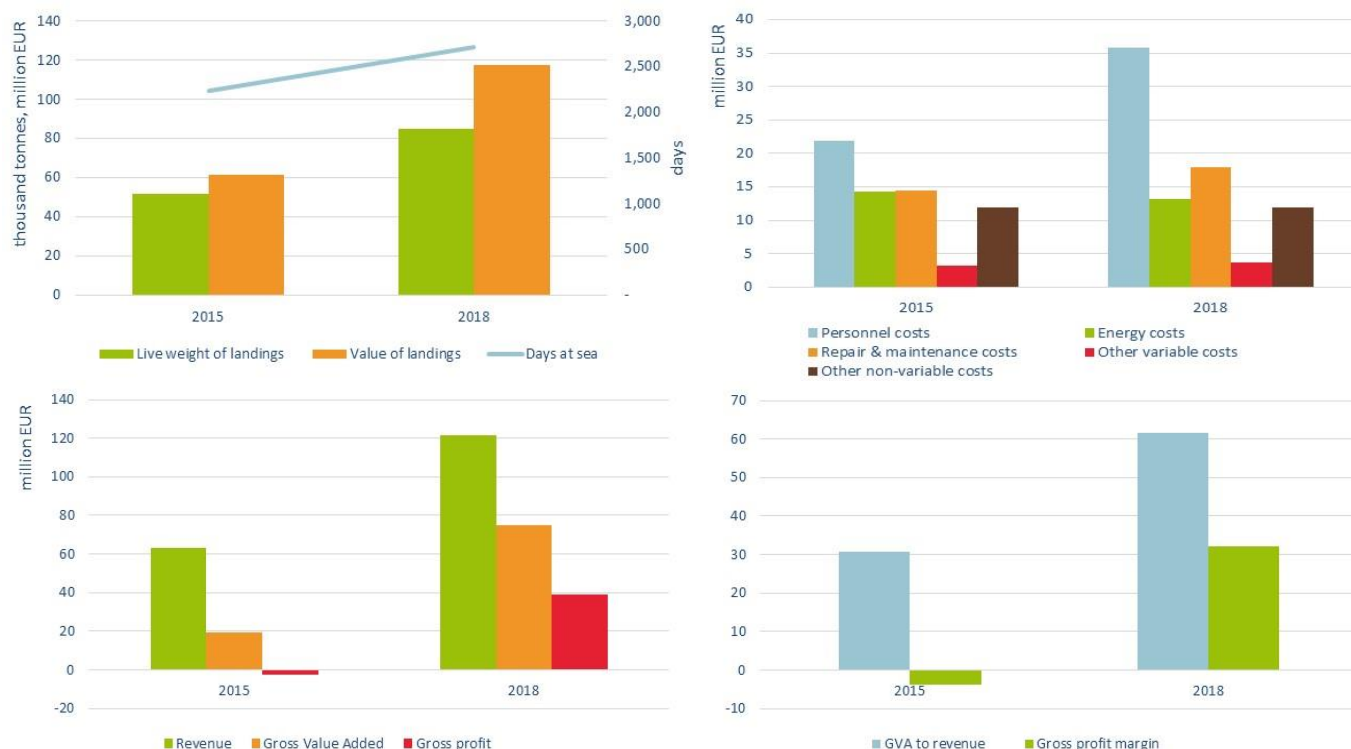
**Figure 3.235 Trends on catch (in tonnes) by the French purse seine fleet operating in IOTC and top species caught in 2018**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

According to the economic data collected, the three main cost items in 2018 were crew wages, repair and maintenance and energy costs. They represented respectively 29%, 15% and 11% of the total revenue in 2018.

The fleet segment was profitable. The revenue reported was of EUR 121.6 million and the GVA was close to EUR 75 million, generating a 62% GVA to revenue. Overall, operating profitability (gross profit margin) was estimated at 32%, valued in EUR 39 million.

<sup>25</sup> Covers only IOTC tuna and large pelagic species (excludes sharks). IOTC catch data reports a total catch of 88 190 tonnes in 2018 (Figure 3.234).



**Figure 3.236 Fishing activity, cost structure and performance results for French purse seine vessels operating in IOTC, 2015 and 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

At the fleet segment level, i.e., including the activity of all vessels in all fishing regions, the (22) vessels generated a combined revenue of over EUR 192.9 million in 2018 (+20% compared to 2017), a GVA of EUR 86.6 million (44.4% GVA to revenue) and a gross profit of EUR 29.2 million (15% profit margin), indicating that the vessels operating in the IOTC area had better performances than vessels operating in other regions. Average annual wage per FTE was estimated at EUR 105 700 (+22%) and labour productivity at EUR 159 500 (+7% compared to 2017).

When comparing the IOTC catch data against the data submitted under the EU-MAP (of the main tuna and large pelagic species), deviations are seen in both absolute and relative terms in several years, but in particular for 2012 and from 2016 onwards. Further investigation and feedback from the Member States are needed to better understand these inconsistencies (e.g. stemming from data issues such as landings not reported or misreported<sup>26</sup>) and thus, improve on the data quality and analyses (Figure 3.237).

<sup>26</sup> For example, weight of landings for FAO area 58 were reported for this fleet segment in 2017 but no days at sea or fishing days were reported for the same area/year.



**Figure 3.237 Comparison trends on catch(landings) in weight and share by data source for the French industrial purse seine fleet operating in IOTC.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015) and IOTC

### French Reunion hook and line and longliners

Although these vessels do not meet the requirement for qualifying as distant water fleet, and they are more seen as small scale or large fleet from outermost regions, some explanatory text is provided for illustrative purposes only.

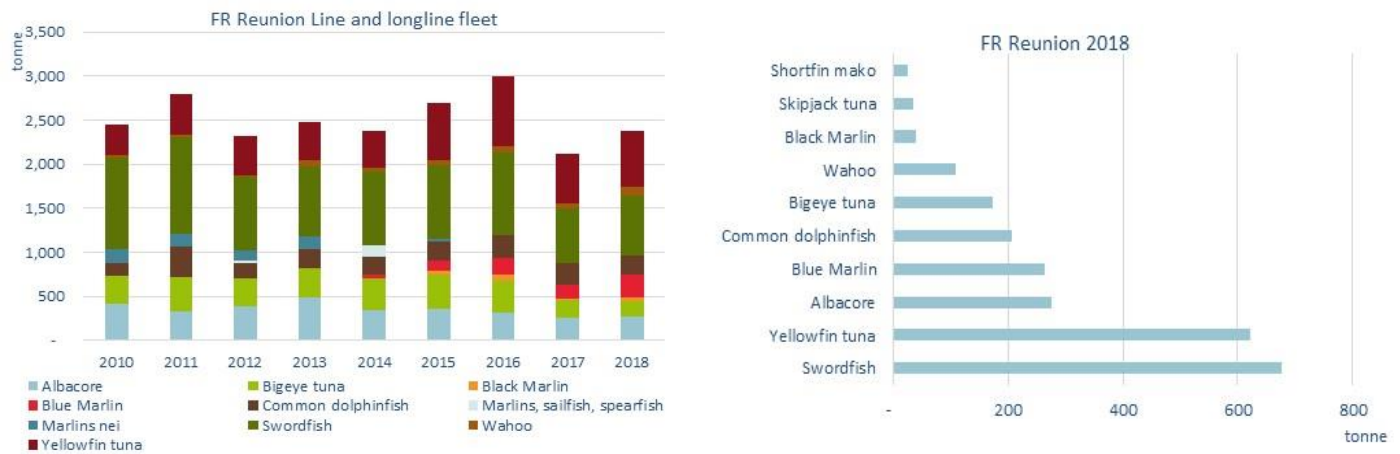
This category comprises three different fleet segments, namely:

- FRA OFR HOK0010RE, 162 vessels.
- FRA OFR HOK1218 RE, 16 vessels.
- FRA OFR HOK1824RE 4 vessels, including one longliner of 33 metres– OFRHOK2440IWE, which has been clustered here for confidentiality reasons.

Combined, these fleet segment represented 182 vessels, with a total vessel tonnage of 1 668 GT and a total vessel power of 19 641 kW. They reported 24 757 days at sea in 2018, with an employment of 177 FTE .

In terms of landings, they reported a live weight of 4 200 tonnes (-2% compared to 2017) valued at around EUR 22.9 million (+9% compared to 2017).

Economic performance estimates were not calculated due to incomplete data sets. For example, gross value of landings was not reported for the under 10 metres LOA segment and for the other two segments, the gross value of landings reported was only a fraction (around 30%) of the value of landings reported.



**Figure 3.238 Trends on catch (in tonnes) by the French Reunion line and longline fleets operating in IOTC and top species caught in 2018**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

When comparing the IOTC catch data against the data submitted under the EU-MAP (reported for the main tuna and large pelagic species) for these fleet segments, similar values are found for both the absolute values and relative catch composition (Figure 3.239).



**Figure 3.239 Comparison trends on catch(landings) (in tonnes and share) by data source for the Reunion line and longline fleet operating in IOTC.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015) and IOTC



## Portugal

The Portuguese industrial fishing fleet operating in the IOTC RA is composed of three industrial longline vessels under 60 metres targeting swordfish, making up 41% of the total catch. The share of blue shark catch reached 44% in 2018. According to IOTC data, the three Portuguese industrial longline vessels operating in 2018 were classified as follows: two vessels between 24 and 40 metres in length and one vessel between 40 and 60 metres. This is a decrease from the four vessels between 40 and 60 metres operating in 2017 and is reflected in the total catch, which saw a significant reduction (-53%) in 2018, from 3 743 tonnes in 2017 to 1 771 tonnes in 2018 (Figure 3.240). The Portuguese catch amounts to less than 0.5% of the total EU catches in IOTC waters.



**Figure 3.240 Trends on catch (in tonnes) by the Portuguese longliners operating in IOTC and top species in 2018**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

## Portuguese longline fleet

There were three vessels (compared to four in 2017) belonging to the mainland longliners between 24-40 metres and above 40 metres LOA fishing exclusively in international waters: PRT OFR HOK VL2440 IWE (13 vessels at the fleet segment level) and PRT OFR HOK VL40XX IWE (six vessels at the fleet segment level). The activity of the three vessels is confined to the IOTC area. The other vessels in these two fleet segments operate in the Atlantic and Pacific oceans.

The Portuguese IOTC fleet spent around 935 days at sea in 2018, employed 60 FTE and landed 611 tonnes valued at EUR 1.7 million (including only the main IOTC regulatory species). This is a decrease of 62% in landed weight and 51% in landed value compared to 2017. Overall, revenue decreased by 55% and all cost items also decreased, although comparatively less than revenue. Therefore, all performance indicators saw a fall.

Due to some inconsistencies in the data, no further analyses was possible by the EWG 20-06.

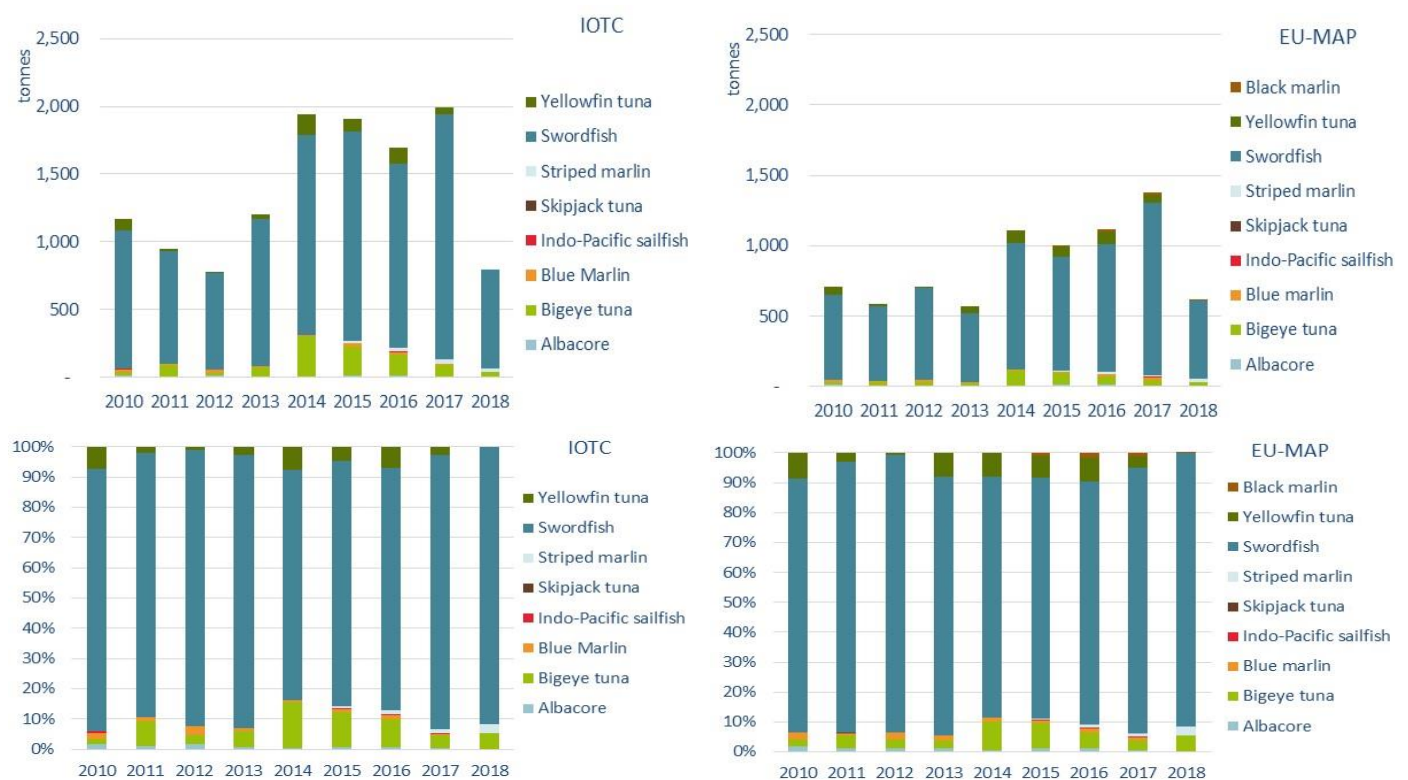




**Figure 3.241 Trends on capacity, employment, fishing activity and costs estimates for the Portuguese longliners operating in IOTC**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

When comparing data sets from IOTC and EU-MAP, the catch (landings) reported for the main tuna and large pelagic species for these fleet segments, deviations are found in both absolute values and relative catch compositions, seemingly underreported in the EU-MAP data. Additional information would be helpful to better understand these deviations and, thus improve on the data quality and analyses (Figure 3.242).



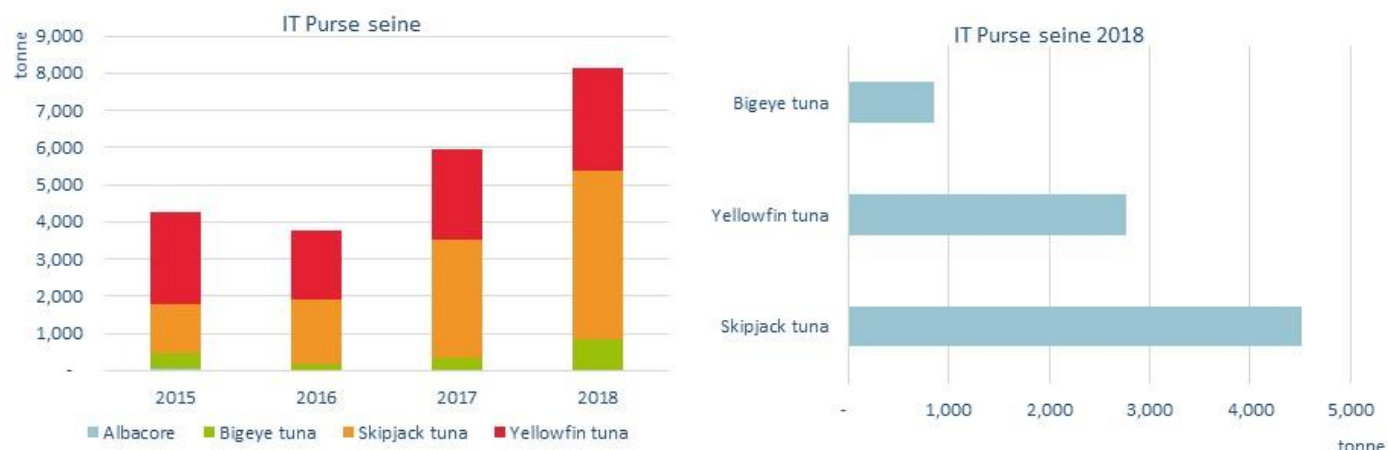
**Figure 3.242 Comparison trends on catch(landings) in weight and share, by data source, of the main tuna and large pelagic species for the Portuguese longline fleet operating in the IOTC RA.**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015) and IOTC

## Italy

According to IOTC database, Italy had one purse seine vessel between 60 to 80 metres (ITA PS VL40XX) active in IOTC waters for the years 2015-2017, targeting tropical tuna stocks (skipjack, yellowfin tuna and bigeye tuna) fishing exclusively in the IOTC area.

No vessels appear in the IOTC dataset for 2018, however, catch data are available. The reported catch in 2018 was 8 137 tonnes, which is an increase of 37% in comparison with 2017 (5 931 tonnes). In terms of catch composition, the 4 510 tonnes correspond mostly (55%) to skipjack, 2 773 tonnes to yellowfin tuna (34%) and 10.5% (854 tonnes) to bigeye tuna (Figure 3.243).



**Figure 3.243 Trends on catch (in tonnes) by the Italian purse seine fleet operating in IOTC and top species in 2018**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

## United Kingdom

The EWG was unable to carry out an economic analysis due to confidentiality issues. The data available under EU-DCF indicates that the United Kingdom vessel spent 245 days-at-sea in 2018 and landed just over 7 000 tonnes valued at around EUR 9.2 million.

According to IOTC database, the British fleet operating in IOTC waters included two longline vessels: one between 24-40m and the other between 40 to 60 metres. These vessels target swordfish and blue shark (Figure 3.244).



**Figure 3.244 Trends on catch (in tonnes) and top species in 2018 for the UK longliners operating in IOTC**

Data source: IOTC Database – [www.iotc.org](http://www.iotc.org)

### UK longliner: one longline vessel 24-40m and one longline vessel 40-60m targeting swordfish

The volume of landings in live weight has remained stable around the area of 460 and 580 tonnes in the period 2016-2018. In 2018 the reported landings were of 556 tonnes, a 4% decrease compared to 2017 (580 tonnes).

In 2018, the value of the landings was estimated around EUR 2.1 million, with 1 080 days-at-sea.

This fleet segment was profitable in 2018, with a revenue of EUR 2.2 million and a GVA of EUR 871 000, a gross profit margin of 9.7% and a net profit margin of 2.3%.

## Some notes on key trends and drivers of change

- Yellowfin tuna and skipjack are the two main species fished in this area, both in terms of volume and value of landings. It has been noted a considerable increase in particular of catches of skipjack, representing over 60% of the total.
- The stability of fuel costs and market prices have contributed to the overall gross profit and positive economic performance of the EU fleet targeting the tropical tuna species, mainly purse seiners.
- It is observed a continuous increase from the Spanish purse seiners in their catch data while the French purse seiners present a more stable pattern. The degree of dependency of the Spanish purse seine fleet reached a peak level in 2018 of above 70% of the share of value in landings. This might be partially linked to a displacement of effort or change of fishing strategy with less presence and activity in ICCAT due to combination of technical measures and FAD closure seasonal area to reduce catches of bigeye and yellowfin in that area.
- The IOTC agreed to the mandatory use of non-entangling FADs from 1 January 2020 and use of biodegradable FADs from 1 January 2022. In addition, the Commission further reduced the limit on active FADs to 300 for 2020 (down from 500 in 2015 and 350 in 2017) and the number acquired annually per purse seiner to 500 (down from 700). The non-entangling FADs should not have a great economic impact in the fishing activity of French and Spanish purse seiners as they have them already installed and internalized in their operating costs. However, the limitation of FADs per vessels could bring a considerable reduction of catch landings in weight and increase the number of days at sea.
- Yellowfin tuna's quota in the Indian Ocean, implemented since 2017, had an impact on purse seine fishing activity. The EU adopted catch limits assigned to purse seine fleet from Italy, France and Spain, following lower quota adopted by IOTC. The implementation of the catch limits by each Member State imposed more stringent management to reduce in average 17% of the catch average from 2014-2016. It also imposed enhanced reporting and control obligations coupled with a reduction in the ratio of 1 supply vessels for 2 purse seiners.
- The measures adopted in 2018 to reduce 15% average catch of yellowfin tuna have been reflected in the DCF data with a proportional decrease in landings of 8 000 tonnes for the EU purse seiner fleet, with a corresponding sudden increase in skipjack which is now caught in higher quantities than in the past while having a lower market value.
- The reduced purse seiner activity is having serious socio-economic consequences not only for the European fleet, but also for the economies and livelihoods of some coastal countries in the Indian Ocean where these companies have investments and work with supply chains. Some of the detrimental effects are reduced access fees, lack of raw material at canning factories, and economic loss due to a drop of services and economic activity in several coastal countries.
- In terms of economic performance, it must be noted that some Spanish and French operators are the beneficial owners of purse seine vessels flagged in third countries such as Seychelles which are coastal states IOTC and have their own quota. Although this fleet is not part of the analysis under the EU-MAP, it has an implication in terms of calculation of cost structure and economic returns for those companies acting as holding due to integration of their economic activities as European investments in third countries with likely financial transfers to the parent company.

## Regulatory framework, data issues and outlook for 2020 and beyond

- In recent years, the IOTC adopted management measures including catch and effort limits for purse seine and other fisheries. For tropical tunas, the measures adopted include Harvest Control Rules for skipjack, catch limits for yellowfin tuna (see Resolution 19/01), and measures to limit fishing effort for purse seine fisheries as a whole; as well as procedures on a fish aggregating devices (FADs) management plan, including a limitation on the number of FADs, more detailed specifications of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species. It also includes a resolution for the conservation of albacore caught in the IOTC area of competence; observer schemes and regional programme for monitoring transshipments at sea.
- The main issue in the IOTC relates to lack of comprehensive and quality scientific data. The result is patchy and incomplete data which is used to underpin the scientific assessments. It is therefore crucial that the IOTC increases activities to assist developing states in improving data collection and reporting, and verification of their capacity to monitor compliance with quotas in near-real time.
- Stronger and effective management measures are being discussed to ensure that catches of yellowfin tuna are reduced to the levels recommended by the IOTC Scientific Committee, including considering

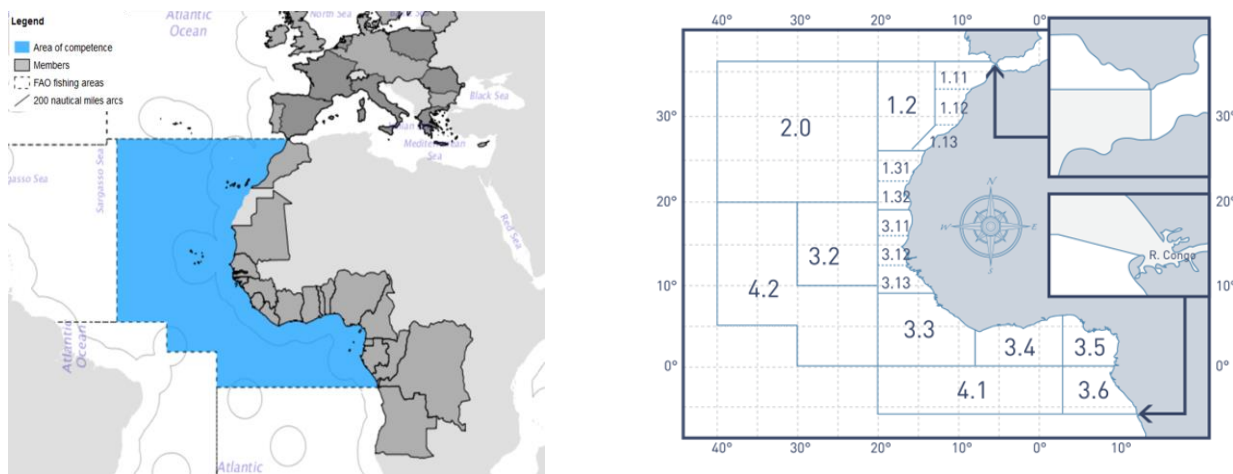
purse seine and revised longline CPUEs in future stock assessments, including an estimation of unreported discards of juvenile fish.

- In order to achieve a level playing field where all CPCs are included under the scope of the IOTC Resolution for management measures for yellowfin tuna, catch reduction objectives might be addressed for all fishing gears and not only purse seiners. This would have an impact in longliners activity as well.
- Increase in observer coverage (EMS included) would be needed as up to now only EU purse seiners have a 100% observer coverage, whereas non-EU longliners do not reach levels below 10%. An increase in observer coverage, with a minimum of 20% of the activity covered in all industrial vessels, could help to have a more accurate picture of by-catches (e.g. dolphin fish, wahoo, barracuda, etc.) and discards by gears, to understand interactions with tuna purse seiners and long liners.
- Divergencies have been noted between different sources, e.g. submission of catch data by EU Member States and CPCs to IOTC and via official statistics from EUROSTAT and EU-MAP. This could bring discrepancies on the data collected by the EU-MAP while cross-checked with IOTC to perform analysis.
- Estimate of total catch, including target species + non-target species (by-catch and discards) has to be improved. Currently there is a non-existing level of reporting of by-catch data by most CPCs, with only EU purse seiners and long liners collecting this sort of information. This ends up in a rough estimation of nominal discards. There is a need to fill this gap to improve knowledge in particular of sensitive species such as turtles or silky sharks.
- More information would be desirable in the way fishing effort is accounted for and reported for all gears in the IOTC area. Some CPCs such as Korea, Japan and Mauritius have made already a specific request on this in Annual Meetings.

## CECAF - Fishery Committee for the Eastern Central Atlantic

### Area of competence

CECAF is an advisory body and hence has no mandate on fisheries management in its area of competence. Figure 3.246 shows the area of the Committee. The Committee covers all living marine resources within its area of competence.



**Figure 3.245 Map of the CECAF Area of Competence**

Source: FAO <http://www.fao.org/figis/geoserver/factsheets/rfbs.html>

A large part of the activity in the CECAF region is related to the tuna fishery, which is covered under the ICCAT section. This section aims to report on the activity of other fleets operating in the region targeting mainly small pelagic and demersal species.

Most of the activity in this area falls under the framework of six tuna SFPAs in West Africa (Cape Verde, Ivory Coast, Gabon, Liberia, Sao Tomé e Príncipe, and Senegal) and three Multi-species SFPAs (Guinea-Bissau, Mauritania and Morocco) (see section of SFPAs below).

Tuna (and swordfish) agreements allow EU vessels to catch different species of large tuna and tuna-like species, as they migrate along the shores of Africa using purse seines, pole and line, and surface longlines.

The mixed or multi-species agreements offer fishing opportunities for demersal and pelagic species, tuna, cephalopods and shrimp, mainly involving trawlers, purse seiners and longliners.

Due to data limitations, it was not possible to assess fleet activity by SFPA individually, nor undertake an economic performance analysis of these fleets.

Hence, this analysis set out to identify the main EU fleet segments with activity in the region targeting non tuna and tuna-like species, providing a baseline for future developments. Due to time constraints, the EWG was unable to produce an in-depth assessment of these fleets.

The EWG 20-06 notes that an in-depth assessment of the economic performance of the EU fleets operating in CECAF could help to better understand the importance of this area as a fishing ground for several small pelagic and demersal stocks. It also notes that it might provide useful information for assessing the economic dependence and performance of the EU fleets when getting access to the fishing stocks under SFPAs in third countries waters.

### Short description by the EU fleet segments active in the CECAF CA (FAO 34) in 2018

There are a total of six Members States with variable degree of presence in number of vessels in this fishery: France, Spain, Portugal, Italy Lithuania and the Netherlands. Poland reported no activity in the area in 2018, while Latvian and German fleets are not included in the table as only partial DCF was submitted due to confidentiality issues.

In 2018, there was 136 active vessels in the fishery, with a total volume of landings of 193 500 tonnes in weight and EUR 274 million in value.

The highest number of vessels corresponds to Spain, with near 71% of the total (97 vessels), followed by Portugal with 14% (19) and France with 7% (9) purse seiners).

Amongst the 16 fleets segments identified, there are six fleet segments which have a high degree of dependency from this area, i.e. close to 50% or more of the total share of value of their landings (and within a range of 63% to 100% in weight depending on the segment). The more dependent fleets from



CECAF are the Spanish longliners 24-40m and hook and line fleets 24-40m from the Canary Islands and the Italian Demersal Trawler over 40 metres operating in international waters, both reporting 100% of their value in landings. Both segments are followed by Spanish longliners and hook and line fleets 24-40m fishing in the North Atlantic and Portuguese longliners 24-20 metres with base in Madeira, both reporting 71% of their total value in landings; while Spanish demersal trawlers 24-40 metres have a 67% dependency and Lithuanian pelagic trawlers over 40 metres are the sixth with close to 50% in value.

26 Spanish purse seiners and 22 French purse seiners over 40 metres have a high volume of landings in this area. Although they are included in the table in terms of presence and activity in the geographical area for information purposes, they have been included in the ICCAT chapter for assessing their economic performance as they are targeting tropical tuna stocks and therefore fall within the remit of ICCAT.

The combined biggest volume of landings in weight by fleet segments (French and Spanish purse seiners excluded) corresponds to the Lithuanian demersal trawlers over 40m with 28 500 tonnes, followed by Spanish demersal trawlers between 24 to 40 metres with 17 500 tonnes and Dutch Pelagic trawlers over 40 metres DOA with 14 900 tonnes, respectively. In terms of value of landings, the Spanish demersal trawlers 24-40m and the Spanish and Portuguese hook and line longliners 24-40m seem to have the highest ratio value-weight of the catch, likely due to factors such as proximity to the fishing ground implying low fuel consumption and high energy efficiency, as well as reduced transport and operational costs as most catch is channelled to local consumption from neighbouring markets as the target species are mainly sold in the Spanish and Portuguese auctions and markets.

Note that due to spatial data limitations the EWG 20-06 cannot accurately determine the dependency of these fleets on activity in the CECAF regulatory area, e.g., some activity may take place in the Canary Islands and Madeira (as well as a small part of the Azores) EEZs, which are located in FAO 34.

**Table 3.9 Landings by MS fleet segments operating in CECAF area, 2018**

MS	Fleet segment	Share in weight	Share in value	Share in days at sea	Number of vessels	Weight of landings (tonnes)	Value of landings (thousand EUR)
FRA	FRA OFR PS 40XX IWE	32%	35%	41%	9	44,095	68,474
ESP	ESP OFR PS 40XX NGI	17%	19%	32%	8	48,147	65,659
ESP	ESP OFR DTS2440 NGI	92%	67%	74%	29	17,565	42,266
LTU	LTU OFR TM 40XX NEU*	63%	48%	37%	2	28,576	24,779
ESP	ESP OFR HOK2440 LLD	30%	21%	27%	16	11,200	16,926
ESP	ESP OFR HOK2440 NGI*	82%	77%	83%	12	11,884	16,905
ESP	ESP NAO HOK2440 IC *	100%	100%	100%	25	3,423	8,177
ESP	ESP OFR DTS40XX NGI	5%	4%	7%	2	5,735	6,735
ITA	ITA OFR DTS40XX IWE	100%	100%	100%	7	1,151	5,632
NLD	NLD NAO TM 40XX NGI*	5%	5%	7%	1	14,907	5,252
PRT	PRT NAO HOK2440 P3 *	29%	28%	40%	10	1,996	3,752
ESP	ESP NAO HOK2440 LLD	12%	12%	15%	5	2,149	3,443
PRT	PRT OFR HOK2440 IWE*	22%	22%	25%	3	993	2,652
PRT	PRT NAO HOK2440 P2	71%	77%	85%	4	1,209	2,201
PRT	PRT OFR HOK40XX IWE*	5%	6%	8%	1	229	635
PRT	PRT NAO HOK2440 NGI	8%	6%	6%	1	249	558
EU total	vessels >24m				136	193,507	274,044

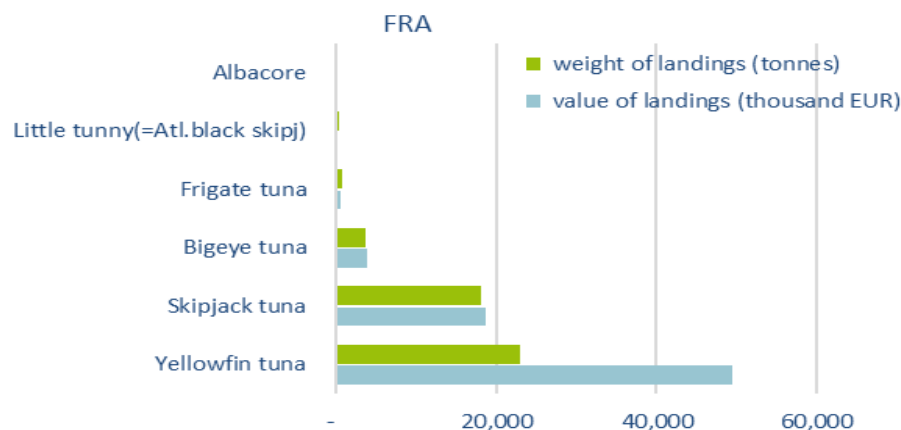
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Description of Member States fleets operating in CECAF in 2018

### France

No information is provided in the national chapter of France under the “distant water fleet” operating in CECAF.





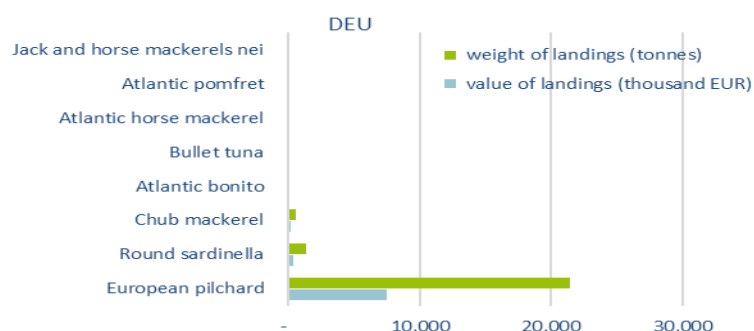
**Figure 3.246 Top landed species in term of weight by the French fleet operating in CECAF, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Germany

Only landings data but no effort data are available due to confidentiality issues.

One German pelagic trawler TM VL40XX operated mainly in FAO 34.1.3 (Coastal Sahara), targeting European pilchard as main species, representing about 90% both in weight and value in 2018.



**Figure 3.247 Top landed species in term of weight by the German fleet operating in CECAF, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Latvia

Partial DCF data available due to confidentiality issues.

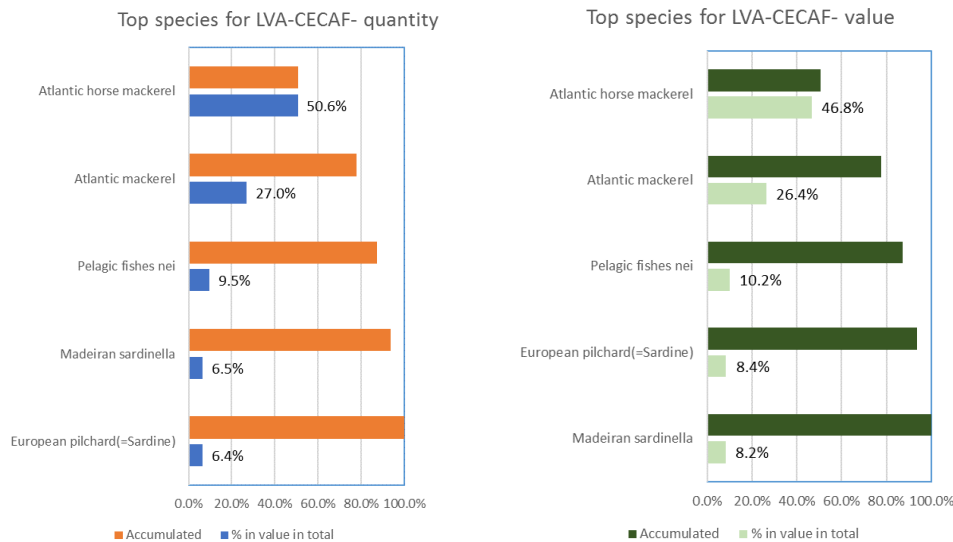
The Latvian fleet has five active distant-water vessels; two vessels operated predominately in the NEAFC area targeting beaked redfish and northern prawn, and three vessels in 2018 operated in the CECAF area.

In 2018 the total weight for the Atlantic catches was 64 700 tonnes of fish with an estimated value of EUR 25 million and reported income EUR 26.9 million. The main landing ports for these vessels were Hafnarfjordur, Reykjavik, Akureyri, Båtsfjord (NEAFC) and Nouadhibou (CECAF). Landings from the CECAF area amounted to around 63 409 tonnes in 2018.

The Latvian CECAF fleet targets small pelagic species, mainly Atlantic horse mackerel, Atlantic mackerel, Madeiran sardinella and sardine (Figure 3.248). The distant-water vessels spent a total of around 1 085 days-at-sea of which 987 were calculated as fishing days in 2018.

Despite of the increase in total weight and value of landing from 2017 to 2018 by 23% and 25% respectively the profitability of the distant-water fleet deteriorated in 2018.

Due to a significant increase in two items of expenditures: non-variable costs and repair costs, the DWF reported losses in 2018.



**Figure 3.248 Top landed species in term of weight by the Latvian fleet operating in CECAF, 2018**

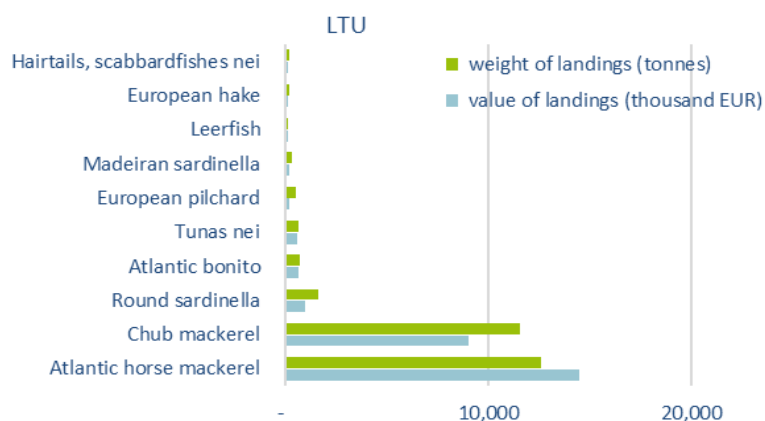
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Lithuania

In 2018, the Lithuanian long distance fleet counted with two active pelagic trawler vessels in the CECAF area which landed 28 600 tonnes of seafood production in weight, corresponding to EUR 26.5 million in value. Since 2008 it was almost the lowest value of landings by Lithuanian fleet in this region. Compared to 2017, it declined by 15% whereas in comparison with the 2008 to 2017 period value it decreased by 43%. Such changes were influenced by a gradual reduction of fishing opportunities in this region coupled with the termination in 2018 of the EU sustainable fisheries partnership agreement with Morocco which left on suspension the quota for small pelagic species leaving the fleet to operate only by the quota leftover carried from 2017. In 2019, the SFPA with Morocco was renewed and fishing access and quota was granted for small pelagic species.

Based on estimations, in 2018 the two Lithuanian vessels in CECAF generated EUR 9.8 million GVA with a 1% increase from 2017. In 2019, the Lithuanian fleet is expected to increase their revenues, as fishing opportunities are restored.

In terms of landings from the CECAF area, the fleet targeted mainly small pelagic species, such as Atlantic horse mackerel, Chilean jack mackerel and chub mackerel (Figure 3.249)".

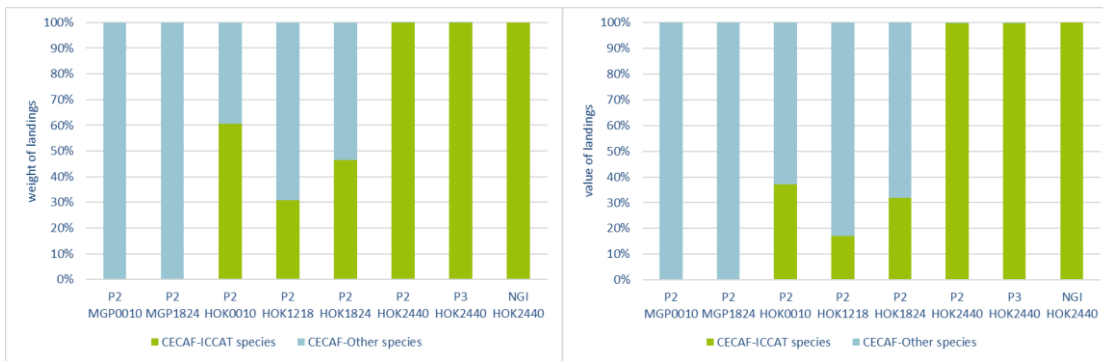


**Figure 3.249 Top landed species in term of weight and value by the Lithuania fleet operating in CECAF, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Portugal

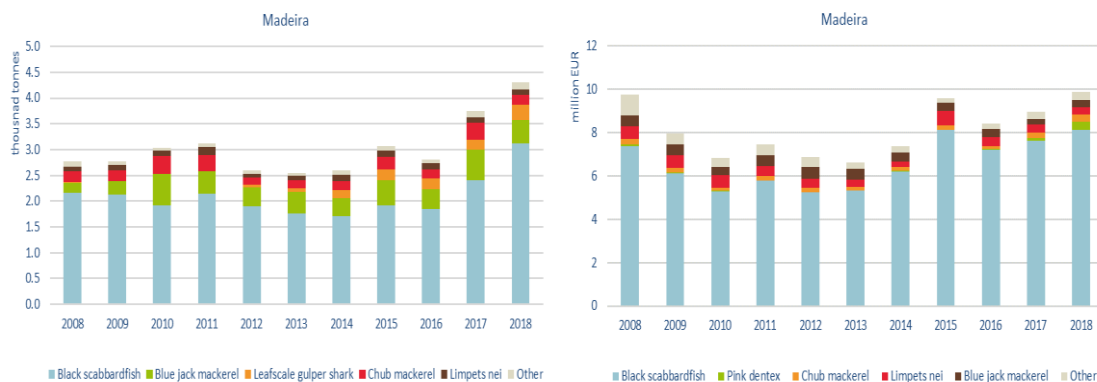
The fleet from Madeira Island, with geo indicator of P2, operates almost exclusively in CECAF (some vessels from the HOK2440 have some activity also in FAO 27). Vessels from mainland (geo indicator NGI, surface longliners) and Azores (geo indicator P3, pole and line with live bait) from the HOK2440 fleet segment also have some activity in FAO 34 area.



**Figure 3.250 Fleet segments CECAF species composition, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

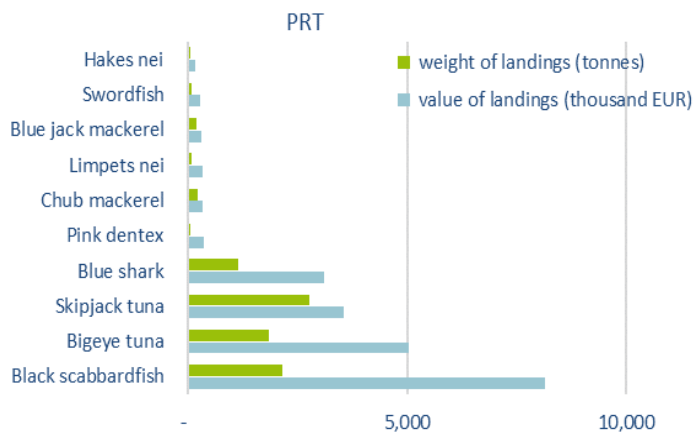
The HOK 2440 fleet segments from mainland, Madeira and Azores catches exclusively species covered by ICCAT organization (Figure 3.250). For the other hook fleet segments in Madeira the catches composition includes non-tuna and tuna-like species. In terms of value of landings, non-tuna represents 83% for HOK1218, 68% for HOK1824 and 63% for HOK0010 of the total value of landings. MGP fleet segments catches exclusively non-tuna species.



**Figure 3.251 Trends in landings of the top species in landed weight and value for non-tuna species in Madeira**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018, landings of non-tuna species in the CECAF area from species amounted to around 4 300 tonnes in with a landing value of EUR 9.7 million. The most important species is black scabbardfish (82.4% of the landing value), followed by pink dentex (3.7%) and chub mackerel (3.5%)



**Figure 3.252 Top landed species in term of weight and value by the Portuguese fleet operating in CECAF, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Poland

Poland did not report any catch in the CECAF area in 2018 due to low quota and CPUE. This meant the departure from the fishing ground from one Polish vessel which operated in the CECAF area in previous years, belonging to the TM VL40XX segment, which reported in 2017 12 500 tonnes evenly split between horse mackerel and Atlantic chub mackerel and accounting for over 90% of total landings.

## Spain

Spain has several fleet segments operating in FAO 34. Their target species are skipjack tuna, hake, shrimp, bigeye tuna and Atlantic pomfret. The Spanish fleets landed 100 373 tonnes with an estimated value of EUR 160 572 million. This represents a reduction of 18% and 34% respectively from previous year. However, the combined fleet increased days at sea by 15%.

Three segments had an important activity in this area in 2018: ESP NAO HOK2440 IC (100%), ESP OFR HOK2440 (80%) and ESP DTS2440 (75%). These three segments combined landed a total volume of 32 872 tonnes in 2018, with an estimated value of EUR 69.7 million. This represents a reduction of 9% and 28% respectively and compared to the previous year. However, the number of days at sea have increased by 25% compared to 2017.

Other segments also have reported some activity in this area, but three of them are below of the 30% of their total activity, and the rest barely reach a 10% of their total activity.

In 2018, fuel costs increased by 26% in comparison to 2017, other expenditures such as crews and maintenance also increase by 5%. Despite GVA has shown positive results (EUR 19.5 million), gross profit and net profit have been negative because of the reduction in the incomes, and the increase in some expenditures, mainly, fuel cost, showing a worse economic performance in respect of last year.



**Figure 3.253 Top landed species in term of weight and value by the Spanish fleet operating in CECAF, 2018**

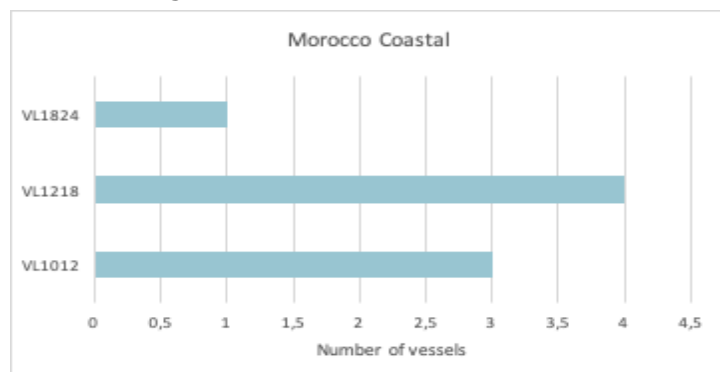
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Spanish longline fleet based in Canaries operating in Morocco

### Fleet capacity

Fishing activity in Morocco takes place mainly in FAO Area 34.1.1.

In 2018 this fleet is numbered eight vessels (58% less than 2017), the majority are vessels under 12 metres using hooks.

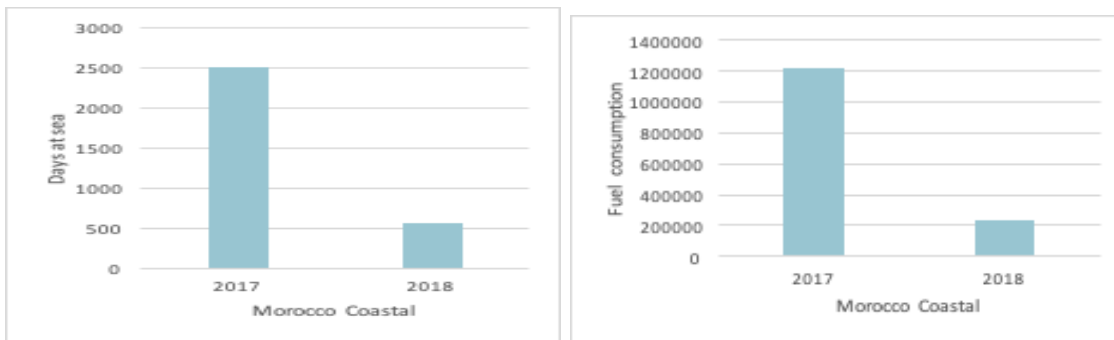


**Figure 3.254 Fleet structure by vessel length group, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Effort and landings

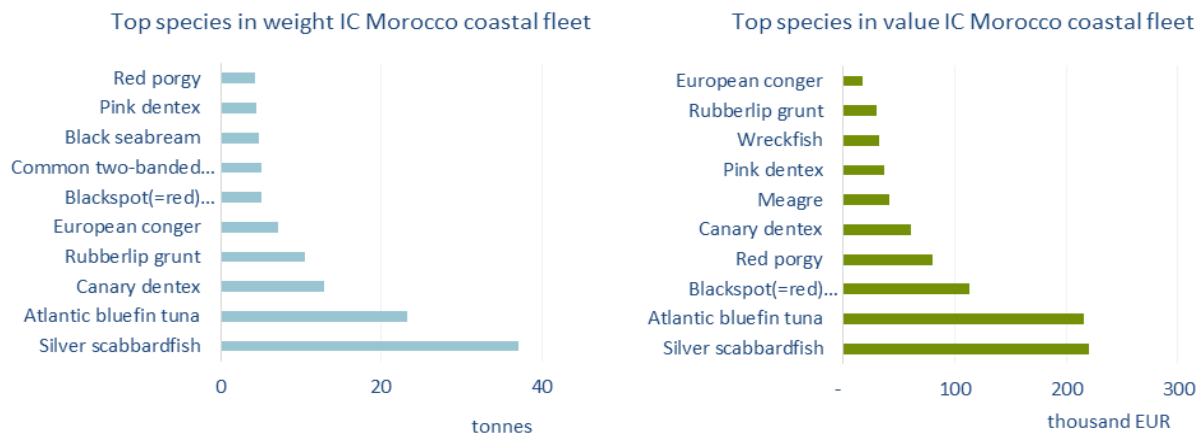
As number of vessels has decreased by 58%, effort (DAS) have decreased too (77.8% respect 2017); in the same way fuel consumption has decreased by 80% compared to 2017.



**Figure 3.255 Trends on fishing effort (in days-at-sea) and energy consumption for Morocco Coastal fleet**

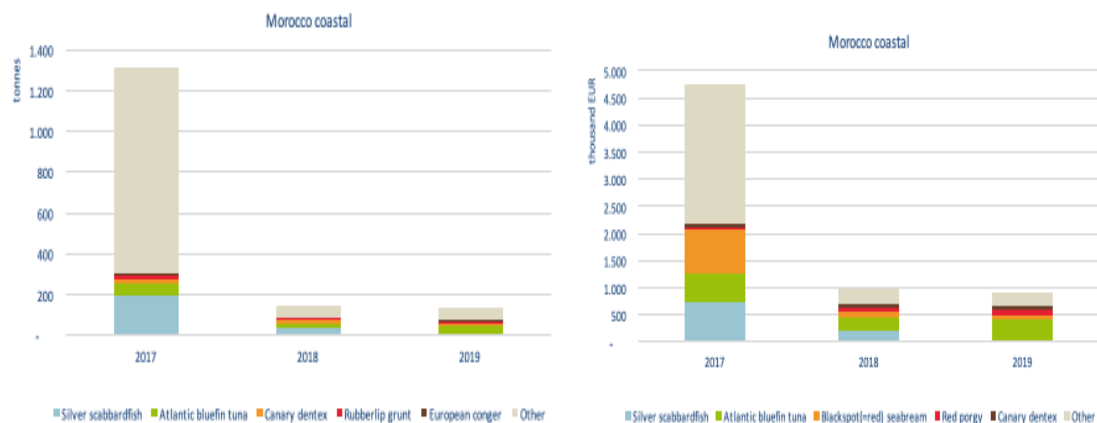
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

Landings (by weight) are dominated by silver scabbardfish (32%), Atlantic bluefin tuna (20%), Canary dentex (11%) and rubberlip grunt (9%). In terms of value, the most representative species are Silver scabbardfish (26%), Atlantic bluefin tuna (25%), blackspot(=red) seabream (13%) and red porgy (9%).



**Figure 3.256 Top landed species by Spanish fleet in the Morocco Coastal fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

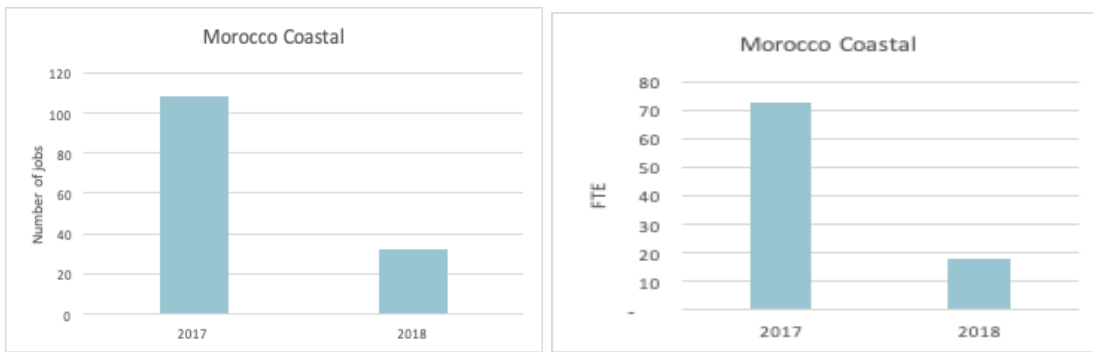


**Figure 3.257 Trends of landings of the top species in landed weight and value for the Morocco Coastal fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Employment

In 2018, the number of jobs and FTE decreased by 70% and 75%, respectively in comparison with 2017. This matches with the decrease in days at sea and the number of vessels observed.

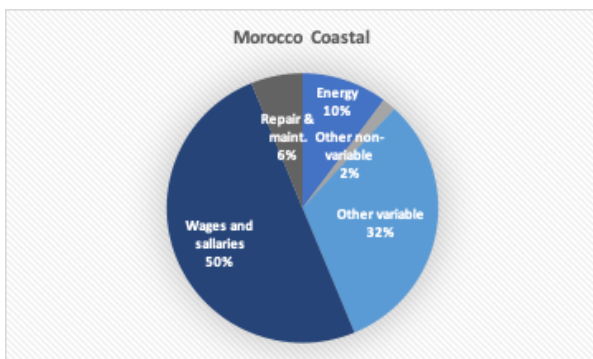


**Figure 3.258 Trends in engaged crew and FTE for Morocco Coastal fleet**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic data

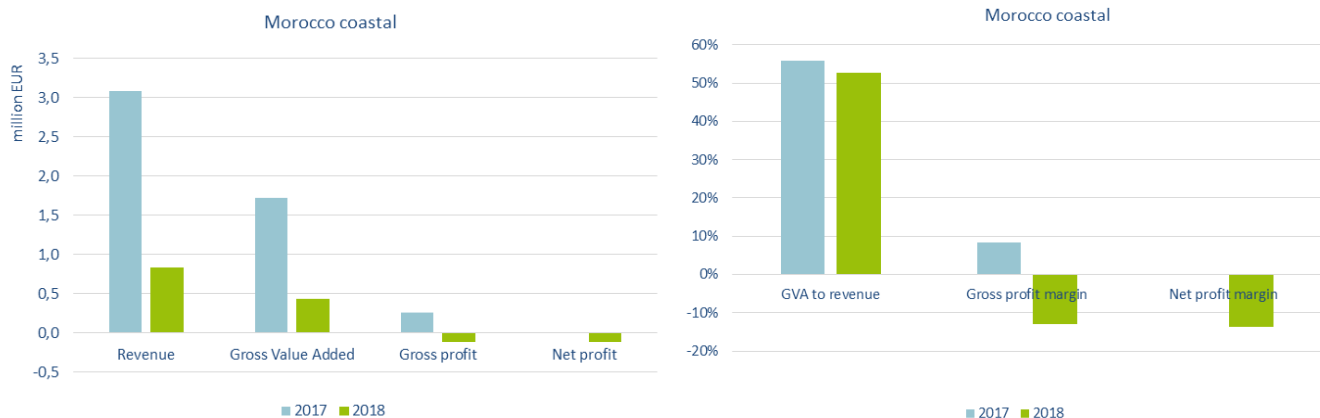
The cost structure of the Spanish fleet in Morocco is dominated by wages and salaries (50%) followed by other variable costs (32%), fuel costs (10%), and repair costs (6%). These values are similar to those in 2017.



**Figure 3.259 Cost structure for Morocco fleet, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018 the GVA was EUR 439 400, while the GVA margin, gross profit margin and net profit margin reached 53%, - 13%, and - 14%, respectively.



**Figure 3.260 Economic performance for Spanish fleet fishing in Morocco, 2018**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

It is important to highlight that one of the main reasons for the lost in number of vessels in Morocco, what implies a bad economic result is due to the closing of the Agreement in the middle of the year.



**Table 3.10 Overview for Spanish fleet fishing in Morocco, 2018**

Number of vessels	8
FTE national	18
Days at sea	556
Energy consumed per landed tonnes	1,657
Live weight of landings	141,651
Value of landings	940,459
Revenue	833,931
Gross Value Added	439,427
GVA to revenue	53
Gross profit	-108,276
Gross profit margin	-13
Net profit	-113,883

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## Italy

The Italian trawlers over 40 metres operating in FAO 34 (Sierra Leone and Senegal) included seven vessels in 2018 belonging to two shipowner companies. The average GT of vessels was 553 tonnes and average kW was 1 292.

The fleet landed almost 1 151 tonnes from OFR in 2018, with an estimated value of EUR 5.8 million. This represents a significant reduction from previous years; revenue decreased by EUR 3 million compared to 2017 as a consequence of a reduction of 5% in fishing days and of 23% in the average price of the landings. Between 2017 and 2018, both labour costs and fuel costs decreased by almost 30%. The reduction of 77% in other income also has an impact on the economic performance of the fleet in 2018.

This fleet was targeting mainly demersal species, such as common octopus (44% of total landing value), cuttlefish (14% of total value), and red mullet (8%). This fleet suffered net losses in 2018 with a net profit margin of -14%

**Figure 3.261 Top landed species by the Italian fleet in CECAF**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

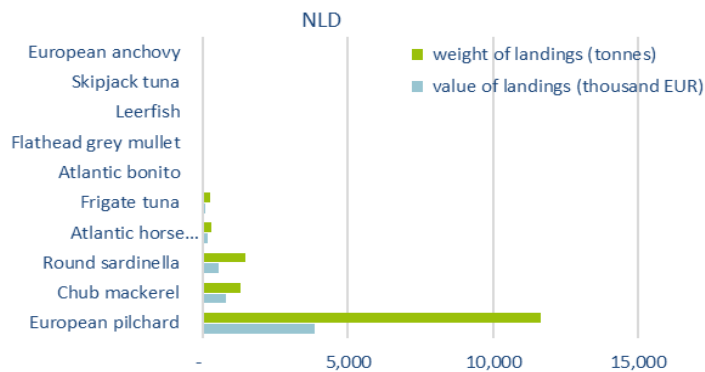
## The Netherlands

In 2018, seven vessels from the pelagic trawl over 40 metres operated predominantly in the North East Atlantic Ocean, CECAF and to a lesser extent in the North Sea. This fleet targeted small pelagic species, particularly herring, mackerel, horse mackerel and blue whiting. The total estimated value of landings was over EUR 116.5 million and around 378 FTEs were employed in this fleet segment, representing 28% of the total Dutch value of landings and 22% of the FTEs of the Dutch fishing fleet. These numbers are similar to 2017 except one vessel less.

It should be noted that the prices used to calculate the value of landings of the pelagic trawlers are obtained from the pelagic sector (see data issues). They are internal prices used to calculate the wage

of the crew of the fishing vessel. The integrated companies cover the whole production chain from fishing to the consumer and there are no real ex-vessel prices available.

This fleet segment was profitable in 2018, with a reported GVA, gross profit and net profit of EUR 52.9 million (-8%), EUR 16.2 million (-36%) and EUR 3.8 million (-66%), respectively. Information about the economic performance of the overall companies with cost allocations is not available, so the EWG 20-06 cannot evaluate whether those profits resemble reality.



**Figure 3.262 Top landed species by the Dutch fleet in CECAF**

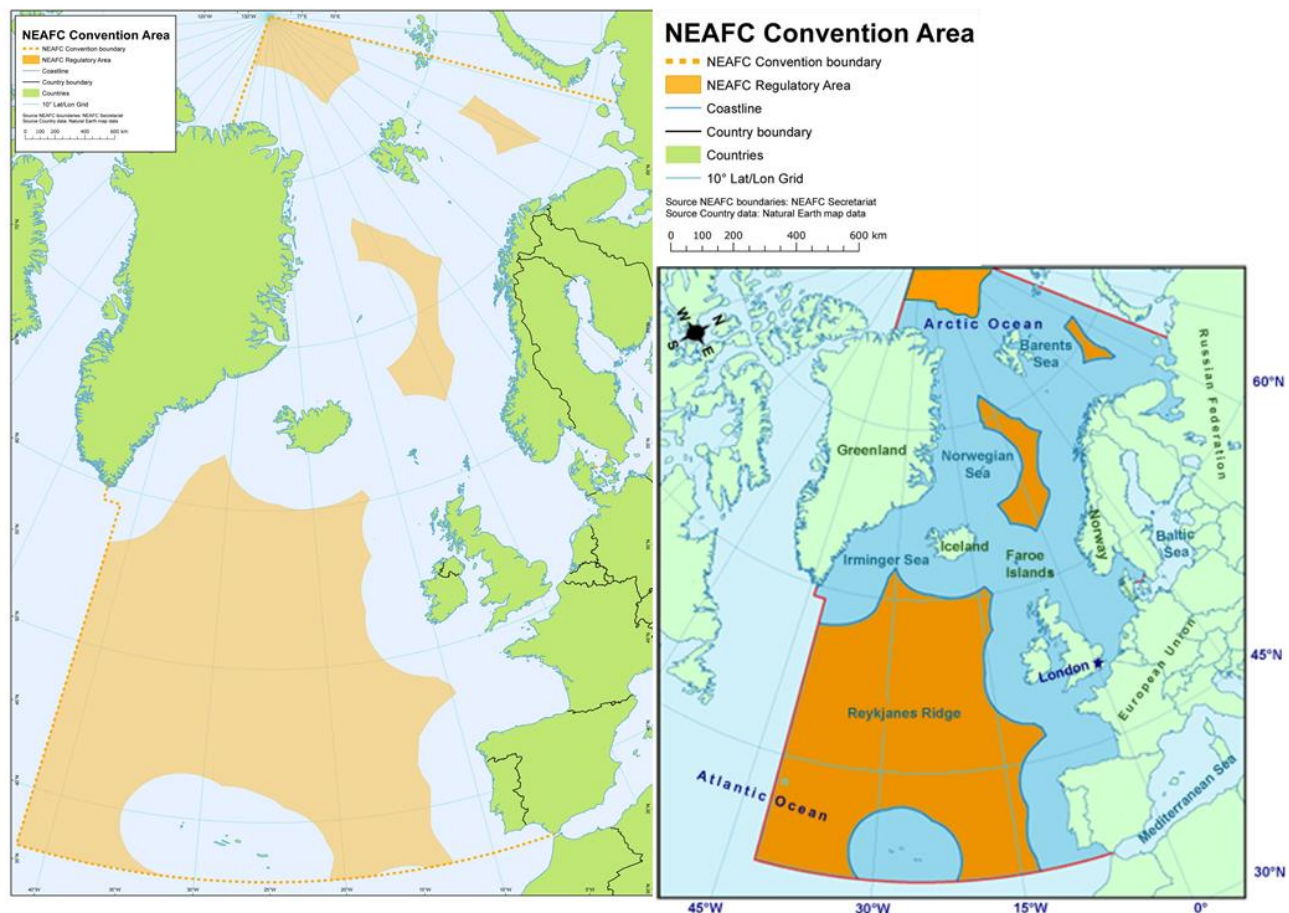
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## NEAFC - The North East Atlantic Fisheries Commission

The North East Atlantic Fisheries Commission (NEAFC) is the Regional Fisheries Management Organisation (RFMO) for the North East Atlantic. NECAF is comprised of Contracting Parties<sup>27</sup> which have signed up to the Convention on Multilateral Cooperation in North East Atlantic Fisheries, which entered into force in November 1982. The area covered by the NEAFC Convention stretches from the southern tip of Greenland, east to the Barents Sea, and south to Portugal.

### Area of competence

The area covered by the NEAFC Convention stretches from the southern tip of Greenland, east to the Barents Sea, and south to Portugal (Figure 3.263).



**Figure 3.263 Map of the NEAFC area of competence**

Adapted from Source: <https://www.neafc.org/>

Due to time constraints the EWG 20-06 could not provide any assessment on this area.

Main tables are presented in Annex 4 of this report.

<sup>27</sup> Contracting Parties: Denmark (in respect of the Faroe Islands & Greenland), EU, Iceland, Norway and the Russian Federation. Cooperating Non-Contracting Parties: Bahamas, Canada, Curaçao, New Zealand and Panama.

## 4 EU National Chapters

### 4.1 Belgium

#### Short description of the national fleet

##### Fleet capacity

In 2018 there were 70 vessels registered in the Belgian national fleet with a capacity of 13 600 GT or 45 000 kW; 66 (94%) of these vessels were active. This is a decrease of 1% compared to 2017 and of 18% when considering the overall time series. In 2019 there were 65 active vessels.

##### Fleet structure

As the Belgian fleet is small and mainly composed of demersal trawlers and beam trawlers. Only a few other fishing gears are used (seiners, dredges, gill nets and trammel nets). Three important fleet segments as defined in the DCF were identified after clustering: large demersal trawlers (DTS VL2440) and beam trawlers (TBB VL1824 and TBB VL2440). Belgium does not have vessels of more than 40 metres.

##### Employment

Total number of crew on board was estimated at 356 in 2018, without taking into account rotation, corresponding to a total employment of 212 FTEs. The segment with the highest employment was TBB VL2440 (60% of the national fleet) with an average of 5 FTE per vessel. In the DTS VL2440 segment there were 2.8 FTE per vessel, while in TBB VL1824 this dropped to 1.8 FTE per vessel (-30% compared to 2017).

##### Effort

Belgian vessels operate mainly in the North Sea, English Channel, Bristol Channel and other areas of the North Atlantic. In 2018, a total of 13 600 days were spent at sea; 1% less than in 2017, but 14% less than the average of previous years.

##### Production

Despite a declining fleet in terms of number of vessels, landed weight showed an increasing trend between 2008 and 2016. Since 2016 the trend is decreasing. Value of landings does not follow this trend, illustrating the volatile nature of fish prices. However, since 2016 it also follows a decreasing trend.

In 2018, 22 300 tonnes of seafood were landed by the fleet, with a value of EUR 79.2 million, respectively 8% and 7% less than the previous year. The fleet targets mainly demersal species. Sole remained the dominant species, generating the highest landed value (EUR 23.4 million) and representing about 30% of the total landings value. In terms of weight, European plaice remained the top landed species (7 200 tonnes or 32% of the total landed weight) and generated the second highest landed value (EUR 16.4 million, 21% of the total). Values are comparable to the previous year.

The North Sea (27.4) was the most important area in terms of total landed value (44%), followed by the Eastern Channel (27.7.d) with 25%, the Bristol Channel (27.7.f) and the Celtic Sea (27.7.g,h) (together 19%), the Western Channel (27.7.e) (6%) and the Bay of Biscay (27.8) (5%). Comparable figures to the previous year.

#### Economic results for 2018 and recent trends

##### National fleet performance

The economic performance of the fleet remained in an improved state compared to most previous years. After years of being in a loss making position, net profit was positive between 2015 and 2018. GVA, gross profit and net profit in 2018 were estimated at EUR 39.8 million, EUR 11.8 million and EUR 4 million, respectively. Considering the entire time series, these values represented an increase of 8% for GVA, 52% for gross profit and 332% for net profit. However, compared to 2017, GVA decreased by 14%, gross profit and net profit decreased by 28% and by 60%, respectively. These results indicate an overall positive economic situation, however, a decreasing trend since 2016 can be observed.

Compared to 2017, in 2018 total income (no income from fishing rights) decreased by 8% (EUR 82.4 million). Revenue decreased by 7% (EUR 82.2 million) as income from landings decreased by 7%. Direct income subsidies decreased by 70% compared to 2017 and by 86% compared to the average of all other years. This is likely a result of the implementation of the new regulation. The questionnaire was adjusted in 2017 to meet the needs of the New 2016 EU Decision (Commission Implementing Decision EU 2016/1251). Definitions were clarified in the questionnaire, most likely leading to different interpretations.

Total variable costs – excluding unpaid labour- were comparable to 2017. Energy costs increased by 21%, but decreased by 24% compared to the average since 2008 (EUR 17.5 million). Personnel costs decreased by 8%, while contrary to the overall trend, repair and maintenance costs decreased by 23%. Energy and crew costs represent the largest operating costs (57% in 2018). However, the share of energy costs has been decreasing each year since 2014. The share of labour costs on the other hand increased over these years.

Contrary to the situation in some other Member States, the crew share is a direct percentage of the gross value of landings (without first subtracting variable costs). The crew share usually amounts to about 30% of the value of landings. Value of landings decreased by 7% in 2018 and so did personnel costs, while the number of total FTE remained the same. This indicates that average crew costs have decreased compared to 2017 (-7%). Caution must be used when translating this into what the crew earned. Pay related social insurance taxes are not taken into account. As in 2017, personnel costs represented 33% of the value of landings in 2018.

The value of physical capital of the Belgian fleet was estimated at EUR 42 million, comparable to 2017. The average age of the vessels is high and increases by one unit every year. Newly built or younger vessels rarely enter the fleet to replace older ones. Investments decreased by 32% in 2018. The had been steeply increasing in 2016 and 2017, however, they remained high compared to previous years. This may be an anomaly as a result of a different interpretation of this variable.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was 14%. This was lower than in previous years, but higher than figures between 2012 and 2014, still indicating an improved operating efficiency of the sector compared to these years. Gross profit margin showed an increasing trend until 2016, but seems to be decreasing since. Net profit margin was estimated at 5% in 2018. This is still positive, but the overall increasing trend seen in the past years seems less certain, questioning whether the outlook will be positive.

RoFTA also highly increased in 2015 (13%) and 2016 (52%) compared to previous years. In 2017 it was not as high as in 2016, however, still higher than in all other years (22%). In 2018, it decreased further to 8%, still higher than before 2015.

The landings per unit of fishing effort (kg per day at sea) has followed an increasing trend until 2016, but now seems to be decreasing.

Energy consumption per landed tonne has followed an overall decreasing trend since 2008, with the lowest estimated value in 2016 of 1 300 litres per landed tonnes. In the period 2013-2017 it has stagnated around 1 500 litres, increasing to 1 600 litres per landed tonne in 2018. In 2018, the total amount of energy consumed by the fleet increased by 3% compared to 2017.

In general, efforts have been made since the fuel crisis to use more fuel-efficient engines and fishing techniques. Fuel prices were particularly high in 2008 and 2012. One of the reasons behind a still relatively high fuel consumption is that the fishing grounds are spread out and sometimes far away from the Belgian coast. Another explanation is related to the use of trawling gear, as the focus remains on catching demersal species. Despite this, the fleet still seems to be making efforts to reduce their fuel consumption and improve their overall efficiency.

Labour productivity (GVA/FTE) also increased significantly over the years, peaking in 2016 and still remaining high in 2017 and 2018. Overall income from landings has increased or remained similar while energy costs decreased (other operational costs included in GVA are less important) and the number of FTE also show a decreasing trend. This indicates that a unit of labour input is producing more output or that the same amount of output is being produced with fewer units of labour. Labour productivity may also provide an indicator of worker's wellbeing or living standards, assuming that increases in productivity are matched by wage increases, which seems to be the case.



## Performance by fishing activity

### Small-scale coastal fleet

In 2014, there was only one active fishing vessel under 12 m long, but there were no vessels belonging to a SSCF according to the European definition. Since 2016, one vessel was introduced that meets the SSCF requirements (vessel under 12 metres using passive gears).

### Performance of selected fleet segments

The Belgian fleet is dominated by trawlers (beam, shrimp and otter). In 2018, as was the case in 2017, the larger beam trawlers (TBB VL2440) appear to perform better than the smaller ones (TBB VL1824) in terms of GVA, revenue, profit and profit margins. The demersal trawlers (DTS VL2440) also have lower profits than the larger beam trawlers (~50% less vessels), but their profit margins are higher. This fleet segment seems to be relatively performing the best. It must be noted that this is a clustered fleet segment containing a wide range of length categories.

This national division of fleet segments based on engine power forms the basis for management measures such as effort limitations and quota distribution. Roughly TBB VL2440 corresponds to the nationally defined "*large-fleet segment*" (engine power of >221 kW), consisting of vessels that make longer trips and visit the faraway fishing grounds. On the other hand, TBB VL1824 is a clustered segment and more or less corresponds to the "*small-fleet segment*" (engine power of ≤221 kW). These are the coastal vessels and *Eurocutters* that are allowed to fish within 12 nautical miles of the coast.

#### Beam Trawl 24-40m

27 active vessels operating in FAO fishing area 27, predominantly in FAO area 27.7, but also in the North Sea (27.4) and Bay of Biscay (27.8). With fishing rights in the distant North Sea and the Northeast Atlantic, many vessels fish in campaigns. In between two fishing trips, these vessels do not return home, but land fish in foreign harbours. In 2018, the value of landings amounted to EUR 53 million, representing 67% of total landed value (comparable to 2017). The vessels in this fleet segment target a variety of species, particularly common sole (24% total value of landings), European plaice (15%) and anglerfish (5%).

This fleet segment reported a positive gross profit of EUR 8.1 million and a net profit of EUR 2 million in 2018, a decrease of 29% and 70% compared to 2017. Average crew wage per FTE was highest in this fleet segment. Labour productivity was also relatively high. The profitability of this fleet segment was esteemed weak in 2018, while it was reasonable both in 2016 and 2017. The gross and net profit margin were 15% and 4%.

Energy consumed per landed tonne was highest for this fleet segment (1 800 litre/tonne) an increase of 17% compared to 2017.

#### Beam trawl 18-24m

20 active vessels operating predominantly in the North Sea, Eastern and Western English Channel, employing almost 17% of total FTE. Value of landings amounted to EUR 10.2 million, 13% of total national landings (comparable to 2017). These vessels target a variety of species including common shrimp (7% of total value of landings), common sole (3%) and European plaice (1%).

Gross profit was positive in 2018 (EUR 1.96 million) and increased compared to 2017. A net profit of EUR 1.1 million was generated in 2018 (+ 80%) and the GVA was EUR 5.8 million (comparable to 2017). While the profitability of this fleet segment was reasonable in 2016, it was esteemed weak in 2017 and reasonable again in 2018. The gross and net profit margins were 17% and 10% in 2018 (an increase compared to 2017).

This fleet segment includes part of the smaller scale (coastal) section of the Belgian fleet. These vessels are less efficient than vessels in the larger fleet segment as they make short coastal trips and land low volumes. However, they are likely more vulnerable.

#### Demersal trawlers

This segment operates predominantly in the North Sea (27.4) and Eastern Channel (27.7d) and employed 20% of total FTE. Value of landings amounted to EUR 13.9 million (18% of totals). Targeted species include *Nephrops* or Norway lobster (4% of value of landings), European plaice (5%) and common sole (2%). Profitability in 2018 was weak with a net profit of EUR 617 000 (a decrease of 77%). The gross and net profit margin were 12% and 4%. Energy consumed per landed tonne was lowest for



this fleet segment (1 375 litre/tonnes). This fleet segment seems to have performed the best both in 2016 and 2017, but this was not the case in 2018.

## Drivers affecting the economic performance trends

Since 2013, fuel prices have been decreasing and efforts have been made to reduce average fuel consumption leading to proportionally lower energy costs. Fish prices also increased leading to lucrative wages for the crew members. Overall economic performance improved between and figures between 2015 and 2017 were positive. In 2018, figures were still positive, however profitability decreased.

Despite higher average fish prices in 2018, the total value of landings was lower and fuel costs were higher. Events such as the full implementation of the landing obligation, COVID19 pandemic as well as Brexit make for less optimistic forecast in the years to come. Value of landings in 2019 was the lowest record since 2014 with the same number of vessels.

## Markets and Trade (including fish price)

The average landed fish price of some important species such as sole and plaice increased by 9% and 10% respectively between 2015 and 2016. Prices of sole decreased in 2017, but increased again in 2018. Plaice prices have been increasing since 2013 and reached the highest yearly average in 2018: EUR 2.3 per kg. This in part accounts for the profitability of TBB VL2440 and TBB VL1824.

Furthermore, average landed prices of common shrimp increased by 50% in 2016 compared to 2015. This led to an increase by 146% in the value of landings of shrimp, making the fleet segment targeting common shrimp (TBB VL1824) profitable for the first time in the time series. They remained profitable in 2017 and 2018, even though shrimp prices decreased by 47% in 2018 as landed weight increased by 112% and value of landings by 10% compared to 2017.

Prices for Norway lobster increased considerably between 2014 and 2016, but decreased in 2017 and 2018 (-46% compared to 2017). Value of landings and landed weight also dropped by 45% and 43% compared to 2017. This led to a difficult year for DTS VL2440 who saw their profitability decrease by 77%.

The dependency on the Netherlands is remarkable. Over 90% of landings in foreign harbours occurs in Dutch ports Netherlands. About a third of the fleet is also owned by Dutch nationals (Velghe & Scherrens, 2020). These tend to land in their home ports, where the price for plaice is generally higher than in Belgium (more demand). Sole tends to remain more valuable on internal Belgian markets. Belgium is a net exporter of plaice. France (shellfish) and the Netherlands (fish and crustaceans) are important trading partners. Exports to Spain and Italy either direct or indirectly (through the Netherlands), has also become important.

## Management instruments and regulation (policy)

The fleet is managed mainly through total allowable catches (TACs) for some species together with a range of additional effort limitations. Fishing rights are collectively managed by the Flemish authorities in Belgium. Several rather complex mechanisms have been put into place to manage catches. They usually use species, area and the nationally defined fleet segment (mainly based on engine power) as parameters. Sometimes gear is an additional specification and there exist a number of exceptions, especially for passive gears. It may be interesting to note that quota allocation and effort restrictions are on a vessel level and not on a company level. Leasing or hiring fishing rights is not possible.

## The Landing Obligation

The landing obligation was gradually implemented and prohibits discarding all species with a TAC as of 2019. Measures were put into place to allow for some flexibility, such as quota uplifts. In Belgium, a *de minimis* exemption was set in the sole fisheries. In 2018 this exemption consisted of 120 tonnes of sole spread out over the different areas (80 tonnes in the North Sea) (Velghe & Scherrens, 2020). Once this amount exceeded, sole below the minimum landing size was landed and subtracted from the national quota.

In 2018 a total of 700 kg of cod, 1780 kg plaice and 2900 kg of sole below minimum landing size was landed in Belgian harbours; an increase of +90%, +1774% and +494% compared to 2017 (Velghe & Scherrens, 2020).

## Stock status, TACs and quotas

Initial quota for sole, cod, and Norway lobster increased in 2018. Quota for plaice decreased, however was still relatively high (esteemed positive stock status).

The total quota for sole, which is especially important for the Belgian fleet, was initially 2 900 tonnes and 3 600 tonnes after swaps (59% of this was caught). The later represents an increase of 9% compared to 2017. The sole stocks in the North Sea (27.4), Western English Channel (27.7.e) and in the Bay of Biscay (27.8ab) are currently exploited at sustainable levels. The spawning stock biomass of sole in the Celtic Sea (27.7.fg) is perceived sustainable, but the fishing mortality is still too high. In contrast, fishing mortality for sole in the Eastern English Channel (27.7.d) is below  $F_{MSY}$ , but the stock biomass remains too low.

Spawning stock biomass of sole in the Irish Sea (27.7.a) has been below sustainable levels since 2003, reaching a historical low point in 2014. Therefore quota restrictions were implemented.

The quota for plaice was 10 500 tonnes after swaps in 2018 (-10% compared to 2017); 70% of this was caught. Plaice stocks have developed favourably under the current management plans. Plaice stocks in the North Sea, the Irish Sea, the Eastern English Channel, the Western English Channel and the Bristol Channel (27.7.f,g) were exploited at sustainable levels according to ICES advice. Caution must still be applied as discard rates for plaice were estimated to be high. However, this information points towards a healthy stock status.

The quota for cod was 1 760 tonnes after swaps in 2018; North Sea cod was harvested unsustainably for many years. Despite the implementation of the cod management plan since 2003 and some signs of stock recovery, cod in the North Sea and Eastern English Channel remains a point of concern. Fishing mortality declined since 2000, and is slowly achieving sustainable exploitation levels (ICES advice, 2016).

### Operational costs (external factors)

Crew costs and fuel costs represent the most important operational costs. Minimum crew shares have been legally set and are therefore, not as variable as energy costs. The only possibility for vessel owners to save on crew costs is by employing- less crew. However, this option is also very limited, as a minimum number of members on board is nationally defined for safety reasons.

Average fuel prices have been decreasing since 2013, but started to increase again in 2017 and 2018. The Belgian fleet is dominated by trawlers, both beam and demersal trawlers. Therefore, as trawling is typically fuel intensive, even slight decreases of the fuel price might make a difference. Fluctuations in fuel prices are therefore a key driver for the profitability of the fleet.

### Innovation and Development

Research on technical innovations and alternatives for the beam trawler in the flatfish and shrimp fishery is on-going. The fuel crisis of 2008 forced the fleet to adjust to the rapidly increasing fuel costs. A number of vessels changed from traditional beam trawling to alternative beam trawling methods. For example, to reduce drag forces, a beam on wheels was introduced (Ecoroll) or the beam was replaced by a wing (SumWing). Some vessels even adopted a combination of both. Other adjustments were to reduce the overall weight of the used gears and replace old engines, nozzles and propellers. Subsidies were granted to encourage taking these measures.

Facing the implementation of the landing obligation, research on gear selectivity has been on-going as well. Selectivity can be improved by using more selective gears (or by reallocating activities to areas with a different catch composition). Therefore, devices such as cut-away top panels, square mesh top panels, benthos release panels, T-90 cod-ends, square mesh cod-ends, narrow cod-ends and tunnels in square meshes are being developed and tested in Belgium. Furthermore, collaborative projects on technological innovations with the aim to reduce the bottom impact of trawling are ongoing.

### Socioeconomic impact

Specific programmes of the EU CFP oriented to decommissioning lead to an exponential decline in the number of active vessels. In 1992, there were 205 fishing vessels, while in 2002 there were 130 (-37%). This number remained relatively stable for some years. The fuel crisis in 2008 led to a further large decrease in the capacity and to poor economic performances. Furthermore, the commercial market plays an important role in determining fish prices. These have been low, leading to relatively lower revenue from landings. The decreasing number of vessels has had an impact on the number of jobs on board, presumably making the fishing profession much less attractive than other economic activities.

## Nowcasts for 2019-20 and beyond

### Model results

Overall, it is expected that 2018 and 2019 will be less profitable than in 2017. However, the forecast still indicates a positive and better outcome than performance between 2008 and 2014.

Preliminary results indicate a decrease of 8% in landed weight compared to 2017, with a 7% decrease in landed value. As a result, projections suggest a 7% decrease in the revenue in 2018 compared to 2017. Fuel costs will increase by 18%, while other costs remain similar. GVA is estimated to reach EUR 37.8 million, gross profit EUR 8.3 million and net profit only EUR 2 million. Estimated economic performance indicators are positive, with a GVA to revenue of 46%, EUR 178 000 of GVA per FTE and gross profit margin of almost 10% and net profit margin of 2.5%.

For 2019, the model forecasts a 8% increase in revenue compared to 2018, while labour costs will increase by 8% for the crew and 11% for unpaid labour. All other costs remain comparable to 2018. It is estimated GVA will reach EUR 44.7 million, gross profit EUR 12.6 million and net profit EUR 6.3 million. Estimated economic performance indicators are also positive, with a GVA to revenue of 50%, EUR 206 000 of GVA per FTE and gross profit margin of almost 14% and net profit margin of 6.9%.

### Outlook

Initial quota decreased for sole (-12%), plaice (-4%), cod (-33%) and Norway lobster (-10%) in 2019. The value of landings decreased in 2019 (-5%) as did the landed weight (-5%), while the number of active vessels remained the same.

### Landing obligation (LO)

With the full implementation of the LO as of 2019, its effects on fishing activities and performance may become more visible than in previous years.

It is believed that the socioeconomic impact of the LO will not be negligible. Fishers fear that the discard ban will have a large impact on their profitability and that they may have more difficulty to find crew. It is furthermore expected that the concerns related to choke species, will become apparent as of 2019. Dab and brill are potential choke species for the Belgian fleet.

Some exemptions were put into place. A *de minimis* quota was set for a number of species, including sole (127 tonnes in 2020), whiting (155 tonnes), mackerel (10 tonnes) and horse mackerel (5 tonnes). During a trip, discards under a *de minimis* may not be higher than a given threshold in % of the already caught individuals of that species in a certain area. For e.g. the threshold for sole below the minimum landing size in 2020 in the North Sea is 10% of the total sole catch. If this threshold is exceeded, the skipper needs to stop fishing and move the vessel (>70 GT) at least 10 nm before recommencing activities.

In some cases an exemption with regards to high survivability is permitted. For e.g., undersized plaice may be discarded in the NS for beam trawlers with mesh sizes 80-119mm (vessels above 221 kW) if a benthos release panel is included in the gear. Vessels below 221 kW may discard undersized plaice if trawling time was less than 90 minutes.

### Brexit

At the time of writing there were no advancements in negotiations regarding quota distributions and access to British waters. These are key points in the discussion related to Brexit and fisheries. The UK insist on 'zonal attachment', which do not take into account socio-economical dependencies of certain fleets nor the historical element of certain fishing activities. The Belgian fleet is highly dependent on landings from within British waters. Keeping current quota distribution keys has been stated as of crucial importance by the Flemish minister of Fisheries (Flemish Parliament 2020). An agreement deadline is set for autumn 2020.

### COVID-19

In March 2020 Belgium went into lockdown. This had an impact on the organization of the entire country. The fishing sector was permitted to continue its activity. However, the demand for fish largely decreased while the supply remained the same. As a consequence first sale prices dropped up to 50% for some species. Only the prices of sole remained stable.

Some reasons for this sudden change in demand were:

- Closing of the Horeca sector (mainly restaurants), schools, public markets and fresh subsections of supermarkets
- A reduction of exports, for e.g. cuttlefish and flatfish to Spain and Italy
- Favoring using vacuum packaged products, for e.g. in retirements homes
- fish processing companies were also affected as it was no longer possible to supply to for e.g. restaurants

As a result fishers had to make a cost benefit analysis to decide if they would set sail, given low fish prices on one hand and low fuel prices on the other hand. Even though prices for sole remained relatively high, there was an additional fear that if targeted too much, the quota would not be sufficient to last through the year. As a consequence some vessels decided to remain in the harbor. Fishers who temporarily stopped working fell under a special status (technically unemployed) and received an unemployment benefit.

To stabilize the prices, a rotation system was introduced to reduce supply between the 1<sup>st</sup> of May and the 31<sup>st</sup> of August. Financial support was given during this period for remaining in the harbor. This is a weekly compensation for maximum 3 weeks. Additionally, a maximum of 40% of the total fleet may remain in the harbor while applying for a compensation. The distribution is as follows:

- EUR 6 000 /week for vessels > 221kW
- EUR 1 500 /week for coastal vessels
- EUR 2 250 /week for other vessels ≤ 221kW (non-coastal vessels)

The COVID-19 situation will affect the outcome of 2020. It is likely that there will be a change in the total landings for this period compared to other years as well as in the catch composition. The total effort is also likely to be lower. As crew wages are correlated to the value of landings, these may also decrease compared to previous years.

Overall 2020 will be a challenging year for the Belgian fishing industry.

## Data issues

Data comes from the Department of Agriculture and Fisheries of the Flemish Government who conducts the data collection. The questionnaire was adjusted in 2017 and fine-tuned in 2018 to meet the needs of the New 2016 EU Decision. This may have an impact on the time series of certain variables requested in this data call. For example, investments increased enormously and this may be an anomaly as a result of interpreting this variable differently. Furthermore subsidies were now split into different variables and definitions annexed to the questionnaire were clarified, leading to some unusual trends. Direct income subsidies decreased by 51% in 2017.

Response rate with regards to number of unpaid labour was too low in 2017 and 2018 to make sensible estimations. Similarly, response rate to total hours worked was very low and may not be very relevant to the Belgian case, explaining why it is so difficult to obtain this information. This is an element currently under analysis.

Capital value and Capital cost variables for inactive vessels are not known (refusal respond rate of 100%). Only about 5% of the fleet was inactive in 2018 (four vessels).

As the Belgian fleet is small, fleet segment aggregation (clustering) has been inevitable. The Belgian fleet is mainly composed of demersal trawlers and beam trawlers. Only a few other fishing gears were in use (seiners, dredges, gill nets and trammel nets). As the number of vessels using these as their main gear has been very low throughout the years, they were grouped in a separate fleet segment (PMP VL1824).

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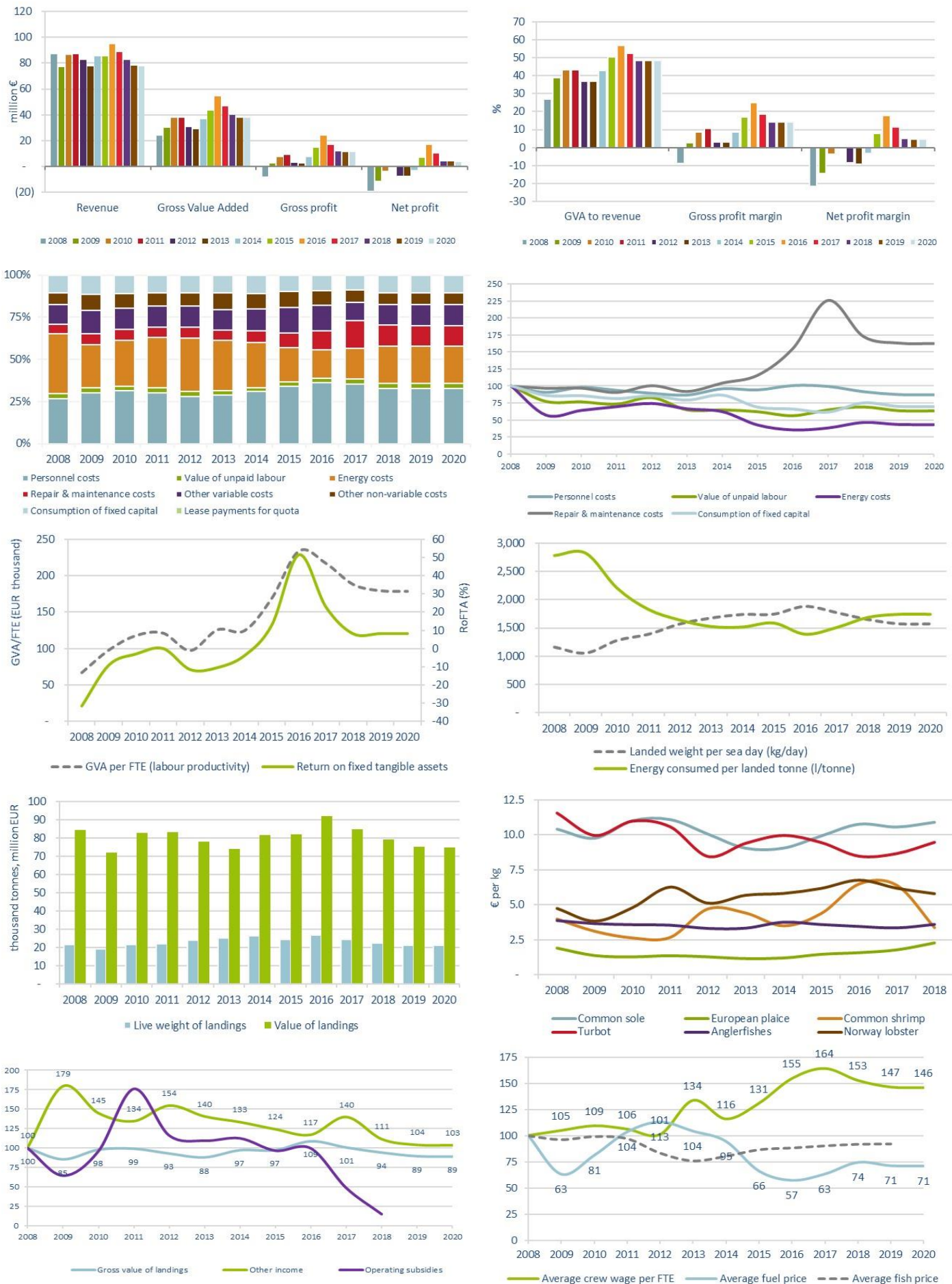
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**Figure 4.1 Belgium: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.2 Bulgaria

### Short description of the national fleet

#### Fleet capacity

In 2019, the Bulgarian fishing fleet consisted of 1 845 registered vessels, of which 1 123 were active and the remaining 722 vessels were inactive. The active fleet had a combined GT of 4 710 tonnes, engine power of 37 700 kW and an average age of 22 years.

#### Fleet structure

The Bulgarian fishing fleet is divided into a small-scale segment (1 017 vessels, representing 90.6% in 2019) with an engine power of 21.3 kW and a large-scale fleet segment (106 vessels, representing 9.4% in 2019) with an engine power of 16.4 kW. The overall size of the Bulgarian fishing fleet decreased 2% between 2017 and 2018, and by 14% compared with the average for the period 2008-2017. Between 2017 and 2018 the inactive vessels increased by 9% while the number of active vessels decreased by 7%. Compared to 2017 in 2018, the active SSCF decreased by 8%, while the active large-scale fleet increased by 1%. In the active SSCF, GT and kW decreased by 10% and 8%, and in the active large-scale fleet, GT increased by less than 0.01% and kW increased by less than 0.01%, respectively.

#### Employment

Total employment in 2018 was estimated at 1 780 jobs, corresponding to 622 FTEs with an average of 0.51 FTE per active vessel. The level of employment decreased between 2017 and 2018 with 25%, but the total employed for 2018 remain 20% higher compared to the average total employed for the period 2008-2017. The decrease in employment might be because of the decreasing of active SSCF vessels. The number of the employed workers includes the number of the unpaid labour. After the unpaid employment became possible choice in the questionnaire, significant part of the fishers declared that they are unpaid labour. This can be explained with fact that 61% of the active vessels in 2018 had between 1 and 10 days at sea and 18% had between 11 and 20 days at sea for the whole year. These vessels are used mainly from the owner or family member.

#### Effort

The Bulgarian fleet spent over 22 600 days-at-sea in 2018, a 10% decrease compared to 2017 and a 12% increase over the period 2008-2017. While the days-at-sea remained steady in the period 2013-2015, data for 2016 and 2017 indicated almost 20% increase compared to the period. In 2019 the days-at-sea were at the same level as 2018 (22 400 days).

The quantity of fuel consumed in 2017 totalled 2.78 million litres, increase by 1% in 2018, totalling 2.81 million litres. According to the data, the increasing trend seems reliable in 2018 compared to the trend over the years and the expectations are to raise further in next years, which is reasonable when engines of the vessels are old.

#### Production

The total landed weight in 2018 was 8 500 tonnes of seafood, with a landed value of €7.77 million. Compared to the period analysed (2008-2017) the total weight of landings increased by 1% while the value increased by 38% and compared to 2017 the total weight increased by 0.4% while the value decreased by 9%.

Regarding the top species in terms of value, the price of sea snails for 2018 increased by 3% compared to 2017 and compared to the period 2008-2017, increase by 14%. The average first sale price for 2018 for European sprat increase by 1% compared to 2017 and remain stable compared to the period 2008-2017. The price of sand gaper has decreased by 33% compared to 2017 but it was 27% higher than the average for the period 2013-2017. It should be noted that 2013 was the first year in which the fleet caught sand gaper, that's why the reference period is different than the other species. In 2018 the price of bluefish increased by 6% compared to 2017, while the price of red mullet remain the same. Turbot was not in the top 5 species this year, but it continued to be very important due to the quota. The price of turbot has decreased since 2012, and in 2016 achieved an average price of EUR 5.0 per kg while in 2018 increase by 3% compared to 2017 achieved an average price of EUR 6.1 per kg.

The main landed species for the Bulgarian fleet as a percentage of the total are sea snails with 25% in value and 41% in weight followed by the European sprat with 23% in value and 37% in weight.

## Economic results for 2018 and recent trends

### National fleet performance

The amount of income from landings generated in 2018 was EUR 7.77 million while non-fishing income amounted to a further EUR 0.13 million, and the total amount of income EUR 7.9 million. In 2018 the income from landings decreased by 9% compared to 2017 but it was 38% higher than the average for the period 2008-2017. The decrease in income from landings is because of the decrease in the landings of rapa whelk and the decreased landings of sand gaper, combined with the reduction of 33% of its first sale price. The other income, which is mainly coming from tourists activities, decreased by 57% to 2017 and by 92% to the average for 2008-2017.

In general, all costs decreased by 4% between 2017 and 2018. The 'Repair & maintenance costs' which increased by 14% from 2016 to 2017 showed 10% decrease in 2018. The 'wages and salaries of the crew in 2018 decreased by 28% compared to 2017 and 44% to the period 2008-2017.

The operating costs in 2018 amounted to EUR 3.44 million. Energy costs and crew costs were the two major cost items (EUR 1.38 million and EUR 1.05 million, respectively). However, EUR 0.1 million of crew cost were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2017 and 2018, operating costs decreased by 5%.

In terms of economic performance, the GVA, gross profit and net profit in 2018 were estimated at EUR 5.6 million, EUR 4.5 million and EUR 4.3 million, respectively. The net profit in 2010, 2011 and 2014 was negative, the value for 2015 to 2017 showed improvement and in 2018 there was 9% decrease compared to 2017.

In 2018, the Bulgarian fleet had an estimated value of physical capital of EUR 18 million and investments amounted to EUR 0.05 million, which is a 12% increase of the value of physical capital and 30% decrease of investments, compared to 2017. The estimated value of total assets in 2018 is EUR 25.8 million.

The distribution of the fleet has not changed over time. According to the number of vessels, SSCF is the main fleet in Bulgaria, with 1 100 active vessels in 2018. They spent 14 000 days-at-sea and landed 2 600 tonnes of fish for EUR 3 million. The LSF spent 8 700 days-at-sea and landed 5 900 tonnes of fish for EUR 4.7 million.

The difficult access to funding by the Operational Program under EMFF for SSCF is the main reason for the very low value of investments during 2018. The fishers spent their own funds or use additional funding and generate debts amounted near EUR 0.14 million.

### Resource productivity and efficiency indicators

In 2018, the gross profit margin was 56.51%, indicating a 4% decrease in operating efficiency of the sector, when we compared to 2017 but compared to the period 2008-2017 increase by 101%. This is also seen in the net profit margin for 2018 which increased slightly (2%) compared to 2017 and 263% over the period 2008-2017. The RoFTA of near 22.1%, in 2018, confirms an improvement over the period 2008-2017.

In 2017 labour productivity decreased by 5% compared to 2018 and drop down near to the level of 2012. The indicator for 2018 was 10% higher than in the period 2008-2017.

Fuel consumption per landed tonne follows an overall increasing trend since 2008. In 2018, it is estimated of 329 litres per landed tonne which is a 2 litres more per landed tonne compared to 2017 29% increase compared to the amount of 255 litres per landed tonne during the period 2008-2017. Taking into account the average age of the fleet this is a standard consumption for a typical fishing vessel in the Black Sea region.

Landings in weight per unit of effort (in days-at-sea) followed a decreasing trend since 2008 but in 2018 increased by 11% compared to 2017 and 17% lower than the average for 2008-2017.

## Performance by fishing activity

### Large-scale

The Bulgarian large-scale fleet consisted of 105 vessels in 2018: 23 of them were under 12 metres, but with active gears; 12 of them were between 0-6m using beach seines, 4 were between 6-12m using beach seines, 4 were between 6-12m using mid-water trawls and 3 vessels between 6-12m were with beam trawls. The FTE was 202 in 2018, which is 10% lower than in 2017 (representing 272 total employed – 5% less) were employed in the LSF segment.

This LSF had 5 930 tonnes landings, which is 69% of the landings of the whole fleet and value of the landings €4.71 million, which represents 60% of the value of all landings.

The income from landings increased by 24% and it became the highest value of landings of the period 2008-2017, but the other income decreased by 77%. In 2018 wages and salaries of crew increased by 5% compared to 2017 and 0% compared to the overall period 2008-2017. The number of unpaid labour in LSF was 41 or 3.6% of the total in the fleet. The main expenditure - energy costs, increased by 40% and the other variable costs increased by 43%. The other non-variable costs, value of unpaid labour and the repair & maintenance costs decreased by 36%, 25% and 13%, accordingly. The most significant changes between the values of variables in 2018 and the period 2008-2017 were the decrease of the value of unpaid labour by 87%, followed by the decrease of the other variable costs by 75%.

### **Small-scale coastal fleet**

The majority of the vessels in 2018 (1 100 from 1 205 active vessels) are with a total length under 12 metres, using only passive gears and are carrying out mainly small-scale coastal, seasonal fishing. Their preferred fishing gear is gillnet (anchored) and for catching of sea snail they use the diving manual method. The total employees were 1 508, but this number includes also the unpaid labour – 1083. For the majority of people involved in this type of fishing, this is a seasonal activity closer to a small family business. Most of the small-scale fishers use the catches for private consumption by themselves and their families or they sell it in their own restaurant. The live weight of landings was 2 610 tonnes, decreased by 9% compared to 2017 and increased by 4% to the period 2008-2017. The value of the landings in 2018 decreased by 36% to 2017 and it was 57% higher than the average for the 2008-2017. The net profit for 2018 decreased by 35% compared to 2017, but it was 280% higher than the average for the period 2008-2017. Th

e increase of the net profit margin was only 2% from 2017 to 2018, but compared to the period 2008-2017 it is 388%. These significant differences are possible because over the period 2008-2018 there were 3 years (2011, 2013 and 2014) in which the net profit was actually net loss, because the expenses of the SSCF exceed the income or total revenue produced during the years.

### **Performance results of selected fleet segments**

The fleet is diverse with a broad range of vessel types targeting different species only in the Black Sea. The national fleet consisted of 24 active fleet segments in 2018, with a further 602 inactive vessels. The clustering scheme was changed in 2017 and based on it and on the low number of vessels in some fleet segments, we have 15 segments/clusters. It should be noted that the clusters are used only to keep the confidentiality of the data, but not for data collection. The data collection scheme is census and covers all vessels.

In 2018, the Bulgarian fleet was clustered in 7 segments: drift net 12-18 (7 vessels), purse seiners 0-6 (16 vessels), vessels using active and passive gears 12-18 (20 vessels), vessels beam trawls 12-18 (11 vessels), vessels using *pots and traps* 6-12 (36 vessels), pelagic trawls 12-18 (30 vessels) and vessels using passive gears only (21 vessels).

Four fleet segments obtained more than 1 000 tonnes in live weight of landings:

#### **Pelagic trawlers 24-40m**

In 2018, 10 vessels made up this segment that targets a variety of species but in particular European sprat and sea snail exploited by some vessels which had as a second fishing gear the beam trawl in the segment. In 2018, the total live weight of landings was 2 001 tonnes with a value EUR 1.5 million (increased 15% compared to 2017) and 49 FTEs were employed in this fleet segment. The profitability of the segment is high, and according to the economic development trend is improved. In 2018 the net profit margin increased by 34% compared over the period 2008-2017.

#### **Polyvalent active and passive gears 6-12m**

In 2018, 164 vessels made up this segment that targets mainly sea snails, sand gaper, red mullet and Mediterranean horse mackerel. In 2018, the total live weight of landings was 1 450 tonnes with a value EUR 1.7 million (a decrease of 47% compared to 2017) and the fleet segment employed 84 FTEs. The profitability of the segment is high and the net profit margin in 2018 increased by 102% compared to the period 2008-2017.

### Polyvalent active and passive gears 12-18m

In 2018, 20 vessels made up this clustered segment that targets a variety of species but in particular red mullet, sea snails, sand gaper and turbot. In 2018, the total live weight of landings was 1 219 tonnes with a value EUR 938 000 and the fleet segment employed 50 FTEs.

### Pelagic trawlers 12-18m

In 2018, 30 vessels made up this clustered segment targets European sprat, sea snail and red mullet. In 2018, the total live weight of landings was 1 359 tonnes with value EUR 1.1 million (an increase of 106% compared to 2017) and 52 FTEs were employed in this fleet segment.

The profitability of nine of the fleet segments, which involve 378 vessels was high for 2018, while the rest 6 segments, represented by the rest of 827 vessels showed weak profitability.

## Drivers affecting the economic performance trends

The prices of fish and fuel were the main driving forces behind the overall sustainability of the fleet.

The stable average price of some important species with significant landings for the Bulgarian fleet as sea snail and increase of the average price of European sprat, had a positive impact on the profitability of some segments of the fleet.

Even though the fact that the days-at-sea for the whole fleet decreased by 10% from 2017 to 2018, the fuel costs increased by 25%. This was possible, because the decrease of effort was only coming from the SSCF and days-at-sea of the LSF increased by 8%. Both SSCF and LSF, were affected by the significant decrease in other income which mainly is generated by tourist activities.

## Markets and Trade

The domestic market has not increased the demand for the local fishery so that the catches are similar levels for small pelagic, as well as for demersal species. The yearly consumption of fish and fish products had slight increase from 4.9 kg per capita in 2017 to 5.2 kg for 2018 and 5.3 kg for 2019. The local products are facing the competition of imported fish, especially from the supermarket chains. These supermarkets are offering a large variety of species, oceanic fish mainly, also salmon (from aquaculture), mackerel, bream, and others seafood, trout with a very competitive price, well presented and in large quantities.

According to the data from the National Statistical Institute, in 2018, total imports of fish and fishery products in Bulgaria amounted to 42 469 tonnes, which is 2% decrease compared to 2017. The decrease of supplies of aquatic invertebrates, frozen fish and fillets was compensated by the increase of the import of fresh, chilled and dried fish, crustaceans, molluscs and processed fish and other aquatic organisms.

Over 70% of the total quantities of imported fish and fisheries products in 2018 were from the EU (30 014 tonnes, 8% less than in the previous year). On the other side, the import from third countries increased by 14% for the same period.

The total Bulgarian export of fish, aquatic and fishery products in 2018 amounted to 16 709 tonnes, 5% lower than the previous year, due to the reduction in mollusc exports and live fish.

78% of the total export of fish and fish products during 2018 was for the EU. The amount of 13 122 tonnes allocated to the EU decreased by 3% compared to 2017.

The most significant dispatches were for Sweden, Romania, South Korea, Belgium, Japan, Serbia and Greece. Exports of fish and fishery products to third countries decreased by 13% compared to 2017.

The situation in Bulgarian markets is complicated because the big quantity of imported fish and fish products are imported in the country with a lower price than the price of Bulgarian catches from the Black Sea and for the fishers is impossible to compete in this respect, even after processing and added value.

## Management instruments

As EU Member State and a contracting party to GFCM Bulgaria is applying monitoring, control and surveillance (MCS) activities in combating IUU fishing system and, consequently is working in strong cooperation with EFCA, of sound fisheries management to increase the control and monitoring of landings of all species and especially of turbot. All measures as designated ports to land turbot, equipment of all turbot fishing vessels with a tracking device, introduced minimum size for turbot, etc. have a very positive impact on reducing IUU-fishing.

Furthermore, an international scheme for joint inspection and surveillance in the Black Sea was established. Ensuring the minimization of the risk of IUU turbot fisheries all vessels who receive a permit to catch turbot are obliged to be equipped with tracking devices regardless of their length. The fleet is managed mainly through TACs, together with a range of input controls. With the Recommendation, GFCM/43/2019/3 the multiannual management plan for turbot fisheries in the Black Sea which lay down a list of measures and total allowable catch for 2017-2019 was amended for the period 2020-2022.

### **TACs and quotas**

For now, there are two species with quotas in Bulgaria. Turbot and sprat TAC for the Black Sea (quota system) was introduced in 2008 following the accession of Bulgaria and Romania to the European Union.

In 2017, quotas were 43.2 tonnes of turbot and 8 032.5 tonnes of sprat and landings were 41.8 tonnes of turbot and 3 189 of tonnes sprat, respectively.

At its 41st Annual Meeting in 2017, the General Fisheries Commission for the Mediterranean (GFCM) adopted Recommendation GFCM/41/2017/4 on a multiannual management plan for turbot fisheries in the Black Sea. The recommendation a total allowable catch (TAC) for turbot for 2 years (2018-2019) with a temporary allocation of quotas. With the adoption of Council Regulation (EU), 2017/2360 of 11 December 2017 quota for sprat was fixed at the same level as in 2017 while the quota for turbot was allocated to 57 tonnes for Bulgaria which is 32% more than in 2017.

After amendments of the multiannual management plan for turbot due to decisions taken during Working Group on the Black Sea (WGBS) held in September 2019 was adopted Council Regulation (EU) 2019/2236 of 16 December 2019 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Mediterranean and the Black Sea. With the regulation quota for sprat remain the same while turbot quota was increased to 75 tonnes for Bulgaria, 32% compared to previous one and for EU Black Sea countries was allocated to 150 tonnes which is 17.5% from the total quota for the basin. The other quotas were fixed to 497 tonnes (58%) for Turkey, 160 tonnes (18.7%) for Ukraine, 20 tonnes (2.3%) for Georgia, and 30 tonnes (3.5%) for others.

The total number of vessels engaged in fishing for turbot in Bulgaria was constant during the last years. In 2019 the fishing vessels which were engaged in fishing for turbot were 116, while in 2020, their number increase to 124 which is 7% increase and is expected this measure to improve part of fleet performance.

### **Operational costs (external factors)**

After 10 years (2008-2017) in which the Personnel costs were the major costs item, in 2018 the energy costs represented 35% of the operational costs. This change in the expenses distribution was due to the decreasing of the average annual wage which can be explained with a huge number of small coastal vessels and the growing number of unpaid workers. The sector continues to offer very low wages, compared to the other sectors in the country. This is why the larger percentage of vessels' owners perceive fishing as a family work for livelihood, not as a business.

The value of the variable Wages and salaries decreased between 2017 and 2018 and decreased also as a percentage of the operating costs by 9%. The energy cost, which was the second major cost item during the years took has become the most significant expense in 2018. The price of fuel is not particularly constant, but from 2014 up to 2016 decreased year by year, in 2017 it was stable and in 2018 increased. The average price of diesel increased by almost 10% from 2017 to 2018 and this affected 68% of the active vessels from Bulgarian fleet.

### **Innovation and Development**

Under Operational Programme for support from the European Maritime and Fisheries Fund for the development of the Bulgarian fisheries sector for a Programming period 2014-2020, EUR 25.5 million was allocated with the aim of ensuring the viability and sustainable development of the Bulgarian fisheries sector as well as the protection of its fishing/marine resources. The amount represents 22.47% of the total OP financial support.

In 2018 almost EUR 77 000 in subsidies for investments were provided to Bulgarian fishers. The support was mainly used for improving electronic equipment and for safety measures for the crew. The tendency from last years for basic development on the gear or engine reparation, as well as on improving terms of fish preservation or the processing is still valid which is understandable from fishers point of view which main aim is increasing product quality and value.

### **Nowcasts for 2019-20 and beyond**



In 2019, 10 300 tonnes of seafood were landed by the Bulgarian fleet, with a value of EUR 6.2 million which is 21% lower than the value of landings from 2018. The increase in the landings of the two most important species in terms of landings /rape whelk and sprat/ in 2019, led to a decrease in their average price by 19% and 40% respectively.

Based on the available preliminary data, the economic performance during 2020 is expected to be affected by the COVID-19.

### Model results

Projections and 2019 preliminary data suggest that a reduction in capital costs together with a significant decrease in income does not foster very well the economic performance improvements in 2019 compared to 2018: gross profit (-27%), and decrease of GVA (-23%). Projections suggest that overall, the fleet operated at a gross profit (EUR 3.3 million) and generated a net profit (EUR 3.2 million) in 2019. The preliminary data shows that net profit and net profit margin decreased compared to 2018. This situation could be explained by the decrease in average fish prices.

Bearing in mind that fuel consumption per landed tonne increased and the price for important species decreases and the outcome for 2019 seems unfavourable. 2018 gains are not improved in 2019 even with decreasing operating costs. With fuel costs decreasing 14% in 2019, the fleet retains a positive gross profit and net profits of more than EUR 3.2 million due to also lower capital costs. Preliminary results for 2020 suggest a 50% decrease in landed weight and value of landings.

The situation in 2020 is projected as worst as possible due to the COVID-19 factor and even with more than 60% decrease in gross profit and net profits compared to 2019 the expected values are projected as EUR 1.2 million and EUR 1.0 million, respectively.

### Outlook

The first confirmed case of COVID-19 in Bulgaria was on 8 March 2020. The state of emergency was from 13 of March to 13 of May. As of 14 May at 00:00, the national emergency was lifted, and in its place was declared a state of an emergency epidemic situation - the most of the anti-epidemic measures were still valid. The government has enacted different measures aimed at reducing the economic impact of the COVID-19 pandemic to businesses and individuals.

There was no ban of fisheries activities in regards to COVID-19. Both, commercial and recreational fisheries shall be carried out by respecting the safety rules adopted by the Government and avoiding close contact with other persons.

There is a decrease in fishing activities compared to previous years. Based on the preliminary data there is a decrease in the landings around 50% for the period 1 January – 31 May, compared to the same period in 2019 and 25% decrease in the value of landings, because the average prices of some of the most important commercially species increased compared to 2019.

Some of the most important challenges that the sector faces are:

- Difficulties in finding market access;
- Disruption of supply chains of fisheries and aquaculture products, raw materials, feed and packaging materials;
- Sharp decline in demand of fish and other aquatic organisms due to the closure of restaurants, hotels and other public places;
- Loss of market share in some third countries due to the closed borders.

### Data issues

#### Identify changes in respect to previous years

The only change that was done during the last data call was that the list of species that are reported has been enlarged, including absolutely all the species, even the one with negligible landings.

#### Improvements achieved within 2018 data collection

To keep the consistency between the years, all the landings from the period 2008-2019 were resubmitted including the new species. The differences between the value of landings and the total income for some fleet segments in previous years were corrected during the data call, so now there are no discrepancies.

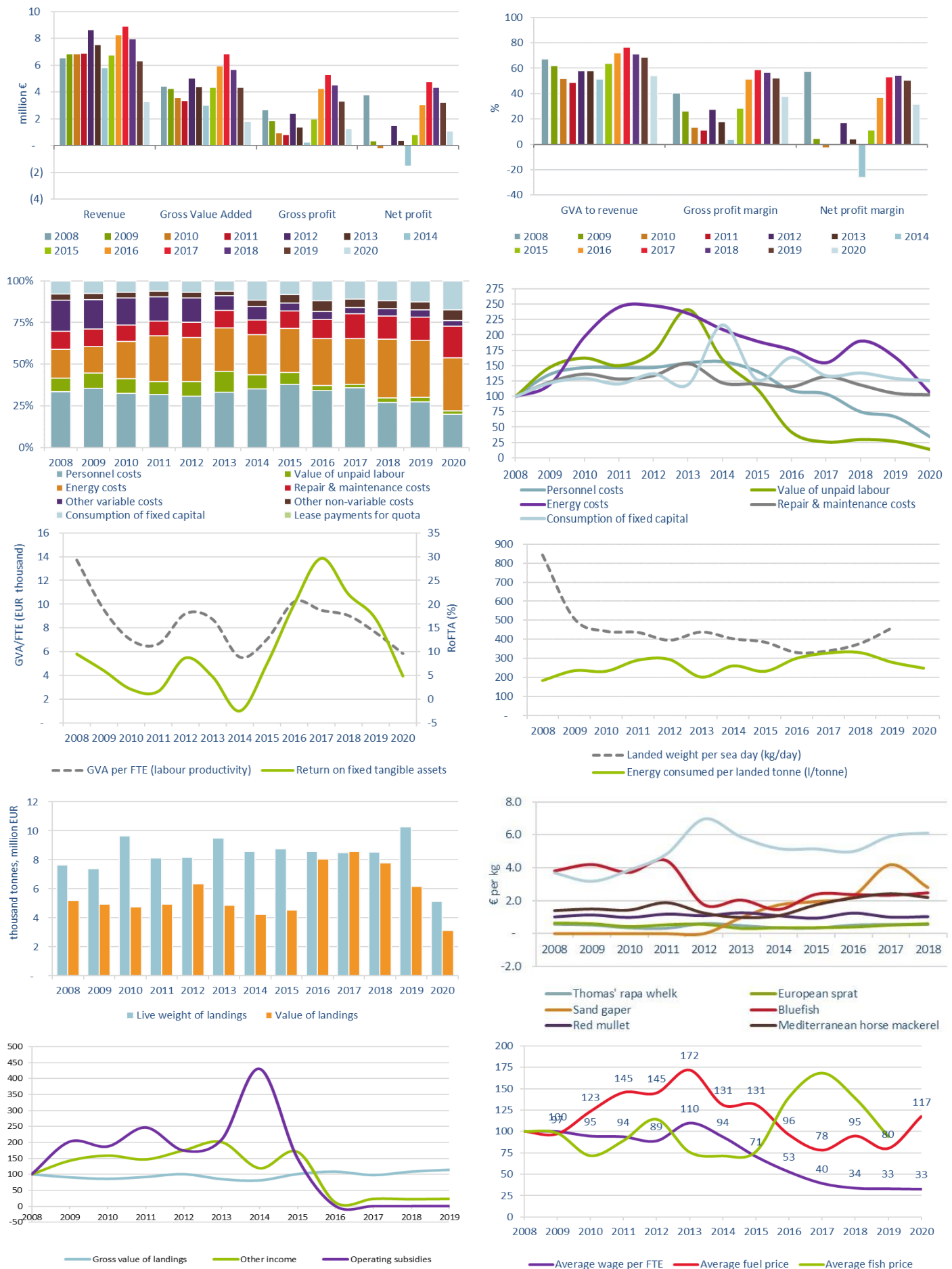


**Problems identified**

No problems were identified.

**Remaining issues**

No major data issues were identified during the meeting, and all minor ones were corrected, the data was resubmitted and validated.



**Figure 4.2 Bulgaria: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.3 Croatia

### Short description of the national fleet

#### Fleet capacity

In 2018 Croatian fishing fleet consisted of 7 731 vessels of which 6 063 were active. Fleet capacity decreased in 2018, with reduction of 7% in the number of vessels compared to 2017 and by 3% compared to the average value 2015-2017. GT and kW have been reduced by 9% and 10%, respectively, compared to average values 2015-2017. Inactive vessels represented 21.6% of the total fleet registered in 2018.

#### Fleet structure

The Croatian fleet, which operates solely in the Northern Adriatic Sea, is divided into main commercial fleet and a category of small-scale artisanal coastal fisheries for personal needs consisting of some 3 500 vessels. These vessels were transferred into the commercial SSCF in 2015, pursuant to Croatia's Accession Treaty, however they continue to operate mostly for personal needs and are kept as a separate legal category with specific requirements and constraints.

In 2018, the active fleet was divided into 85% SSCF (5 166 vessels) and 15% LSF (897 vessels). Engaged crew in SSCF amounted to 69% (44% FTEs) and to 31% in LSF (56% FTEs).

Decline in fleet capacity in 2018 is due to reduction of LSF by 7% in number of vessels, 11% in GT and 10% in kW compared to 2017, as scrapping of PS, DTS and DRB vessels has continued in 2018.

The number of fishing enterprises totalled 5 684, with the majority (88%) owning a single fishing vessel, as is typical of artisanal fleets. More than 45% of Croatia's fishing vessels are registered as multipurpose vessels with a possibility to use different gears over the course of the year.

#### Employment

The total number of employees remained stable in 2018 and is estimated at 7 820, corresponding to 3 122 FTEs. The level of employment is steadily increasing since 2012, and compared to 2012-2017 average, engaged crew increased by 36% and FTE by 23%. However, this increase is mostly due to activation of SSCF vessels in 2015, while engaged crew in LSC decreased by 12% compared to 2012-2017 average.

As the need for labour in LSF is increasing, mostly due to competition for workers during the tourist season, an annual quota of 540 licenses for the employment of foreign workers was approved for 2019 according to the Government Decision from December 2018.

#### Effort

In total around 261 000 days were spent at sea in 2018 (+10% compared to 2017) of which 62.5% in SSCF and 37.5% in LSF. In line with the limitation of effort for purse seiners for small-pelagic fish and temporal cessation in pelagic and demersal fishery, a significant reduction of effort (expressed in sea days) compared to 2014 is evident in LSF which is continued in 2018 (-9%). In contrast, effort increased in SSCF by 18% compared to 2015 which is consistent with the inclusion of small-scale artisanal coastal vessels to the commercial fleet in 2015.

#### Production

The overall landing of seafood has been gradually decreasing since 2014 due to management measures in the Adriatic Sea. Compared to 2014 when it has been at its highest, landings decreased by 13% to 69 400 tonnes of landed seafood products in 2018, while landed value has decreased by only 3% amounting to EUR 59.6 million in 2018. Preliminary results indicate that a similar situation is continued in 2019, as volume of products landed further decreased below 65 000 tonnes and the value of landings amounted to EUR 58 million.

More than 110 species are caught commercially in Croatia as is typical of multispecies fisheries. However, small pelagic species targeted in purse seine fisheries, of which sardine and anchovy are most important, by far dominate the overall catch structure and accounted for almost 86% of total volume and over 50% total value of products landed in 2018. Higher value species targeted by demersal fisheries, red mullet, Norway lobster, deep-water rose shrimp and European hake, account for 3.4% in terms of quantity and 18.6% in terms of the value.

Prices obtained for the key species targeted by the fleet generally remain stable in the period 2012-2018. Slight annual variations of the prices are mostly resulting from changes in volume of landings over the period.

As in previous years, in 2018 purse seiners from 24 to 40 metres LoA contributed for the majority of landed weight and value, 55% and 32% respectively. Overall, purse seine segments amount to over 90% of volume of products landed, and are managed under the provisions of a multiannual management plan for small pelagic fish in the Adriatic Sea as adopted under the GFCM.

## Economic results for 2018 and recent trends

### National fleet performance

In 2018, the economic performance of the overall fleet improved compared to previous years. Total revenue estimated at EUR 86.6 million has increased by 6% compared to 2017 and 24% compared to 2012-2017 average. The major factor for the positive trend is higher revenues from landing income (+7% compared to 2017) and an increase in income from other sources which has more than tripled since 2016 and represents 28% of all income in 2018.

The total amount of GVA and gross profit in comparison to 2017 in 2018 increased by 6% (EUR 51.4 million) and by 5% (EUR 24.2 million), respectively, while net profit increased by +312% (EUR 3.8 million).

Total expenditures increased in 2018 by 3% compared to 2017 and amounted to EUR 81.3 million in 2018, with the change in the cost structure where a decrease in consumption of fixed capital by 8% can be observed, and an increase of energy and repair and maintenance costs by 9% and 25%, respectively. Increased energy costs are a result of higher fuel prices in 2018, from 0.56 EUR/litre in 2017 to 0.63 EUR/litre in 2018, as energy consumption has decreased in 2018 by 3% as well. As in previous years, personnel costs have the highest share of 29% and followed by energy costs with 20% of all costs.

The value of physical capital continued a decreasing trend which started in 2015. In 2018, estimated (depreciated) replacement value has decreased by 8% compared to previous year with an increase of 1% in SSCF and a reduction of 12% in LSF. Investments increased by 61% in 2018 compared to 2017 and by 68% compared to the 2012 to 2017 average.

### Resource productivity and efficiency indicators

An overall improved development trend is present as of 2017. The gross profit margin in 2018 was 28%, decreasing by 2% since 2017. Net profit margin was estimated at 4%, an increase since 2017.

Labour productivity (GVA per FTE) amounted to EUR 16 500, an increase of 3% compared to 2017 and 33% compared to the period from 2012 to 2017 average as both FTE and GVA increased by 3% and 6%, respectively. Similarly, return on fixed tangible assets was 2% in 2018, an increase of 125% since 2017. Average wage increased by 4% in 2018 compared to 2017 and amounted to 8 710 EUR/FTE.

Fuel intensity decreased to 370 litre/tonne in comparison to 383 litre /tonne in 2017, while landed weight per sea day decreased to 266 kg/day in 2018 from 291 kg/day in 2017. In the period from 2012-2018 the Croatian fleet on average landed 297 kg/day and EUR 240 per day with a fuel intensity of 360 litre/tonne and fuel consumption of 106 litre/day. Overall, the fleet has been most efficient in 2014, mostly due to larger quantity of small pelagic fish caught in purse seine fisheries, and since then the ratio between landed weight per sea day and fuel consumed per sea day has decreased. One of the reasons for that is scrapping of purse seiners for small-pelagic fish and demersal trawlers and therefore changing the productivity and efficiency of the remaining fleet. Lower volume of landings of purse seiners mostly affected the productivity and fuel efficiency since these vessels have the best ratio between landed weight and energy use.

### Performance by fishing activity

The Croatian fleet has a range of vessel types using various gears and targeting different species exclusively in the Northern Adriatic Sea. In 2018, the fleet consisted of 23 (DCF) active fleet segments, 10 in SSCF (DFN, FPO, HOK, PGP and PMP) and 13 in LSF (DFNVL1218, DRB, DTS, MGO and PS), and 5 inactive length classes.

### Small-scale coastal fleet

SSCF covers 85% (5 166) of active vessels and 2.1% of landed weight in 2018. Number of fishers has increased by 3% in 2018 compared to 2017, amounting to 5 427 persons and corresponding to 1 384

FTEs. The ratio between unpaid and paid fishers is much higher than in LSF, as 84% (4 549) fishers in SSCF are unpaid (self-employed, family workers or retired).

The amount of revenue generated by SSCF in 2018 was EUR 22.5 million or 26% of total revenue in 2018. Landings income constitutes 15% of total landings income and has increased in 2018 by 19% to EUR 8.8 million and by 21% compared to the 2012-2017 average.

In the period from 2012-2018, GVA, gross profit and net profit have gradually improved even though a substantial fall was recorded in 2015 and 2016. The major factors causing the improvement in economic performance in this period included increases in landing income and a substantial increase of income from other sources (+135% in 2018 compared to 2012-2017 average) while operational costs remained relatively stable during the same period. In 2018, the SSCF had an estimated (depreciated) replacement value of EUR 64.9 million. Investments by the fleet amounted to almost EUR 6 million in 2018.

In 2018 average length of SSCF vessels was only 6 metres with an average age of 37 years in 2018, limiting fishing activities to fishing grounds near the port and to one-day fishing trips. Days at sea in SSCF have a distinct seasonal character with spring and autumn peaks, depending on migration of target species to the inshore area during the warmer period of the year, but also depending on other integrated activities such as tourism, transport, processing, aquaculture and agriculture. Catch is mainly sold on the local market and income from fishing is supplemented with other sources of income; 57% of income in 2018 was from other income.

The most prominent fleet segments with an important traditional and social character are the segments using fixed nets (DFN). Even though relatively low profitability is indicated for the fleet in relation to number of vessels, with low landing values, fixed nets segments are considered to be primarily highly artisanal and important in terms of social and economic elements for local population and communities.

The oldest segment is PGP in general, with 44% of SSCF vessels (average vessel age of 40) and average vessels licence holders' age of 65 in 2018. This group of vessels, previously categorised as "for personal needs", falls into a separate category of commercial fleet. Most of the fishers are retired and occasionally engaged in fishing activities. Due to legal restrictions, authorized persons in this category can only be natural persons without legal rights to be involved in first sales and without obligations to pay social security fees. Since there is no landing income or salaries all of the participants in PGP are considered as unpaid labour. Still, this category with a large number of participants is of great social importance as supplementary activity and food security for households.

## Large-scale fleet

Majority of LSF in Croatia is constituted of high activity commercial purse seiners and demersal trawlers which are under a strict management regime. The number of LSF (897 vessels) decreased by 7% between 2017 to 2018 due to withdrawal of 70 vessels of which 22 large purse seiners and demersal trawlers with public aid. Over the same period capacity was reduced by 11% in GT and 10% in kW, and as a consequence effort (both kW and GT fishing days) decreased by 8% in 2018 compared to 2017.

Employment (2 393 engaged crew corresponding to 1 737 FTEs) has decreased by 6% in 2018 compared to 2017, and by 12% compared to 2012-2017 average, which is consistent with the reduction of number of vessels by 14% in the same period. The ratio between paid and unpaid workers is reversed in comparison to SSCF as 83% of persons in 2018 are paid workers.

In 2018, volume of landings (67 980 tonnes) remained stable compared to 2017 (+1%) and total income increased by 5% compared to 2017 mostly due to increased landing value of small pelagic fish (higher average first sale price of sardine and larger landing volume of anchovy). Landings income constituted 71% of income in 2018, while income from other sources was only 19%, increasing by 7% since 2017. Due to strict management measures and reductions both in effort and catch the viability of LSF highly relies on EMFF support mostly through implementation of temporary cessation of fishing activities. In 2018, operating subsidies have increased by 24% compared to 2017 amounting to 10% of total income.

Expenditures in LSF (EUR 19.2 million) have remained stable in 2018 compared to 2017, with an increase of 11% compared to 2012-2017 average. The rise in fuel prices (+12% between 2017 and 2018) had a direct effect of increasing energy costs by 8% in 2018, which accounted for 24% of total LSF, taking also into account that energy consumption has decreased in 2018 by 7% in 2018 to 19.5 million litres.

In 2018, GVA, gross profit and net profit increased by 6%, 14% and 501%, respectively. LSF had an estimated (depreciated) replacement value of EUR 131.4 million. Investments by the fleet amounted to EUR 7.8 million in 2018.

## Performance results of selected fleet segments



In 2018 the Croatian fleet consisted of 23 active fleet segments. Most segments in 2018 showed improved economic development trend compared with the previous year. Based on the net profit margin, 5 fleet segments showed high profitability, 2 a reasonable profitability and 16 a weak profitability. Net losses are registered for two segments (DRBVL0612 and FPOVL0006) with a deteriorated economic development trend.

In 2018, the most important fleet segment in terms of landing percentage was purse seiners (PS, 91% of total landings), whereas the largest number of vessels were active in fixed nets segment (DFN, in Croatia fixed nets – gill nets and trammel nets, 1 008 active vessels). In terms of landing of demersal fish most important segment is DTS VL1218 with 44% of total DTS landing. In purse seiner segments, most significant are PS VL2440 with 61% and PS VL1824 with 29% of total purse seiner landings.

### **Purse seiners 24-40m**

In 2018, this segment accounted for only 1% active fleet, but for 15% of total FTE with the highest share of landing (55% of total landings in weight and 32% of total landings in value). It also contributed to 24% of total revenue.

It reported a gross profit of EUR 4.5 million and a net profit of EUR 453 000 in 2018. Its GVA is EUR 13.1 million, and it has average wage per FTE of EUR 19 100. The net profit margin improved by 111% compared to the average value 2012-2017.

Segment includes 62 high activity vessels targeting small pelagic fish and Bluefin tuna during Bluefin tuna catching season. All catch of Bluefin tuna purse seiners (15 authorized vessels in 2018) is transferred to farming cages and there is no landing as such which needs to be considered in terms of indicated week profitability of the segment. Catch and estimated value of fish caught is not included in this report since quota is caught within Joint fishing operations, and it is mostly owned by the farms and not the vessels (value of catch does not represent vessel income). Majority of Bluefin tuna purse seiners are owned by the farming companies or they are contracted by and working in cooperation with farm companies.

### **Demersal trawlers / seiners 12-18m**

In 2018, 163 demersal trawlers (2.7% of active fleet) operates in GSA 17 targeting different demersal species, mostly European hake, Norway lobster, red mullet and deep-water rose shrimp. This segment employed 9% of total FTE in 2018, and its share in landing volume and value was 3% and 10%, respectively. It reported a positive gross profit of EUR 1.5 million, and a net profit of EUR 206 000 in 2018. Average wage per FTE was EUR 8000.

### **Drift and fixed netters 6-12m**

Not taking into account PGP vessels, although this segment had the highest share of active vessels (11%) in 2018, its share in total volume and value of landing in the same year was small, 1% and 7%, respectively. These fishers operate predominantly in coastal areas targeting different species and using fixed nets, hooks, traps and longlines. The segment employed 9% of total FTE, and in 2018 it had landing value of EUR 13.4 million, representing 15% of total revenue increased by 5% since 2017. It reported a positive gross profit of EUR 7.2 million and a net profit of EUR 5.7 million in 2018. Average wage per FTE was EUR 7 000.

## **Drivers affecting the economic performance trends**

### **Markets and Trade**

In 2018 average landed price of EUR 1.37 per kg increased by 3% compared to 2017 and by 8% compared to average in the period 2012-2017. Preliminary results indicate a further increase of 13% in average fish price to 1.56 EUR/kg in 2019. Of the top six commercially most important species Norway lobster and Common sole had the highest prices (14.1 and 8.1 EUR/kg, respectively) in 2018, while sardine and anchovy were sold at relatively low prices (0.4 and 0.8 EUR /kg, respectively). A high influence on fish prices of small pelagic species has the product destination. As Croatia is a Bluefin tuna farming country, a large quantity of small pelagic fish landed on the landing sites is designated for tuna feeding. The small pelagic fish intended for tuna feeding are declared with low prices in the sales notes. These low prices have a minimizing effect on the average price of small pelagic fish. For the purpose of tuna feeding Croatia has a pronounced import of herring from other countries.



Croatia's accession to the EU had a substantial influence on fish market, along with facilitating transport it brought increased competition. Domestic market is still slow to adapt to the EU market in terms of competitiveness and prices, however higher prices are achieved in direct sales activities in local markets.

Croatia is a net exporter of fish and seafood products, with about EUR 64 million surplus in 2018. Both import and export have been gradually increasing in the period 2012-2018. Within the EU, Italy (30%), Slovenia (12%) and Spain (7%) are the main export destinations for fresh and salted fishery products. Sardine and anchovy originating from purse seine fisheries are the main species exported mainly to neighbouring countries, Italy and Slovenia. Demersal fish and cephalopods are exported fresh mainly to Italy where fishers achieve higher fish prices than on domestic market which contributes to the profitability of demersal trawlers. Croatia is one of the main EU exporters of farmed Bluefin tuna (4% of total extra-EU exports for pelagic fish in 2018) which is exported almost exclusively to Japan. Export of fish and seafood in 2018 amounted to EUR 228 million and 66 000 tonnes, increasing in volume and value 6% and 9%, respectively, compared to 2017. Imports originated mainly from Spain (29%), Italy (16%), Slovenia (8%) and the Netherlands (6%) and amounted to EUR 164 million and 50 000 tonnes in 2018.

Fish consumption in Croatia is lower than the EU average (24.4 kg in 2017) with a highly seasonal demand. According to latest data on consumption in 2017, apparent consumption was estimated at 18.7 kg per capita, an 8.7% increase compared with 2016 (EUMOFA, 2020).

## Operational costs

The most important operational costs are personnel costs followed by energy costs.

Trends from the five-year period are followed in terms of share of personnel costs, and energy costs in total costs. In 2018, share of energy cost of 20% remained stable compared to the average in the period 2012-2017. At the same time share of personnel costs increased to 29%, compared to 24% average value in the period 2012-2017 which is line with trend of increase of average wage. Other costs such as repair and maintenance, unpaid labour and other variable cost have been stable over period accounting for 7%, 4% and 9%, respectively, in 2018.

The average fuel price in 2018 was higher than in 2017. The increasing trend of the fuel price has a direct impact on energy costs, further worsening profitability in some typical fuel intensive fleet segments as demersal trawlers.

Personnel costs increased with the value of landings both in LSC and SSCF, by 1% and 31%, respectively, in relation to 2017.

## Management instruments

Croatian fleet is managed through capacity and effort limitations, as well as through temporal and spatial restrictions. Effort regulations are related to restrictions on issuing fishing licences and transfer of fishing rights from one license to another in terms of permitted fishing gears or fishing zones, as well as through issuing additional authorisations for fisheries under management plans. This system is preventing an increase of fishing effort related to fishing gear or fishing zone, or even subzone. Capacity limitation is related to increase of vessel power and length in terms of total national fleet capacity and total capacity for specific fisheries. Additionally, national regulations restrict transfer of effort between fishing zones of inner and outer fishing sea, preventing increase of effort in the most vulnerable areas of inner sea. Spatial and temporal closures have been used in past years for management of purse seine and trawling fishery. In the recent period this has become an effective measure in preventing catch of smaller categories of small pelagic as well as in protection of areas important for recruitment of target species.

In addition to the aforementioned, from 2014 GFCM management plan for small pelagic fish in GSA 17 has been in force. By the provisions of this plan maximum number of fishing days for targeting sardine and anchovy has been set, as well as temporal closure period. Given full implementation of these measures and additional national restrictions implemented for protection of small pelagic, the total number of days-at-sea will probably decrease further in the future.

In 2015, Italy and Croatia adopted joint management measures at the national level establishing no-take zone for bottom trawls in the area of Jabuka/Pomo pit. This regime was introduced from July 2015 to October 2016 after which a more stringent regime has been established for the three-year period. On the top of national legislations this new regime was also transposed into GFCM Recommendation 41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea.

In 2015 Italy and Croatia adopted joint management measures at the national level establishing no-take zone for demersal trawls in the area of Jabuka/Pomo Pit. This regime was introduced from July 2015 to October 2016 after which regime was modified and more stringent one has been established for the

three year period. On the top of national legislations this new regime was also transposed into GFCM Recommendation 41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea. New regime includes three zones where particular management regime applies, one in the middle where all kind of demersal (trawls and longlines) and sport fishery is prohibited, and two side zones where only limited number of authorised vessels can operate for limited time of two days per week. This is the first FRA area in the Adriatic and an important measure for demersal fishery which will have significant impact on the fleets.

### **Status of key stocks, TACs and quotas**

Having in mind that fishery in Croatia is based mostly on effort management, only Bluefin tuna and swordfish fishery is restricted by TAC. Annual quota has been set by ICCAT and allocated by the national allocation key. At the national level total quota is allocated to purse seine fishery for farming purposes, hand lines and recreational fishery. Total Croatian quota for 2016 was 551.2 tonnes and 661.8 tonnes for 2017 with an increasing trend.

National quota for bluefin tuna in 2018 was set by Regulation (EU) No 120/2018 and amounted to 779.84 tonnes. This quota was nationally allocated to commercial fleets: PS and HOK fleet with the quantity also allocated to by-catch from commercial vessels not authorised for BFT fishery, and non-commercial fleets: sports, recreational and scientific. Quota after swaps was adjusted to 765.84 tonnes. Total amount of catch in 2018 was 743.958 tonnes (97% of adjusted quota), out of which 678.7 tonnes were caught in the purse seiner fishery which accounts for 96.7% of purse seiner quota, and 88% of adjusted bluefin tuna quota. As the status of bluefin tuna stock has improved, the quota has been gradually increasing. However, since almost all bluefin tuna catch is intended for farming purposes it has very limited influence on the economic indices of purse seiner fleet.

Regarding swordfish, Regulation (EU) No 120/2018 has set a total quota of 15.52 tonnes for 2018 for Croatia. After two quota swaps with Spain, the adjusted Croatian SWO quota was 30.95 tonnes for 2018. Total amount of catch in 2018 was 28.167 tonnes (91% of adjusted quota).

In terms of landing weight most important stock for Croatian fishery are sardine and anchovy which contribute with 67% and 19%, respectively, to total landing weight in 2018. In December 2016, for the first time, the Council agreed on setting a catch limit for the EU concerning small pelagic species in the Adriatic Sea for 2017 (namely 112 700 tonnes of Small pelagic species (anchovy and sardine)). The same catch limit was set by Regulation (EU) No 120/2018 for 2018.

### **Innovation and Development**

After Croatia's accession to the EU in 2013, and changes that followed due to a full implementation of Mediterranean regulation, economic performance still cannot be considered stable. Firstly, this is because of the process of permanent cessation which was ongoing by the end of 2018 and which affected LSF purse seines, bottom trawlers and dredgers, but also due to a process of inclusion of large number of vessels in the small-scale PGP segment. In connection to the progressive, but still limited, increase of fishing activities in PGP segment, an overall increasing trend is expected in the values of fishing activity and economic indices. Nevertheless, due to their large number these vessels have a visible impact on the performance of the entire fleet.

Key challenges in Croatian fisheries sector are in ensuring competitiveness and sustainability of enterprises, including SSCF. A positive example on innovation in the SSCF include development of innovative collapsible fish trap "trapula". For most fishers working with traps (FPO segments), fishing is not the main income. Collapsible traps are simple and effective solution to the problem of limited space on board small vessels, which improve safety and with the added space on-board enable conducting other complementary activities at the same time (such as fishing tourism). Traditionally, fish traps are constructed to target either fish, Norway lobster or big crabs. In the new design the opening in the trap can be adjusted, thus the same trap can be used to capture crabs in one season and other species in the next, which has a positive effect on competitiveness on the market, and lowers the need for investment in additional gears.

Investments over the segments are based on gear or engine reparation, improving selectivity of gears, as well as terms of fish preservation or processing aimed at increasing product quality and value. This trend can be expected in the future as well in line with EMFF and Operational program.

In 2016 GFCM adopted Recommendation GFCM/40/2016/3 with additional restricting measures for 2017 and 2018 for small pelagic fisheries in Adriatic. In 2017, European Commission presented a proposal for multi-annual plan for small pelagic stocks in the Adriatic Sea and the fisheries exploiting those stocks. With the new plan for Adriatic small pelagic stocks, which are exploited mainly by Croatian and Italian fishing vessels, the Commission proposed to introduce a major shift in fisheries management in this area, currently based on fishing effort, by setting TACs. In 2018, Parliament's Committee on Fisheries

(PECH) supported maintaining the current fishing effort regime and opposed the introduction of TACs. It also required that catch limits for small pelagics are set in 2019 at the level of the 2014 catches, and reduced by 4% annually between 2020 and 2022. The improvement of safety and working conditions on-board is a high priority, especially since fishers are forced to conduct fishing activities in unfavourable conditions as number of possible days at sea has been limited due to spatial-temporal closures and limitations of catch and effort. Dependence of the sector on two species, sardine and anchovy, which are in poor condition, leads to the need for diversification in the production targeting different species and for value addition for the two species, in order to increase the income of fishers.

## Socio-economic impact

Overexploitation and management measures implemented as a result of the stocks status remains to have a significant influence on the economic performance of the sector. This is true primarily for small pelagic fleets which have been under strong restrictions from 2015. These were also followed with appropriate measures from the EMFF which compensate their effect to a certain level. As the sector is heavily dependent on small-pelagic fish the effects of management measures, mainly temporary and permanent cessation of fishing activities, is expected to have a positive impact as Croatia intends to continue with the measures provided within the framework of the EMFF. In addition, Croatia intends to reduce fishing effort through diversification of activities. Same measures have been implemented in the demersal fishery. Assuming that fuel prices remain fairly constant and fish prices continue to increase, the effects of conservation measures are expected to have a positive long-term impact on the general recovery of the sector. As for the demersal fleet, effects of Fisheries Restricted Area (FRA) in the Jabuka/Pomo Pit and its impact on the demersal trawlers and longliners are still to be evaluated.

## Nowcasts for 2019-20 and beyond

### Model results

Preliminary results for 2019 forecast an increasing landed weight and value for SSCF and decreasing one for LSF. Effort restrictions in the purse seine and demersal fishery continue to yield results according to preliminary data and projections for 2019 which indicate a significant drop in energy consumption and energy costs, same as in cost of crew wages and salaries. At the same time projections of economic indicators are showing similar results to 2018. However, this needs to be taken with caution since they are under significant influence by the small-scale non-commercial fleet.

In 2019, according to preliminary data 63 300 tonnes of seafood were landed by the Croatian fleet, with an estimated value of EUR 57.6 million. Reduction in catch of small pelagic species by 11% in 2019 contributed the most to the overall reduction in landings, according to fisheries management measures in place in Croatia. The overall days-at-sea increased (7% compared to 2018) mainly because of an increase of effort in SSCF by 11%.

Concerning the period beyond 2019, status of stocks and MSY obligation, it can be expected that the main characteristic of fishery will be reduction of fishing effort in PS and DTS fleets. Regarding the process of introduction of multiannual management plan for small pelagic species in the Adriatic Sea it can be assumed that PS segments will be affected the most.

## Outlook

### Landing obligation

The Commission Delegated Regulation (EU) 2018/161 of 23 October 2017 established *de minimis* exemptions to the landing obligation in the small pelagic mid-water trawl and purse seines fisheries for certain small pelagic fisheries in the Mediterranean Sea until 31 December 2020.

In 2018, the Commission Delegated Regulation (EU) No 2018/2036 (amending Delegated Regulation (EU) 2017/86 establishing a discard plan for certain demersal fisheries in the Mediterranean Sea) extended current survivability and *de minimis* exemptions for various single species or introduced new *de minimis* exemptions for some groups of species until 31 December 2021.

As *de minimis* exemptions are applicable until the end of 2020 in the case of small pelagic fish, and end of 2021 in the case of demersal species, the LO has not yet been fully implemented and there have not been any consequences due to its implementation, such as hampered safety on-board vessels, higher costs due to additional labour and storage facilities etc.

### COVID 19

In Croatia, the pandemic was declared on 11 March, 2020.

SSCF is not affected as much due to quick reorganization of fish marketing, distribution and sales - fish is placed mostly locally and sold directly to end consumers. Nonetheless, in order to mitigate the economic losses caused by this crisis, the amount of *de minimis* state aid support per beneficiary was increased, especially in relation to SSCF.

The closure of fish markets and restaurants and a number of restrictions imposed to curb the spread of the coronavirus have dealt a severe blow to Croatian fisheries. In order to reduce the damage and support fishers to overcome the crisis, several measures were adopted whose main goal is to mitigate the negative impact on business.

Following a swift procedure, national legislation was amended to make it easier for fishers to distribute and sell their products on the domestic market directly to end consumers.

LSF is heavily affected with the crisis therefore temporary cessation of fishing activities due to COVID-19 was launched following amendments to the EMFF Regulation from April 2020. This measure was enabled for purse seiners for small pelagic fish from 8 April-1 May and demersal trawlers from 15 April-15 June. Although the cessation was non-mandatory many purse seiners and trawlers participated (either they could not ensure safe conditions on-board or due to problems with market demand/placement), especially since measure was also applicable to vessels that have already reached the maximum six-month duration of EMFF support for temporary cessation.

In addition, mandatory closure for purse seiners for small pelagic fish followed in May according to GFCM measures.

Bluefin tuna longliners started their fishing activity as most of the landing was sold to Spanish buyers. Bluefin tuna purse seining season (26 May-15 July) was not affected as social distancing limitations ended earlier.

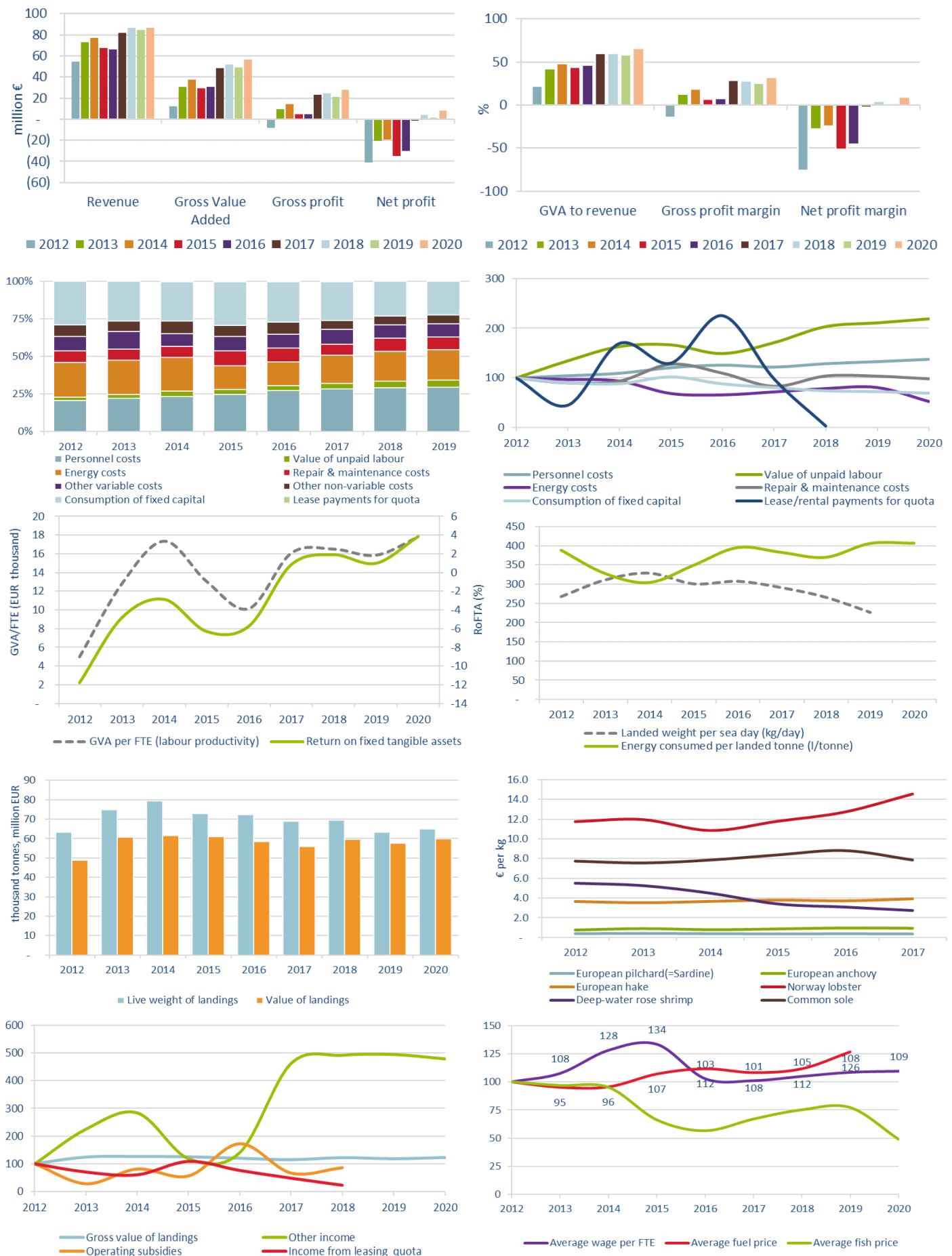
## Data issues and improvements

No major issues detected. All fleet segments with major contribution to the total catch of the Croatian fleet have been sampled with satisfactory response rates. In 2018, response rate of the main commercial fleet was 40% and 5% of PGP vessels, allowing for a representative sample for the estimation of economic variables. Where possible, administrative sources were used to include data for all vessels (including energy consumption, energy costs and subsidies). Subsidies on investments related to the decommissioning schemes for 2017 and 2018 are included in inactive segments.

Capacity, effort and landing data is collected for the entire fleet according to the Control Regulation and national legislation. Fishing reports are used for reporting on fishing activity for vessels below 12 metres LoA using passive gears.

Methodologies for estimation of value of unpaid labour, value of physical capital and consumption of fixed capital have been improved to allow more consistent results over time series. As a result of these changes values and figures may differ from previous reports.

With regard to the 3 500 small-scale vessels which were transferred into the commercial SSCF in 2015, all these vessels fall under the polyvalent passive gears segment (PGP), however, these fishers are not full-time engaged in fishery and most of them had very limited activity in 2015-2018. Therefore, economic indicators for the PGP segment should be taken with caution.



**Figure 4.3 Croatia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.4 Cyprus

### Short description of the national fleet

The Cypriot fishery is dominated by small-scale vessels dispersed across many landing places that use a variety of fishing gears, usually on the same fishing trip. Fisheries in the Mediterranean Sea are of mixed-species type, where more than one species are present in the area being fished and caught by the fishing gear no matter if these species are not the targeted ones.

In the Mediterranean with the exception of bluefin tuna, none other species had catch quotas until 2016. In 2017 a TAC was set for the swordfish Mediterranean stock, based on the Multiannual recovery plan of this species and thus it becomes the second species to have catch quotas in the region.

A new fleet segment was introduced in the national fleet in 2017: the purse seiner segment targeting bluefin tuna. This fleet segment includes only one vessel and despite the fact that it was taking into account for data collection purposes it was not included in the economic analysis for confidentiality reasons. Cyprus has provided landings and effort information regarding this vessel.

### Fleet capacity

Fleet capacity in 2019 was increased compared to previous year; not following the declining trend. Actually, it consisted of 858 registered vessels with a combined gross tonnage of 3 800 GT and total engine power of 40 800 kW. On average there was a reduction of 21% in the number of vessels of the period 2008-2017 compared to 2018. As a result for this period, the combined decreased by 10% and the total engine power decreased as well but by only 6%, meaning that larger vessels were introduced in the Fleet Vessel Register or some vessels have substituted their engines with others with higher engine power. This is strengthened by the fact that the reduction in the number of vessels was only for the small-scale fleet.

It is noted that the vessels which ceased their fishing activities were scrapped in 2013 and end of 2015 through structural aid within the framework of the EFF 2007-2013 and EMFF 2014-2020. All of these vessels were belonging in the SSCF.

### Fleet structure

In Cyprus, the fishing fleet related with the active vessels can be divided into a large-fleet segment consisting of vessels over 12 m length overall with a total engine power of 7 580 kW in 2018 and a small-fleet segment consisting of vessels of less than 12 m length overall with total engine power of 28 800 kW in 2018.

The large-fleet segment is mainly composed of polyvalent vessels with passive gears and few trawlers fishing in international and territorial waters. The large majority of the vessels belong in the length group 12-18m and thus, for sampling purposes, as well as for confidentiality reasons due to small number of vessels all the polyvalent vessels were regrouped in the 12-18m length group. It is noted that all the groups of vessels using polyvalent passive gears with length over 12 metres are engaged in the same métiers since these vessels target the same group of species with the same gears despite their vessels length. The vessels of this fleet segment are engaged in two fisheries; mainly in the large pelagic fishery using drifting longlines and operating around Cyprus waters and the eastern Mediterranean (targeting swordfish, bluefin tuna and albacore), but also in the inshore demersal fishery using mostly set nets and set longlines. A limited number of licenses are provided for this segment annually.

Demersal trawlers range from 22-27 metres. The demersal trawlers fleet segment below 24 metres is only one vessel and thus, for confidentiality reasons as it is impossible to report data without identifying this company it was regrouped in the over 24 metres length group (up to 28 metres). It is emphasised though, that both groups are engaged in the same métier and they target the same group of species with the same gear despite their vessels length. The licensed trawlers are categorised, based on their type of license, in those fishing in the territorial waters of Cyprus and those fishing in international waters (eastern and central Mediterranean). For the trawlers fishing in territorial waters a limited number of licenses is provided every year, and an extended closed season (from 1 June until the 7 November) is employed.

The SSCF segment is mainly operated with bottom set nets and bottom longlines, targeting demersal species. Cyprus Fisheries Law<sup>28</sup> provides for a limited number of licenses for this segment annually and divides it into three subcategories: vessels with fishing license category A' (full-time activity in fisheries), vessels with fishing license category B' (part-time activity in fisheries) and vessels with fishing license

28 Basic Fisheries Law Cap. 135 and subsequent amendments of 1961 to 2007, Fisheries Regulations of 1990 to 2012 based on Article 6 of the Basic Law



category C' (periodic activity in fisheries). The professional fishing license category (C') was introduced by a new national law and based on this law their fishing activity is performed on a periodic basis since they are allowed to fish only a total of 70 days each year. Consequently, their income from fisheries activities is too low. Thus, this new professional licence category with the low fishery activity was not grouped in the same category with the professional licences of category A' and B'. The vessels with fishing licence categories A' and B' belong to the fleet segment PG 0-6m and PG 6-12m whereas the vessels with fishing licence category C' belong to the fleet segment PGO 0-6m and PGO 6-12m.

## Employment

Employment was estimated at 1 246 jobs in 2018, a significant increase of 10% from the 1 134 jobs in 2017. It shows a small increase of 3% compared to the period 2008-2017.

In 2018, the total jobs corresponded to 748 FTEs, an increase of 9% compared to 2017 (689 FTEs), which it is very important if taken into account the declining trend (-5%) of the previous decade. Actually, it is about an average of 1.6 fishers per vessel or 1 FTE per vessel in 2018.

## Effort

An estimated 44 300 days were spent at sea in 2018, a significant decrease of 12% compared to 2017, continuing its declining trend. The fishing days were reduced by 39% compared to the period 2008 to 2017 leading, unsurprisingly, to a significant reduction in the amount of energy consumed by 13% to 1 million litres in 2018. The reduction, approximately 11%, in fishing days for large-scale vessels for 2018 compared to 2017 was less significant for this part of the Cyprus fleet compared to the small-scale fleet where the decrease was around 33%. However, the LSF performs longer trips and consequently, it consumes higher amount of fuels.

The reduction in days spent at sea for the Cyprus fleet together with the decrease in the amount of energy consumed resulted in the energy cost to follow the declining trend despite the higher fuel prices.

## Production

The weight of seafood landed reached 1 470 tonnes a significant decrease of 15%, with a value of EUR 7.05 million in 2018 representing a great reduction of 32% compared to 2017. However, both the live weight and the value of landings are at the same levels as in previous years with the exception of year 2017. It seems that 2017 was an exceptional year and in 2018 production went back to the previous period levels. Nevertheless, the landed weight per sea day (kg/day) continues a declining trend since 2009.

The bottom trawl fishery in the territorial waters and the inshore fishery with polyvalent passive gears target a mix of demersal species, as it is the case in all Mediterranean demersal fisheries. The exploited stocks are not shared with other countries' fleets. Landings of both fisheries are mainly composed by picarel bogue, red mullet, surmullet, common pandora and cephalopods: common octopus, musky octopus, European squid and common cuttlefish. The inshore fishery with polyvalent passive gears catches also relatively large quantities of parrotfish, blotched picarel and spinefeet or rabbitfishes.

Concerning the large pelagic fishery, polyvalent vessels operate in the Eastern Mediterranean, catching basically swordfish, albacore and Atlantic bluefin tuna with drifting longlines. For first time in 2017 Atlantic bluefin tuna caught by the purse seiner.

## Economic results for 2018 and recent trends

### National fleet performance

The Cypriot national fleet was in a net loss making position in 2018 (around EUR 1 million) and its economic performance was significantly worsen when compared to the previous year 2017 but much improved if compared to the period 2008-2017.

The total revenue earned by the Cyprus fleet in 2018, basically the income generated from landings since there is no other source of income, was estimated at EUR 7.05 million. The decrease in total value of landings in current year by 32% compared to last year, is the main reason driving the negative economic results and not being able to cover all expenses. However, the value of landings in 2018 was at the same levels as in the previous period 2013-2016. Such high value of landings as in 2017 was also observed during the period 2008-2010. It is important to have in mind the decrease by 48% in subsidies (operating subsidies and subsidies on investments) from EUR 809 000 in 2017 to EUR 418 000 in 2018. Reduction in revenue was due to the significant reduction in value of landings and in direct subsidies; de minimis

aid given to *polyvalent 'passive' gears vessels with length  $\geq 12\text{m}$*  and also to small-scale coastal vessels (fishers of category A' and B' fishing licenses).

In spite of the great reduction in GVA in 2018 by 57%, which was estimated at EUR 2.6 million (EUR 6.7 million in 2017) a considerable rise is shown if compared to the period 2008-2017, since it is the third higher value for this period. Gross profit and net profit in 2018 were estimated at EUR 1.6 million and - EUR 1 million, respectively, showing a significant improvement in the economic performance compared to the last decade's results. On the other hand, it shows deterioration of the economic results when compared to 2017 by 69% and 140%.

The consumption of fixed capital (annual depreciation), the variable costs and the energy (fuel) cost are the main cost items for the Cyprus national fleet for 2018 of 26%, 22% and 20% respectively. In 2018, the Consumption of fixed capital (annual depreciation) shows a decrease of approximately 8% compared to last year. The same picture stands for the energy cost with 8% decrease. On the other hand, other variable costs raised by 27%.

Another operating cost item, the personnel costs (wages and salaries) showing a decrease of around 8% compared to last year. This variable is related only to the large- scale fleet and thus it does not affect the economic results of the small-scale fleet segments. Value of unpaid labour, which is mostly related to the small-scale fleet, was more or less steady the last years.

The total expenditures in 2018 were at the same levels as last year's ones since there is a minor increase of less than 1%. The significant reduction in value of landings was the main factor for the negative economic performance in 2018 for the Cyprus national fleet compared to 2017.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was positive (24%), indicating operating efficiency of the fisheries sector. Yet, it shows deterioration compared to the previous year 2017 by 53%. Taking into account, though, that it is the second higher value within the whole decade it is not a surprise that it has been greatly improved if compared to the period 2008-2017. The Net Profit margin in 2018 is negative estimated at -15% and well below of that in 2017 which was positive. But still, it is much improved (80%) in comparison to the period 2008-2017.

The RoFTA turned to zero in 2018 and it is an increase when compared to the whole period 2008 to 2017. Besides 2017 which was positive and 2018 which was zero, RoFTA has been negative for the whole period 2008 to 2016.

There is an overall improved development trend when compared to 2008-2016 in all indicators but there is a deterioration in comparison to last year 2017. This picture is also reflected in labour productivity (GVA/FTE) which after being negative for the period 2008-2012 it has become positive the last six years and it has increased in 2018 at EUR 3 500 per FTE when compared to the period 2008-2017 but, it shows reduction of 61% compared to 2017. In addition, in 2018 GVA estimated at EUR 2.6 million and GVA to revenue estimated at 40% were both increased tremendously compared to the last decade (2008-2017), strengthening the economic performance but these indicators were reduced compared to 2017 by 57% and 36% respectively. Moreover, the number of total employed increased by 10% at 1 246 as well as the number of FTE which increased by 9% at 748. No more reduction in crew members were observed the last three years.

Fuel consumption per landed tonne continued its decreasing trend in 2018 at 1 180 litres per landed tonne (1 260 litres per landed tonne in 2017) reaching the lowest value of the whole period 2008 to 2017.

Landings in weight per unit of effort (in weight per days-at-sea) followed a decreasing trend for the period 2008-2012 and an increasing one for the period 2013-2017. In 2017, landed weight per sea day increased by 10% compared to 2015 and by 41% compared to the period 2008-2015.

### Socioeconomic Impact

The fishery sector does not contribute much (less than 0.5%) to the Cyprus Gross National Product. However, it is an important sector for the fisheries dependent areas for direct employment (vessel owners and crew members) and auxiliary services such as fish taverns and restaurants, fishmongers, gear repair, vessel repair and construction and families of fishers who help them in getting the fish out of the nets and fishery tourism especially during the summer season.

## Performance by fishing activity

### Small-scale coastal fleet

The Cyprus fleet is dominated by small-scale-vessels. The SSCF is by far the most significant segment of the Cyprus fleet since it represents around the 95% of the total fleet both in 2018 and in 2019 in terms of number of vessels and thus, employment. In addition, it represents 35% in regards to total weight of landings and accounts of 49% of total value of landings in 2018. The higher percentage in relation to value of landings compared to their weight is that SSCF generally improves production price to a higher degree than the LSF, and the gap between prices at first sale can be very high. These gaps may be explained by both the differences in quality linked to freshness and the size of the products but also the marketing channels. The selling prices of SSCF are really high. The same species caught by SSCF are much higher than the ones caught by demersal trawlers.

Apart from the high quality of the landings and high selling prices the main patterns of this part of the Cyprus fleet are the small family-owned businesses usually of one physical person, area of operation closest to landing points (operated in Cyprus waters i.e., less than 12 n.m.), use of one or more passive gears even to the same fishing trip and very limited daily landings. The main gears used are trammel nets (GTR), set gillnets (GNS) and set longlines (LLS).

The number of the small-scale vessels increased slightly in 2018 by 2 vessels compared to 2017. Despite the downfall by 11% in days spent at sea by SSCF from 2017 to 2018, the sea days for SSCF in 2018 account for almost 95% of the total sea days of the Cyprus fleet. This part of the fleet consumed 58% of the energy consumption of the Cyprus fleet around 1 million litres of fuel.

The income generated from landings was enough to cover all expenses made by SSCF and thus, it is at a weak net profit making position in 2018, EUR 151 000. profit is greatly reduced by 95% if compared to 2017 but the economic performance is improved over the last decade since only the last two years enjoys net profit. The GVA decreased by 63% reaching the EUR 1.74 million.

### Large-scale fleet

The large -scale fleet composes of Polyvalent passive gears vessels and trawlers with length  $\geq 12$ m. The number of vessels increased slightly by 5% at 39 vessels with a combined gross tonnage of 1 799 GT and total engine power of 7 500 kW.

In 2018 there was a reduction of 33% of the days spent at sea compared to 2017. The same picture stands for the energy consumption where a reduction of 30% of litres consumed was shown.

In 2018 the income generated from landings was not enough to cover all the expenditure of the large-scale vessels resulting in the fleet to be at a net loss making position (close to EUR 1million). Even if in 2017 they had negative profits the loss was at around 80% less. The economic performance is improved if taken into account the one of the period 2008-2017.

## Performance results of selected fleet segments

### Polyvalent 'passive' gears 6-12m

The most important SSCF segment is the *Polyvalent 'passive' gears with length 6-12m* since it represents 39% of the total number of active small-scale vessels and thus, employment. In 2018, there were 283 active vessels operating in territorial waters, i.e., less than 12 n.m., a decrease of only 3% compared to 2017. During 2015, 66 vessels from this fleet category were permanently withdrawn and their licences were cancelled through structural aid within the framework of the EMFF 2014-2020. In 2018 the FTEs have been increased to 433 from 401 in 2017.

In 2018 the value of landings amounted to EUR 2.85 million and it accounts for 43% of total revenues of the Cyprus fleet. Despite the decrease in value of landings by 40% from 2017 and as a result revenue, the income was such that all the expenditures could be covered and the fleet segment is in a net profit making position of EUR 0.6 million. Furthermore, the net profit margin for the period 2008-2017 has increased by 155% showing improved economic development trend.

The deteriorated economic performance in 2018 in comparison to 2017 was mainly due to the decrease in the value of landings by 40%. The total operating costs were steady between 2017 -2018 with a slight increase of 2,5%.

The GVA reached the amount of EUR 1.7 million in 2018 a significant decrease of around 50% compared to 2017 (EUR 3.58 million). Also the GVA to revenue decreased from 75% in 2017 to 59.7% in 2018.

Fuel consumption per landed tonne was estimated at 1 709 litres per tonne of landed fish in 2018, an increase of 27% mainly due to the higher fuel prices.

There was a reduction in the overall days-at-sea of the segment since the vessels spent 32 630 days-at-sea in 2017 but only 28 043 days in 2018. The fuel consumption continued its declining trend since 2014 but there was increase in energy costs due to higher fuel price.

In overall, the main economic indicators improved if compared with the period 2008-2017 but still the economic performance is deteriorated compared to 2017.

### Vessels using Polyvalent 'passive' gears with length $\geq 12m$

The most important LSF segment is the *Polyvalent 'passive' gears with length  $\geq 12m$* . After the *Polyvalent 'passive' gears with length 6-12m* segment is the second segment with the highest percentage of total revenues since its revenues represent the 31% of the total noes. The vessels of this category range from 12-26m (the large majority from 12-18m) are engaged in two fisheries; mainly in the large pelagic fishery using drifting longlines and operating around Cyprus waters and the eastern Mediterranean (targeting swordfish, bluefin tuna and albacore), but also in the inshore demersal fishery using mostly set nets and set longlines. A limited number of licenses are provided for this segment annually.

In 2018 this fleet segment consisted of 32 vessels; only 1 more than in 2017 but there was an increase of 7% in FTEs from 138 in 2017 to 148 in 2018.

The fleet segment was operating at a net loss making situation in 2018; net profit at EUR 0.46 million, a minor deterioration compared to 2017, net profit at EUR 0.41 million. The factors behind this stability is that both the income generated revenues and the overall operating costs do not differ much between 2017 and 2018. Specifically, the value of landings in 2018 reached EUR 2.06 million, a decrease of 5% compared to 2017 whereas the overall operating costs became EUR 2.26 million a decrease of 4% compared to 2017.

However, its economic development trend is improved if compared the economic indicators over time. More specifically, the net profit margin in 2018 shows a rise of 80% over the period 2008-2017.

### Drivers affecting the economic performance trends

The good condition of some of the main commercially exploited fish stocks can have a positive impact on the revenue of the sector. Indeed, there is a positive message coming from the 2016, 2017 and 2018 stock assessments. In 2018, Cyprus has performed stock assessment for one of the main commercially important demersal stocks in GSA 25, Common Pandora which was found in sustainable exploitation status with high spawning stock biomass. Moreover, in 2017 the stock assessment for two of the main commercially important demersal stocks in GSA 25, Bogue and Stripped red mullet were both found in low overexploitation status. In 2016, the stock assessment of picarel and red mullet found both species sustainably exploited.

On the other hand, in 2017 the lessepsians species like *Lagocephalos sceleratus* and the recently reported in Cyprus waters lionfish greatly affect the biodiversity and thus, the economic performance of the fisheries sector.

The attacks to the fisher's nets and catch by some of the protected species mainly by dolphins and sea turtles can have a negative impact on the limited fishing income and as a result, put at a risk the economic sustainability of the fleet segments especially the one of the small-scale inshore fishery fleet and of the polyvalent 'passive' gears vessels with length  $\geq 12m$ .

Recreational fishery is another driver that can negatively affect the economic performance of the professional fishers. The sport fishers are many in numbers and can have important production in some species even in overfished species.

A significant reduction in the number of SSCF vessels, 107 in 2013 and 66 in the end of 2015, after decommissioning schemes through structural funds have become a driving force for the improvement of the economic performance of the Cyprus fleet overall but especially for the SSCF over time.

The only species managed in the Mediterranean by quotas until 2016 was the bluefin tuna. From 2017 swordfish is the second species that it is managed by quotas. The allocation of quotas between the EU countries is already known and the recovery plan for the species has already started been implemented from the beginning of 2017. This fact could have a negative impact on the activities and economic performance of the *Polyvalent 'passive' gears with length  $\geq 12m$*  fleet segment at least in the short-run. Cyprus after many years has issued a purse seiner license for bluefin tuna. Thus, from 2017 a new fleet segment exists.

### Markets and Trade (including fish prices)

In Cyprus the fish is mostly sold fresh. The processing fishing industry in Cyprus is at its early stages.



Cyprus has a negative trade balance in fresh fishery products both in value and weight. The fish prices are relatively high compared to other Mediterranean countries and the main reason must be the Cyprus trade deficit of fresh products.

It is noted that the small-scale fishery has limited daily landings that are of high quality and thus they can enjoy higher selling prices compared with the ones enjoyed by trawlers for the same species caught.

In Cyprus there are no auctions. Around 30% of the fish of small-scale fishers is sold directly to consumers and the rest to wholesalers. In contrary large-scale-vessels the catch is channelled to domestic wholesalers or it is exported if it has to do with the large pelagic fishery.

## Management instruments

The fleet in Cyprus is managed mainly through effort limitations and technical measures. A limited number of licenses are provided for each segment annually. Furthermore, closed seasons, restriction measures on the use of gears and minimum landing sizes are employed, in accordance to national and European regulations.

In regards to the SSCF, the fleet segments *Polyvalent passive gears with length 0- < 6m and 6- < 12m* (category license A' and B') are allowed to operate every day all year round, with a number of restriction measures on the use of fishing gears and minimum landing sizes, according to the national and community law. In 2015, 66 vessels of A' and B' category of SSCF were scrapped with public aid within the framework of the Scheme of Permanent Cessation, co-funded by the European Maritime and Fisheries Fund 2014-2020 and their licences were cancelled, resulting in a significant reduction in the number of licenced vessels. The positive news for these two fleet segments were the recent decision of the Cyprus Department of Fisheries and Marine Research to allow the fishers belonging in these groups to use nets of up to 600 m length of lower mesh sizes for targeting the species for the period 25 February to end of April 2017, increasing their value of landings and as a result, their income.

The fleet segments Polyvalent passive gears with length 0- < 6m and 6- < 12m (vessels with license category C') have a limited fishing, with a maximum of 70 working days and stricter measures on the use of fishing gears.

For the trawlers fishing in territorial waters a limited number of licenses (two) is provided every year, and an extended closed season (from 1 of June until the 7 of November) is employed. Furthermore, restriction measures on the use of trawl nets and minimum landing sizes are employed for all licensed trawlers, in accordance with national and community law.

As for the polyvalent passive gears with length  $\geq 12m$ , a closed period for the swordfish is employed based on European law.

## TACs and quotas

In 2016, the only species managed in the Mediterranean by quotas was the bluefin tuna and the total initial available quotas (TAC) for the Cyprus fleet in 2016 amounted to around 98 tonnes. The quota was distributed only on the *Polyvalent 'passive' gears with length  $\geq 12m$*  fleet segment operating with drifting longlines. The bluefin tuna TAC for 2017, 2018 and 2019 increased and Cyprus is entitled to 117.7 tonnes, 138.65 tonnes and 153.4 tonnes, respectively. For the first time in 2017 Cyprus has distributed part of the quota, 60 tonnes, to a purse seiner targeting BFT leaving the rest of the quota for the *Polyvalent 'passive' gears with length  $\geq 12m$*  vessels. Thus, since 2017 there is a new national fleet segment, the purse seiner, which includes only one vessel. The quota distributed to this vessel for 2018 is 75t and 85t for 2019.

From 2017, swordfish is the second species in Mediterranean that has a TAC within the recovery plan of this species adopted by ICCAT. Cyprus based on the allocation key between the EU Member States is entitled to 59 tonnes in 2017, 57.2 tonnes in 2018 and 55.5 tonnes for 2019. The implementation of such a management measure is expected to negatively affect the Polyvalent 'passive' gears with length over 12 metres fleet segment at least in the short-run.

## Status of Key Stocks

In 2018, Cyprus has performed stock assessment for one of the main commercially important demersal stocks in GSA 25, common pandora which was found in sustainable exploitation status with high spawning stock biomass. The time series used was 1975-2017. It was presented and endorsed by GFCM relevant scientific group.

In 2017, Cyprus has performed stock assessment for two of the main commercially important demersal stocks in GSA 25, Bogue and Stripped red mullet and both were found in low overexploitation status. It is noted that the assessment of Stripped red mullet has been endorsed as 'accepted with qualitative

advice', therefore, only qualitative information is given for the status of the stock. The time series used was 2005-2016 for both stock assessments performed. They were presented and endorsed by GFCM relevant scientific group.

### Operational costs (external factors)

The most important operational costs are the wages and salaries of the crew members and the fuel cost. Personnel costs include all the expenditures paid by the employers, including social security. The SSCF employs only individuals and their assistants. Neither the vessels owners-fishers nor their assistants are paid any wages and salaries. They get share of the value of landings. Consequently, for the SSCF the value of the unpaid labour (for example the vessel owner's own labour) is estimated based on a minimum wage. Thus, this amount per vessel is fixed according to the number of assistants. On the other hand, the large-scale vessels fleet owners (trawlers and Polyvalent passive gears with length  $\geq 12\text{m}$ ) employ crew from third countries and these crew members are paid based on an agreed salary. It includes temporary crew as well as rotation crew. These wages can vary from year to year but not remarkably.

Fuel prices are following a decreasing trend from 2012 since 2017. Yet, there was an increase in fuel prices by 11% to 0.77 EUR/litre in 2018.

### Innovation and Development

The SSCF is not very technical advanced and neither the polyvalent segment. Only the trawlers segment does it use more advanced technology but even in this case not at a great extent. Investing in new technology needs capital and the return is not assured.

The vessels can get funding for modernisation of their vessel for specific purposes such as hygiene and safety from the EMFF 2014-2020. Moreover, under the Operational Program 'Thalassa' artificial reefs were created for the improvement of biodiversity and the protection of fish stocks. Improving quality of the marine environment will increase the fish stocks resulting in increasing the income of the fishers and their economic sustainability.

Also fishers through the structural funds could participate in seminars for improving their skills and their fishing knowledge. There is great interest by fishers for attending seminars that promotes sustainable fishing and new fishing technologies.

### Nowcasts for 2019-20 and beyond

#### Model results

For 2019 the economic performance is expected to be improved compared to previous year 2018 with higher Gross Profit of around 10% and a significant reduction in the net loss. The weight of landings is expected to have an increase of 2% but the value of landings a decrease of 3%. On the other hand, the economic performance is expected to deteriorate in 2020 mainly due to the COVID-19. The live weight of landings is expected to decrease significantly, by approximately 18% compared to 2019 whereas the value of landings by around 20%. Undoubtedly, this will have a negative impact on the profitability of the sector and specifically, it is expected that the gross profit will be reduced by around 21% and the net Loss to be increased three times that the one in 2019.

### COVID 19

The fisheries conditions have been deteriorated since the end of March, due to the mandatory closure of restaurants and hotel units which have reduced the quantity demanded, prices and the trade chain. Fisheries activities have been reduced, with many vessels, mainly the small-scale ones, ceasing their activities completely since they were operating at a loss-making situation. Furthermore, polyvalent vessels could not start fishing of pelagic species (mainly albacore) during mid-May as they normally did, as trading depends to a large extent on exports to the markets of Italy and Spain. The economic viability of the fisheries sector is at stake.

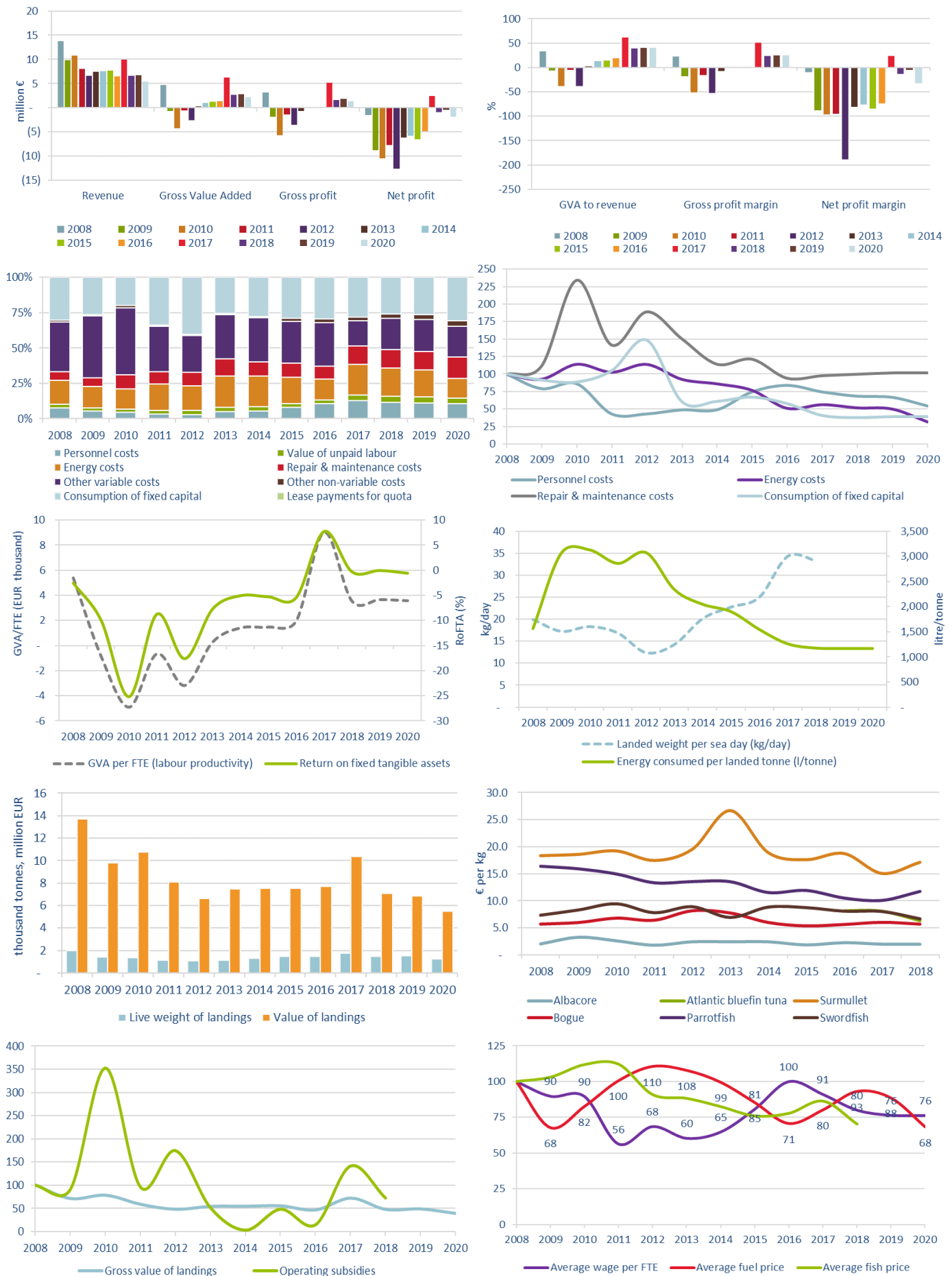
Cyprus in order to mitigate the effects of the spread of the COVID-19 it implemented through the EMFF a scheme of temporary cessation of fishing activities for two months for the period mid-April to mid-June 2020 for the SSCF segments, polyvalent 'passive' gears with length 0-6m and 6-12m, and for the large scale fleet segment Polyvalent passive gears vessels with length  $\geq 12\text{m}$ . The monthly compensation was EUR 1000 for the small-scale vessels and EUR 1500 for the polyvalent vessels. The budget of the



program was EUR 750 000 but at the end around EUR 445 000 was paid to the 251 vessels entered in this program.

### **Data issues**

No major issues that need reporting.



**Figure 4.4 Cyprus: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in cost items; productivity and efficiency indicators; landings and average price (EUR /kg) of top species; variation in income and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.5 Denmark

### Short description of the national fleet

#### Fleet capacity

In 2018, the Danish fishing fleet consisted of 1 707 registered vessels, with a combined vessel tonnage of 71 000 GTs and engine power of 199 000 kW. The 1 707 vessels represent production units, which may be active or inactive. In 2018, there were 1 256 active and 451 inactive production units. Some of the 1 256 active production units include more than one vessel. The number of registered fishing vessels decreased by 1% between 2017 and 2018. In the same period vessel tonnage increased by 6% and engine power did not change. The fishing capacity of the Danish fishing fleet continues to decrease in line with the observed long-term trend of declining fishing capacity. Thus, between 2008 and 2017, the total vessel numbers decreased 23%, engine power decreased 13%. However, total vessel tonnage has increased 4%.

#### Fleet structure

Around two-thirds of the active part of the fleet consists of vessels below 10 metres in 2018. These made up an even larger part of the fleet when including inactive vessels. The vessels between 24-40 metres and the ones above 40 metres corresponded to 3% each of the total number of active vessels in 2018, but accounted for 16% and 46% of the total landings value, respectively. 70% of the Danish active vessels used passive gears only, 23% used demersal trawlers or seiners or both, 4% used both active and passive gears, while a minority of vessels used dredge, pelagic trawl or beam trawl. The largest landings in 2018 in terms of value and weight continues to be made by the pelagic trawlers above 40 metres, catching species for human consumption (Atlantic herring, Atlantic cod and Atlantic mackerel) and species for fish meal and fish oil production (sprat, sandeel and blue whiting).

#### Employment

Total employed in 2018 was estimated at 1 289 jobs, corresponding to 1 642 FTEs. The reason that the FTE is higher than the number of jobs is that the FTEs are estimated based on the DK-standard that a full working year consists of 1 665 working hours. However, in reality yearly working hours in the Danish fishing fleet are more likely to be around 2 000 hours. From 2008-2018, the total employed and FTE have decreased 28% and 20%, respectively.

#### Effort

In 2018, the Danish fleet spent a total of around 89 000 days at sea. The total number of days at sea increased by 1% between 2017 and 2018. Fuel consumption was 105 million litres in 2018 and increased 7% compared to 2017.

#### Production

In 2018, the total weight landed by the Danish fleet was 788 000 tonnes of seafood with a landing value of EUR 449 million. The total weight of landings decreased from 2017 to 2018 by 13%, while the value of landings increased by 3%.

The one species driving the decrease in total weight landed were sandeel with a decrease of 50% corresponding to 357 000 tonnes from 2017 to 2018, while the landings weight of sprat and blue whiting increased with respectively 46% and 43%, corresponding to 121 000 tonnes and 53 000 tonnes. However, the decrease of 25% in landing value of sandeel (-EUR 26 million) was more than compensated by increases in the landing values of sprat (+93%, +EUR 43 million), blue whiting (+79%, +EUR 18 million), common shrimp (+118%, +EUR 17 million), Norway lobster (+9%, + EUR 6 million) and European plaice (+7%, +EUR 6 million).

European plaice and cod are the most economically important species in the demersal fishery. The landing weight of European plaice decreased from 2007 to 2018 by 22% (-10 000 tonnes). However, due to a price increase, the value of landing of European plaice increased by 7% (+EUR 6 million). Landing weight of cod decreased from 2017 to 2018 by 17% (-6 000 tonnes). Even though prices went up, value of landings decreased by 9% (EUR 8 million).

## Economic results for 2018 and recent trends

### National fleet performance

The total income generated by the Danish fleet in 2018 was EUR 464 million, an increase of 4% compared to 2017. The total income consisted of EUR 425 million (+2%, compared to 2017), EUR 13 million in non-fishing income (+31%, compared to 2017) and EUR 26 million from leasing fishing rights (+23%, compared to 2017).

The three major variable costs consist of labour (excl. the value of unpaid labour), energy and repair & maintenance. In 2018, the costs for labour were stable at EUR 85 million, while energy cost and repair & maintenance costs increased respectively 26% (+EUR 11 million, compared to 2017) and 1% (+EUR 0.4 million, compared to 2017).

The annual depreciation costs, which are the major group of capital costs, increased 15% (+EUR 11 million), compared to 2017.

In terms of economic fleet performance, GVA increased 1%, gross profit increased 2% and net profit decreased 10% compared to 2017. These changes in economic indicators despite the decrease in total landings of 13% due to increased prices of fish resulting in an increase of landing values of 3%, while the variable costs increased, but not with the same amount as the value of landings.

In 2018, the Danish fleet had an estimated (depreciated) replacement value of EUR 719 million and an estimated value of fishing rights of around EUR 1.8 billion. Compared to 2017, the estimated replacement value increased by 4% and the estimated value of fishing rights decreased by 9%. Investments by the fleet amounted EUR 55 million in 2018, an increase of 13% from 2017.

### Resource productivity and efficiency indicators

The Danish fleet had the same gross profit margin of 39% in 2018 as in 2017. The net profit margin was 20% in 2018, corresponding to a decrease of 13% compared to 2017.

Labour productivity, measured as GVA against FTE increased 1% from 2017 to 2018.

Fuel consumption per landed tonne increased 23% to 133 l/tonnes, compared to 2017. The weight of landings per unit of effort (in days-at-sea) decreased 14%. In 2018, almost 0.9 tonnes were landed per day at sea on average.

## Performance by fishing activity

### Small-scale coastal fleet

The Danish small-scale coastal fleet operates mostly on the Baltic Sea, the Sounds and the Kattegat, and consisted in 2018 of 894 vessels (-3%, compared to 2017), with a total vessel tonnage of 3 400 GT (-3%) and a total vessel power of 38 000 kW (-1%) in 2018. Compared to the average of the period 2008-2017 the number of vessels decreased by 16%, total vessel tonnage decreased 14% and total vessel power decreased 9%.

The value of the landings increased 2% to EUR 23 million, which is 5% of the national landings value for fisheries. Total operating cost decreased 10% to EUR 18 million. Crew costs are a major expense for the SSCF, although it decreased 13% to EUR 12 million (incl. unpaid labour value) in 2018. Maintenance decreased 6% to EUR 3.6 million and energy costs increased 14% to EUR 1.5 million. Gross profit increased 123% from a negative value in 2017 to EUR 0.4 million in 2018. Net profit increased 45% from - EUR 4.4 million in 2017 to - EUR 2.4 million in 2018.

### Large-scale fleet

The Danish LSF operates in the Baltic Sea, the Sounds, Kattegat, Skagerrak, the North Sea and the Norwegian Sea. In 2018 the LSF consisted of 362 vessels (-5%) with a total vessel tonnage at 65 000 GT (+5%) and a total vessel power of 147 000 kW (-1%). Compared to the average of the period 2008-2017 number of vessels decreased 23%, total vessel tonnage increased 5% and total vessel power decreased 1%.

The value of the landings increased 3% to EUR 426 million, which is 95% of the national landings value for fisheries. Total operating cost increased 6% to EUR 211 million. Crew costs are a major expense for the LCF, it increased 1% to EUR 113 (incl. unpaid labour value) in 2018. Maintenance increased 1% to EUR 45 million and energy costs increased 26% to EUR 54 million. Gross profit increased 1% to EUR 180 million in 2018. Net profit decreased 11% to EUR 96 million in 2018.

## Performance results of selected fleet segments

The Danish fleet is highly diversified with a broad range of vessel types operating and targeting different species predominantly in the North Sea, Baltic Sea, and North Atlantic. The national fleet consisted of 19 DCF fleet segments in 2018. 3 fleet segments made losses, while 16 made an overall net profit. The Annex 4 provides a breakdown of the 2018 key performance indicators by all 19 fleet segments. Below, a short description of three important fleet segments is provided. The fleets are selected based on either their importance based on their share of the total value of Danish landings, the number of vessel that are in the fleet or due to a combination of both.

### Fleet segment: TM 40XX

TM 40XX (Pelagic trawl >40m) consisted of 15 vessels which operates predominantly in the North Sea and the Norwegian Sea. The fleet targets pelagic species for consumption (mackerel and herring) as well as reduction species such as sandeel, sprat, and blue whiting. In 2018, the total value of landings was EUR 140 million and 167 FTEs were employed in this fleet segment, contributing to 31% of the total income from landings and 10% of FTEs generated by the Danish fishing fleet. This fleet segment reported a total gross profit of EUR 91 million and total net profit of EUR 54 million in 2018, corresponding to an increase of 19% and 8%, respectively compared to 2017.

### Fleet segment : DTS2440

DTS2440 (Demersal trawl 24-40m) consisted of 36 vessels operating predominantly in the North Sea and Skagerrak. The fleet targets a variety of species but in particular, cod, plaice, monkfish, and Northern prawn. In 2018, the total value of landings was EUR 72 million and 316 FTEs were employed in this fleet segment, contributing to 18% of the total landings value and 20% of the FTEs generated by the Danish fishing fleet. This fleet had a gross profit of EUR 26 million and a net profit of EUR 16 million in 2016.

### Fleet segment: PGP0010

PGP0010 (polyvalent passive gears 0-10m) consisted of 736 vessels. Even though this segment has the largest amount of vessels, it only contributed with 3% of the total value of landings (EUR 11 million) and 7% (119 FTE) of the FTE generated by the Danish fleet. This fleet had a negative gross profit of -EUR 1.2 million and a negative net profit of -EUR 2.4 million.

## Drivers affecting the economic performance trends

### Markets and Trade

The average landed fish price of the most important species increased even though the most important species Atlantic herring decreased by 6%. European spat increased 31%, European plaice increased 37%, Atlantic cod increased 10%, sandeel increased 49% and Atlantic mackerel increased 27%. Plaice and cod prices has increased since 2013 and in 2018 reached the highest yearly average of 2.46 and 2.57 EUR/kg, respectively.

The Danish fleet catches about 30% of the total value of landings in the EZZ of the United Kingdom. The outcome of the Brexit negotiations are therefore highly anticipated, and will eventually have a great impact on the Danish fisheries. Even further because some of the EU fishing agreements with Norway is based on Norwegian access to the UK-EEZ.

### Management instruments

The majority of the Danish fishing fleet is managed through variations of individual property rights schemes. These schemes have been gradually been introduced since 2003, with the majority of the demersal fishery from 2007, and this has implied an increase in the capacity reductions observed in the Danish fishing fleet measured as number of vessels, tonnage and engine power.

The schemes have generally been in place for more than ten years, and despite that restructuring is still occurring, the indications are that this is happening at a reduced speed compared to the first years. Given that the system is generally considered to be well functioning, there are no current plans regarding changing the system fundamentally. However, adjustments are sometimes made in order to account for unwanted situations, such as quota concentration.

## Status of Key Stocks, TACs and quotas

The quotas of the most valuable species to the Danish fishery were in 2018 the following: Atlantic herring 200 000 tonnes, European sprat 210 000 tonnes, European plaice 44 000 tonnes, Atlantic cod 25 000 tonnes, Sandeels 170 000 tonnes and Atlantic mackerel 30 000 tonnes.

The quotas for Atlantic herring and Atlantic cod increased with 14% and 51% compared to 2017, while sandeel, Atlantic mackerel, European plaice and European sprat decreased with 59%, 18%, 11% and 1%. These quotas vary from year to year, some more than others of course. Especially the sandeel quota fluctuates, being 305 000 tonnes in 2015, 72 000 tonnes in 2016, 430 000 tonnes in 2017, 170 000 tonnes in 2018, 115 000 tonnes in 2019 and 210 000 tonnes in 2020.

Quotas for Atlantic herring and Atlantic cod have been reduced in the Baltic Sea in 2019 and especially in 2020. The stocks has not been biological sustainable, and this is expected have a negative impact on the economy for the vessels having their primary fishing activity there. Whether this will lead to lay-ups and maybe even decommissioning is dependent on the developments in the coming years.

## Innovation and Development

The implementation of the landing obligation regulation has initiated various efforts in order to improve the selectivity of catches. Furthermore, there are initiatives trying to optimize the use of the previously not landed fish. Such initiatives take time and an innovative approach drawing on the expertise of fishers, processors, gear technologists, researchers etc. in order to identify, test and implement the most promising ideas.

Furthermore, focus is continuously on initiatives, which can improve the value of the current landings through improved quality of the landed as well as the products coming out of the processing industry.

## Nowcasts for 2019-20 and beyond

### Model results

Preliminary results for 2019 forecast a 9% decrease in landed weight, resulting in an 16% decrease in the value of landings. Projections suggest operating costs will decrease with 10%, primarily driven by reduced energy cost. However, the decrease in revenue implies that the economic performance is expected to deteriorate in 2019: GVA (-19%), gross profit (-24%) and net profit (-48%).

Results indicate that the Danish fleet operated at a profit in 2019: with an estimated net profit of EUR 49 million and a margin of 12%. However, these levels are lower than previous years from a record high of 27% net profit margin in 2016.

The forecast for 2020 indicates more or less a similar economic outcome as projected for 2019. All figures and indicators mentioned above will increase between 0 and 1%.

## Outlook

The TACs and thus quotas continue to be one of the most important factors that influence the fleet performance.

A look at some of the most significant changes in the Danish quotas is relevant to consider, when foreseeing the trends in economic performance in 2019-20

Quotas for the most important species are described here: sandeel 115 000 tonnes in 2019 and 210 000 tonnes in 2020, European sprat 160 000 tonnes in 2019 and 155 000 tonnes in 2020, Atlantic herring 150 000 tonnes in 2019 and 110 000 tonnes in 2020, European plaice 44 000 tonnes in 2019 and 37 000 tonnes in 2020, Atlantic mackerel 26 000 tonnes in 2019 and 36 000 tonnes in 2020 and Atlantic cod goes from 21 000 tonnes in 2019 to 7 000 tonnes in 2020.

Except for sandeel all quotas for the most important species decrease in 2019 and 2020.

Prices developed in 2019 with an overall positive trend compared to 2018. Prices for Atlantic cod, Atlantic herring, Atlantic mackerel and fish for reduction purposes (European sprat, sandeel and others) increased 10, 15, 14 and 13%, respectively,, whereas prices on European plaice decreased by 3%. Even though quotas went down, prices went up.

It is still uncertain what the outcome of the 2020 Brexit negotiations will bring. Unless a free trade agreement is established Danish fishers will be affected. The Danish fleet catches about 30% of the total value of landings in the UK-EEZ. Income, that might be lost. However, Brexit did not affect performance in 2019, and so far either in 2020. Swaps of quotas might have been slowing down within the UK-EEZ due to the uncertainty.



## COVID 19

The COVID-19 outbreak might have affected the Danish fleet in some degree. Reports from the Danish Fishers PO indicates that landings have been decreasing slightly, and prices have increased slightly. The Danish fleet has been supported financially by the national government during the COVID-19 outbreak covering income support, support for fixed costs and guaranteed loans. Local government has also granted financial support to some extent. All affected fishers have to apply through government web-applications. In order to receive compensation company income has to decline 30% in the given period. If so, the company can be compensated for up to 75% of the lost income. Fixed costs like rent cost of buildings, interests and leasing costs will be covered, but at a differentiated level arranged after the degree of decrease in income. And last, but not at least company owners will be compensated for the wages to their employees. Special criteria has to be met here too.

## Data issues

### Identify changes in respect to previous years

No changes in the Danish data collection for this 2018 year data.

### Improvements achieved within 2018 data collection

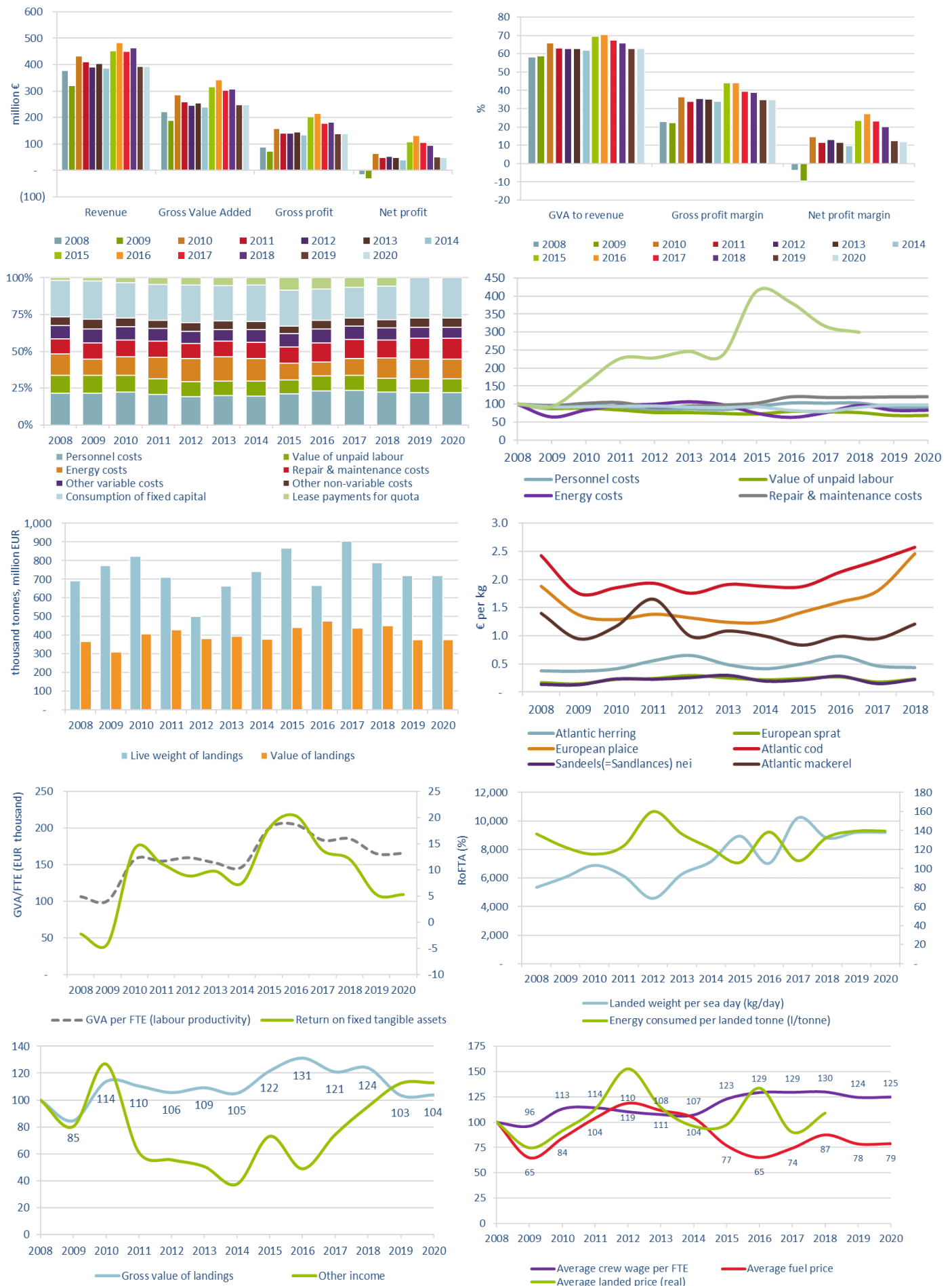
No improvements have been identified.

### Problems identified

Capacity data for [YEAR]+1 are always delayed from Denmark. Validated data are available in May, but data is requested in the data call in February/March. This always causes troubles in the calculation of 2019 forecast data. Denmark will try to obtain preliminary data, that can be reported in the data call. Preliminary data will then be corrected, verified and submitted the following year.

### Remaining issues

Differences in numbers of vessels between MS and FS data are identified. Inactive vessels are included in MS data, but excluded in FS data. Inactive vessels cannot be grouped in the fleet segments because they have no use of gear etc. They can only be grouped in size classes. A solution to this problem must be found.



**Figure 4.5 Demark: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.6 Estonia

### Short description of the national fleet

#### Fleet capacity

In 2018, total number of registered vessels continued to increase by 8% and reached 1 718 vessels with a combined gross tonnage of 15 700 GT and an engine power of 46 400 kW. The increase in the total number was related to the registration of small-scale fishing boats into the fishing fleet register. The estimated number of active vessels was 1 230 in 2018. The 23% decrease in the number of active vessels in 2018 was affected by a change in the data collection and improvement of official data which made it possible to obtain more precise data on vessels activity in small-scale coastal fishing compared to previous years (see Data issues).

#### Fleet structure

In 2018, the Estonian fleet was divided in 3% of LSF (31 active vessels) and 97% of SSCF (1 199 active vessels). The LSF can be divided into trawlers operating in the Baltic Sea and outside the Baltic Sea (NAFO and Eastern Arctic; 2 and 3 vessels, respectively). Compared to 2017 the number of vessels in LSF decreased 11% in 2018, from 35 to 31 vessels. The decrease mainly occurred in the small size trawler segment (12 to 18 metres) operating in the Baltic Sea. The number of LSF vessels has decreased by 56% since 2008.

#### Employment

Employment was estimated at 1 243 jobs, corresponding to 266 FTEs in 2018. The big difference between numbers of total employed and FTE refers that there are many persons in the sector for whom fishing is not the only source of income. It mainly concerns the small-scale fishery.

#### Effort

An estimated 64 000 days were spent at sea in 2018; decreasing 7% compared to 2017. However, the amount of energy consumed remained stable (decrease was 0.2%). The reason for this was that the number of sea days decreased mainly in the SSCF where energy consumption per boat is low.

#### Production

The live weight landed by the Estonian Baltic Sea fleet in 2018 was 66 900 tonnes of seafood, with a landed value of EUR 14.4 million. Although the total weight of landings increased 4% the total value of landings decreased 1% in 2018 compared to 2017.

In 2018, Atlantic herring generated the highest value (EUR 5.7 million) landed by the Estonian Baltic Sea fleet, followed by European sprat (EUR 4.9 million) and European perch (EUR 2.5 million). In terms of landings weight, Atlantic herring landings were 34 700 tonnes, European sprat 29 600 tonnes and European perch 1 100 tonnes.

### Economic results for 2018 and recent trends

#### National fleet performance

The national fleet was profitable in 2018, despite of low first sales prices for key species as herring and sprat. Revenue, estimated at EUR 14.7 million in 2018, remained stable (14.7 million was also in 2017). GVA, gross profit and net profit were estimated at EUR 9.5 million, EUR 4.7 million and EUR 2.7 million, respectively. Compared to 2017, GVA decreased 3%, gross profit increased 7% and net profit did not change.

When including capital costs, total costs amounted to EUR 12.9 million. Compared to 2017, total cost increased 6%.

The (depreciated) replacement value of the Estonian fleet was estimated at EUR 19.2 million in 2018 and investments amounted to EUR 4.3 million, which was two and a half times higher than in 2017.

## Resource productivity and efficiency indicators

The gross profit margin in 2018 was 32%. Net profit margin was estimated at 18%, which remained the same as in 2017.

The RoFTA was estimated at 11% and decreased 29% in comparison to 2017. Labour productivity (GVA/FTE) increased 68% compared to 2017.

Fuel consumption per landed tonne has followed rather decreasing trend compared to 2008, with 49 litres per tonne in 2018. Compared to 2017, landings in weight per unit of effort (in days-at-sea) increased 11% in 2018 with 1 042 kg per sea day.

## Socioeconomic impact

Fishing has a major impact on the local fish processing industry which has been highly dependence on export (amounts to 60%). Historically, the eastern market has been a most important destination for two key species as sprat and herring. Considering the average price trends for both species, there is no doubt that the loss of the Russian market in 2014 still has a socio-economic impact on the Estonian fisheries sector. The fall in the average first-sale prices directly affects the income of fishers and also the investment capability.

## Performance by fishing activity

### Large-scale fleet

The LSF of the Baltic Sea operates outside the coastal zone using pelagic trawls. The fleet targets pelagic species such as sprat and herring. The live weight landed by the large-scale fleet in 2018 was 56 500 tonnes of seafood, with a landed value of EUR 9.2 million. The fleet has been profitable. In 2018, the weight of landings increased 5% compared to 2017. At the same time, the value of landings decreased 1%. The main reason of this was the fall in the first-sale prices of herring and sprat. Total operating costs decreased mainly due to the 24% fall in personnel costs. When including capital costs, total costs amounted to EUR 6.4 million in 2018. GVA, gross profit and net profit in 2018 were estimated at EUR 6.9 million, EUR 4.3 million and EUR 3.3 million, respectively. GVA, gross profit and net profit increased 7%, 44% and 89% compared to 2017. The (depreciated) replacement value of the large-scale fleet was estimated at EUR 11.9 million and investments amounted to EUR 2.3 million, increased 162% compared to 2017.

### Small-scale coastal fleet

The SSCF operates in Estonian coastal waters using mainly passive gears. The largest catches taken in 2018 were of herring, followed by perch, smelt and flounder. The live weight landed by the SSCF in 2018 was 10 400 tonnes of seafood, with a landed value of EUR 5.3 million. The fleet made a loss. When including capital costs, total costs amounted to EUR 6.3 million in 2018. GVA, gross profit and net profit in 2018 were estimated at EUR 2.5 million, EUR 0.4 million and - EUR 0.5 million, respectively. The (depreciated) replacement value of the SSCF was estimated at EUR 7.3 million and investments amounted to EUR 2 million.

## Performance results of selected fleet segments

### Pelagic trawlers 24-40m

The 24-40 meter pelagic trawlers are the most important segment in the Estonian fishing fleet in the Baltic Sea. In 2018 this fleet segment consisted of 26 active vessels accounting for a total of 3 563 GT and 8 963 kW. The number of vessels increased by one compared to 2017. Employment in 2017 was estimated at 137 jobs, corresponding to 93 FTEs. The segment targets pelagic species such as sprat and herring. The total value of landings was EUR 9.2 million in 2018. The fleet segment was profitable. GVA, gross profit and net profit in 2018 were estimated at EUR 6.9 million, EUR 4.3 million and EUR 3.3 million, respectively. Economic development trend shows improved situation.

### Passive gears <10m

The segment with the highest number of vessels and employment in the Estonian fleet is the 0-10 meter passive gears segment that operates in the coastal fishery. In 2018, this segment consisted of 1 150 active vessels accounting for a total 1 232 GT and 12 948 kW. The employment in 2018 was estimated at 1 034 jobs, corresponding to 154 FTEs. The big difference between numbers of total employed and

FTE refers that there are many persons in the sector for whom fishing is not the only source of income. The fleet targets mostly freshwater species, such as perch, pikeperch, but also marine species such as flounder and herring. The total value of landings was EUR 3.9 million in 2018. The fleet segment made a loss. GVA, gross profit and net profit in 2018 were estimated at EUR 2.2 million, EUR 0.37 million and – EUR 0.42 million, respectively.

## Drivers affecting the economic performance trends

Rise in quotas of key species (sprat and herring) and fall in the average price of herring were a main driving forces behind the economic performance for the large-scale fleet in 2018. The average price for herring fell further in 2018 and this affected the value of landings. This led to a situation where the total weight of landings increased 5% but the total value of landings decreased 1% in 2018 compared to 2017.

## Markets and Trade

Key species as sprat and herring were mainly landed at Estonian ports, where the catch was sold to fish freezing or processing companies, unless the fishing company itself was engaged in the processing and marketing of fish. Fish was also landed at ports in Latvia, Finland and Sweden. The proportion of fish landed at foreign ports remained at roughly the same level as in 2017, representing 12% of the catch in 2018.

The export volume of frozen fish (sprat and herring) of Estonian origin has started to recover after the loss of the Russian market. The main export market for fish and fishery products continued to be Ukraine. Large quantities of fish were also sold to Belarus, Finland and Denmark.

Despite the recovery of exports, the loss of the Russian market still affected the first-sale prices of herring and sprat. In 2013, before Russia's embargo, the average first-sale prices of these species had been 23 and 22 cents per kilogram, respectively, but in 2018 an average of 17 cents per kilogram was paid for both herring and sprat (18 cents in 2017).

## Management instruments

The main management measures in Estonia are landings volume quotas (ITQs) in the open water fisheries (trawling) and gear usage quotas (ITE; individual transferable effort) in the coastal fisheries. Fishing quotas are allocated according to the historic fishing rights. The Estonian experience shows that ITQs can be considered an effective method for increasing the allocation of fishing rights to the most efficient enterprises and speeding the process of reducing excessive fleet capacity. The size of the Baltic Sea trawling fleet decreased 59% between 2008 and 2018 (from 64 to 26 vessels). The main reason for that change was capacity reduction to achieve balance between the size of the fishing fleet and fishing opportunities.

## TACs and quotas

Herring, sprat and cod have been main internationally regulated/managed fish species targeted by the Estonian Baltic Sea fishing fleet. In 2018 the Estonian trawl fleet's final sprat and herring quotas were 31 081 and 31 013 tonnes, respectively. In 2016, the sprat catch quota dropped to the lowest level of the last decade, but was increased by 25% in 2018. The herring quota increased by 9% compared to 2017, reaching the highest level of the last decade. Considering the increase in sprat and herring quotas and the loss of the Russian market a few years ago, quota uptake rates remained high, amounting to 86% for herring and 95% for sprat. The final herring quota for the Estonian coastal fishers were 10 140 tonnes in 2018. Quota uptake rate amounted to 80%. Like in the preceding year, targeted fishing for cod was non-existent in 2018. Trawling companies explained the termination of cod fishing by the scarcity of fish, which makes fishing economically unviable.

## Status of Key Stocks

International acoustic surveys of pelagic key fish stocks conducted in the Baltic Sea in recent years show that stocks have declined mainly in the southern part of the Baltic Sea and that the lion's share of stocks is now located in the central and north-eastern parts of the sea. Thus, the current status of the sprat stock in the economic zone of Estonia can still be regarded as relatively satisfactory. However, it should be noted that fishing prospects still depend on the overall status of the stock in the Baltic Sea, i.e., the relatively better situation in our waters does not automatically mean better fishing opportunities for our fishers.

Unlike sprat, which is treated as a single stock unit, i.e., population across the Baltic Sea, in the case of herring the state of stocks is assessed and advice for exploitation is given for four stock units in different subdivisions of the Baltic Sea. Only two stock units, Central Baltic herring and Gulf of Riga herring, are offering more interest to Estonian fishers. The current status of these herring stocks is regarded as relatively satisfactory. Perch is the most important species in coastal fishery. The perch catches have been relatively stable in recent years, although according to researchers estimate the perch stock is not managed in the most rational way.

### Operational costs

Main changes took place in repair and maintenance costs, decrease 41%, but there was also a decline in other operational costs variables. The total operating cost decreased 22% compared to 2017. The average fuel price in 2018 was EUR 0.76 per litre, which is EUR 0.07 per litre higher than in 2017.

### Innovation and Development

Innovation and development of the fishing fleet were supported through funding for two actions in 2018:

- Support for gear improvement. The support was used for reduction of unwanted by-catches and mitigation of negative impact of seals.
- Support for improving the energy efficiency of coastal fishing vessels. The support was used to replace the engines of vessels.

### Nowcasts for 2019-20 and beyond

The total weight of landings decreased by 1% in 2019. Also the total value of landings followed decreasing trend. Took place the fall in the first-sale prices for sprat. This reflects ongoing difficulties selling fish caused in part by the Russian embargo on EU food products. Total operating costs were affected due to the increase in fuel price and the decrease in sea days. The COVID-19 pandemic could play an important role in the 2020 economic performance. In particular, the changes are related to a reduction in catches and lower prices of valuable fish.

### Model results

Preliminary results for 2019 forecast a 1% decrease in landed weight, but no significant changes in landed value. Projections suggest a 3% operating costs decrease, most notably other variable costs which are estimated to decrease by 14%. Also energy costs show decreasing (6%) trend. According to the model, GVA and gross profit have an increase in 2019 of 3 and 6%, respectively. However, net profit decreases by 2%.

Results indicate that the Estonian fleet operated at a profit in 2019: with an estimated net profit margin of 18%. The improvement of economic developments can be seen in performance indicators GVA to revenue (3%), gross profit margin (6%) and GVA per FTE, estimated at EUR 40 726 in 2019 (15%). The fleet operates with profit also in 2020.

### Outlook

#### Landing obligation

The implementation of the landing Obligation regulation does not affect the Estonian fishing fleet, because in Estonia discards were already banned before the EU regulation for fishing gears from which it is not possible to release viable fish.

### COVID 19

According to the information from the Ministry of Rural Affairs, fishing may have been affected by the COVID-19 virus in Estonia.

Herring and sprat are key species for the Estonian Baltic Sea trawlers. Comparing herring and sprat monthly catches in this fleet segment in 2020 with previous year, it shows, that catches decreased by 26% in March and by 44% in April. In May, catches already recovered. There was also strong decrease in January and February, but this was explained by bad weather conditions and unpredictable stock behaviour. Thus, it is quite difficult to determine how much the virus affected the decrease in catches also in March and April. It is possible that the rules during the emergency situation (started on 12 March and ended on 17 May) made it difficult to go to the sea. There is even a known case where the crew members of one trawler became infected with the virus.



Comparing average first-sale prices of the Baltic Sea trawlers from March to May between 2019 and 2020, then the average prices of sprat and herring were even higher in 2020. Also, there was no decrease in the total number of trawlers involved in the fishing.

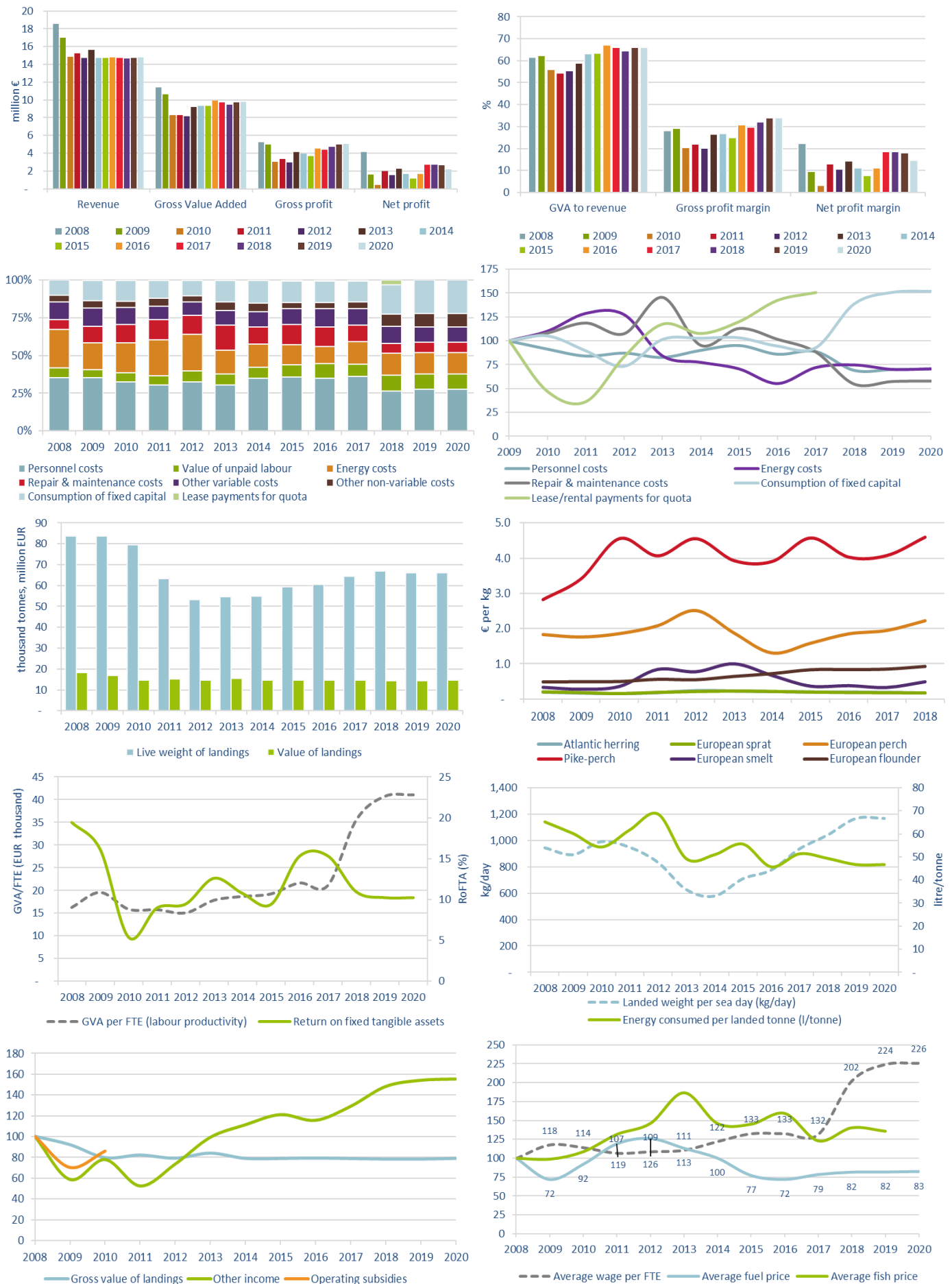
Based on preliminary data, the virus affected the price of valuable fish which may be due to declining demand in Western Europe and the HoReCa sector. Such fish (for example European perch and Pike-perch) are caught by coastal fishers and thus their incomes may fall during the crisis. It is possible that the effect of COVID-19 was different in different Estonian regions and fishing companies.

The storage of fish was used as an option in case of loss of demand. Related to the storage aid, compensation for producers are planned in Estonia; changes to the EMFF measures are being prepared for this by the management authorities.

## Data issues

2018 data is affected by a change in the data collection which was done to ensure better data availability. In particular, it affected the data of small-scale fishing fleet. Due to the low response rates in voluntary based surveys in previous years, Estonia changed the data collector. As the governmental organisation Statistics Estonia has a stronger legal base for obtaining the data they took the leading role in economic data collection in 2019. At the same time, official databases related to coastal fishing also improved which made it possible to obtain more precise data on vessels activity in small-scale coastal fishing. This makes it difficult to assess the changes in variables in 2018 compared to previous years.

Due to confidentiality issues, only capacity data was submitted for the vessels operating in the NAFO and Eastern Arctic areas, where the Estonian fishing fleet is represented by two and three vessels, respectively.



**Figure 4.6 Estonia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.7 Finland

### Short description of the national fleet

#### Fleet capacity

The Finnish fishing fleet consisted of 3 235 registered vessels of which 1 915 were inactive in 2018; the active fleet consisted of 1 320 vessels, with a combined gross tonnage of 11 100 GT and a total power of 84 000 kW. The capacity of active fleet declined some 10% with the number of active vessels from 2017.

#### Fleet structure

The Finnish fishing fleet is dominated by small-scale vessels: 1 268 out of 1 320 (96%) active vessels were operating in small-scale coastal fisheries. However, the 52 trawlers accounted for majority (75%) of the total fleet capacity in terms of tonnage.

#### Employment

Total employment in 2018 was estimated at 1 197 jobs. The majority of the jobs (90%) are created by the SSCF that perform seasonal fisheries. Therefore, the employment in that sector is usually only part-time and in terms of full time equivalent the total fleet added up to 230 FTE. The number of fishers has been dropping for a long time and the average age of fishers is high.

#### Effort

The total effort in 2018 was 85 000 fishing days. The SSCF accounted for 95% of the total effort and there has been declining trend during the past decade. After implementation of the ITQ system in pelagic fisheries in 2017 also the effort of LSF has been decreasing. Finnish fleet operates exclusively in the Baltic Sea.

#### Production

The total weight landed by the Finnish fleet in 2018 amounted 148 000 tonnes of seafood with value of EUR 35 million. The bulk of this catch consisted of Baltic herring and sprat caught by the trawler fleet. Catches of these pelagic species was increasing until 2017 due to strong herring stocks especially in the most important fishing grounds for Finnish fleet in northern Baltic Sea, however, in 2018 the TACs for pelagic species were cut and the catches decreased. The landed value of LSF decreased with the catches. At the same time the development in SSCF has been the opposite. Catches has decreased significantly from the beginning of the decade but in 2018 there was an increase in both landing weight and value.

Baltic herring accounted for the highest landed value (EUR 24 million), followed by European sprat (EUR 3 million). The Russian embargo on EU food stuff as a countermeasure to EU sanctions due to the Ukraine crisis led to a loss of the most important market for pelagic fish that resulted in drop in pelagic fish prices.

Unfavourable weather conditions together with increase of seal population continued to hamper the small-scale coastal fishing: temperate winter together with cold summer lead to a drop in catches. However, the landing weight of the SSCF increased in 2018 after long-lasting decline in landings. Small-scale coastal fleet target mostly various freshwater fish species: European whitefish and pike-perch were the most important species for the segment.

### Economic results for 2018 and recent trends

#### National fleet performance

The amount of income generated by the Finnish fleet in 2018 was EUR 36.7 million, approximately at the same level as in previous years. Income consisted of EUR 34.8 million in landings income and EUR 1.9 million in other income.

Profitability of the national fleet has been improving significantly for past few years: in 2018 the GVA was EUR 22 million, 18% higher than in 2017. Gross profit increased also to EUR 14 million but was not high enough to cover the estimated opportunity cost of capital of the fleet resulting in a negative net profit (-EUR 6.6 million).

## Resource productivity and efficiency indicators

The GVA generated of Finnish national fleet in 2017 added up to EUR 22 million with an increase of 18% from previous year. The gross profit margin increased to 38% and also net profit improved. The improved profitability originated mainly from the increased economic performance in the trawler segments but also the profitability improved in the small-scale coastal fishery. In the SSCF there are a large number of low activity vessels and accounting the value of capital of all these vessels turned the segment net profit negative even the most active part of the segment is highly profitable.

Both LSF and SSCF make good gross profits, however, the opportunity cost of capital have turned the long-term profitability negative. In 2018 the profitability of both segments improved and the trawlers were making positive profits indicating long-term sustainable fishery.

## Performance by fishing activity

### Small-scale coastal fleet

The Finnish fishing fleet is dominated by small-scale vessels: 1 268 out of 1 320 (96%) active vessels were operating in SSCF.

However, the segment account only one fourth of the national total value of landings that is dominated by the pelagic trawler fleet. At the same time the segment covers 90% of all fishers and employs over half of the total national total in terms of FTE. Therefore, the segment is really important from the social point of view.

Catches of coastal fisheries have been in continued decline for past years but in 2018 there was an increase in landing weight and value.

In 2018, landed weight of the segment increased by 8% and revenues increased to EUR 9.6 million. The segment generated EUR 5.2 million of GVA and gross profit of 3.6 million. However, despite the improved profitability the large number of low activity vessels and accounting the value of capital of all these vessels turned the segment net profit negative.

The profitability of the most active part of the segment is higher than those with low activity. In 2015, the new fishing law, commercial fishing enterprises are defined in two groups: the first category (I) consists of enterprises that are value added tax liable (annual turnover over EUR 10 000 in 2016); the rest are classified as the second category (II) fishers. The first category fishers are the priority in the fisheries management; and only these enterprises are eligible for EMFF funding.

In 2018, 214 fishing units in the SSCF exceeded the VAT threshold and categorised to category I. These enterprises accounted for three-quarters of the total value of landings of the total SSCF segment. Therefore, the average turnover of a fishing unit in this category was over EUR 30 000; higher compared to that for the whole small-scale segment (EUR 8 600). The increase in the average size has a significant impact on the economic performance. Profitability of the category I fishers is higher compared to the whole segment due to improvement in gross profit margin together with a decrease in capital costs. Therefore, the net profit is high for this part of the segment: the net profit margin was in 2018 was 50%; again higher than that (-12%) on average in the whole SSCF. The result proves that the active part of the SSCF is the most profitable of the Finnish fishing fleet.

## Performance of fleet segments

The Finnish fleet operates exclusively in the Baltic Sea and is based on two main fisheries: pelagic trawlers and the small-scale coastal fleet. Pelagic trawlers are divided into three segments. The SSCF is highly diversified with a range of vessel types targeting various species in waters along the Finnish coastline.

### Passive gears <10m and 10-12m

The SSCF is the biggest Finnish fleet segment in terms of number of boats with 1 268 vessels in 2018. The SSCF consists of diversified vessels targeting mainly freshwater fish species; European whitefish, pike-perch and perch. In 2018, the total revenue of the small-scale fishery was EUR 8.4 million making a positive gross value added of EUR 5.2 million. The profitability in terms of Gross profit margin was 42% but it was not high enough to cover the estimated capital costs: the SSCF made losses of EUR 1 million.

The coastal fleet is highly seasonal, and there is also a high variation in the activity of the vessels; the 215 most active fishing units make up three quarters of the total SSCF landings. These most active vessels are significantly profitable compared to the large number with low activity vessels; net profit

margin of 50% generating resource rent of EUR 3.4 million in 2018. Despite this significant contribution to profitability accounting for whole fleet segment with opportunity cost of all low active vessels the overall economic performance of the whole SSCF has been poor for years and continued making losses in 2018.

### **Pelagic trawlers 24-40m**

This fleet is the most important economically. It targets herring and sprat in the Baltic Sea. In 2018 these 20 vessels accounted for more than half of the total value landed by the Finnish fleet and employed 61 FTE. The average vessel revenue was EUR 1 million, employing three FTEs. The fleet segment generated a GVA of EUR 11 million. In 2018 the Gross profit margin was 30 % which was high enough to cover the estimated capital costs and the fleet was making profits with a net profit margin of 4%.

### **Pelagic trawlers 18-24m**

This fleet segment consisted of 10 vessels in 2018 also targeting Baltic herring and sprat. The average vessel revenue was EUR 236 000, second highest in the Finnish fleet and average on-board employment is two FTE. The segment generated EUR 2.4 million of GVA. The fleet made Gross profit of EUR 0.9 million with 27% margin. However, it was not high enough to cover the estimated capital costs and the fleet was just making losses with net profit margin of -2%.

### **Pelagic trawlers 12-28m**

This is the smallest pelagic trawler segment in terms of individual vessel size and consists of 22 vessels. The average vessel revenue was EUR 200 000. An average vessel employed one FTE. In 2018 the segment show exceptionally high profits that is due to one vessel that was sold with the ITQ and that was recorded as other income. Adjusting the economic performance comparable to earlier years show that the segment improved slightly its' economic performance in 2018.

## **Drivers affecting the economic performance trends**

Most important driver for fisheries is the state of stocks. For several years due to the strong status of the most important fish stocks for Finnish fleet – pelagic stocks - the total weight of landings broke the all-time record year after year.

However, since 2018 there has been quota cuts in Baltic pelagic stocks and particularly significant cuts in the most important Baltic herring stocks for Finnish fisheries: The total Finnish pelagic quotas in 2020 is almost halved of that in 2017 and that will have marked impact on the fleet economic performance on current year.

The most important driver for economic performance is the fish prices and inputs especially fuel price. Fish prices for pelagic species remained rather stable. However, the development most important fish prices for coastal fishing have been favourable compensating low catches. Fuel costs are major cost item especially for the trawler fleet and fuel prices were at lowest level for decade in 2016 but have increased since then and this had an impact on the profitability of the sector. Fuel prices increased until 2018 and stayed at that level until the beginning of 2020 when COVID-19 economic slowdown resulted in drop in global fuel prices.

## **Markets and trade (including fish prices)**

Russia has traditionally been an important market for Baltic herring and sprat. Therefore, Russian embargo on EU food products as a countermeasure to EU sanctions due to the Ukraine crisis has led to marked drop in prices of these pelagic species. On the other hand, prices of the most important species for the coastal fishery - European perch, pike-perch and whitefish – have been increasing recent year due to declining supply. COVID-19 had an impact on fish markets: especially the fresh fish markets were down having a price impact on most valuable species that had an impact on SSCF.

## **Management instruments and regulation (policy)**

The offshore fleet is managed mainly through TACs that are shared between Baltic Sea countries. Apart from salmon and herring the coastal fleet target mostly on freshwater species that do not have quotas but are managed with licences and other time and gear restrictions.

From the beginning of 2017 ITQ regime was introduced in the Finnish pelagic fisheries and salmon fishery. The allocation of the fishing rights was based on grandfathering. The new management regime will most likely have a major impact to the trawler fleet structure and performance. In 2018 there were

52 active trawlers operating under ITQ. That is nine vessels less than when the ITQ was introduced. The final outcome of the impact of ITQ on Finnish trawler fleet will be realised in coming years.

### **Stock status, TACs and quotas**

Pelagic fisheries are the most important for the Finnish fleet by terms of weight and value. Both Baltic herring and sprat stocks were considered to be at the MSY level in 2017.

Baltic herring stocks have been exceptionally strong especially in the most important fishing grounds in the Bothnian Sea. However, after the highest recorded catches of herring for fourth consecutive year there was a cut of TACs and catches in 2018.

Furthermore there was a further quota cuts in 2019 and 2020 and the total pelagic quotas has decreased on third during the past three years. This imply significant impact on the fleet economic performance on the pelagic trawler segments and the depending downstream activities in the value chain.

The main quota species for the SSCF is salmon. Salmon quotas have been decreasing during the latest years. However, the most important salmon rivers in the Baltic Sea – river Tornio and river Kalix – show that they are on the recovery path towards MSY.

### **Operational costs (external factors)**

Fuel prices are the most important cost item especially for the larger pelagic trawlers. Fuel prices were at lowest level for decade in 2016 but have increased since then until 2018 and stayed at that level in 2019. The labour costs are the second most important cost item and follows the revenue.

### **Socioeconomic impact**

The number of fishers has been dropping for a long time and the average age has been increasing. The decline in the number of fishers and vessels has been particularly true for the SSCF.

Russia has traditionally been the main market for Baltic herring and sprat. Therefore, the continued Russian embargo for EU food stuff has forced Finnish fishers to find alternative markets for pelagic species. The average prices of these pelagic species have dropped significantly as landings are now more heavily used as feed.

ITQ system was introduced in the beginning of 2017. In other Nordic countries the implementation of ITQ led to a significant decrease in number of vessels and employment. Similar development may be expected in the Finnish pelagic segment. By 2019 the number of trawlers had decreases 22% since introducing the ITQ.

### **Nowcasts for 2019-20 and beyond**

#### **Model results**

Baltic herring stocks have been exceptionally strong for past years especially in the most important fishing grounds in the Bothnian Sea. However, there were quota cuts for 2019 and 2020 and the total pelagic quotas has decreased one third during the past three years.

Despite the decrease in landings the revenue of trawler fleet is projected to remain at the same level due to the increase of prices. Furthermore, due to the decrease in active vessels the average revenues per vessel increased and therefore the profitability is projected to improve in 2019 and the fleet was making profits.

Similarly in the SSCF landings decreased but the revenue stayed at the same level in 2019. However, as the number of vessels decreased the average revenue per vessel increased and the GVA and gross profitability is projected to improve. However the gross profits were not high enough to cover the estimated capital costs and the segment is projected to continue operating making negative net profit.

### **Outlook**

A total of 109 million kilos of Baltic herring and 16 million kilos of sprat were caught in 2019. The Baltic herring catch decreased by 10% from the previous year, while the sprat catch remained unchanged. Despite the drop of herring catch the quota was not fully utilised.

There have been quota cuts during the past years in pelagic stocks and the quotas for 2020 are lower than the catches in 2019 leading to further decrease in trawler segment. Furthermore, the ICES advice for 2021 proposed further quota cuts in pelagic species in Baltic Sea. However, proposed quota for the Bothnian Sea herring that is the most important fishing ground for Finnish pelagic trawlers was



recommended to stay at current level. This implies that the coming years will be challenging for the fleet economic performance and the depending downstream activities in the value chain.

## COVID-19

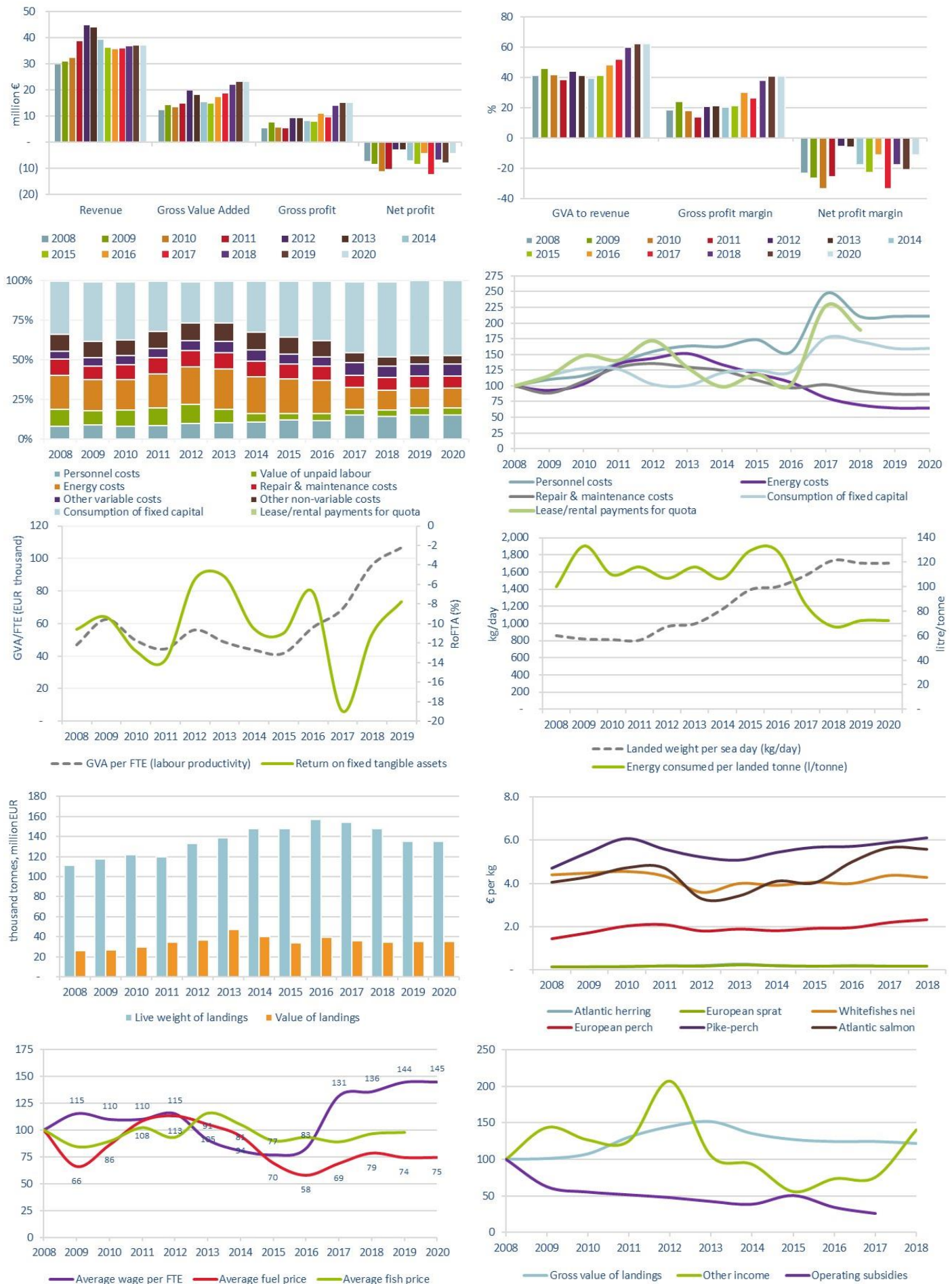
According to preliminary data, COVID-19 did not have a significant impact on trawler segment, as herring is mainly used as a raw material for the fish feed industry. However, it had a significant impact on the fresh fish market: weak demand for fresh fish affected fish prices. This lowered especially high value fish prices that are important for the SSCF.

## Data issues

Capacity, logbook and landings data are derived from sources which are covered by different legislation. All these data are available exhaustively. The bigger vessels are covered by log-books and smaller vessels are covered by the coastal fishing report. However, in the SSCF the method for correcting non-response was changed in 2014 based the response loss survey. Furthermore, the fishing law reform sanctioned the coastal fishing reports mandatory for all small-scale coastal vessels from the beginning of 2015 and therefore the estimation of non-response has been abolished. Therefore, there is a break in the time series relating to the SSCF. In addition, the financial results of the tm1820 segment in 2018 are exceptionally high because the figures include the sales revenue of one vessel, including fishing rights.

Economic data collection is based on a hierarchical multi-stage survey that combines information from different data sources. The main sources are the central control register on the commercial fishery (includes landings data, the vessel register, and first hand sales of quota species), the financial database in Statistics Finland (SF) and an additional account survey. Starting in 2016, the account data for the coastal fishers is collected by the Natural Resources Institute Finland.

Due to the good coverage of the data collection and an efficient estimation method the achieved precision of the economic variables is satisfactory. However, there is a break in the time series of the number of active vessels in small-scale fishing in 2012 when the recording of active vessels was re-specified and then again in 2014 and 2015 due to the methodological changes described above. Finland has modified the assumptions used in the Perpetual Inventory Method (PIM) regarding service life of each asset, depreciation rates and share of each asset in total value as well as the price per capacity used. These updates have greatly affected depreciated replacement values and the depreciation reported for the time series, affecting also the net profits of the sector.



**Figure 4.7 Finland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.8 France

### Short description of the national fleet

#### Fleet capacity

In 2018, the national fleet capacity consisted of 6 629 vessels (including 1 059 of which were inactive), having a combined GT of 182 000 tonnes and engine power of 998 000 kW.

Since 2017, the population shall be all active and inactive vessels registered in the Union Fishing Fleet Register as defined in Commission Regulation (EC) No 26/2004 <sup>(2)</sup> on 31 December of the reporting year and vessels that do not appear on the Register at that date but have fished at least one day during the reporting year. So, after a slight increase of number of vessels (2%), due this new Commission regulation, the number of vessels decreased by 5% in 2018 compared to 2017.

#### Fleet structure

The French fishing fleet is nationally divided into:

- A small-scale coastal fleet (72% of total active vessels, but 9% of the whole gross tonnage) which was mainly composed of vessels less than 10 metres long with a large diversity of métiers and an important part of polyvalent vessels.
- A large-scale fleet (27% of total active vessels) which was mainly made up of vessels using active gears, especially demersal trawlers and dredgers with lengths ranging from less than 10 metres to more than 40 metres. Even though they were active in all the French regions, the major proportion of those vessels was based in North East Atlantic and North Sea regions. As they were most of time larger than SSCF vessels, they represented the major part of the fleet regarding the gross tonnage (65%).
- A distant water fleet <sup>29</sup> composed of 22 tropical purse seiners over 40 metres catching tuna in South Atlantic and Indian Oceans; even if they represented only a small part of the fleet in terms of number, these vessels generated approx. 15% of the national fleet's income.

In 2019, the number of fishing enterprises amounted to 4 385, with the vast majority (86%) owning a single vessel. The percentage of individual companies slightly decreased over the years, at an average rate of -2% between 2008 and 2019.

#### Employment

Employment was estimated at 13 267 jobs in 2018, distributed as follows: 50% to the small-scale coastal fleet, 46% to the large-scale fleet, and 4% to the distant water fleet. With smaller vessels, the small-scale coastal fleet displayed an average of 2 jobs per vessel, comparing to 4 for large-scale fleet and 25 for distant water fleet, whose vessels were large and navigate further into the ocean.

In 2018, the level of employment decreased by 2% compared to 2017, after a stable period since 2013.

#### Effort

An estimated 645 000 days were spent at sea, down slightly compared to 2017 (-0.9%). In the same way, fishing days slightly decreased (-0.5%).

After 3 years of decline, energy consumption increased by 2.3% in 2018. This was mainly due to DWF with a high increase in consumption (+28%). The major part of fuel is, however, used by LSF, representing 71% of the whole fleet consumption.

In 2018, fuel price reached an average price of 0.53 EUR/litter after 0.48 EUR/litter in 2017 and 0.44 EUR/litter in 2016. This, combined with fuel consumption increasing, led fishers to raise their energy costs, with a 13% increase in 2018 compared to 2017.

#### Production

National production has been increasing between 2008 and 2018 by 6 % in value and slightly decreased by 1 % in 2018 reaching EUR 1.34 billion while landings in weight increased by 2.7 % in 2018 at 571 000 tonnes of seafood<sup>30</sup>. Landings have increased continuously since 2010, except in 2015 (-3%).

<sup>29</sup> In the AER report, the French distant water fleet takes into account a vessel using hooks of 33m length.

<sup>30</sup> It does not take into account landings for all outermost regions (vessels less than 12 metres in Martinique, Reunion and Mayotte).

In 2018, yellowfin tuna landings generated the highest value by the national fleet (EUR 122 million), increasing to 2017 by 37%, with a weight of landings slightly weaker than in 2017 and so an increase in price from EUR 1.6 to EUR 2.2. The tuna is followed by European hake (EUR 115 million), monkfish (EUR 95 million) Great Atlantic scallop (EUR 85 million), and skipjack (EUR 73 million). The high average landed price of common sole and European seabass allowed to these species to reach a value of EUR 66 million and EUR 39 million, respectively.

Seafood production by the SSCF represented 62 000 tonnes with a value of EUR 311 million, comprising respectively 11% and 23% of the national production.

The total production landed by the French large-scale fleet increased by 2% in weight from 2017 to 2018 while the value decreased by 6 % reaching EUR 833 million in 2018. It represented 65% of the total landings weight and 62% of the total landings value of the national fleet.

## Economic results for 2018 and recent trends

### National fleet performance

At the national level, the French fleet, after reaching in 2016 its highest economic performances since 2008, mainly thanks to a high income from landings, decreased by 1.2 % in 2017, then decreased by 0.2 % in 2018.

Revenue, estimated at EUR 1.3 billion, consisted mainly of landed values (98%) and other income (1.7%). Direct income subsidies amounted to EUR 5 million, which represented 0.4% of total revenues (no income from fishing rights in France).

Total operational costs represented 83% total income (excluding operating subsidies). Fuel costs represented only 12% of revenue in 2018.

Aside from the increase in fuel dependence, the operating cost structure remained stable since 2016.

GVA, gross profit and net profit in 2018 were estimated at EUR 707 million, EUR 215 million and EUR 122 million<sup>31</sup> respectively and decreased by 5%, 12% and 11% compared to 2017.

These results indicated a declining trend for economic performance of the French fleet in 2018, similar to 2017, but after a very good year in 2016.

### Resource productivity and efficiency indicators

At the national level, the national landing weight has been increasing over the period 2008-2018 by 3%.

Energy consumption per landed tonne is stable in 2018 compared to 2017 but at its lowest level since 2008. Thanks to that, the gross profit margin in 2018 was 16%, indicating an operating profitability of the French fisheries sector.

The net profit margin was 9% in 2018, compared to 10% in 2017.

### Socioeconomic impact

The overall economic situation of French fishing sector remained favourable, with good levels of profitability for several years, stable wages of crew and stable fish prices.

Despite this positive national trend, the number of active French fishing vessels has continued to decline, leading to a reduction in the number of fishers and days at sea. The economic performance measured using the revenue, the GVA or the gross profit indicators, has started to decline since 2016. Regional disparities were important and economic performance differs significantly between fleet segments and fishing areas.

In addition, fishers are worried about the uncertainties surrounding their sector of activity and which may have a serious impact on their economic viability in the short term. Among them and for several years, there were:

- The difficult renewal of vessels and generations of fishers. Investment in new vessels becomes a key element for the fisheries sector to ensure the economic sustainability of the fleet. The number of new vessels built has increased in recent years thanks to better economic prospects, but the difficulties encountered in building a new vessel (access to capital, fishing rights, etc.) sometimes push back initiatives. However, it is still difficult for many companies to recruit fishers. In some ports, the use of foreign labour (for example, African fishers) is the only way to reach the required number of workers on board;

<sup>31</sup> Net profit is overestimated as capital costs are not available for the DWF.



- Access and conditions for the sharing of fishing areas. The number of users of the sea is increasing, and requires professional fishers to adapt themselves to those new constraints (renewable marine energies like offshore wind farm, protected or prohibited fishing areas, access negotiations with other countries - BREXIT, etc.). Fishers will have to be able to adapt their fishing strategy, with the obvious socio-economic consequences;
- Quotas and fishing rights. Fishers were particularly sensitive to the management of certain stocks in the Celtic Sea (e.g. whiting, cod and haddock) in a Brexit context and they were concerned by the quota reductions for sole and hake in the Bay of Biscay;
- The landing obligation and its likely socioeconomic impact, also worries fishers, who expect increased problems from its application: technical and behaviour adaptations may lead to a reduction in profitability but it is difficult to measure precisely until it is implemented;
- In 2020, the COVID-19 outbreak was added.

Therefore, the sector has many challenges to overcome in the coming years, and fishers will have to adapt to ensure their sustainability in this uncertain economic environment.

## Performance by fishing activity

### Small-scale coastal fleet

The French SSCF with 4 011 active vessels covered almost 72% of the whole national active fleet in 2018 and was spread over all the French supra-regions: 1 339 vessels (33%) in the NE Atlantic, 1 113 vessels (28%) in the Mediterranean Sea and 1 559 vessels (39%) in Other Fishing Regions. It represented 50% of vessels in the NE Atlantic fleet, 89% in the Mediterranean Sea fleet and 96% in the Other Regions fleet.

Overall, the SSCF production was EUR 311 million accounting for 23% of the French landings value. This is an increase of 3% compared to 2017. The situation of the SSCF was different depending on the fishing area:

In the NE Atlantic, compared to 2017, number of active vessels decreased by 4% and total activity expressed in sea days decreased by 2%. Landings in volume highly decreased (-26%) while value remained stable, offset by a rise in fish prices, with a lot of disparity depending on the fleet segments. Economic performances measured by GVA decreased by 2% due in part to a rise in fuel costs (4%). The SSCF in NE Atlantic is profitable, generating a gross profit of EUR 31 million in 2018 but the resource productivity and efficiency indicators was lower when compared with the same indicators calculated for all the NE Atlantic French fleet. The labour productivity indicator (GVA/FTE) was EUR 81 000 in 2018 and the value of landings per vessel about EUR 128 000.

In the Mediterranean Sea, compared to 2017, number of active vessels remained stable while days at sea increased by 6%. Landings in volume and in value increased (7% and 19% respectively). These positive trends had an impact on the economic performances evaluated by labour costs, GVA and gross profit which increased respectively by 6%, 11% and 25%. The SSCF in Mediterranean Sea is profitable, generating a gross profit of EUR 20 million in 2018 but the resource productivity and efficiency indicators was lower when compared with the same indicators calculated for all the Mediterranean Sea French fleet. The labour productivity indicator (GVA/FTE) was EUR 93 000 in 2018 and the value of landings per vessel about EUR 79 000.

In Other Fishing Regions, compared to 2017, number of active vessels and days at sea decreased by 8% and 4% respectively. Landings in volume remained stable while landings in value decreased by 6%. Economic performance cannot be assessed. Indeed, these indicators are only available for the regions of French Guiana and Guadeloupe and extrapolation to other regions is meaningless.

### Distant water fleet

The French industrial fleet of purse seiners consisted of 22 vessels in 2018, including five vessels registered on the island of Mayotte. The overwhelming majority of this fleet is made of freezer tuna seiners operating in the Indian Ocean (12 vessels) or Atlantic Ocean (10 vessels). The average age of those 22 vessels in this fleet segment reached almost 18 years in 2018. The average length of this segment is 78 metres. The average FTE was around 25 employees by vessel in 2018 (fishers employed come both from France and foreign countries (mostly African)).

In 2018, total volumes of landings of tropical seiners amounted almost 136 000 tonnes for the vessels of the fleet segment. Volumes of fish caught are made by seiners operating in the Indian or Atlantic Ocean. Tuna species caught were skipjack (52.6% of the total volumes of landings), yellowfin tuna (40.1%) and bigeye tuna (6.4%).

Total values of landings for this fleet segment reached EUR 195 million in 2018. According to economic data collected, the three main cost items in 2018 were crew wage, repair and maintenance and energy costs. They represented respectively 29.1%, 21.0% and 15.5% of the total income in 2018. Overall, operating profitability (gross profit margin) decreased in 2018, compared to 2017, reaching almost 15%. This drop in the economic performance of vessels in 2018 is partly explained by the increase of the fuel costs, compare to the other operating costs.

Access to the territorial waters of coastal countries (for example Senegal, Mauritania or the Ivory Coast) is still a cause for concern for the professionals. In addition, yellowfin tuna's quota in Indian Ocean, implemented since 2017, had an impact on purse seine fishing activity. These new management measures will have to be carefully analysed in the coming years (especially in terms of using Fishing aggregation devices -FAD-).

## Performance results of selected fleet segments

The French fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the North East Atlantic, but also in the Mediterranean and in more distant fisheries.

Table 5.22 contains a breakdown of key performance indicators for the active fleet segments in 2018. A short description of five important segments in terms of total landings value or employment is provided below. Some of these segments include one, two or three clustered small segments and economic indicators refer to these combined segments. Generally, these smaller segments only have a marginal impact on the indicators. Other segments are important to the economy of the national sector: the "tropical" purse seiners are discussed in the chapter dealing with long distant fisheries, some segments contain too few vessels (or a small number of companies that own these vessels), such as pelagic trawlers and demersal trawlers or seiners over 40 metres, others are very heterogeneous such as trawlers and seiners from 24 to 40 metres.

### Drift and fixed nets 10-12m

157 vessels and 494 engaged crew made up this segment which operates predominantly in the NE Atlantic. The fleet targeted a variety of species in particular, common sole, monkfish and spinous spider crab (38.4%, 8.8% and 7.8% of the total value of landings of this fleet segment, respectively). In 2018 the value of landings was EUR 43.5 million, contributing to 3.2% of total value of landings generated by the French fishing fleet. This fleet segment produced a gross profit of around EUR 6.7 million and the net profit represented 12.7% of the income, economic performance was slightly higher than in 2017.

### Drift and fixed nets 06-12m

With 521 vessels and 642 engaged crew, this segment was the largest in terms of number of vessels in France. The fleet operated in the Mediterranean region and targeted Gilthead seabream (23% of the total value of landings of this fleet segment) and a variety of species contributing less than 10% to the total value of landings (for example, mugil, seabass and octopuses). Total value of landings was EUR 34.4 million, contributing to 2.6% of total value of landings in France. This fleet segment produced a gross profit of around EUR 5.6 million and the net profit represented 7.8% of the income. In 2018, economic performance was slightly lower than in 2017, however, the profitability of this fleet segment remained reasonable.

### Demersal trawlers / seiners 12-18m

150 vessels make up this segment in 2018 and they are predominantly based in the NE Atlantic (economic analysis exclude 3 vessels operated in Corsica). These vessels targeted a variety of species. The top three species in terms of value landed in 2018 were Norway lobster, Great Atlantic scallop and monkfish (respectively 25.7%, 11.9% and 11% of the total value of landings of this fleet segment).

Total income was EUR 75.6 million for this segment in 2018, accounting for 5.9% of the national fleet income. It decreased compared to 2017, in particular, by a slightly bad season on Norway lobster or Common cuttlefish.

Around 450 FTEs contributed to the segment in 2018. It generated a gross profit of EUR 8.9 million in 2018 (11.7% of the income), with a decrease compared to 2017, partly explained by a higher energy cost weight (energy costs represent 17.8% of landing values in 2018, compared to 15% in 2017).

### Demersal trawlers / seiners 18-24m

168 vessels made up this segment in 2018. The vast majority (76%) of these vessels operate in the Atlantic, North Sea and Channel, 17% of the vessels operate in the Mediterranean Sea and 7% in French



Guyana (only landings data are available for this last Region). Considering the clusters made for this fleet segment, 170 vessels made up this fishing fleet in 2018.

Depending on the supra region, vessels have different fishing activities in terms of target species or number of days-at-sea. The vessels operating in the Atlantic, North Sea and the Channel target a variety of species, such as monkfish (22.3% of the total values of landings of this fleet segment), squids and common cuttlefish (respectively 12.4% and 5.7%). In terms of volumes landed, monkfishes and whiting represented respectively 15.5% and 10.2% of the total volumes of landings in 2018. In the Mediterranean Sea, vessels have targeted, common octopus (13.5% of the total values of landings of this fleet segment), Octopuses and hake (respectively 10.3% and 8.5%). In French Guyana, vessels mainly caught *Penaeus* shrimp and snappers.

In 2018, total income value for this fleet segment was EUR 155.2 million, contributing to 10.5% of the total income from landings generated in the national fishing fleet. This fleet segment produced a gross profit of around EUR 14.6 million in the Atlantic area and EUR 1.1 million in the Mediterranean.

Economic situation varies with the supra-region, even if the value of the fuel weighed more in 2018 for the vessels of the two maritime façades, and has negatively affected operating profitability. Two reasons for concern stand out clearly: uncertainties linked to the future Brexit, but also the new rules which must apply in the Mediterranean Sea with the establishment of a new European management plan which will lead the trawlers to reduce their fishing effort.

## **Dredgers 12-18m**

94 vessels, plus 8 dredgers between 18 and 24 m and 1 vessel between 24 and 40m, made up this segment in 2018 (cluster), which operates exclusively in the North Atlantic. The fleet mainly targeted great Atlantic scallop (almost 75% of the total value of landings of this fleet segment in 2018). Total income was around EUR 48 million in 2018 for all the vessel of the cluster, accounting for 3.1% of national fleet.

The scallop season was generally good in 2018, in terms of quantities landed, even if prices decreased at the same time. However, the financial health of fishing companies targeting scallops improved significantly in 2018, and gross profit margin reached 19,7%. The highly controlled management of the scallop fishery has thus produced good results in 2018.

The scallop fishery is framed at both community, national and regional levels. In France the shell season generally begins around the month of October and ends in May of the following year. The fishing zones are open as the season advances. European fishers are all regulated in terms of size of the catches, and in France, they can be regulated by quotas distributed between vessels, or by suitable fishing times.

## **Drivers affecting the economic performance trends**

### **Markets and Trade (including fish price)**

The metropolitan French fishing sector is supplied daily by landings made in the 60 French fishing ports.

After landing, the fishery products are taken to the fish market, where they are sorted, checked, weighted and kept in a cold room while awaiting their first sale. In France, 34 auctions are allowed to sale fish. The new conditions offered for sale, with new mechanisms (connected market places, remote sales) are positive in France for the fish prices. The top three species in terms of value landed in 2018, and sold in auctions, were monkfish, sole and European hake (they represent respectively 10.8%, 9.1% and 7.5% of the total landed values sold in auctions during year 2018). The quantities sold in auction sales in 2018 decreased by 2% compared to 2017, which is the lowest level observed in eight years. At the same time, average price (all species combined) fell by 2%, causing a decrease of 4% of the landings values in auctions.

Depending on the target species, destination markets (tropical tuna for example), vessel operating modes (freezer vessels) or historical patterns, all vessels did not use this sales method to sell their production. Direct sale is still particularly developed for species such as the Great Atlantic scallop or some species of crustaceans. For some species such as whelks, horse mackerel or anchovies, the amounts sold off-auction represent more than half of the total amounts sold over the observed period.

Regarding foreign trade, and for the second year in a row, French seafood imports exceeded EUR 6 billion in 2018. This is notably explained by the significant increase in the price of salmon over the period. Despite the increase in exports of several species such as hake and saithe, France's overall trade deficit reached EUR 4.3 billion the same year.

France exported species like tuna (in Asia), smoked salmon, frozen shrimp, fresh species like cuttlefish, seabass or sole in Italy, Spain, United Kingdom, Belgium, etc. On the other hand, 4 species account for

54% of imports by value: salmon (Norway, Scotland...), shrimp (Ecuador, India...), tuna (Seychelles Ghana Ecuador Mauritius) and cod (Iceland).

### Management instruments and regulations (policy)

The French fleet is managed through several management tools, as TACs and quotas related to the area and fishing stock, fishing license or multiannual management plans under national regulations. Each plan or fishing license (assigned to the pair "vessel\*owner") targets a particular species or a type of gear in a specific area. They specify the field of application and all the corresponding technical requirements such as:

- Gear type and dimension (meshing);
- Vessel size;
- Depth;
- Exemptions (e.g., if catches are below a threshold by year of meshing above a threshold);
- Fishing prohibition area or season (e.g. spawning area for Eastern English Channel sole, spawning season for netters targeting sole in Bay of Biscay or season for swordfish in the Mediterranean Sea);
- Maximum catches by year

### Stock status, TACs and quotas

European hake (four stocks exploited, two main stocks for France): good news for North East Atlantic stocks

The main stock (3a, 4, 6, 7, 8abd) was still exploited below  $F_{MSY}$  in 2018.

Common sole (8 stocks, 4 main stocks for France): good news for North East Atlantic stocks with still room for improvement.

The Eastern English Channel stock (7d) was exploited below  $F_{MSY}$  in 2018. The Western English Channel stock (7e) was still in a good biological status in 2018 with fishing mortality below  $F_{MSY}$  and biomass above reference biomass. Half of the catches are fished by the segments DTS 1012 and DFN 1012.

For the Bay of Biscay stock (8ab), biomass was still above the reference biomass, and fishing mortality was above  $F_{MSY}$ . DFN segments (from 10-12 to 18-24 metres) concentrated the catches.

Biomass for the North Sea stock was both above the reference biomass in 2018 and fishing mortality, although decreasing, was still above  $F_{MSY}$ . 70% of the Common sole catches are landed by the segment DFN 1012.

Gadoids in the Celtic Sea (7e-k, 3 stocks): worrying stock status

None of the three gadoids stocks were exploited at fishing rates consistent with  $F_{MSY}$  ranges. For whiting, the biomass was below the reference biomass, and fishing mortality was above  $F_{MSY}$ . For haddock, biomass and fishing mortality were still above the reference points. The status for the cod stock was most concerning: the fishing mortality was still above  $F_{MSY}$  and the biomass was still below the reference biomass. This species is more specifically fished by DTS 1824 and DTS 2440.

European seabass (two stocks exploited, two main stocks for France): mitigate news

The North Sea / Irish Sea / English Channel / Celtic Sea stock (4bc,7a,d-h) was exploited at a fishing rate consistent with  $F_{MSY}$  in 2018, although biomass was still below reference biomass. For the Bay of Biscay stock (8ab) fishing pressure was estimated to be above  $F_{MSY}$  in 2018 and biomass was estimated to be above reference biomass.

Norway lobster: (5 stocks exploited, 2 main stocks, for France): good news for Bay of Biscay stock (VIIIabde)

For the Bay of Biscay (8abde) stock, the harvest rate in 2018 was assessed to be below  $F_{MSY}$  and biomass above the reference biomass.

Bluefin tuna (1 stock): recovery of the stock confirmed

The evaluation for 2018 seems to confirm that the stock (27+37) was exploited below  $F_{MSY}$ . It was considered possible that the stock may have already rebuilt to the reference biomass, although considerable uncertainty still remained in 2018 before the 2021 evaluation.

TACs and quotas (source: FIDES) :

Total available quota (TAC) for the French fleet in 2018 was 390 000 tonnes (a decrease of 1%/- 5 000 tonnes) compared to 2017.

Looking at the main species for France in terms of value of landings, the quota trends between 2017 and 2018 showed that among the 126 stocks under TAC regulation exploited by the French fleet in 2018, seven stocks (six species) presented a quota uptake higher than 90% with an adapted quota higher than 900 tonnes:

- Bluefin tuna (27,37).
- European hake (2a, 4).
- Albacore (Atlantic Ocean, North of 5–∞ N).
- Haddock (7b-k).
- Yellowfin tuna (IOTC Area of Competence).

Species	Quota 2017 in t	Quota 2018 in t	Variation	2018 economic value in M€ (approximate)
Anglerfish (ANF)	31 354	32 309	3%	98
Bluefin tuna (BFT)	4 187	4 934	18%	60
Cod (COD)	13 601	12 337	-9%	23
European Hake (HKE)	68 364	64 803	-5%	119
Mackerel (MAC)	25 643	24 190	-6%	24
Norway Lobster (NEP)	11 210	12 024	7%	31
Saithe (POK)	29 937	33 594	12%	17
Common Sole (SOL)	6 336	6 988	10%	68
Blue Whiting (WHB)	13 844	17 866	29%	11
Whiting (WHG)	22 923	21 009	-8%	16

### Operational costs (external factors)

The major cost items for the fleet of French fishing vessels were labour and energy costs in 2018 (representing respectively 38.3% and 12.9% of the gross value of landings).

The increase in fuel prices had a negative impact on the operating profitability of fishing companies. Gross profit margin thereby decreased by 13% between 2017 and 2018, reaching 16.2%. The French fishing fleet included many trawlers. Therefore, as trawling was typically fuel intensive, fluctuations in fuel prices were a key driver for the profitability of the fleet.

### Innovation and Development

Some studies have been conducted to:

Improve the knowledge:

RECCRU: develop one or more methods to estimate the level of recruitment of lobster, edible crab, spider crab and spiny lobster on an annual basis

DREAM: The project aims to understand the process of reintegrating discards into the ecosystem to propose avenues for improvement that would limit the impact of fishing on this compartment.

Langolf-TV: using underwater video to count langoustine burrows has been tested. This method has proven to be applicable in the context of the Great Mudflat.

eDNAbyss: the project aims to improve counting using the environmental DNA method. Marine organisms leave traces of DNA in seawater as they pass through. It will be possible to identify from a simple water sample the species present in a given environment and the population density.

Improve selectivity:

Game of Trawls: would allow fishers to detect the presence of too much "by-catch", such as dolphins or sea bass, and to activate a device to let them escape or to change the fishing area

In the Lorient basin, researchers have carried out tests with green LEDs to repel whiting to encourage unwanted species to escape from the trawl meshes.

Improve gears:

REIP PECHE: Indicator of physical impact of fishing gears. This project proposes to assess some of these impacts using simple and "low-cost" instrumentation so as to extend the observations to a large number of vessels, and which can give an immediate and more accurate picture than a qualitative approach.

However, due to COVID-19 outbreak, data collection could be stopped collect especially for surveys at sea which cannot take place in 2020. Statisticians are thinking about new estimation methods for biological data.

## Nowcasts for 2019-20 and beyond

### Model results

According to preliminary figures landings volume and value decreased by 4% and 8% respectively in 2019. In 2020, the model taking account the Codiv-19 crisis, a strong decrease is expected (- 25%).

Projections suggest a 8% energy costs increase in 2019, and more notably a - 12% decrease in 2020. Personal costs also decreased, by 7% in 2019, and by 20% in 2020.

According to the model, GVA, gross profit and net profit have a decrease in 2019, 12%, 23% and 40% respectively. In 2020, the fall is even stronger, with - 24%, - 37% and - 90% of these economic indicators.

Results indicate that the French fleet operated at a profit in 2019, with an estimated net profit margin of 6%.

### Outlook

In line with forecasts, 2018 saw the continuity of the renewal movement of new French fishing vessels, with 65 new fishing vessels were built this year. However, uncertainties linked to several factors have slowed the rhythm of construction of new vessels in France.

### Landing obligation

No confirmed breach of the landing obligation is reported for the year 2019. The socio-economic impacts are difficult to quantify since the landing obligation is still at the implementation stage. However, the first impacts reported by professionals in the fishing sector are the additional costs generated by the management of these catches, both on board and at the landing sites.

### COVID-19

Strict containment imposed from March 2020 by the health crisis linked to COVID-19, paralyzed the seafood markets and forced the cessation of fishing activity for many fleets in France. Several possibilities of socio-economic supports are available to fishers to reduce its socio-economic impact, like national solidarity fund, compensation paid or partial unemployment. The most important one is the aid for the temporary activity cessation of vessels, and consists on providing economic support to fishing enterprises which have seen their turnover decrease significantly during the containment period. This aid should normally allow large vessels (which have been particularly affected by the closing of seafood markets), to reduce the operating losses observed over the period.

### Brexit

Brexit constitutes a triple uncertainty, both legal, socio-economic and ecological, which could lead to an economic, social and environmental drama never before experienced by European fisheries. France accounts for approximately 30 to 40 % of landings in British waters in volume. Brexit will constitute a new crisis for fisheries. So, the prospect of a hard Brexit makes professionals fear difficulties in accessing British waters, transfer of fishing effort and tensions between fleets. Many French vessels would be impacted, with the risk of a change in the sharing of EU quotas in the future.

### Data issues

#### Identify changes in respect to previous years

From 2020, it is proposed to use a calibration on direct margins as a method of processing non-response. The recalculated data for the year 2017 and those for the year 2018 calculated with this method were communicated to the EU Commission. The new weights have spread and dispersion properties very comparable to the old ones. The impact on macroeconomic results is small and is much more the result

of calibration than the abandonment of a prior response model. Beyond the treatment of non-response, the calibration on margins allows us to have weights calibrated on the main objectives of data communication.

### Improvements achieved

Thanks to the change in methodology described above, the difference between Value of landings and Gross value of landings (Income), coming from two different sources has been reduced for the NE Atlantic and Mediterranean Sea supra regions.

It should be highlighted that a lot of improvements have been carried for 2017 and 2018. Indeed, all missing data from previous years has been completed. Moreover, economic data for less than 12 metres in Guadeloupe and French Guiana are available since 2016. Finally, the coverage of effort and landings data has been integrated for vessels less than 12 metres active in the Mediterranean Sea, for the period 2008 -2018.

### Issues still remaining

Apart from the Capacity table and employment, data on efforts and landings are not complete for all outermost region fleets. This concerns around 990 active fishing vessels based in the French islands of Reunion and Martinique.

### Survey for economic data

A method of probability sampling has been applied to the 2018 data, on a similar way as previous years (set up in 2012): vessels have been selected by using a systematic random sampling, and the fleet has been classified inside each segment by size and maritime quarter, to ensure a good representativeness of the overall diversity of the French fleet.

When fishing vessel owners didn't answer, a statistical method was used to know the criteria (explanatory variables) that could explain the response rate. Then, vessels were merged into clusters according to that predicted response probability. Those clusters were used to weight again responding vessels, by increasing their weight. Concerning the partial non-responses, imputations of costs and earnings have been made.

Direct subsidies and other income are not available for few segments, in particular, segments of over 40m, and new segments in Guadeloupe and French Guiana, less than 12 metres.

Data on total personnel costs for a sample of vessels is available. Currently, we consider that they represent wages and salaries of crew for all vessels and we do not disseminate data on the value of unpaid labour. It would be possible to estimate the value of unpaid labour considering that it represents the total personnel costs for vessels with only one crew member. For the remaining vessels, we would consider that, with the crew share system, the value of imputed labour is zero and there are only wages and salaries of crew.

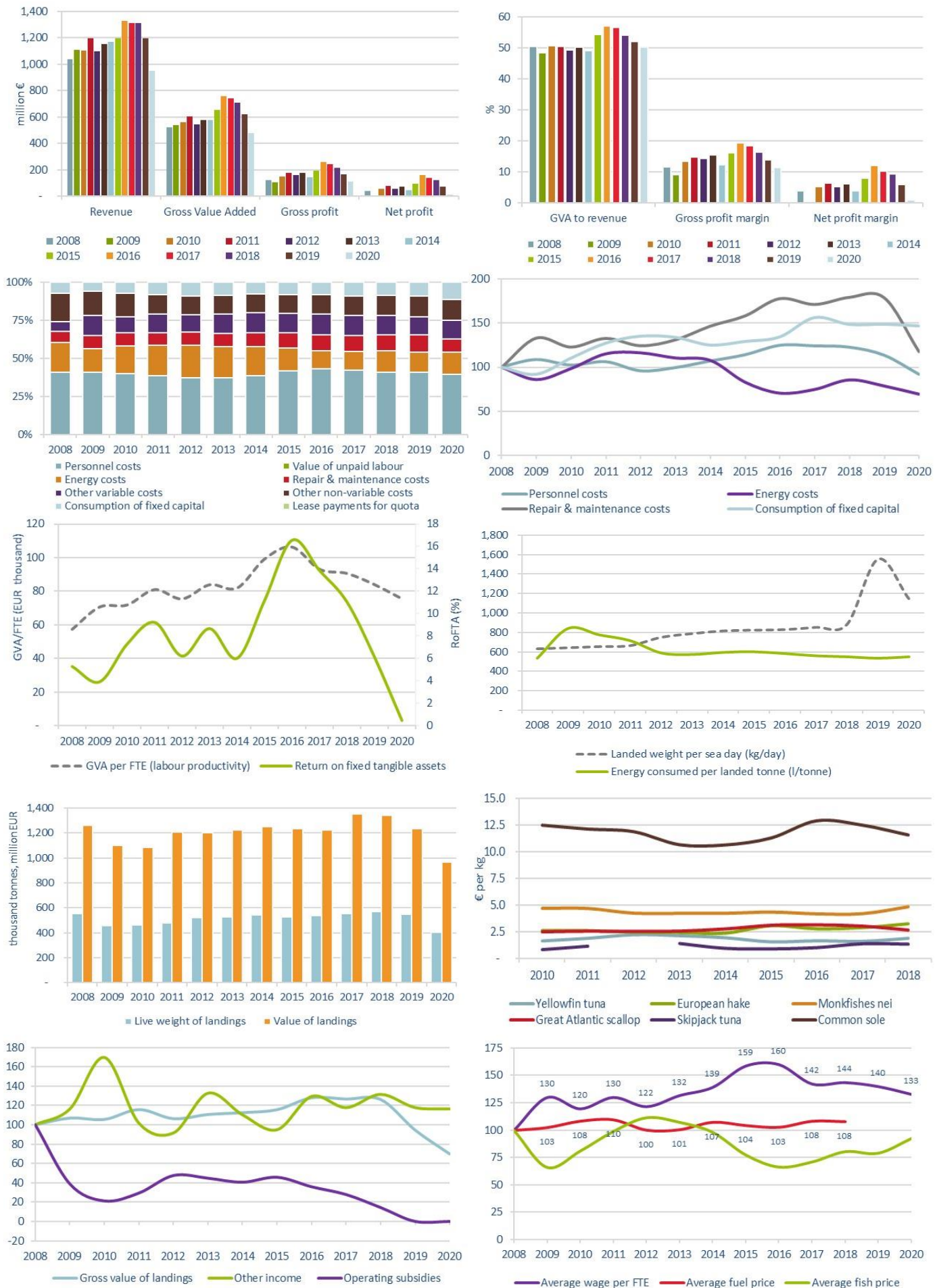
### Outermost fleet

Distant water fleet gathers 22 purse seiners over 40 metres length. All operating in the Indian Ocean and in the South Atlantic Ocean, but 14 amongst them are registered in a French metropolitan port. Data for purse seiners are provided only for 17 vessels, while the other missing 5 are based in Mayotte. Another source enables to get all landings for those five missing vessels, then values are computed with species' prices (mainly tuna) reported on other fleet segments.

For those of French hooks 12-18m and 18-24m in the Indian Ocean, economic data are available for 2011 to 2018. Economic data for less than 12 metres in Guadeloupe and French Guiana are available since 2016. In other fishing regions, consisting mainly of vessels less than 12 metres based in the French islands of Reunion and Martinique economic data are not collected.

It should be highlighted that one 33 metres longliner operating in other fishing regions should belong to distant water fleet according to European definitions, but is however clustered with other hooks 18-24 m and belongs to the long scale fleet.





**Figure 4.8 France: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.9 Germany

### Short description of the national fleet

#### Fleet capacity

The national fleet capacity continued to decline, with a total of 1 314 vessels, 358 of which were inactive in 2019. The total fleet had a combined GT of 55 500 tonnes and engine power of 125 400 kW. In 2019, the total number of vessels decreased by 48 compared to 2018. Almost all the 325 inactive vessels belong to the smallest length class (below 10 metres). In that length class about 33% of the registered vessels have reported no activity in 2019 – a figure similar to previous years. The percentage of inactive vessels decreases with increasing length – in the length classes above 18m only six vessels were filed inactive.

Vessels which target blue mussels are not included in the analysis because they are defined as operating in the aquaculture sector and are therefore covered in the aquaculture report.

The German pelagic trawler fleet is excluded from the analysis except for capacity and weight and value of landings data as practically the entire segment is owned by one parent company. For confidentiality reasons the data cannot be published.

#### Fleet structure

In 2019, the German large-scale fishing fleet (length above 12 metres) consisted of 266 vessels (20%), whereas 705 active vessels (74% of the active fleet) were accounted for the small-scale coastal fleet (below 12 metres). The decrease in number of vessels applied mainly to the small-scale fleet (-46) while the fleet of vessels above 12 metres remained almost constant in 2018. The total engine power decreased by 3% while the gross tonnage even decreased considerably in 2019 (-11%). The latter is mainly due to the sale of a large pelagic trawler outside of the German fleet.

#### Employment

Employment was estimated at 1 657 jobs in 2017, corresponding to 1 150 FTEs. These figures follow the overall decreasing trend over time.

#### Effort

About 96 528 days were spent at sea by the non-pelagic fleet in 2018, a slight decrease of 5% from 2017 (101 476 days). The energy consumed in 2018 amounted to an estimated 40 million litres and was thus slightly lower (-4%) than in 2017. Due to an increase in fuel prices the energy costs increased from about EUR 18 million in 2017 to EUR 19.4 million in 2018 (+8%).

German small-scale coastal vessels operate almost exclusively in the Baltic Sea, whereas cutters (<500 GT) above 12m fish in the North Sea and in the Baltic Sea. German high seas trawlers operate mainly in the North Atlantic and Eastern Arctic area, but to some extent also in African and Southern Pacific waters.

#### Total Production

Total production shows an increasing trend from 2012 up to 2018 with a live weight of landings increasing from 198 000 tonnes to 258 000 tonnes. In 2018, the weight of landings increased to 258 000 tonnes, from 250 000 tonnes in 2017. The main species are herring, cod, common shrimp, saithe and Greenland halibut. In terms of weight herring is by far the dominant species, whereas the highest revenue is generated through brown shrimp.

### Economic results for 2018 and recent trends

#### National fleet performance

Overall the German non-pelagic fleet generated a net profit since 2010 (with the exception of 2011 when brown shrimp prices had dropped below a critical level). Its economic performance has significantly improved compared to 2017. In 2017 the overall fleet faced a considerable drop in profit which is almost exclusively due to the development in the high seas demersal trawler group: two vessels were replaced by newly built trawlers, resulting in high transaction and capital costs and some temporary decrease in effort. In 2018, profitability was almost as high as in the very successful year 2016. According to the available information from the industry, data on catches and revenues in 2019 and the slight increase in

fuel prices the overall performance in 2019 is expected to be mediocre for the high seas fleet and negative for the remaining fleet.

The total revenue of the German fleet, excluding direct income subsidies, was estimated at EUR 238 million (EUR 165 million for the non-pelagic fleet) for 2018, thus increasing compared to 2017.

Direct income subsidies accounted for about EUR 4.1 million in 2018, a massive increase, mainly due to payments for temporary cessation in the Baltic Sea.

Total operating costs of the non-pelagic fleet decreased by 5% in 2018 from a very high level in 2017. Most cost types increased slightly, fuel costs increased by about 10%, but non-variable costs and consumption of fixed capital showed a considerable decrease. Those two variables were extraordinarily high in 2017 due to a one-time effect: two high seas vessels were replaced by newly built trawlers, thus causing high transaction and depreciation costs and, due to the considerable increase in fixed capital, also high consumption of fixed capital. In 2018, consumption of fixed capital was still considerably higher than in the years prior to 2017. When including capital costs, total costs amounted to EUR 146 million.

For the non-pelagic fleet, GVA, gross profit and net profit in 2018 were estimated at EUR 98.8 million, EUR 46.7 million and EUR 21.5 million, respectively.

The (depreciated) replacement value of the German fleet was estimated at EUR 175 million, an 11% decrease compared to the 2017 value, while investments amounted to EUR 20 million (-82%). These figures also reflect the effect of the two newly constructed high seas trawlers which entered the fleet in 2017 and thus caused a peak in investment.

Overall, the cost structure has remained relatively constant over the recent years with some fluctuation in consumption of fixed capital and energy costs; most cost items have increased compared to the low figures of 2014.

## Resource productivity and efficiency indicators

The gross profit margin in 2018 was 28.2%. Net profit margin was estimated at 13.0%. The Rate of RoFTA increased significantly to 17% in 2018 from 3% in 2017.

Labour productivity (GVA/FTE) for 2018 was estimated at EUR 85 884/FTE, a 24% increase compared with a relatively low value in 2017.

In 2018, the fuel consumption was around 550 litres per tonne for the non-pelagic fleet, grossly varying between fleet segments. Excluding the pelagic fleet, the weight of landings per unit of effort (in days-at-sea) decreased after 2009 and since then has fluctuated around 0.6-0.7 tonnes/DAS. In 2018, about 0.75 tonnes were landed per day at sea on average.

## Performance by fishing activity

### Large-scale fleet

In 2018, 274 active vessels were assigned to the large-scale fleet. These vessels mainly operate in the North Sea and the Baltic Sea, while the large trawlers fish also in the North Atlantic, Eastern Arctic and in distant areas. The cutters (<500 GT) target mainly brown shrimp, cod and saithe while the high seas trawlers fish herring, cod, Greenland halibut and other small pelagic species like mackerel.

The value of landings of the large-scale fleet increased continuously from 2011 to 2018 by about 21% altogether. The weight of landings also increased substantially, with some decline in 2015, but noticeable increase since then. However, for 2019 a sharp decrease in both weight (-21%) and value (-23%) took place. Labour and energy costs increased from 2017 to 2018, while consumption of fixed capital and other variable costs dropped considerably. Due to the overall decrease in cost with income from landings increasing, both gross and net profit increased substantially. The overall figures for the large-scale fleet are strongly influenced by the one-time effect of two high seas trawlers being built and introduced to the fleet in 2017. This is also reflected in the figures for the value of physical capital which in 2018 was about twice as high as in 2014.

The number of people employed in LSF decreased by about 6% in 2018.

For confidentiality reasons these observations refer only to the non-pelagic fleet. Only the weight and value of landings include the pelagic segment.

### Small-scale coastal fleet

In 2018, 708 active vessels were assigned to the small-scale fleet according to the EU definition (vessels under 12 metres using passive gears). These vessels almost exclusively operate in the Baltic Sea,

targeting mainly herring and cod and also freshwater species which are not managed under a TAC regime.

The weight of landings of the SSCF decreased by about 16% from 2017 to 2018 (6 737 tonnes vs. 5 674 tonnes) while the value of landings dropped by 20% from EUR 8.2 million to EUR 6.5 million. The estimated total effort in terms of days-at-sea decreased from 65 000 days in 2017 to 60 600 in 2018. The overall costs for the SCF remained almost unchanged in 2018. While personnel and energy costs decreased, most other costs increased or remained stable. All costs except depreciation costs increased between 2016 and 2017. In 2018, the SCF ended up with a gross loss of -EUR 1.8 million and a net loss of -EUR 2.9 million.

The number of people engaged on-board was estimated at 878 in 2018, corresponding to about 531 FTE.

## Performance results of selected fleet segments

The German cutter fleet (below 500 GT) is dominated by beam trawlers and, to a lesser extent, demersal trawlers.

### Beam trawlers

German beam trawlers operate in the North Sea. Vessels up to 27 metres target almost exclusively brown shrimp. There are a few large beam trawlers over 27 metres targeting mainly flatfish. Thus, the beam trawler segment 24-40 metres contains both types of vessels.

The owners of the shrimp beam trawlers are usually also the skippers. They operate in coastal waters: smaller vessels with shallow draught can fish in the tide-ways and the Wadden area between the islands and the coast. These vessels depend on the tide and return to the port daily. These vessels usually do not fish in winter as the target species migrates to deeper areas. Larger vessels operate in greater depths and can also fish year-round. They stay at sea for several days.

Shrimp prices and fuel costs are the crucial elements for the economic performance of shrimp beam trawlers. 2018 was regarded highly satisfactory: the weight of landings further increased considerably by 91% from a very low level. Even though prices for brown shrimp dropped by 42%, revenues increased by 12%. Fuel costs creased slightly and the net profit of beam trawlers up to 24 metres increased from about EUR 5.5 million in 2017 to EUR 14.5 million in 2018.

Six flatfish beam trawlers flying the German flag are owned and operated mainly by Dutch fishers. They target mainly sole, plaice, and turbot. All of them are equipped with pulse gear. The catch is landed exclusively in the Netherlands. In 2018, the value of landings was EUR 12.0 million for these vessels. The segment of beam trawlers above 24 metres (including two shrimp trawlers) experienced a gross profit of EUR 7.3 million and a net profit of EUR 6.2 million in 2018.

### Demersal trawlers

The German demersal trawler fleet can be divided into high seas trawlers above 45m, large cutters between 23 and 45 metres and smaller cutters below 23 metres. The high seas trawlers target mainly Greenland halibut, cod and redfish in Eastern Arctic and Greenland waters, the large cutters target saithe, cod, hake and haddock, the ones around 24 metres (eurocutters) also fish *Nephrops*. These vessels fish almost exclusively in the North Sea and Skagerrak. Some eurocutters shift temporarily to shrimp beam trawling or pelagic trawling for herring. The vessels of 20 metres and below almost exclusively fish in the Baltic Sea, targeting mainly cod, flatfish and – seasonally switching to pelagic gear – herring and sprat.

This indicates that the DCF length thresholds divide the demersal fleet into segments with heterogeneous fishing patterns. Thus the performance indicators in most cases represent a mixture of different fisheries. The net profit of demersal trawlers over 40 metres was estimated at EUR 4.6 million, the net profit of demersal trawlers between 24 and 40 metres was estimated at EUR 0.4 million.

The profit of the vessels >40m are partly estimated upon internal prices as the vessels are part of companies that also operate in fish processing. That means that the profit is not necessarily assigned to the vessels only, but may be made at an advanced stage of the value chain as well. One new high seas demersal trawler entered the fleet in 2015 and two more in 2017. Two newly built vessels around 40 metres entered the fleet in 2019. These investment activities are a clear indication of profitable fisheries.

For the segments with medium sized demersal trawlers (18-24 metres) positive net profits were determined (EUR 2.5 million), but as described before, this is a mixture of North Sea and Baltic Sea vessels. For the vessels below 18 metres, net profits were estimated at EUR 32 000). In both cases, the poor status of Western Baltic cod has a negative impact on the profitability.

## Vessels using fixed nets and other passive gear

Larger fixed netters and potters (between 26 and 31 m) operated almost exclusively in Western waters, targeting anglerfish or red crab. For the related segment a net profit of EUR 3.3 million was determined. Smaller vessels using passive gear almost exclusively operate in the coastal areas of the Baltic Sea. Main target species are cod, herring, and to some extent freshwater species in the brackish Bodden areas. The small segment of fixed netters 12-18m achieved net profits of EUR 790 000, net profits of EUR 1.5 million were calculated for the 10-12m length class. The passive gear segment with vessels below 10m faced net losses of EUR 1.5 million. All these vessels fishing in the Baltic Sea suffered from the decreasing TAC of Western Baltic cod and herring.

## Drivers affecting the economic performance trends

As the German fleet is dominated by trawlers, the fuel price always has a major impact on the overall economic performance. As fuel expenses increased (about 10%) from 2017 to 2018, the profitability of the fleet was influenced in a negative manner.

Prices for brown shrimp have a significant influence on the performance of the national fleet, as it is the most important species in terms of value. In 2018, landings increased considerably by about 91% from a very low level, while prices per kg dropped less severely (-42%), and thus the total value of brown shrimp landings increased again, by about 11% compared to 2017.

For all other species with major importance stable prices could be observed.

The MSC certification gains importance for sales of fish. Certification results in stable or higher prices. In several cases it has become a prerequisite for sales due to market requirements. For the high seas fisheries, the most important pelagic fisheries (North Sea herring, Atlanto-Scandian herring, mackerel, blue whiting) are MSC-certified. Cod, haddock and saithe fisheries in Norwegian waters and around Svalbard are certified as well as saithe fisheries in the North Sea. All annual audits were finalized successfully. The certification of cod, haddock and saithe fisheries in the Barents Sea was extended for five more years. The cutter fishery on brown shrimp was certified in 2017..

In 2019, the mackerel certificate was suspended while audits for herring and blue whiting were successful. All demersal roundfish fisheries of the high seas fleet are MSC certified (cod, haddock, saithe in Norwegian waters, North Sea saithe). In 2019, certification of Greenland halibut was finalised.

## Markets and Trade

Brown shrimp as most important species is mainly landed in Germany, to some extent also in the Netherlands. The wholesale market is dominated by two companies which have a huge influence on the price. However, as fishers formed a producer organisation to gain market power the detrimental results of 2011 did not repeat. Just to the contrary, prices for brown shrimp developed favourably, thus increasing the profitability of the related fishery.

Overall, in 2018 only about a third of the total catch was landed in German ports, corresponding to about 55% of the total value. About 42% of the catch was landed in the Netherlands, about 14% in Denmark. The degree of self-sufficiency for fish is rather low in Germany, about 16%. Thus, international trade plays a crucial role for the supply of the German market with fish products.

## Management instruments

The predominant management measure was TAC.

The introduction of the landing obligation could be implemented with little extra effort in the pelagic as well as in the saithe fisheries as these fisheries traditionally have had low bycatch rates. In the case of cod and flatfish fisheries serious problems have been reported. In the Baltic Sea high amounts of undersized cod were observed. According to the industry no technical measures are available to solve that problem.

## TACs and quotas, status of key stocks

Most stocks targeted by the German high seas fleet, e.g. Arctic and Greenland cod, Atlanto-Scandian herring, Arctic haddock and saithe, are managed at MSY level. Overall, the high seas industry regarded fisheries in 2018 as good.

Brown shrimp, the most important species of the German fleet, is not subject to TAC. Catches depend mainly on abundance, effort and prices. In 2016 were cut by more than half, which was overcompensated by very high prices. Catches increased slightly in 2017 with prices remaining high, thus resulting in

further increase in total revenue. In 2018 catches almost doubled and revenues increased by about 10% as prices dropped only disproportionally.

Most relevant North Sea stocks (herring, saithe, plaice, haddock, sole and *Nephrops*) are managed at MSY level. In 2018 North Sea herring quota increased by 25% and cod quota by 10%. Plaice quota decreased by 12% while saithe quota increased slightly by 6%. Both North Sea cod and herring quota, decreased considerably by about 35 and 40% in 2019. Plaice decreased by 12% while saithe quota increased by 16%. Mackerel quota decreased by 20% in 2018 and again in 2019.

Eastern Baltic cod stock was only partly exploited. Fishes are in poor condition (malnutrition) and show an unfavourable length distribution, thus the fishery has become less attractive. The quota for Western Baltic cod stock remained unchanged at a low level (about 1.200 tonnes) in 2018. This stock has provided substantial amounts to the income of coastal fisheries and the continuing decline of quota over the last years caused a tense economic situation. For 2018 the Eastern Baltic cod quota was cut by 8%. For 2019 the Western cod quota was increased by 70%. Alternative fishing options, e.g. on herring or freshwater species, are limited and do not allow for a full compensation of losses in the cod fishery. Moreover, the Western Baltic herring quota was cut by 39% in 2018, thus aggravating the critical situation of the artisanal fishers. The quota increase of 20% for Eastern Baltic herring could not compensate for the losses on the Western herring stock on which German fishers have a much bigger share. As the German quota on the Eastern cod stock can only be exploited by trawlers, it is not an alternative fishing opportunity for the small-scale fixed netters suffering from decreased Western quota.

The Western Baltic cod quota was decreased by 60% for 2020 (about 800 tonnes) and is way below quota of 2014-2016 (3.600-2.700 tonnes). The Eastern Baltic cod quota was cut by 92% for 2020 and is to be used as bycatch quota only. For 2020 the Western Baltic herring quota was cut by another 65%, thus amounting to less than 1.800 tonnes, which is about 11% of the 2017 quota. Overall, the development of the Baltic Sea fisheries is seriously threatening the existence of fisheries.

In 2017, management measures for the recreational cod fishery (western Baltic stock) were introduced in the Baltic Sea to share the burden of rebuilding the western Baltic cod stock. These included a bag limit of three cod per day and angler in the closed season (Feb + March) and five cod per day and angler during the rest of the year. For 2019 the bag limit was increased to seven per day, and for 2020 at five per day. Conditions for the closed season were kept constant.

The introduced management measures had a strong adverse effect on the recreational sector in Germany, as the majority of anglers (65%) are tourists from inland states (non-resident) which lead to a decline in recreational fishing effort (resident anglers behave different than non-resident anglers). Apparently anglers perceived the five cod bag limit as very restricted (despite the fact that the limit is only reached by few anglers) as they value freedom higher than catch rate.

German recreational cod catches are responsible for an additional 40-50% of catches compared to the German commercial landings in some years. An extrapolation using German, Danish and Swedish recreational cod catches estimated that recreational cod catches represented 27% of the total removals for this stock.

## Nowcasts for 2019-20 and beyond

### Model results

Landed weight decreased substantially by about 21% in 2019 compared to 2018, with a 23% decrease in landed value. Projections suggest that operating costs decreased by 11% in 2018. The sharp decrease in value of landings in 2019 could only partly be compensated by lower costs. Thus, the gross value added dropped by 41%. Accordingly, also gross profit decreased (EUR 59 million; -58%) and net profit turned negative (EUR -3 million).

Projection results, suggesting that the German fleet operated at a loss in 2019, are in line with recent statements from the industry. The estimate for net profit margin is -2.5%. Negative economic developments can also be seen in performance indicators GVA to revenue (47%, after 60% in 2018), GVA per FTE (EUR 54 000, -26%) and gross and net profit margins (15%, after 28% in 2018, -3%, after 13% in 2018, respectively).

Some performance drivers in 2019 can be explored in more detail. After three newly built high seas demersal trawlers had entered the German fleet between 2015 and 2017, two cutters of the 40 metres class entered the fleet in 2019, thus replacing four older vessels of similar size. The high level of investment activities that can be observed in the sector of larger demersal vessels is unprecedented in the recent past. Modernisation of on-board equipment was continued as in preceding years. Given the higher efficiency of new vessels an increase in profit can be expected in the near future. One pelagic high seas



trawler was sold in 2018 and exited the German fleet. According to the industry investment in a new vessel is postponed due to uncertainties of fishing opportunities in the Brexit context.

The main driver for a considerable decrease in profitability in 2019 was the decrease in catch and revenues. This is due to an overall decrease in most of the main quota and a decrease in both catch and prices for brown shrimp, a species without TAC.

## Outlook

### High seas fleet

Overall, 2019 was regarded positive by the high seas sector for demersal fisheries, while pelagic fisheries suffered from substantial quota cuts.

Once again high seas trawlers achieved positive results in the demersal fisheries in Norwegian waters, Svalbard and the Barents Sea. Targeted species were saithe, cod and haddock. Due to mediocre results in 2018 no directed fishery on saithe took place in the North Sea. As in previous years Greenland halibut fisheries in Eastern and Western Greenland waters were highly efficient, the quota could be fully exploited. The Greenland cod quota could be fully exploited. The 2019 season of pelagic redfish fishery in the Irminger Sea as well as the demersal redfish fisheries in Eastern Greenland waters were regarded successful as well. Starting in July 2019, four vessels were involved in the pelagic redfish fishery in Eastern Arctic waters (ICES areas I and II). Catches from this fishery were considerably lower than in 2018. According to the industry, fisheries agreements with Greenland and Norway remain a backbone of the performance of the German high seas demersal fleet.

High seas pelagic fisheries in European waters targeted herring, mackerel, horse mackerel and blue whiting in European waters as well as sardine and mackerel in Moroccan waters. Quota cuts for North Sea herring (-40%), mackerel (-20%) and blue whiting (-18%) resulted in an overall decrease of 32 000 tonnes of quota. For the first time, fisheries made use of the option to over-exploit quota for herring and mackerel by 10%, taking into account the consequent cut of the same amount for 2020.

As in previous years, horse mackerel catches dropped further, and the quota could not be fully exploited. Moreover, fisheries on blue whiting were less successful than in previous years, partly due to decreased CPUE. As the fisheries agreement with Morocco was renewed in 2019, one vessel could perform pelagic fishery in Moroccan waters.

In 2019, European fisheries in the South Pacific under an EU-wide quota pooling were performed without a German trawler. The pelagic industry is striving for EU membership in the North Pacific Fisheries Commission in order to complement fishing activities in the Southern Pacific with fishing activities in the Northern Pacific and thus increase the overall efficiency. The EU application was launched in 2018, but no contract was concluded by the end of 2019.

As in previous years the landing obligation was no major issue for the high seas fleet. The total weight of bycatch landed by the high seas fleet amounted to 209t in 2019, mainly mackerel and, to a lesser extent, saithe and cod.

About 82% of the catch of the German high seas fleet was MSC certified. Only the certificate for northeast Atlantic mackerel was suspended in 2019.

Between 50 and 80% of the landings of German pelagic high seas trawlers is caught in UK waters, mainly herring. A closure of UK waters as a consequence of Brexit would have a serious impact on German pelagic trawlers. Especially for herring there are no fishing grounds in EU waters which could be exploited as an alternative for the fishing grounds in UK waters.

In 2018 one pelagic trawler left the German fleet, due to uncertain prospect, according to the industry.

### Cutter and small-scale fleet

After an overall very successful year 2018, most of the German cutter and small-scale fisheries were facing severe economic challenges in 2019. The brown shrimp fishery, backbone of the cutter fleet, was confronted with both a price drop and a decrease in landings. As a consequence the turnover was cut by about half with no substantial reduction of costs.

The North Sea flat fish fishery was regarded satisfactory, given stable stock and quota development. Prices and demand developed favourably as well. .

The demersal fishery targeting *Nephrops* is regarded successful. As the German quota is very low it is based almost entirely on extensive quota exchange, especially with the United Kingdom. Flatfish beam trawlers are all equipped with pulse gear. The industry is concerned about the prospective expiration of pulse beam licences.



Baltic fisheries suffered from quota cuts for Western herring of about 50%. The Western cod quota was increased by about 70%, but was still considerably lower than in any year in the decade before 2017. Both, Eastern cod and plaice quota decreased. Payments for temporary and permanent cessation have been carried out by the German authorities.

## Outlook for 2020

In general, the major factors influencing the profitability of the German fisheries are fuel price and revenues. With few exceptions (e.g. brown shrimp) fish prices do not fluctuate considerably. Thus the volume of catches is the main factor which determines the revenues. Most important species targeted by the German fleet are managed under a TAC regime. Fuel prices dropped slightly in 2020, but unfavourable quota development and, in particular, the COVID-19 lockdown grossly affect the performance of the German fisheries in 2020.

## High seas fisheries

Quota for 2020 remained stable for the most important herring stocks and increased for mackerel (+41%) while the blue whiting dropped again by about 20%. The demersal sector is mainly affected by severely reduced cod quotas in the North Sea (-50%) and in Greenland waters (-7%) while quota in areas 1 and 2 remained unchanged. Quota on cod and redfish stocks targeted by the high seas fleet were changed only slightly. The quota for Greenland halibut remained unchanged.

The impact of COVID-19 measures on the high seas fleet has been limited thus far. Most of the landings are either frozen or serve as raw material for the processing industry. These markets have proven to be relatively robust in terms of demand. Nevertheless, sales of demersal species are hampered, and prices have decreased. According to the industry, exports to Africa and China, the main markets for certain pelagic species, cannot be performed under the given circumstances. To some extent consequences of the lockdown can be buffered by cold storage. However, capacities are limited.

## Cutter and small-scale fleet

The quotas for North Sea stocks relevant for the German cutter fishery underwent some changes in 2019. The North Sea haddock quota was increased by 23%, while North Sea cod quota dropped by 50%. North Sea plaice quota increased by 17%. Saithe quota was decreased by -15%. Brown shrimp being the most important species for the German cutter fishery is not managed by TAC. As there is no stock assessment the abundance and thus the catches of brown shrimp cannot be properly forecasted. Preliminary observations over the first five months of the year indicate a drop in revenues even below the detrimental year 2019 for the same period.

The substantial drop of all quota for Baltic stocks are a threat to the existence of the German Baltic fisheries. Within the past decade quota for cod and herring were severely cut, with latest cuts of -65% for Western herring, -62% for Western cod, -92% for Eastern cod and -32% for plaice. Payments for temporary and permanent cessation by the German authorities will be continued, but can only compensate for a fraction of the loss due to the quota cuts. In addition, the COVID-19 lockdown hampered severely sales to local markets and restaurants, so that prices dropped together with catches. Between January and May 2020 revenues had dropped between 5% (sole) and 80% (Baltic herring), compared to the same period in 2019. While decreased quota are part of the reason for the drop for Baltic herring and Baltic cod, sales of other species dropped because demand from catering came to a temporary halt (e.g. plaice). The brown shrimp market was grossly affected by limited processing capacities in Moroccan facilities which could employ only a fraction of their regular workforce.

Public payment for temporary cessation was assigned to the majority of German fleet segments. However, the payments were granted for a short period only and did not cover fixed costs accruing during that time.

## Data issues

### General remarks

Capacity, logbook and landings data are derived from sources which are covered by different legislations. All these data are available exhaustively. That means that all capacity, landings and effort data are represented at 100%.

The only exception is the group of vessels below 8 metres without logbook obligation. These vessels are sampled for effort data. The remaining variables (cost, employment, fuel consumption) are estimated based on results from an accountants' network and from surveys with questionnaires.

All data on the high seas fleet were collected exhaustively (100%).

The data basis for fleet segment level estimations has become broad over the years. All fleet segments with major contribution to the total catches of the German fleet have been sampled with satisfactory response rates. As segments are not necessarily homogeneous, the results can be quite variable which is reflected in higher coefficients of variation.

The German fishing fleet contains a small number of pelagic vessels which are owned mainly by one company and therefore, for confidentiality reasons, it is impossible to publish this data by segment. Clustering the pelagic vessels with other vessels is not feasible as the pelagic vessels have unique characteristics that would completely bias "pure" segments when clustered. Therefore, the only pelagic fleet data in this report is capacity and weight and value of landings data, which is public, so please consider this when interpreting national totals; the German pelagic fleet accounts for a substantial part of the national fleets' costs and earnings.

All data have been collected, also for the pelagic fleet. As in previous years, confidentiality of most of the data on pelagic vessels affects regional analyses. The pelagic fleet mainly operates in the North Sea and North Atlantic (herring, mackerel, blue whiting). Data on pelagic fisheries in the Baltic are hardly affected, as they are performed on a seasonal basis, and vessels are assigned to the DTS segment, which reflects their major activity during the year.

Vessels which targeted blue mussels were excluded from the analysis because they are defined as operating in the aquaculture sector. Not all of the participating vessels can be identified by the first gear entry in the fleet register as some vessels are using beam trawls. Instead, the relative catch of blue mussel was used, thus allowing an unambiguous identification of aquaculture vessels.

It has to be pointed out that German employment data follow the approach of minimum requirement of activity, i.e., a person that goes fishing for twenty days or less during the year is not accounted for one employed person. Fulltime equivalents are estimated with reference to the days-at-sea and the crew size. The total number of jobs is then derived by the ratio of total number vs. FTE as observed in panel data. Due to this approach the data correspond to official employment statistics. If one day at sea would qualify for counting a "person employed" figures would exceed official statistics by about 30%.

### **Changes in respect to previous years**

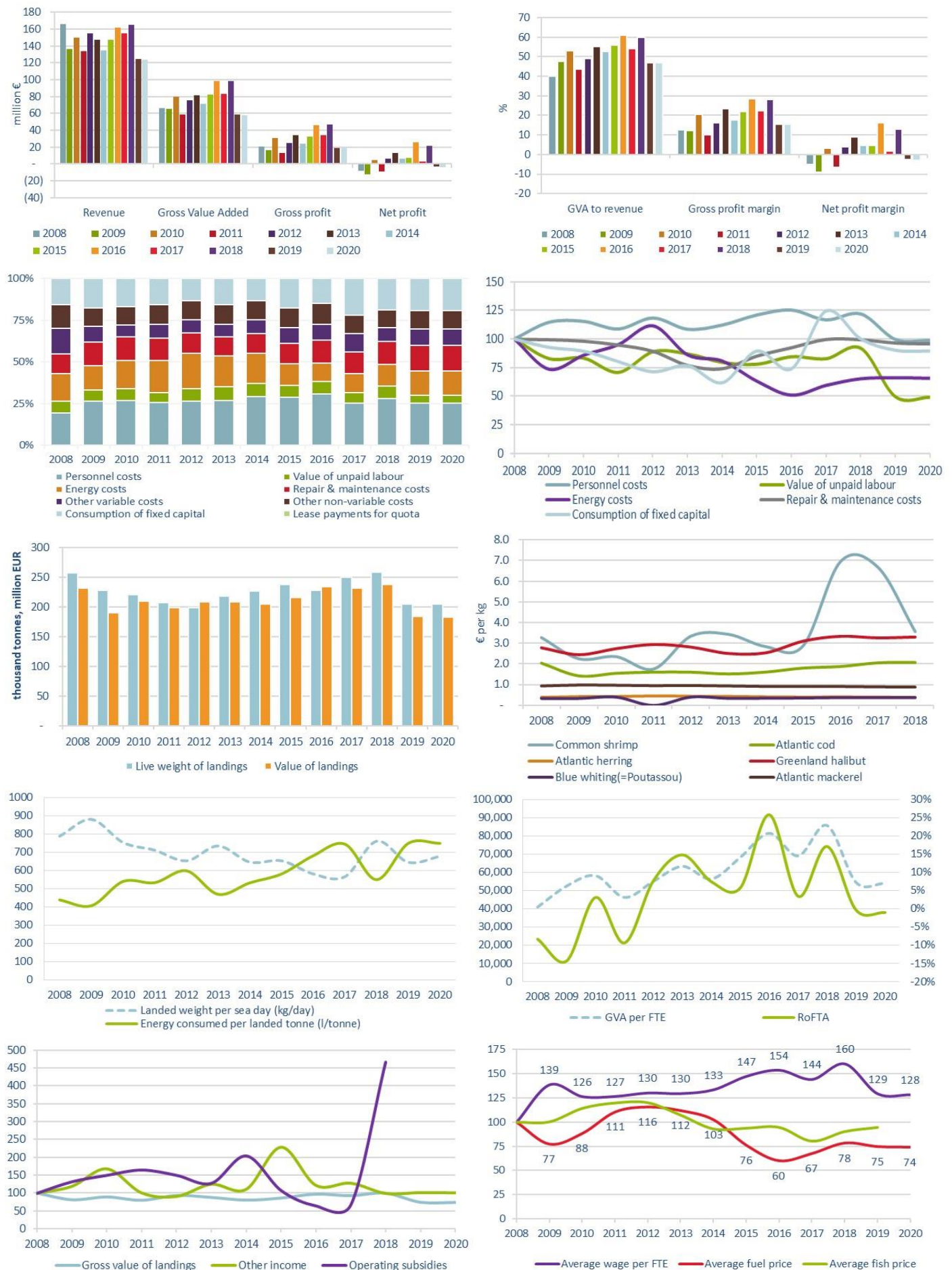
Due to decreasing response rates for certain fisheries the data collection framework was further advertised in fishing communities. Moreover, an alternative approach of deriving cost structures of so-called "typical vessels" has been started. This method will be further elaborated in parallel to the regular default surveys.

### **Improvements achieved within 2018 data collection**

Data for subsidies could be derived comprehensively from the issuing authorities.

### **Problems identified**

An increasing reluctance of responding to questionnaires had to be observed. This applies in particular to vessels with foreign ownership, forming segments with few vessels only. In these cases estimation and raising procedures are based on few or even no response at all and are thus limited in robustness.



**Figure 4.9 Germany: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.10 Greece

### Short description of the national fleet

#### Fleet capacity

In 2019, the Greek fishing fleet consisted of 14 075 registered vessels with a combined gross tonnage of 66 000 GT and total power of 396 000 kW. The average vessel age is 32 years. The overall capacity of the Greek fleet has a falling trend between 2017 and 2018. The size of the Greek fishing fleet decreased, with the number of vessels falling by 5% while total tonnage and power also decreased by 6% and 7%, respectively. In 2018, the decreasing number of vessels stemmed from the reduction in the number of small-scale vessels. This decrease has two main reasons. The first is due to the application of EMFF Measure 6.1.10 under the Union Priority 1 for permanent cessation (751 vessels decided to exclude from the registry). The second reason is that the sector faces ageing of the population without any attractive motive for successors to stay in business. Moreover, we have to mention that the Greek fleet has 10% of inactivity, mainly concentrated on the small-scale fisheries in 2018 compared to 2017.

#### Fleet structure

In 2018, the Greek fleet had 12 811 active vessels. The majority of the active vessels (11 936) are SSCF with a combined gross tonnage of 23 000 GT and total power of 217 000 kW. On the other hand, there are 875 LSF with a combined GT of 39 000 and total power of 145 000 kW.

#### Employment

Employment was estimated at 20 923 jobs that correspond to 18 432 FTEs with a very low average annual wage per FTE and total employed (EUR 8 900 and EUR 7 800, respectively) in 2018. Employment in the sector faces a decreasing trend. Total jobs decreased by 7% and FTE by 11% in 2018 compared to 2017.

#### Effort

In 2018, the Greek fleet spent 1.8 million days-at-sea of which the 7% refers to the LSF, and the 93% refers to the SSCF. The amount of energy consumed was estimated at 89 million litres and thus was slightly lower than in 2017 (4%). The average amount of energy consumption was 6 963 litres per vessel. Energy costs remained at the same level, with a slight increase from about EUR 67.3 million in 2017 to EUR 68.8 million in 2018. This increase is probably due to the effect of increasing fishing effort but also lower fuel price and total number of vessels reduction. The fishing effort is concentrated mainly in Aegean (GSA 22), approximately 73%, Ionian (GSA 20) 23.5%, and Crete (GSA 23) 3.5%.

#### Production

The Greek fishing fleet targets a variety of species. The main Greek species regarding the landings weight are European anchovy, European pilchard, European hake, bog, deep-water rose shrimp, red mullet, common cuttlefish, common octopus. The core Greek species regarding landings value are European anchovy, European pilchard, European hake, red mullet, surmullet, caramote prawn, deep-water rose shrimp, common octopus.

### Economic results for 2018 and recent trends

#### National fleet performance

Total revenue (income from landings and other income) earned by the Greek fleet in 2018 was estimated at EUR 440 million. The total revenue of the Greek fleet was generated 52% (EUR 231 million) by the LSF and 48% (EUR 208 million) by the SSCF. The primary source of income of Greek fishing vessels is the income from landings, while some segments also receive direct subsidies, stemming from duties refunds. No other source of income appears (e.g. income from fishing rights, recreational fishing, and tourism), however, it should be mentioned that the fishing tourism activities are fast-growing and next year's outcomes are expected to include and reflect this source of income. The income generated from landings was enough to cover all expenses for the Greek fleet. The amount of GVA, gross profit, and net profit generated by the fleet in 2018 were EUR 276 million, EUR 115 million, and EUR 70 million, respectively. Overall, the Greek fleet made a net profit. Economic performance has improved in the last five years (AGRERI, 2020).

Moreover, the inclusion of the imputed value of unpaid labour provides the activity with a high positive income for fishers in 2018. As the majority of the Greek fishing vessels are mainly based on family



labour, this figure provides a clearer picture of the sector's economic sustainability improvement. It is also important to emphasize that this figure is estimated as the opportunity cost of labour, using the average daily wage per fisher. However, in many cases, due to the lack of labour demand in local economies, which is even more intense due to the on-going financial recession, the opportunity cost of labour is lower or even zero.

The total expenses of the Greek fleet are EUR 364 million, which decreased compared to 2017. The main expenses of the fishing vessels are personnel costs (44%), more precisely wage and salaries (19%), and the imputed value of unpaid labour (25%). Energy costs and other variables costs follow with 19% and 17% share, respectively. Energy costs exceed a total of EUR 68 million, which means a slight increase compared to 2017. Specifically, wages and salaries are equal to EUR 67 million, and they derive mainly from LSF. Imputed labour costs are estimated to EUR 93 million and derive mainly from small-scale vessels.

Other variable costs, including commercial costs and other operating costs, are also important, and they present an increase compared to the previous year. These costs are estimated at EUR 62 million. The non-variable costs are lower (EUR 7 million), representing only 2% of total expenses, while repairs and maintenance costs reach around EUR 24 million, revealing a decrease compared to 2017. Finally, the annual depreciation costs account for 11% of total costs (EUR 39 million).

As far as the value of physical capital (depreciated replacement value) is concerned, it is equal to EUR 51 million. Moreover, the total investments in physical capital in 2018 are around EUR 18 million.

Overall, the cost structure has a slightly decreasing trend over recent years; most cost items have somewhat increased compared to the low figures of 2014. Energy costs decreased mainly due to considerably lower fuel prices. Wages followed a decreasing trend, and unpaid labour focuses mostly on small-scale fisheries, revealed an increase due to the economic crisis that Greece faced in the previous period.

## Resource productivity and efficiency indicators

The fleet average Gross profit margin in 2018 was 26%, indicating a reasonable operating efficiency for the sector. The Net profit margin was estimated at 16%. The RoFTA was positive in 2018.

Labour productivity (GVA/FTE) for 2018 was estimated at 15 088 per FTE, but the last three years reveals a slightly increasing trend. The average wage per FTE was estimated at EUR 8 808 remained at the same level over the previous three years.

Fuel consumption per landed tonne was estimated at 1 307 litters per tonne of landed fish in 2018, and it has followed an overall decreasing trend since 2014. This is maybe due to low fuel prices and their influence on fishers' behaviour. The landed weight per sea day was estimated at 37 kg per day.

## Performance by fishing activity

### Small-scale coastal fleet

In Greece, 93% of the vessels belong to the SSCF. Specifically, there were 11 936 SSCF vessels with a combined 23 000 GT and total power of 217 000 kW in 2018. The number of SSCF vessels decreased by 5% from 2018 to the previous year, following the general trend of the Greek fishing fleet. In 2018, the value of landings of the SSCF was estimated at EUR 221 million, accounting for 52% of the Greek landings value.

In 2018, SSCF spent 93% of the Greek days at sea and consumed 32 million litters fuel, and the corresponding energy costs are high. The SSCF fishers due to their limited access to credit, do not have the flexibility to buy their fuel in advance; instead, they buy a limited amount to cover only very short-term needs. This is the main factor for increases in the energy cost because they do not gain from the reduced fuel price.

The income generated from landings was slightly less than the expenses for the SSCF fleet. Therefore, the Greek SSCF made a negative profit, but economic performance has improved in the last five years (AGRERI, 2020). The amount of GVA and the gross profit generated by the SSCF fleet in 2018 were EUR 129 million and EUR 9 million, respectively. The resource productivity and efficiency indicators are low in comparison with the same indicators calculated for all the Greek fleet. The labour productivity indicator (GVA/FTE) was EUR 8 710, half of the national average labour productivity, and the revenue per vessel was about EUR 17 476.

The SSCF employs a total of 16 042 engaged crew, thus contributing to 81% of the total national employment of the sector. The majority of the engaged crew is unpaid labour, mainly members of the captains' family. This result refers to the significant contribution of the SSCF to local employment.

The SSCF mainly exploits the extensive Greek coastline, using polyvalent passive gears (mainly nets, longlines, pots, and traps). The vessels are primarily family-owned and characterized by low invested capital. Moreover, their landings are sold at higher prices compared to the large-scale fleet, and they are mainly directed to the market through very short supply-chains. Although the vessels of this segment are small, they are vital for the local economies regarding job opportunities and have strong ties to them. They usually offer income and employment to poor and isolated areas with very few alternative economic activities. Therefore, this segment highly contributes to the social and economic sustainability of the coastal communities.

## Large-scale fleet

The LSF remains in the same situation as in 2017. It contains 875 active vessels with a combined 39 000 GT and total power of 146 000 kW. As larger vessels have higher levels of engine power, they can conduct more fishing operations in deeper fishing grounds. These vessels mainly use active gears (bottom trawlers and purse seiners) and are characterized by high operating costs.

In 2018, LSF spent 7% of the Greek days at sea and consumed 56 million litres fuel. The income generated from landings was high enough to cover expenses for the LSF fleet. The amount of GVA, the gross profit, and net profit generated by the LSF fleet in 2018 were EUR 147 million, EUR 105 million, and EUR 81 million, respectively. Overall, the Greek LSF made a positive profit, and the economic performance has improved in the last five years (AGRERI, 2020). The resource productivity and efficiency indicators are positive. The labour productivity indicator (GVA/FTE) for LSF was EUR 42 056. The profitability measured in terms of net margin is higher for the fleet segments DTS 24-40m, DTS 18-24m, and PS 24-40m and with reasonable profitability for PS12-18m.

## Performance results of selected fleet segments

The Greek fleet is highly diversified, with a broad range of vessel types targeting different species. The national fleet consisted of 17 (DCF) fleet segments and 12 811 active vessels in 2018. Overall, the Greek fleet had positive profitability. More specifically, five fleet segments had high profitability, two reasonable and nine weak profitability. The performance results of selected fleet segments is presented below.

### Netters 6-12m

This is the largest fleet segment of the Greek fishing fleet, containing 5 162 vessels. The total value of landings is EUR 101 million, having the first position with a 24% share of the Greek total landings value. DFN06-12m segment employs 7 868 FTEs, having the first rank in terms of employed persons which representing 43% of the Greek fishing fleet. The recent years DFN06-12m faces a decreasing trend in terms of the number of vessels and employed persons.

It is also important to mention that this segment produces the highest GVA among fleet segments, which is equal to EUR 63 million, a fact that reveals its substantial importance. Taking into consideration that the majority of these vessels are active in poor and isolated areas, with very few alternative economic activities, the importance of this sector to the local economies is even more apparent. The imputed value of unpaid labour is the main cost item (38% of total expenses) and represents the family contribution to labour. In 2018, the fleet segment of DFN0612 had weak profitability with a 3% net profit margin. The average wage is only EUR 7 700. Moreover, the profit plus the imputed value of labour provides a notable income to the families of many coastal areas.

### Netters <6m

It is the second most crucial fish segment in Greece regarding the number of vessels employed in 3 294 small vessels. These vessels target multi-species (e.g. *Mullus barbatus*, *Mullus Surmuletus*, *Merluccius merluccius* and others). The total value of landings is EUR 42 million. This fleet segment employs 3 080 FTEs. Considering that the majority of these vessels are family owned, they usually utilize only family labour. The share of the segment in both the total national value of landings and the national contribution to employment indicates its high importance (10% and 16%, respectively).

Unlike large-scale fisheries, the main cost element is the imputed value of unpaid labour (49%), followed by labour cost (18%) and energy costs (15% of total expenses). Finally, it is worth noticing that although this segment includes very small vessels, it highly contributes to the national economy (GVA of about EUR 28 million) and provides livelihood and income for fishers with limited alternative employment. The economic performance is weak, while the net profit is positive, but it also has a social contribution to provide labour to the families of many coastal areas. The mean wage is very low, only EUR 8 000.



## Longliners 6-12m

Longliners' total fleet is made up mostly of small vessels less than 12m, around to 3 295 vessels. This segment has a substantial contribution either to landings or employment. In total, it contributes with 4 030 FTEs representing 22% of the Greek fishing fleet. This figure highlights the major importance to the local rural economies. The imputed cost of labour is the primary type of cost, representing the family contribution to the labour. This has a significant effect due to limiting alternatives for jobs in some specific coastal areas.

HOK06-12m is the 3<sup>rd</sup> largest fleet segment of the Greek fishing fleet, containing 1 774 vessels. The total value of landings is EUR 34 million, and the total FTEs employed in this fleet segment is 2 436 representing 13% of the Greek fishing fleet. These figures highlight the importance of this segment to the local and rural economies. The imputed value of unpaid labour is the primary type of cost (45% of total expenses), and as in the previous segment, it represents the family contribution to the labour. Energy costs are also important, contributing by 14% of total costs. It is essential to mention that this segment a GVA of EUR 19 million, a fact that reveals its high importance to the rural economies. The economic results are weak and make losses for 2018. The labour productivity is only EUR 8 000.

## Bottom trawlers 24-40m

The bottom trawlers' fleet segment included 221 active vessels with a total value of landings of EUR 88 million and total employment that corresponds to 1 294 FTEs. Bottom trawlers have multi-species characteristics, captures numerous fish species, such as *Penaecus kerathurus*, European hake, deep-water rose shrimp, red mullet, surmullet, *Pagellus erythrinus*, picarel, common octopus, bogue, and many others. This segment spends, on average, 205 days-at-sea per year. Management regulations include seasonal (June 1-September 30) and spatial closures, as well as a minimum landing size. Overall, bottom trawlers had positive profitability and followed an improved economic development trend.

DTS 24-40m segment had 138 vessels, with a 18 000 GT and total power of 45 000 kW. The average age of these vessels is low (25 years), which is an indication of increased welfare. They spend, on average, 215 days-at-sea per year with a total value of landings of EUR 66 million. The total FTEs is 836, representing around 4% of the FTEs in the sector. The main expenses are energy cost (33%), wages and salaries (15%) and other variable costs (23%). As far as the value of physical capital is concerned, it represents 20% of the total national value of physical capital, while it represents 9% of the total national investment for 2018. Finally, it should be noted that this segment appears to have improved economic performance, mainly due to reduced energy costs. It has a high net profit margin (38.7%), labour productivity (16%), and return on fixed tangible assets (94.6%), which provide high profitability for this fleet segment. The landings contributed 16% of this segment to the national economy and 17% to the total revenue. The labour productivity is very high (EUR 53 884). Overall, the DTS24-40m had an improved economic development.

## Purse seiners 18-24m

This segment includes 232 vessels operating predominately in areas Aegean (GSA 22) and Ionian GSA 20. Aegean has 85% of the fishing effort and Ionian 15%. Purse seiners fishery is the main fishing gear for small pelagic species, mainly European anchovy and European pilchard or that consist about 75% of the landings weight and volume. The purse seiners conduct daily trips, and each vessel is responsible for fish searching, catching, and transporting its catches to port. Fishing operations are carried out exclusively during night hours, with each vessel carrying around 8–10 persons. Each per seiner spends, on average, 191 days-at-sea per year. Management regulations currently in force for the purse seine fishery include mesh size regulations (14mm), technical measures such as time closure (December–February), area closure, and fishing prohibitions within specific distances from the coast (100 m).

PS18-24m segment included 130 vessels with a value of landings equal to EUR 59 million (14% of the total national landings) following a small decrease compared to 2018. Each vessel spends, on average, 167 days-at-sea per year. The segment employs a total of 420 FTEs, and thus it contributes to 2% of the national total. Variable costs and wages and salaries are the largest cost elements in this segment, together representing 65% of the total cost. The economic performance improved this year; it has from the highest net profit margin, among all the Greek fleet segments. Moreover, it also presented high labour productivity and a high average wage/FTE, equal to EUR 25 000.

## Pots and Traps

This fleet included 380 vessels, with the majority of them (345 vessels) to be categorized in the 6-12m length class. It offers 445 FTEs representing 2.4% of the total FTEs of the Greek fishing sector. Pots and Traps have multi-species characteristics but almost 90% of landings stem from the capture of common

octopus. Other species that this fishing gear targets are the common cuttlefish, Norway lobster, black seabream and picarel. The main characteristics of this segment are the high average vessel age (more than 30 years); the main cost element is the imputed value of unpaid labour, which mainly represents the family contribution to the labour. In 2018, the FPO 0612m segment faced reasonable profitability, while the FPO 0006m segment had high profitability.

## Drivers affecting the economic performance trends

The main drivers affecting the economic performance of the Greek fishing sector involve the general economic environment, as well as specific sector characteristics. The cash flow shortage, the limited access to credit, the increasing social-security contributions, and taxation together with the high value of inputs creates unfavourable conditions for fishers and their activities. Low prices of the main target species are also linked to the low spending power of Greek households despite the fact that the Greek economy has just got over a 10-year financial crisis.

Furthermore, one of the main problems fisher's reports concerns the damages of the fishing gears, caused by protected species like dolphins, seals, sea turtles, and seabirds. These damages increase the repair and maintenance costs of the vessels and negatively affect their overall economic performance, keeping in mind that fishers do not receive any compensation for their losses.

Additionally, the reduction of fishing stocks in the Mediterranean Sea affects the economic performance of the Greek fishing sector. Pressure on stocks is increased due to the competition of the Greek fishing vessels with vessels from other countries that do not have to follow EU legislation and restrictions, like Turkey. There is also a variety of vessels operating in the same fishing areas, and this can lead to conflicts. In particular, there is a strong conflict between the small-scale and large-scale fleets that were highlighted by fishers as a major factor impacting their financial performance. There is also a conflict between professional and recreational fishers who usually fish in coastal areas and illegally sell their catch at low prices.

## Markets and Trade (including fish price)

As far as the market structure is concerned, fishers reported that on average, 50% of their catch is channelled to wholesalers and fish auctions while 45% involves direct sales to consumers. Direct sales refer mainly to small-scale vessels. However, if only large-scale vessels are considered (bottom trawlers and purse seiners), fishers report that about 80% of the catch is channelled to wholesalers and fish auctions.

Five main commercial species covered 64% and 54% of total first sales, respectively, in volume and value terms (EUMOFA, 2020). Specifically, 27% of the volume and 14.1% of the value correspond to sardine, 23% of the volume and 12.9% of the value correspond to anchovy, 5% of the volume and 11.2% of the value correspond to hake, 3% of the volume and 9.1% of the value correspond to red mullet, and 7% of the volume and 7.4% of the value correspond to deep-water rose shrimp (EUMOFA, 2020).

Analysing from the consumer's point of view, and specifically consumer preferences on purchasing channels, Greek consumers prefer to buy mainly from fishmongers while at the EU level, consumers prefer to buy mainly from the grocery store, super, or hypermarket (EUMOFA, 2020). Regular consumers, namely those who eat fishery and aquaculture products at least once a month, mainly belong to age groups 40-54 and over 55 (EUMOFA, 2020). Young people (15-24) are less inclined to consume fish in Greece, as well as at the EU level (EUMOFA, 2020). However, regular consumers in this category cover 70% of the total, which is higher than at the EU level (67%) (EUMOFA, 2020). Greeks consume mainly fresh products; loose fish is much more frequently consumed (92%) than at the EU level (68%) (EUMOFA, 2020). Regarding the purchasing factors of fish, Greek consumers place more emphasis than other EU consumers on the factors: product's appearance, cost of the product, and origin of the product (EUMOFA, 2020). However, they give comparatively less emphasis on factors: brand or quality labels, how easy and quick it is to prepare and environmental, social, or ethical impact (EUMOFA, 2020).

## Operational costs (external factors)

In 2018, the overall economic performance of the Greek fleet seemed to be improved. This refers to a result of lower operating costs, particularly the low cost of fuel, the low wages, and the reduced value for the variable and non-variable costs. Moreover, in 2018, the number of inactive vessels increased, so the remained vessels improved their economic performance.

As already discussed above, the main costs of the Greek fishing vessels are the energy cost and wages and salaries of the crew. According to the data collected, energy cost had a marginal increase (2%) compared to 2017, but still, the fuel price is low. The fuel price has decreased even in the case of small-

scale vessels. The above change can also be verified by the Energy and Lubricant Price Index that is valid for the Greek primary sector and is available from the Hellenic Statistical Authority. Specifically, according to this index, there is a marginal increase for the period 2017-2018, which is around 3.3% (Hellenic Statistical Authority). In addition, the energy and lubricant price index confirm the downward trend observed in the energy cost since the average annual rate for the period 2012-2018 is approximately -0.7% (Hellenic Statistical Authority).

On the other hand, the wages and salaries of the crew, which is also an important cost element, have decreased compared to the previous years and remained at the 2017 level. This caused an increase in unpaid labour. The main concerns that fishers express are referred to the current reform of the social-security contribution, linking their contributions to their income.

Another external factor that affects the costs of the fishing activity is damages caused to fishing gear, especially nets, from mammals like dolphins, but also sea turtles, crabs, and sea birds. These damages are frequent and reported by the majority of fishers, although currently no compensation is received.

## Innovation and Development

The Greek fleet consists mainly of small-scale, family-owned vessels that use traditional fishing gears. Furthermore, investments are limited due to the economic crisis, while the average age of the vessels is increasing. This environment leaves limited room for new and innovative techniques not only for small-scale fisheries but also for large vessels since the latter also faces high running costs. However, as mentioned above, the Greek Operational Programme for 2014-2020 aims at the modernization of the fisheries sector and its sustainability mainly through supporting the use of more selective fishing gear as well as other on-board investments and equipment, the modernization of infrastructures and the improvement of fisheries monitoring and control.

As part of the Greek Operational Program for the period 2014-2020, the second approval of funding of fishing vessels for modernization through supportive investments is expected, which will ensure a higher level of hygiene, safety, and energy efficiency of ships (Measures 3.1.8 and 4.1.20)<sup>32</sup>. Also, second funding approval is expected to enhance the added value and quality of fish products but also to rationally manage waste disposal through eligible investments on board, such as refrigeration equipment, fish waste, and waste disposal equipment, quality management, etc. (Measure 3.1.22)<sup>33</sup>.

At this point, it should be noted that in the framework of the National Fisheries Data Collection Program for the reference year 2018, the majority of fishing enterprises in the sample expressed a willingness to participate in measures related to the modernization of the vessels and fishing gears. Also, the majority of fishing enterprises showed significant interest in fishing education, stating that they would be interested in education through seminars such as sustainable fishing, sustainable fish stocks management, and new fishing technologies.

Under the previous Operational Program, Hellenic Center for Marine Research implemented a 2-year pilot project "Pilot Parks for the Protection of Young Fish". As part of the project, they were created two pilot underwater fish parks within the marine zone of Kardamyla harbour (location Marmaro) and Katarraktis harbour at the island of Chios (<http://mariatsakosfoundation.gr/?p=2614>). The project aims to implement, monitor, and promote an innovative fish protection technology, with expected benefits for the local fishing community and marine environment.

In practice, the benefits have been significant, as easy-to-use and low-cost technology devices were developed to protect young fish, and there was a significant increase in fish stocks in the areas where they were placed. Therefore, the increase in fish stocks has improved the quality of the local marine environment but at the same time can benefit the socio-economic sustainability of fishers, especially in areas where there is a serious reduction in fish populations.

Furthermore, for successful management instruments and policies that can promote sustainability and the development of the fisheries sector, the Greek Fisheries Institute, the Hellenic Centre for Marine Research, and the Greek Agricultural Economics Research Institute are providing the necessary scientific knowledge.

## Nowcasts for 2019-20 and beyond

<sup>32</sup> During the first approvals of the measures 3.1.8 and 4.1.20 were funded 123 vessels.

<sup>33</sup> During the first approval of the measure 3.1.22 were funded 25 vessels.

Nowcasts suggest a slight improvement in 2019 results compared to 2018. Gains made in 2019 are likely to be offset in 2020 mainly due to impacts resulting from the COVID-19 outbreak.

### Effects of COVID-19 in Greek fisheries

Early indications suggest that the Greek fishery sector will face problems by the COVID-19 pandemic, as demand has seen a sudden instability. The effects of COVID-19 on fishing are expected to be severe, especially on small-scale fishing of Greek islands, as its distribution network is linked to the tourism industry and includes local hotels, restaurants as well as individual tourists who buy directly from fishers. Due to the fact that the beginning of the tourist season coincided with the ban on travel for the treatment of COVID-19, it led to a significantly reduced demand for fish and, consequently, a reduction in fishing activity and income. Although the lifting of travel bans began in mid-June, a significant decrease in tourist arrivals is expected for the rest of the tourist season (July-August), which is considered the peak period for tourism in Greece. Therefore, if the scenario of significantly reduced tourist traffic for this period is confirmed, then a dramatic reduction in the incomes of small-scale fishers is expected, as a result of which the viability of fishing enterprises and their households is seriously endangered. At this point, it should be noted that the Greek government has ensured a budget of EUR 15 million through the system of de minimis aid to support small-scale fisheries.

To tackle this situation, the Greek government has proposed some measures to protect jobs in the Greek coastal regions. They decide to allow compensation to be paid to fishers for economic losses because of the temporary cessation of fishing activities due to the coronavirus. The amount for the SSCF is EUR 15 million (decision Ref N. 10530/149573 9/6/2020).

### Data issues

There have not been significant data issues in producing this chapter. The implementation of the National Programme has not faced difficulties for 2018 like the previous years, which had resulted in an interrupted time series on the economic data. The figures for costs come from a survey based on probability sampling, and the response rate was satisfactory for 2018.

### References

- Agricultural Economics Research Institute (AGRERI), 2020. Greek Socio-Economic Survey for the Greek Fishing Fleet, (the year 2018: under the Geek Data Collection Program). [in Greek]
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- Hellenic Statistical Authority, <https://www.statistics.gr/el/statistics/-/publication/DKT30/->



**Figure 4.10 Greece: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); economic performance indicators for the LSF; cost structure for the LSF; landings (in weight and value) and top species in 2018. Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.11 Ireland

### Short description of the national fleet

#### Fleet capacity

The capacity of the national fleet has remained stable since 2008. In 2018, there were 2 051 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 63 000 GT and 188 000 kW. The estimated total number of inactive vessels in 2018 was 674, the majority of which, 82% are in the less than 10m segments. While inactivity for vessels over 10m LOA is known from logbook data, inactivity in the less than 10 metres LOA fleet has been estimated using data from equivalent (gear, target species etc.) fleets in the 10-12m segment and information from sales notes.

#### Fleet structure

National segmentation of the Irish fishing fleet does not match DCF segmentation in every case. For example, the polyvalent segment (see below) includes a variety of vessel lengths and fishing techniques. Nationally, the fishing fleet is divided into five segments:

1. Refrigerated Seawater (RSW) Pelagic Segment: This segment is engaged predominantly in fishing for pelagic species (herring, mackerel, horse mackerel, blue whiting, and boarfish).
2. Beam Trawler Segment: This contains vessels, dedicated to beam trawling, a simple trawling method used predominantly in Irish inshore waters except in the southeast, where it is used to catch flatfish such as megrim, sole and plaice as well as species such as anglerfish and rays.
3. Polyvalent Segment: This segment contains the vast majority of the fleet. These vessels are multi-purpose and include small inshore vessels (netters and potters), along with medium and large offshore vessels targeting whitefish, pelagic fish, crustacea and bivalve molluscs.
4. Specific Segment: This segment contains vessels which are permitted to fish for bivalve molluscs and aquaculture species.
5. Aquaculture Segment: These vessels are used exclusively in the management, development, and servicing of aquaculture areas. They collect spat from wild mussel stocks as part of a service to aquaculture installations. The aquaculture segment, while on the fleet register, is excluded from analysis in this report.

#### Employment

Fleet employment in 2018 was estimated at 3 297 jobs. This corresponds to 2 745 FTEs with an average of 4 and 1 FTE per vessel for the large and small-scale coastal fleets, respectively (excluding inactive vessels). FTE has shown a 5% decrease from 2017. Employment in the Irish fishing industry is particularly important to coastal communities.

Indicative figures from the national annual employment survey suggest that 23% of active fishers were aged 50 years and over in 2018. The majority, 75% of fishers are aged 30-50 years old. Younger fishers make up a small percentage of the total with 3% aged less than 20 years. Attracting young people to the industry remains a challenge.

Average crew wage for the entire fleet remains consistent at around EUR 29 000 per job and EUR 34 000 per FTE which is lower than the average national annual earnings of EUR 39 000 in 2018. However, there are variations in the average wage depending on the size and gear of the vessel.

#### Effort

The Irish fishing fleet operates primarily in the North Atlantic, Celtic and Irish Seas. In 2018, the national fleet spent 76 000 days at sea of which 84% were fishing days. Days at sea and fishing days decreased by 6% from 2017 to 2018.

Note: Prior to 2015 effort was estimated using only data for the over 10m segment. The lack of logbook data for vessels under 10m has meant that the reporting of transversal, landings, activity and true economic performance of this segment (which makes up a large proportion of the Irish fleet) is based solely on this limited results from the a sentinel vessel programme that collects daily effort and economic data from a small sample of the SSCF and sales notes data.

Energy consumption decrease by 13% over the same period.



## Production

Landings by weight in 2018, decreased 13% from 252 000 tonnes (valued at EUR 271 million) in 2017 to 220 000 tonnes (valued at EUR 277 million) in 2018. However, the overall value increased 2% in the same time period owing to increased fish prices, particularly for frozen *Nephrops*.

Provisional figures for 2019 indicate that total landings will be 209 000 tonnes with an associated value of EUR 265 million. These figures exclude all landings from vessels under 10m. Adjusting for price errors in the landings data and including improved estimates for income for the less than 10m segments, landing income for 2018 is estimated as EUR 320 million.

Production trends are highly influenced by quota changes for pelagic species, particularly mackerel. Indeed, many of the historical fluctuations in the value and weight of landings have been driven by mackerel, as mackerel quota accounts for approximately 34.4% of the total Irish quota from 2015 to 2019.

The 2016 mackerel quota, 76 000 tonnes, included an increase of 46 560 tonnes worth an estimated EUR 59 million. The 2017 mackerel quota, 86 000 tonnes, resulted in landings of 87 000 tonnes worth an estimated EUR 58 million.

In 2018, the quota decreased to 69 000 tonnes worth an estimated EUR 47 million. Landings associated with this TAC are 67 000 with an associated with a value of EUR 48.3 million. Mackerel has been replaced *Nephrops* as the top landed species by value in 2018. *Nephrops* are the second most landed species worth EUR 55.5 million with associated landings of 7 000 tonnes.

## Economic results for 2018 and recent trends

### National fleet performance

In 2018, the Irish fleet recorded a gross profit of EUR 72 million and net profit of EUR 41 million, both gross profit and net profit have seen a drop from the previous year of approximately 13% and 21% respectively.

Fleet revenue, estimated to be EUR 320 million in 2018, a 3% increase from 2017 (EUR 310 million). Fleet revenue for the small-scale fleet has decrease and the large-scale has increase fishery activities by 31% and 1% with values of EUR 52.8 and EUR 267.7 million, respectively.

It should be noted that these figures are strongly influenced by the larger pelagic vessels (TM VL2440), the value assigned to its cost structure and capital values along with fish prices which can greatly affect their total landings income due to the large volumes of catches.

Overall the cost structure of the fleet has remained relatively stable, with lower energy but increased labour and repair and maintenance costs. Operating costs totaled EUR 248 million in 2018, a decrease of 1% on 2017. Energy cost have decrease by approximately 2% and other variable costs have decrease by approximately 15%. However, when capital costs are included, the total cost of operating the national fleet rose to EUR 279 million.

GVA, gross profit, and net profit in 2018 were estimated at EUR 170 million, EUR 72 million and EUR 41 million, which showed a increase of 4%, 13% and 21% respectively from 2017.

### Resource productivity and efficiency indicators

The fleet average Gross Profit margin in 2018 was 23%. This increase of 9% from 2017 which indicates that the industry is moving towards a low-cost operating model reflecting efficiency in turning inputs into outputs, indicating a low operating efficiency for the sector. The Net profit margin was estimated at 13%, an increase of 17% from 2017 to 2018. The RoFTA in 2018 was 10%, an increase of 11% from 2017.

In 2018, fuel consumption was estimated to be 490 litres per tonne landed; the corresponding figure for 2017 was 377. While fuel consumption has remained relatively stable from 2012 to 2014 there has been a steady increase in fuel consumption each year since then. Fuel consumption per tonne landed had followed an overall decreasing trend from 2008 when fuel prices reached an historic high. This may, in part, be indirectly due to low fuel prices and their influence on fishers behaviour: for example, when fuel prices are low fishers are more likely to incur increased time steaming to and from fishing grounds and/or time spent searching for fish or fishing.

There was an increase in energy consumption by 13% from 2017 (95 million litres) to 2018 (107 million litres). From 2017 and 2018, there was an increase of approximately 10% in the cost of fuel, from 0.38 EUR/litre to 0.47 EUR/litre respectively.

Total average fleet landings (tonnes) per unit of effort (days-at-sea) have fluctuated since 2008. In 2017 the fleet LPUE averaged 3 tonnes/day; in 2018 the corresponding figure increased by 0.1%. This average fleet figure may mask performance in specific segments.

## Performance by fishing activity

### Small-scale coastal fleet

There were 877 active vessels registered in the SSCF in 2018. The number of active vessels in the small-scale coastal fleet has seen an increase of approximately 12%, on average, from 2017 and 2018. There are a number of vessels using active gears below 12 metres that are not included in the definition of SSCF. This results in discrepancies between the data presented in this report and how the fleet would be examined at a national level which examines all vessel under 12 metres irrespective of gear being active or passive.

Data for the under 10m segments is poor which impacts on the estimates of economic indicators for the SSCF. As survey returns for economic data for the small-scale increase there are better estimates of economic variables. As a result, most variables demonstrate an increase in value. While this may be a real trend it is also an effect of the better survey data stream. This fleet activity recorded a GVA of EUR 35 million, gross profit of around EUR 23.5 million and net profit of EUR 2.8 million in 2018, demonstrating an increase in these economic indicators from 2017 estimates. While the SSCF makes up nearly 16% of the total revenue of the Irish fleet its importance to local coastal communities should not be diminished.

SSCF offer employment in often deprived areas and bring much needed money into the local community and their hinterlands. The SCF employs 1 166 fishers corresponding to 923 FTEs in 2018. This demonstrates an increase of 6% in jobs and 9% in FTE from 2017 to 2018. This increase is strongly correlated to the increase in the total number of active vessels. Total employment is based, in part, on the total number of active vessels in the SSCF, therefore as activity for the less than 10 metres is estimated from national expert knowledge and sales notes, the figures may be under/over estimated and as such employment figures when compared over years may not be comparable.

## Performance results of selected fleet segments

Ireland's national fishing fleet is highly diversified with a broad range of vessel types targeting different species or species groups often in mixed fisheries. The fleet operates from as far north as Norway and Iceland, south to the coast of Africa, but carries out the bulk of its operations in area 27.6 and 27.7.

In 2018, the national fleet consisted of 21 (DCF) fleet segments, in 2017 there were 13 segments (both clustered and un-clustered) that had sufficient data to calculate profitability. Of these, 3 demonstrated high profitability and 10 weak profitability. Overall this shows a deteriorating economic development trends for the industry in 2018.

The fleet is dominated by the (nationally defined) polyvalent segment, a diverse group that includes small inshore vessels (netters and potters), along with medium and large offshore vessels targeting Nephrops, mixed whitefish, some pelagic species (including mackerel, herring and tuna) as well as a range of vessels, from small to large-scale, targeting bivalve molluscs and crustaceans.

The Refrigerated Seawater (RSW) pelagic segment targets exclusively pelagic species (mackerel, horse mackerel, herring, blue whiting and boarfish) and equated to the TM VL40XX DCF segmentation.

### Pelagic Trawl over 40m

Pelagic Trawlers over 40 metres (TM VL40XX) are part of the, nationally defined, RSW segment. Currently, there are 20 vessels classified as TM VL40XX and these are generally considered to be amongst the best performing components of the national fleet. These vessels land large quantities of pelagic fish (Atlantic mackerel, horse mackerel, herring, blue whiting, albacore tuna and boarfish) and operate mainly in ICEA areas 6a and 7b,c,j,k. mackerel, horse mackerel, and blue whiting constitute 63%, 16% and 13%, respectively of the total value of landings.

The majority of the fleet operates out of Killybegs, county Donegal and Castletownbere, county Cork; both areas strongly dependent on the fishing sector. For example, total turnover for Killybegs and its hinterland in 2009 was estimated at EUR 250 million with the fishing sector accounting for 82% of the total. In the past, declines in the local economy have reflected declines in the fisheries sector.

- In 2018 landings (all species) by pelagic trawlers over 40m amounted to 122 000 tonnes (live weight), valued at EUR 58 million, a decrease of 9% from 2017. This reduction may be an

artefact of problematic prices indicated in logbook data and also the reduced TAC for Mackerel in 2018.

- In 2014 Ireland's quota of mackerel reached an historic high of 105 000 tonnes. In subsequent years this figure fell to 89 000 tonnes (2015), 75 800 tonnes (2016), 86 400 tonnes (2017) and 69 000 tonnes (2018). This decline explains the fall in total landing income from 2014 and from 2017 to 2018. Ireland's mackerel quota accounts for 21% of the total EU TAC.
- On-board employment comprised of 231 FTE in 2018 or almost 8% of total fleet employment nationally.
- GVA by the segment in 2018 was EUR 36 million generating a Gross Profit of EUR 13.6 million.
- Total Revenue for this segment was EUR 65 million accounting for 20% of the total revenue of the fleet.
- The fleet has shown an improved economic development trend since 2006.

Ireland's pelagic fleet operates seasonally, reflecting both the annual distribution patterns of the target species as well as quota limitations.

The mackerel TAC increased to 86 000 tonnes in 2017 valued at EUR 55 million. However, in 2018 a decrease in mackerel TAC to 69 000 tonnes valued at EUR 46 million.

### Demersal Trawl 18m-24m

Currently there are 72 polyvalent and 1 specific segment vessels classified as Demersal Trawlers 18-24m. They also target a wide variety of species including *Nephrops*, whiting, anglerfishes nei. In 2018, the total value of landings by demersal trawlers, 18-24m, was EUR 53.1 million with 435 FTEs employed, contributing 17% and 16% of the total income from landings and FTE generated by the Irish fishing fleet, respectively.

The value of landings predominantly comes from *Nephrops*, whiting, anglerfishes nei which constitute 20%, 2% and 5% of total landings value respectively. This fleet segment recorded a gross profit of EUR 5.7 million and net profit of EUR 0.52 million in 2018.

### Demersal Trawl 24m-40m

Currently there are 49 polyvalent vessels classified as Demersal Trawlers 24-40 metres. They likewise target a wide variety of species including *Nephrops*, Atlantic herring, whiting, European sprat. In 2018, the total value of landings was almost EUR 53 million with 377 FTEs employed, contributing 19.7% and 13.7% of the total income from landings and FTEs generated by the Irish fishing fleet, respectively.

The value of landings predominantly comes from *Nephrops*, Atlantic herring and whiting which constitute 20%, 1%, and 2% of total landings value respectively. This fleet segment generated a gross profit of over EUR 4 million and net profit of EUR 0.82 million in 2018. This indicates a decrease in profitability for 2018 compared to 2017.

## Drivers affecting the economic performance trends

Lower fuel costs, higher average fish prices for some species, and the impact of capacity/effort reduction were the main driving forces behind an overall improvement in the economic performance of the Irish fleet.

### Brexit

In the event of a no-deal Brexit EU vessels would be excluded from UK waters. Depending on quota availability, this has the potential for significant displacement of Irish and EU vessels into the Irish EEZ. The main impacts are summarised as follows:

- Displacement of Irish vessels targeting demersal species that traditionally fish in UK waters into the Irish EEZ.
- Displacement of French, Belgian and Spanish trawlers into the Irish EEZ.
- Displacement Irish, Dutch, French and German pelagic freezer trawlers targeting horse mackerel and mackerel could be displaced into the Irish EEZ. The level and timing of displacement is dependent on quota availability. Norwegian, Faroese and Icelandic vessels may also be displaced into the Irish EEZ. Without an agreement on access with the UK, it is likely there will be significant shift of fishing effort into the Irish EEZ in the event of a no-deal.

## COVID-19

In May 2020 the Irish government announced a temporary voluntary fleet tie-up scheme for fishing vessels in the Polyvalent, Beam Trawl and Specific segments of the fishing fleet. Vessels which are eligible will be supported to voluntarily tie up for one or two of three months (June, July, August). The Scheme is implemented under Ireland's European Maritime and Fisheries Fund Operational Programme 2014-20, co-funded by the Government of Ireland and the EU. The Scheme is designed to complement the COVID-19 wage supports and loan arrangements already being provided by the Government to the fishing sector.

The purpose of this scheme is to reduce the volume of seafood entering the market which has been depressed by the COVID-19 pandemic, while at the same time keeping an adequate number of vessels fishing to maintain a food supply. The scheme will contribute to the fixed costs incurred by fishing vessels while tied-up. The supports to fixed costs will range from EUR 6,000 per month for a maximum of two months for the very largest vessels over 24 metres, to EUR 500 per month for a maximum of two months for the very smallest vessels under 6 metres in length (see table 1). The tie-up scheme will be available to a maximum of 66% of the fishing fleet, in the different size categories, in any one month. The voluntary scheme will operate over the calendar months of June, July & August, to coincide with the monthly fisheries quota management periods, in order to adjust the supply of fish coming onto a currently depressed market and protect quota availability for later in the year. Any vessel not receiving support to tie-up in any particular month may continue to fish.

Vessels which have carried out fishing activities at sea for at least 120 days in total over the calendar years 2018 and 2019, and which have made total to a minimum value of EUR 5 000 in the calendar year 2019, by reference to the Irish Sales Note System administered by the Sea Fisheries Protection Authority were eligible to apply. A summary of supporting measures and update as of June 2020 are as follows:

Size of vessel	1-month tie-up period	2-month tie-up period	No. Vessels June Awarded
<6m	EUR 500	EUR 1,000	11
6 < 8m	EUR 500	EUR 1,000	10
8 < 10m	EUR 750	EUR 1,500	19
10 < 12m	EUR 800	EUR 1,600	10
12 < 15m	EUR 1,900	EUR 3,800	7
15 < 18m	EUR 2,000	EUR 4,000	0
18 < 24m	EUR 4,600	EUR 9,200	6
> 24m	EUR 6,000	EUR 12,000	2

At the time of writing a total of 65 vessels has applied to the scheme.

The Irish fishing industry is highly diversified meaning that the COVID-19 restrictions have affected the Industry differently depending on their fishing type, target species and geographical location. The industry was listed as an essential service provider under new public health guidelines and may remain open however, there has been a sharp decline in the total number of active vessels and landings especially over the first couple of months of the restrictions. The COVID-19 crisis has impacted the fishing industry in many areas including:

- Market collapse. Irish Seafoods main export markets are to China, Spain, United Kingdom and France. Demand for Seafood is low. While domestic consumption increase it is not enough to buffer the impact.
- Routes to markets have been severely impacted by reduced freight and increased transport costs. For those that still have a route to market freight costs have increased dramatically and are having a negative impact on profitability. There are concerns about re-opening these markets.
- Food service restrictions impeded the demand for produce and Ireland. Cost of freezer storage, transport and reduced freight have all had a negative impact on supply/demand chain.
- There are concerns about Social isolation also. Fishing, for many coastal communities, is integral to the identity and activity in the community. This is now being drastically reduced or in some cases removed.
- Prices are sharply down at the first point of sale but, so far at least, this cut is not being passed down the line which means fishers are finding profit margins even tighter than usual.

- There are concerns about prices when normal fishing resumes due to any backlog of frozen product.
- The Irish COVID-19 Temporary Fleet Tie-up Scheme was launched in June 2020. Its aim is to reduce the volume of seafood entering the market that has been depressed as a result of the COVID-19 pandemic while ensuring an adequate number of vessels continue to fish to maintain a food supply.

## Markets and Trade (including fish price)

During 2018 average prices remained relatively unchanged for many species. There were some notable exceptions and *Nephrops* (20% of total value of landings) rose from 6.8 EUR/kg in 2017 to 7.7 EUR/kg in 2018. This price increase coupled with the a decrease in mackerel quota meant that *Nephrops* was the top landed species by value in 2018.

Prices for pelagic species have a dramatic effect on the total income given the scale of the pelagic TAC . The average prices indicated from the national authority (SFPA) responsible for landings declarations indicate that the average prices of Atlantic mackerel (21% of total value of landings) was maintained at 0.6 EUR/kg between 2016 and 2017 and rose to 0.7 EUR/kg in 2018 which helped offset the reduced income as a result of the decrease in TAC.

## Management instruments and regulation (policy)

Fleet management tools include the sea-fishing boats licensing regime, gear, effort and vessel specific restrictions, as well as three separate decommissioning schemes completed between 2005 and 2008. Fishery management policy is developed through a transparent system that includes a quota management regime agreed with the Producer Organisations and other key stakeholders. Monthly allocation arrangements are designed to be responsive to criteria such as stock availability, remaining quota, market demand and other marketing initiatives.

The strengths of the fleet management system include a strict entry/exit regime that ensures the fleet remains within its prescribed reference levels. It also delivers a practical segmentation of the fleet along traditional fishing line and ensures that monthly vessel catch limits are respected.

## The Landing Obligation

Ireland maintains an active research capacity in the area of fishing gear technology and a variety of studies examining ways to avoid unwanted catches have been undertaken (all funded through the European Maritime and Fisheries Fund or the earlier European Fisheries Fund) in an effort to mitigate against negative impacts of the landing obligation.

These include gear modifications as well as factors designed to induce spatial and temporal changes to fish behaviour. With a value of EUR 55.5 million in 2018, *Nephrops* is the most commercially important species landed by vessels. In 2018, unwanted catches of very small whiting (less than 20 cm in length) posed a major challenge under the landing obligation for vessels operating in the Irish Sea.

Vessels targeting mixed demersal fish species also face major challenges under the landing obligation due to low quotas of some species specifically cod and flatfish species.

Ireland continued to conduct a range of studies in 2019 related to avoidance of unwanted catches including: work on equivalent selectivity; testing of new gear under the North Western Waters discard plan; development of novel selective gear; testing of instrumentation which incentivises avoidance of unwanted catches; species survivability.

Economic data collected under the DCF for 2018 do not show any socioeconomic impacts that can be directly attributed to the landing obligation. Specific questions were included in the 2019 survey covering 2018 relating to the landing obligation but direct impacts were not reported. The economic indicators for the Irish fishing fleet show it to be relatively stable with most fleet segments recording both positive gross and a net profit.

Ireland has commissioned a study to develop a bioeconomic model to assess the impact of the landing obligation. The model is designed to simulate the activity of the Irish fishing fleet and describe as accurately as possible the interactions between mixed and single fisheries in which they operate. The purpose of the model is to provide robust estimates of the impact (economic, technical and social) of proposed quota changes for stocks of relevance to the Irish fishing fleet. By simulating mixed fisheries, the model will account for the effect of choke species resulting from the implementation of the landing obligation on distinct fleet segments. The model will also be able to incorporate information on gear selectivity trials or avoidance measures to simulate any potential improvement in terms of extending the fishing season of affected fleets. It is planned the model will be fully operational early in 2021



There are concerns about the landings obligations and Brexit which have the capacity to greatly affect the Irish fishing industry. Regarding the landing obligation there is concern over choke species, a situation where a lack of quota for one particular species may prevent fishers from going to sea or they run the risk of exhausting this quota and ceasing fishing. Therefore, to continue fishing throughout the year, it will be vital to have either enough quota available or adapting fishing strategies (technical conservation methods). Ireland is committed to investing, through EMFF funding, in gear technological research to assist fishers to develop more selective gears. Brexit also presents a major challenge in itself but is also likely to interact with consequences of the landing obligation in terms of available quota and possibilities to adapt fishing strategies such as changing effort allocation.

### Status of some key Stocks

The Marine Institute's 2019 stock book advises on 74 stocks. There is a higher number of sustainably fished stocks (32) and percentage (43%) in 2018 compared with 2017 stocks. The number of stocks (16) overfished has decreased in 2018 whereas the stocks with unknown status declined again from 28 to 26 or 38% to 35%.

A snapshot analysis conducted by the Marine Institute on Good Environmental Status (GES) on commercial fish and shellfish stocks for all stocks exploited by the Irish fleet of OSPAR Region III demonstrate the following trends;

- 49% of stocks, where an assessment is carried out, achieve GES. These stocks account for about 350 000 tonnes of catch.
- 69% of stocks with primary indicators were fished below  $F_{MSY}$  (40% of stocks are at unknown fishing mortality status). 15% of catch came from stocks fished below  $F_{MSY}$ .
- 65% of stocks with primary indicators have SSB above  $MSY$  Btrigger (79% of stocks are at unknown biomass status). 93% of catch came from stocks having SSB above  $MSY$  Btrigger.

The two stocks with largest outtakes (mackerel and blue whiting) are both fished above  $F_{MSY}$ , and this accounts for the low proportion of catch that is represented by GES.

Assessing trends to reach GES targets over time for groups of assessed stocks show that, on average:

- Pelagic stocks have been fished at or below  $F_{MSY}$  since the mid-2000s.
- Harvesting of Nephrops stocks has been around  $F_{MSY}$  since 2013.
- Fishing mortality for demersal stocks shows a strongly declining trend since the mid-2000s although it remains above  $F_{MSY}$ .
- Biomasses of pelagic and Nephrops stocks are above  $MSY$  Btrigger since 2010. The average biomass for demersal stocks shows an increasing trend since the late 2000s.

### Nowcasts for 2019-20 and beyond

It is important to note that the preliminary effort data for the less than 10m fleets were not complete with only partial effort data available for some under 10 metres segments, (FPO and DRB). As such, the results provided should be used with caution.

### Model results

Data for 2019 demonstrate a relatively stable picture with some minor fluctuations in overall income and costs. Live weight of landings decreased by 5% from 2018 to 2019 and the value of landings decreased by 4%.

Data projections for 2019 indicate a good outcome with increasing GVA (3%) to EUR 175 million, gross profit (12%) to EUR 80 million and net profit (33%) to EUR 54 million.

Forecasts for 2020 suggest a lower economic performance compared to 2019 driven by decreases in landings weight and value as a result of COVID with all economic indicators decreasing

### Outlook

While the 2019 projections show positive trends these are reversed for the outlook for 2020 which is not positive. Impacts from COVID-19 are predicted to have a negative impact on Irish fisheries. GVA (EUR 149.6 million), gross profit (EUR 70.6 million) and net profit (EUR 41 million) all decrease in 2020.

This, coupled with the immediate threat from a no deal Brexit could result in an even more negative impact. However, it is hard to predict what this will look like at present.

## **Data issues**

### **Identify changes in respect to previous years**

Values and figures may differ somewhat from those in previous annual economic reports as additional survey returns, received after last year's AER meeting, have improved the precision of many of the variables and indicators. Equally there may be some segments that have negative estimations which may be an influence.

### **Improvements achieved within 2018 data collection**

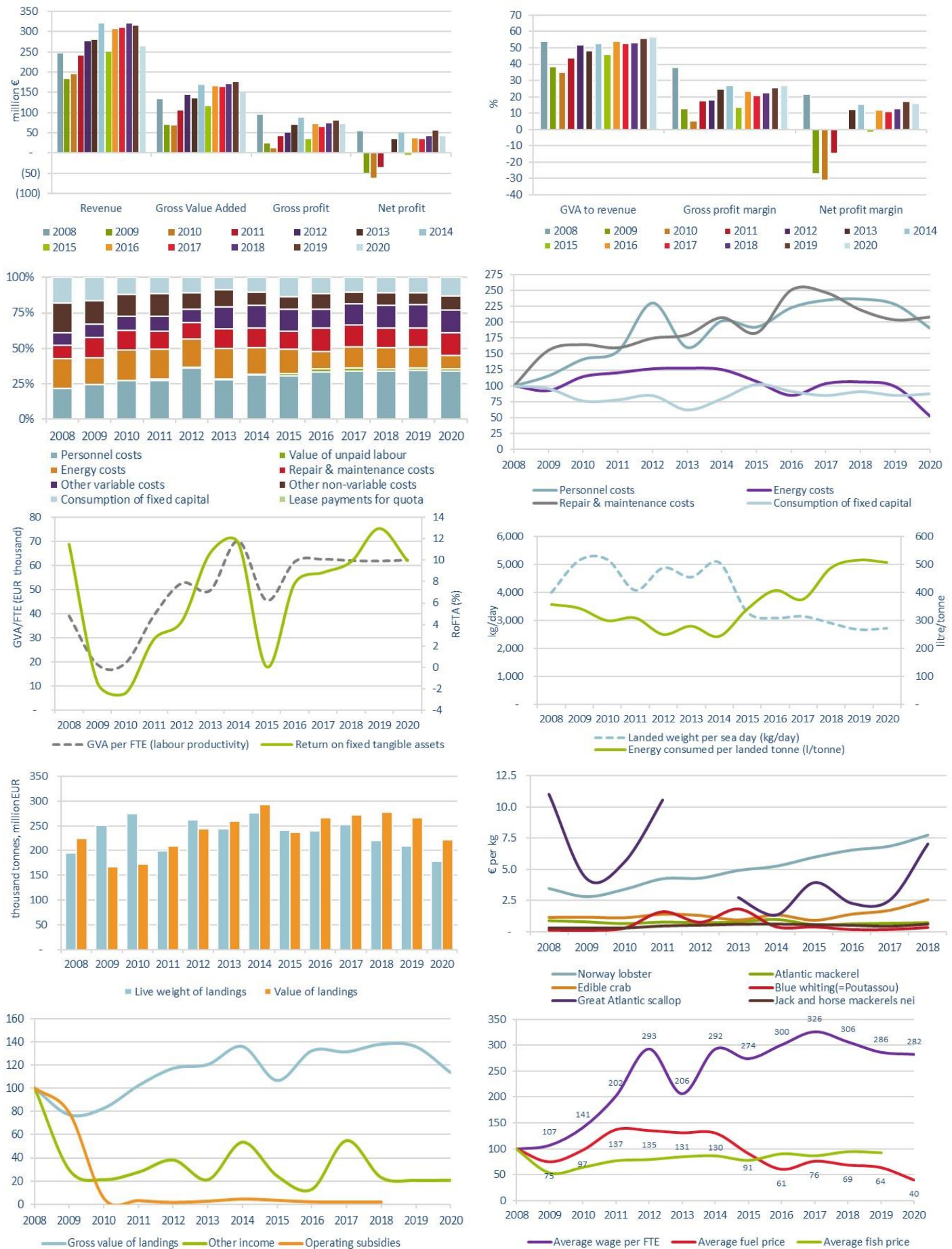
Effort has been made to improve data availability for the data poor SSF segments.

### **Remaining issues**

For some small segments survey returns are low. In these cases data submission is not possible, or the variables have to be imputed based on known data for similar segmentations.

The effort data in the tables and graphs is not complete for some segments less than 10m. Specifically, from 2015 onwards, effort is only reported for less than 10m for the segments DRB and FPO. To report effort for these segments several assumptions had to be made mainly that a sale event for a vessel represents a day of fishing. Effort data for the remaining segments is not possible to estimate given the lack of logbook data for the less than 10m fleet.

The operational division of the fleet into 'small-scale' and 'large-scale' fisheries is not a satisfactory aggregation for the Irish Fleet. The exclusion of active gears from the small-scale fishery definition means that many segments for which there is data, for <10m vessels, are eschewed from this fishing activity and added to the large-scale fishery instead. Therefore, the definition of SSCF defined in this report excludes a large part of the Irish fleet in vessel numbers (around 250) as they are below 12m in length and use active gears and thereby excludes important economic data for the small-scale fishery which instead are added to the large-scale fishery.



**Figure 4.11 Ireland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.12 Italy

### Short description of the national fleet

#### Fleet capacity

In 2018, the decline in capacity of the Italian fishing fleet continued, with reduction of 1% in the number of vessels compared to 2017 and by 6% compared to the average value 2008-2017. Combined gross tonnage has been reduced by 13% of baseline values from 2008 to 2017 and engine power by 10%. Inactive vessels represented 8% of the total fleet registered in 2018.

#### Fleet structure

SSCF accounted for 66% of the total vessels (7 327 active vessels) and for 48% of the engaged crew and 43% of FTE.

LSF (3 805 active vessels) constitutes the 86% of the active fleet in terms of gross tonnage and the 76% in terms of the total engine power. Demersal trawlers 12-18m accounted for a third of this fleet, followed by dredgers (18% of LSF) and trawlers 28-24m. Most of the fleet is concentrated in the Strait of Sicily (GSA 18) and in Northern and Central Adriatic Sea (GSA 17), as well as LSF production.

DWF was composed of 8 active vessels: 7 trawlers operating in the Eastern Central Atlantic and 1 vessel operating as a purse seiner in Indian Ocean.

As typical of artisanal fleets, the majority (79%) of fishing enterprises consisted of a single vessel.

#### Employment

The total number of employees increased by 1% between 2017 and 2018 as a consequence of the increase of 3% in SSCF. The total number of crew on board fell by 7% (around 1 100 employees) compared to the average value of previous eleven years. The decrease has affected equally SSCF and LSF.

#### Effort

In 2018, days-at-sea, further decreased by 2% compared to 2017, reaching the lowest level since 2008. The reduction has been larger for SSCF (-2%) than for LSF (-1%). Compared to the average value 2008-2017, effort (expressed in sea days) of total Italian fleet reduced by 11%.

#### Production

In 2018, the total volume of products landed increased by 4% compared to the previous year and thus obtaining the highest result since 2011. The improvement in productive performance was almost due to LSF, which has improved by 4% compared to 2017 and represented 84% of total volume of landings.

The total value of landings remained stable mainly because of the low performance of the SSCF component. In 2018 SSCF reports - 14% decrease compared to 2017 and -33% reduction compared to the average value from 2008 to 2017.

European anchovy, common cuttlefish, deep-water rose shrimp, giant red shrimp, European hake and Norway lobster contributed more than a third of total production both in terms of volume and value. In 2018, three of the main landed species (European anchovy, giant red shrimp and European hake) recorded a drop in the value of landings larger than 12% compared to 2017. The main reasons for this decrease were reductions both in volume of landings as well as in average prices.

### Economic results for 2018 and recent trends

#### National fleet performance

Although total revenue remained stable compared to 2017, the fleet's economic performance has deteriorated in 2018. The total amount of GVA and gross profit decreased by 5% and 8%, respectively. Over the same period, net profit reduced by 11% mainly as a consequence of the poor performance of SSCF (- 26%). In 2018, LSF also recorded a reduction of 4% in net profit compared to 2017.

The decline is to refer only partially to an increase of 2% in total costs. In particular, energy cost, which accounted for a 26% of total cost, increased by 10% as a result of higher fuel prices, from 0.52 EUR/litre in 2017 to 0.60 EUR/litre in 2018.

In 2018, the estimated replacement value decreased by 9% compared to the previous year with a reduction of 3% in SSCF, a 10% in LSF and 8% in DWF.



## Resource productivity and efficiency indicators

In 2018 the gross profit margin was estimated at 31%, with a decrease on the previous year by 8% compared to 2017. The net profit margin was estimated at 15%, -11% lower than the previous year.

Labour productivity (GVA/FTE), decreased by 3% compared to 2017 mainly as a consequence of the drop of 13% in SSCF.

In 2018, the fuel efficiency ratio was worse than in 2017: it rose by 7% for SSCF and by 8% for LSF.

## Performance by fishing activity

### Small-scale coastal fleet

In 2018, the SSCF reported the worse performance in terms of value of landings over the last eleven years. This reason for the fall is mainly to be found in the decrease of 16% in the value of landings of the SSCF length class 06-12m representing by itself 76% of total SSCF value of landings.

In 2018, the average price of total SSCF landings decreased by 16% compared to 2017. The reduction was a consequence of a decrease in average prices of target species such as common cuttlefish (-12%), common octopus (-19%) and European hake (-7%) which together represented a third of total SSCF value of landings. Over the same period, the volume of landings has increased by 3%. The number of vessels has remained unchanged as well as the effort (expressed in sea days). The employment increased by 3% compared to 2017.

As a results of this general stagnation, all cost items highlighted a decrease of 10% and in particular labour cost (-12%) which accounted for more than 50% of total costs.

Although the SSCF was profitable in 2018, both GVA and gross profit reduced by 13% compared to 2017 and by 22% compared to the average value 2008-2017. In the case of the SSCF length class 06-12m the net profit margin has reduced by 5% compared to 2017.

### Large-scale fleet

The number of LSF decreased by 2% between 2017 to 2018 as a consequence of the withdrawal of 100 larger vessels with public aid. The scrapped vessels have an average tonnage of 60 GT and 276 kW. Over the same period the capacity reduced by 4% both in terms of GT and kW. Days at sea remained stable compared to 2017, although they are 11% lower than the average value 2008-2017.

Employment was stable in 2018 and highlighted an average reduction of 5% compared to the previous eleven years.

Although both volume of landings and total income increased by 4% compared to 2017 (also thanks to an improvement of 5% in first sale prices), the increase in all cost items led to a deterioration of the main economic performance indicators in 2018: GVA reduced by 2%, Gross Profit by 5% and Net profit decreased by 4%. In particular, the rise in fuel prices (+6% between 2017 and 2018) had the direct effect of increasing energy costs, which accounted for 30% of total LSF costs.

## Performance of selected fleet segments

In 2018 the Italian fleet consisted of 23 fleet segments. Most of them showed a deteriorated economic performance compared with the previous year. Based on the net profit margin, six fleet segments showed high profitability, nine a reasonable profitability and seven a weak profitability. Net losses are registered for 3 segments (TBB VL2440, HOK1824 and DTS40XX in OFR).

Both in terms of number of vessels and production value, the fleet is dominated by polyvalent passive segments, large demersal trawlers and dredgers. The performance of the polyvalent passive vessels is described in the section on the small-scale costal fleet, which includes the fleet segments PGP VL0006 and PGP VL0612.

### Demersal trawl / seine 12-18m

In 2018, this fleet segment accounted for 11% of the national fleet representing a 18% of total landings in weight and a 25% of total landings in value. It also contributed to 23% of total GVA produced from the Italian fleet and provided for 25% of the gross profit.

More than one third of landings comes from the Apulia Region where also is distributed 31% of the fleet. Sicily also accounts account for a 17% of DTS 12-18m fleet and for a 18% of volume of landings.

Common cuttlefish, Norway lobster, deep-water rose shrimp, spottail mantis squillid, European squid, European hake, red mullet and horned octopus represented 55% of the value of landings and 47% of



the volume. In 2018, total volume of landings was 17% above the level of 2017, the best result since 2008 and, consequently, also value of landings increased by 24% compared to the previous year.

Profitability was high with an improvement in net profit margin of 42% compared to the average value 2008-2017.

### **Pelagic trawlers/ seine 18-24m**

This segment accounts for less than 1% of the national fleet but for 8% in terms of volume of landings. It is concentrated in Northern Adriatic sea; a group of pelagic trawlers (22 on a total of 51) is located in southern Sicilian coast. The target species are anchovy and sardine. Between 2017 and 2018 the value of landing raised by 15% due to increasing trend in the average prices. The role of Adriatic POs is strategic for the segment in order to concentrate the supply and bringing it into line with demand; a great part of the landings of the Adriatic pelagic trawlers is sold in Spain. On the contrary, in Sicily, almost all the landings are for the local consumption; part of the anchovies and sardines landed are processed by local small companies.

In the Adriatic sea, the TM1824 segments shall not exceed 180 fishing days per year, with a maximum of 144 fishing days targeting sardine and a maximum of 144 fishing days targeting European anchovy; a catch limit for the EU concerning small pelagic species in the Adriatic Sea is set for 2018 (namely 112 700 tonnes of anchovy plus sardine - Annex IL of Regulation 2018/120).

### **Dredges 12-18m**

The introduction of a new MCRS (reduced from 25 to 22 mm) through the adoption of the Discard Plan for mollusc bivalve Venus species in the Italian waters (entered into force on 1 January 2017) positively affects the profitability of Italian dredges. In 2018, a positive net profit was estimated. The increase in net profits from EUR 0.69 million to EUR 5.41 million, was due to an increase in the volume of landings and, to a minor extent, to a decrease of the expenditure. The derogation from minimum size rules has made possible to reduce the daily fishing hours with a positive effect on operating costs and, therefore, profitability.

This fleet segment consisted of 703 vessels operating mainly in Northern Adriatic Sea and predominantly in the Adriatic administrative Regions of Marche, Veneto and Abruzzo. The fishery is regulated by a self-management approach based on Territorial User-Rights in Fisheries (TURFs) through Molluscs Management Consortia, which are distributed at compartment level. In 2018, the "Venetian Wild Harvested Striped Clam fishery" became the first Italian and Mediterranean fishery to achieve an MSC certification.

### **Drivers affecting the economic performance trends**

The effort reduction is the main driving forces affecting the economic performance trends. In the period 2008-2018, the number of active vessel reduced by 5%, while the days at sea by 11%. In the same period, the volume of landings show a decrease of only 2% as a consequence of an increase in productivity. The landings per unit of effort (LpuE) recorded the highest level since 2008. LPUE was around 145 tonnes per day at sea in 2018, an increase of 6% compared to 2017.

In 2018 the fuel expenses increased in 10% respect to 2017, reducing the profitability of the fleet segments, in particular those with higher fuel consumption, such as the trawlers.

### **Markets and Trade**

International trade plays a crucial role for the supply of the Italian market with fish products; the ratio of domestic production over domestic consumption (self-sufficiency ratio) is rather low, about 19%, meaning that a smaller share of demand was supplied from domestic production (EUMOFA, 2019).

Italy has always been the Member State with the highest level of total expenditure on fish and seafood (+1,7% in 2018 compared to 2017); the per capita apparent fish consumption in Italy in 2018 was nearly 31 kg, higher than the EU average (24.3 kg) (EUMOFA, 2019).

In 2018, the average price saw a slight decrease (4%); some of the most important target species (giant red shrimp, Norway lobster) show a positive trend while average price of European anchovy, deep-water rose shrimp, and European hake decreased compared to 2017.

### **Management instruments and regulation**

The National Management Plans (NMPs) for demersal species updated by Italian authority in 2018 (Ministerial decree No 26510) provide for a reduction in fishing days for fishing segments targeting some

selected demersal stock; the reduction is of 10% in 2019 and 7% in 2020 compared to the average fishing days in the period 2015-2017.

The reductions of the fishing effort laid down by the NMPs are consistent with the Regulation (EU) 2019/1022 regarding the establishment of a multi-annual plan for fishing activities exploiting demersal stocks in the Western Mediterranean. This plan lays down a 10% reduction in the first year (2019) and up to a further reduction of 30 % in 5 years in terms of activity (annual fishing days).

In addition to the limitation of fishing effort, the WestMed Plan established a closure for trawls operating within six nautical miles from the coast during three months each year; in alternative, national administration is going to establish closure areas to protect juveniles of European hake.

Spatial management measures have been implemented in two areas:

- an area of the Pomo/Jabuka Pit in the Adriatic sea - an important nursery area for European hake and hosts a resident population of Norway lobster—was closed to the trawl fishery (Ministerial Decree No 466 of 1 June 2017)
- three fisheries restricted areas in the Strait of Sicily (Reg. (UE) 2019/982)

## TACs and quotas

Three fisheries are managed through TACs and quotas in Italy.

- Bluefin tuna: quota is allocated among purse seines, longlines, tuna purse seines, a quota set aside for compensations (slightly less than 3.5%), and recreational fishing (0.5%). In 2018, Italian bluefin tuna quota increased by 20%, reaching 3 894 tonnes. In 2020, quota raised to 4 756 tonnes; the increase in the TAC has led to a strong reduction in the first sale price (9.40 EUR/kg in 2018 and 6.50 EUR/kg in 2020); most of the live fish caught were transferred to transport cage for tuna farming; a part of the fish was sold to the market because the storage capacity of the tuna farming was insufficient for the new level of production. The bluefin tuna caught by the purse seines was less valuable compared to the bluefin tuna caught by longlines.
- Swordfish: in line with the ICCAT recommendations, the Italian Administration established the national list of vessels authorised to fish for swordfish and regulated the use of fishing gears (about 850 vessels); a TAC of 3 624 tonnes has been set for 2018 (regulation (EU) No 120/2018);
- Small pelagic species in Adriatic Sea: the catch limit for the EU concerning small pelagic species in the Adriatic Sea has been set for 2018 (112 700 tonnes of anchovy plus sardine - Annex IL of Regulation 2018/120). Except the indication that the catch for Slovenia should not exceed 300 tonnes, the Council did not, however, define the share (quotas) of the total fishing opportunities between Croatia and Italy.

## Status of Key Stocks

About 78% of Mediterranean and Black Sea stocks assessed are currently fished at biologically unsustainable levels, although the percentage has slightly decreased since 2014 (88%). In terms of biomass, 42% of Mediterranean stocks are considered to show low biomass, while the rest of stocks are considered to have intermediate or high biomass (FAO, 2018).

There are large differences between GSAs in the overexploitation status of species; for some species, an improvement in exploitation rates and biomass is observed (STECF, 2019). Red mullet appears sustainable exploited in GSAs 10 (South Tyrrhenian) and 18 (South Adriatic) and highly overexploited in GSA 11 (Sardinia); the deep sea rose shrimp in North Tyrrhenian-Ligurian Sea is exploited at rates consistent with MSY. An increasing biomass trend have been registered for sole in GSA17, spottail mantis shrimp in GSA17 and GSA 18, anchovy and sardine in GSA 9-10-11 (STECF, 2017).

The positive trend in some important demersal species (red mullet, deep sea rose shrimp, spottail mantis shrimp) should explain the trend in some indicators for DTS such as the landed weight per sea day (228 kg/days at sea in 2018, 2015 kg/days at sea in 2017). Trawlers (the most important segment for the Italian fishery with the 55% of the total value of landings) show a positive net profit over the same period.

## Operational costs

The most important operational costs are fuel costs and the wages and salaries of the crew members.

The average fuel price in 2018 was higher than in 2017. The increasing trend of the fuel price has a direct impact on energy costs, further worsening profitability in some typical fuel intensive fleet segments as demersal trawlers.

Wages and salaries increased with the value of landings in the large-scale fishery; on the contrary, the decrease in the value of landings estimated for small-scale fishery (-14%) led to a reduction of the labour costs (-12%).

## **Innovation and Development**

As a result of the implementation of the LO, several national and EU projects have been financed to reduce bycatch, discards and damage to sensitive marine species and habitats through technology and alternative fishing practices. Ongoing projects include testing modified standard commercial bottom trawl nets by incorporating sorting grid separators and separator panels in shellfish fisheries; experimental surveys using the DeepVision system to gather real time information on species and size composition in order to minimize the pre-catch losses/mortality (H2020 project MINOUW).

Other innovations can improve the safety at sea and working conditions of fishers; among these, vessel monitoring devices and systems contribute to safe navigation and in monitoring control and surveillance (MCS). A Fishery and Oceanography Observing System (FOOS) has been developed and tested both in the Adriatic Sea and in the Strait of Sicily on several fishing vessels to gather spatial data on their fishing activity and environmental information.

In the last two years, the number of the vessel with equipment to freeze the fish at sea increased. The DTS2440m targeting shrimp operating in Ionian Sea, Northern Tyrrhenian sea and Southern Sicily usually engage in long fishing trips within the national and in the international waters.

## **Nowcasts for 2019-20 and outlook**

### **Outlook**

In 2019, 174 000 tonnes of seafood were landed by the Italian fleet, with a value of EUR 884 million (provisional figures). The overall days-at-sea decreased (-10% compared to 2018) mainly because of new management measures in force since 2019. The Italian Management Plan for demersal fishing and the WestMed Plan for Tyrrhenian vessels include a mandatory reduction in the number of fishing days, which varies according to GSA and LOA class (between a minimum of 16 and a maximum of 31 fishing days fewer than those registered in 2019).

### **Model results**

Data for 2019 show a small decrease in vessel number (-1%). Landed weight decreased by 3%, while landed value dropped by 7%. Projections suggest that operating costs decreased slightly.

Forecasts indicate that the Italian fleet operated at a profit in 2019: with an estimated GVA of EUR 575 million (2% increase), gross profit of EUR 322 million (8% decrease) and net profit of EUR 166 million (20% increase), with a net profit margin of 18%.

### **Landing obligation**

The COMMISSION DELEGATED REGULATION (EU) 2018/161 of 23 October 2017 established de minimis exemptions to the landing obligation in the small pelagic mid-water trawl and purse seines fisheries for certain small pelagic fisheries in the Mediterranean Sea until 31 December 2020.

The COMMISSION DELEGATED REGULATION (EU) 2018/2036 of 18 October 2018 established Survivability exemption and de minimis exemptions for most important Mediterranean demersal stocks until 31 December 2021.

According to the above mentioned regulations there have not been major consequences in the Mediterranean for the implementation of LO. Possible economic consequences relate to the increase of the work on board and in the increase of number of employees. In addition, there is still a lack of an appropriate governance process to handle the unwanted catches once landed (Spedicato et al., 2018).

### **COVID-19**

On 10th March, the Italian government imposed a full nationwide closure of all economic activities with the exception of those that are strategic to the national economy, including fishing.

In spite of this, fishing activities ceased almost entirely in all Italian fishing ports on Wednesday 11th March. This was due to a sharp decline in first-sale prices and a considerable reduction in the number of wholesalers operating at larger fish markets and harbours. Demand for fresh Italian fish has plummeted due to the lockdown of food services (in particular, hotels and restaurants services).

Only in a few cases the stop of fishing activities was motivated by the need to safeguard the health of fishers and to comply with the new health standards; only larger vessels with crews of more than 6-7 members experienced issues with meeting safety regulations.

After the first 15 days of lockdown, fishing activities slowly resumed in almost all fishing ports in Italy, albeit with many differences relating to fishing segment and geographical area.

Trawlers limited activity to 2-3 days a week; there were a few exceptions in the ports of the southern Adriatic and the central Tyrrhenian, where activity levels were higher. In many fishing ports, especially on the Adriatic coast, operators self-regulated their activities by setting restrictions such as rotation of vessels and, in some cases, by establishing quotas.

Larger trawlers were the most affected by the lockdown, with the DTS 2440m segment remaining inactive until mid-April. Trawlers in the Strait of Sicily have great difficulty selling at economically viable prices. The target species of this fishery mainly consists of valuable species such as red shrimp, demand for which primarily comes from the restaurants which was closed during the lockdown. For this reason, large quantities of frozen products have gone unsold and many companies are currently struggling with serious liquidity issues.

The sharp fall in fuel prices partly compensated the fall in production levels. The average price of fuel has fallen from an average of 0.50 EUR/litre at the end of 2019 to 0.30 EUR/litre in the first part of 2020 (-40%). This reduction allowed to contain operating costs, especially in the trawling segment.

Midwater pair trawls and purse seiners initially suffered due to the closure of the fish markets and the block on exports (especially in the North Adriatic area, where the sale of small pelagic species to Spain had to cease). Since April, activity has resumed in some fishing ports of the North Adriatic and end-consumer demand for anchovies and sardines has increased thanks to low prices.

The impact of COVID-19 on small-scale fishery has generally been softer, since SSCF production (an average of 15-20 kg of landing per sea day) are usually sold directly to end consumers, local fish retailers or small supermarkets. In several fishing ports, SSCF has intensified direct sales to consumers, whereas those ports with a strong tourist identity, including several in Sicily and Sardinia, were heavily impacted by the lack of demand from the restaurant sector.

The longlines with the quota for bluefin tuna started their fishing activity as usual; in order to adapt to the reduced demand, the Sicilian local PO has limited the daily landings; the consequence was an increase in the total fishing days, with an impact of the operating costs. In addition the first-sales price dropped by 20%. The great part of the bluefin tuna has sold to Spanish wholesalers.

The fall in supply enabled prices adjustment after the severe decline during the first week of national lockdown (9-13 March). Slowly, first-sale prices have returned to pre-crisis levels and are in line with season averages. However, catch composition shifted to species with lower commercial value which are demanded for household consumption.

#### *Financial compensations*

A daily allowance is payable to fishers whose vessels are not working (wages guarantee fund). The wages guarantee fund offsets the reduction in activity and supplements the income of employees. The allowance is for fishers, including the self-employee and the owner on board.

In addition, a support of lost income has been provided for the vessel owners; contributions are proportionate to GT of each vessel

## **Data issues**

### **Identify changes in respect to previous years**

Subsidies on investments related to the decommissioning schemes have been estimated in 2018 and included in the inactive segments.

### **Improvements achieved within 2018 data collection**

Methodology for the estimation of total assets and debts has been improved to allow a better coverage and more consistent estimates over time.

### **Remaining issues**

All fleet segments with major contribution to the total catches of the Italian fleet have been sampled with satisfactory response rates.

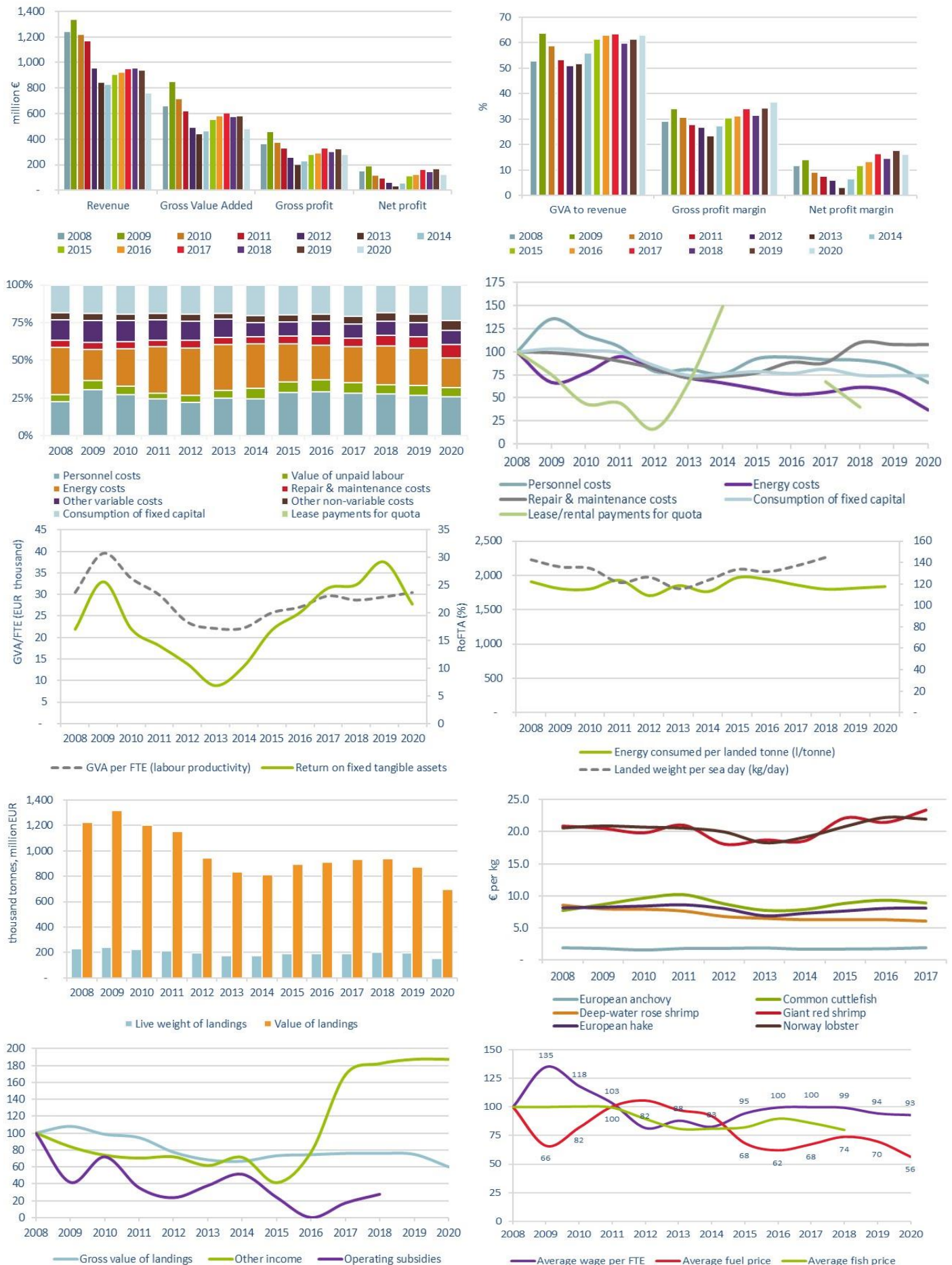
Except for capacity and weight of landings, no data for the OFR purse seiners segment 40 m or larger (one vessel in 2018) could be published due to confidentiality issues.

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**Figure 4.12 Italy: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.13 Latvia

### A short description of the national fleet

#### Fleet capacity

In 2018, the Latvian Baltic Sea fishing fleet consisted of 322 registered vessels including 77 inactive vessels, with a combined 6 300 GT, a total engine power of 19 300 kW and an average age of 34 years. The size of the fleet followed a decreasing trend between 2008 and 2018. The gross tonnage declined by 30% while the total engine power of the fleet declined by 22% during the analysed period from 2008 to 2018. The reason for the changes was related to the vessels scrapping according to the multi-annual management plan aimed at achieving a better balance between fishing capacity and the available resources. The fishing vessels were "reassigned for activities outside fishing (by scrapping or selling)".

#### Fleet structure

The Latvian fleet is divided into several segments by length, fishing gear and operating area: the Baltic Sea fleet (segment trawlers VL2440 m), fleet operating predominantly in the Gulf of Riga (trawlers VL1218 m), the SSCF operating in the coastal zone (segment with polyvalent fishing gears VL0010 m) and a distant water fleet (segment trawlers VL40XX m) operating in the Atlantic NEAFC Barents Sea (area 27) and CECAF Morocco and Mauritania (area 34) areas.

Differences in the number of vessels and in other related variables were observed between 2010 and 2011 when the fleet size decreased by 364 vessels or 53%. The major factor causing the fleet to decrease was the exclusion of a part of small coastal vessels less than 10 metres from the economic analysis. The excluded vessels have licenses and obligation to fill the coastal logbooks but fish only for self-consumption and are not involved in a commercial fishery. The excluded volume corresponds to 6% to gross tonnage and 4% to engine power in Latvian Baltic sea fleet in 2018. The exclusion of recreational vessels does not affect the total engine power of the fishing fleet and gross tonnage.

#### Employment

Fishers in the Baltic Sea vessels, are usually local Latvia inhabitants. For the crew on board on distant water vessels there may also be invited residents of the developing countries.

The employment of the Baltic Sea fleet was estimated around 631 jobs; corresponding to 288 FTEs in 2018. The total employment and the FTE decreased by 34% and 32%, respectively between 2008 and 2018 while the GVA per FTE increased by 56%. Compared to other Member States, Latvia has a low wage per fisher. However, the average salary in the fishery sector was 32% higher than the average salary in Latvia in 2018. The average salary per FTE has increased by 62% between 2008 and 2018.

#### Effort

The Baltic fleet spent a total of around 16 580 days-at-sea in 2018 but total number of fishing days calculated for each gear were 17 699. The number of sea days has slight decrease by 4% and 3% respectively between 2017 and 2018 while the quantity of fuel consumed increased by 4% and was 5.3 million litres in 2018. The live weight of landings also had an increase of 5% in 2018. The trawlers VL1218 operating in the Gulf of Riga and trawlers VL2440 operating in the Baltic Sea used 94% and 73% respectively of their capacity in 2018 while the coastal segment VL0010 used only 28% from their gross tonnage in 2018.

#### Production

The total weight landed by the Baltic Sea fleet in 2018 was 70 360 tonnes of fish with a landed value of EUR 20.2 million. The total weight of landings increased by 5% between 2017 and 2018 while the landed value increased by 6% during the same period. The average first market price for the European sprat has slight decrease by EUR 0.02 or 8% while the price for Atlantic herring and Atlantic cod increased by 7% and 17%, respectively from 2017 to 2018. The sharp increase in the average price for Atlantic cod was caused by the decline of landed volume by 40% between 2017 and 2018.

In 2018, in terms of landings composition, European sprat was the most common species landed in weight, 37 100 tonnes, followed by Atlantic herring 26 882 tonnes and European smelt around 2 066 tonnes. The landed weight for Atlantic cod was only 1 255 tonnes in 2018, which is 40% less than in 2017. The European sprat also achieved the highest landed value EUR 9.1 million for the national fleet followed by Atlantic herring EUR 6.6 million and then Atlantic cod EUR 2.0 million in 2018. The landed value for the European smelt was only EUR 0.4 million in 2018. European sprat, Atlantic herring and

Atlantic cod accounted for 46%, 33% and 10%, respectively of the total landings value in 2018 and contributed to 53%, 38% and 2% to the total landed weight, respectively.

## Economic results for 2018 and recent trends

### National fleet performance

The economic performance for the Latvian fleet in 2018 improved compared to 2017. The amount of revenue generated by the Latvian national fleet in 2018 was EUR 21.9 million including EUR 20.2 million of income from fish sales and EUR 1.7 million of non-fishing income. The revenue increased by 4% compared to 2017.

The total operating costs decreased by 10% between 2017 and 2018, due to the sharp decrease in the other non-variable costs by 39% and decrease in repair and maintenance costs by 14%.

In terms of profitability the total amount of GVA, gross profit and net profit generated by the Latvian national fleet in 2018 were around EUR 11 million, EUR 5.8 million and EUR 5.3 million, respectively. The GVA and gross profit increased by 21% and 12%, respectively while net profit increased by EUR 2.5 million between 2017 and 2018.

Towards the end of 2008 and 2009, the Latvian fishery sector was negatively affected by the global economic crisis which led to significant decrease of the net profit produced in 2009 and 2010. High values of net profit in 2008 were due to the negative values of the opportunity cost of capital (- EUR 5.19 million) caused by the negative real interest rates used to estimate this opportunity cost. The economic efficiency of the fleet started to improve in 2011 and reached the net profit maximum of EUR 6.2 million. However, the net profit declined by 72% between 2011 and 2013 due to the ban of Russian products trade from EU countries implemented from the 7th of August 2014. Russian embargo was applied to beef, pork, fruit, vegetables, poultry, cheese, milk products and also fish and fish products, although the embargo list did not include sprat, canned meat and canned fish. The second reason which negatively influenced the fishing sector between 2015 and 2016 and deteriorated the profitability of the fishing sector was a temporary ban on the import of all fish and fish products from Latvia and Estonia by the Russian food safety authority Rosselkhoznadzor from the 4th June 2015. As a result, around 40 enterprises which exported their production to the Russian market suffered in Latvia. The decrease of the turnover by 22% for the fish processing sector from 2014 to 2015 also influenced the fishing sector. Despite the economic crisis and Russian ban which affected severely the profitability of the fishery enterprises, the Baltic Sea fleet in overall remained on the profit-making positions between 2009 and 2018.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was 26% indicating a high operating efficiency of the sector. Net profit margin was estimated at 24% in 2018 and the share of GVA to revenue 50% in the same year. The labour productivity (GVA/FTE) increased by 37% between 2017 and 2018 while the numbers of FTE decreased by 12%.

The tangible assets (replacement) had low values in 2018 and was around EUR 4.0 million. The major factors were a long service life of vessels (around 34 years) and obsolete equipment. The total assets value was EUR 14.3 million in 2018.

The positive ROFTA values, 176, 111 and 46 are indicated in 2018 for the Baltic Sea trawlers in the segment VL2440, trawlers VL1218 operating in the Gulf of Riga and coastal zone segment VL0010, respectively. The RoFTA positive and greater than low risk long term interest rate indicates the profitable fishery in the long-term.

For the three main fleet segments fishing activity is cost effective in the long-term but fleet modernization could be necessary in the near future. The potential fleet capacity could be 20–30% higher than the current one for some vessels in segments such as VL1218 and VL2440. If intensity of fishing for some vessels in segments VL1218 and VL2440 increases, these segments could obtain a greater amount of catch and a higher revenue from sales which in turn can facilitate the profit growth. However, the main impact on the productivity of the Latvian fleet is exerted by the available fish stocks for the three target species: sprat, herring and cod.

The ratio between the current revenue of the fleet and break-even revenue showed how close the current revenue of a fleet was to the revenue required for the fleet to break even in a short – term. The positive CR/BER ratio 3.03, 2.80 and 1.34 in 2018 for the segments trawlers VL2440, SSCF VL0010 and trawlers VL1218, indicating that the segments are profitable in the short - term.

From 2008 to 2018, the total number of vessels and total engine power decreased by 34% and 22%, respectively while the average engine power per vessel increased by 40%. The number of the fishing days per vessel increased significantly by 24% while the average days-at-sea stay relatively stable between 2008 and 2018. The landings and weight per unit of effort (in days-at-sea) has had a sharp increase by 46% since 2008. The fuel consumed per landed tonne decreased by 22% while landed value per landed tonne (average price) increased by 13% from 2008 to 2018. The landed weight per vessel had a sharp increase by 38% between 2008 and 2018 while the landed value per vessel increased only by 3% during the same period. A sharp increase is observed in average wage per FTE by 62% between 2008 and 2018. The main factor which caused the increase in profitability of the Baltic Sea fleet was the decommissioning of the vessels from 2008 to 2017 and the increase of fishing intensity per vessel.

## Performance by fishing activity

### Small-scale coastal fleet

The number of the SSCF vessels was stable between 2017 and 2018. The vessels are included in the segment VL0010 m which use polyvalent or passive gears and target at Atlantic salmon, Atlantic cod, European flounder, European eel and other coastal species. The SSCF business is oriented to the local market. The usual fishing trip is less than 24 hours and the weather conditions as cold winters may highly influence the turnover of the segment. The coastal species achieved the highest average price per kilo EUR 1.82. Despite the high prices for coastal species, the amount in the total landings composition had negligible values 12% and 6%, respectively from the total value and weight of landings in 2018 and did not influence the total value of Latvian landings. The landings weight for the SSCF decreased by 22% while the value of landings had a sharp increase of 117% and was around 4 200 tonnes and EUR 2.3 million, respectively in 2018. The SSCF is important for employment in coastal regions which was estimated at 296 jobs, corresponding to 118 FTEs. The GVA and gross profit had a sharp increase by 3 times and 5 times or by EUR 1.0 million and EUR 0.4 million respectively. Due to the sharp increase in landed volume for the SSCF the segment from losses of – EUR 0.150 million in 2017 switched to net profit of about EUR 0.5 million in 2018.

### Large-scale fleet

The increasing trend was observed for the LSF operating in the Baltic Sea and the Gulf of Riga. The LSF targets at European sprat, Atlantic herring and Atlantic cod. The LSF was composed by 51 vessels included in two segments VL2440 and VL1218 m. The segments contributed 94% to total revenue and 90% to Net profit in 2018. Employment was estimated at 335 jobs in 2018, corresponding to 170 FTEs. The total employment and FTEs decreased by 8% and 17% respectively over the observed period. The income from landings was stable between 2017 and 2018 while the net profit had a sharp increase during the same period by 57%. An important reason for that was the decrease in operational costs of 10% between 2017 and 2018.

### Distant water fleet

There were five active distant water vessels which made up the segment of vessels over 40m with a combined 15 700 GT, a total engine power of 19 600 kW and an average age of 32 years owned by four Latvian companies in 2018. Two vessels with the average length of 60 m was based predominantly in NEAFC area targeting beaked redfish and three with an average length of 100m operated in the CECF area and targeted Atlantic horse mackerel, Atlantic mackerel, Madeiran sardinella and sardine. In 2018, the main landing ports for these vessels were Hafnarfjörður, Akureyri, Cuxhaven, Båtsfjord and Nouadhibou. In 2018 the total weight for the Atlantic catches was 64 700 tonnes of fish with an estimated value of EUR 25 million and reported income from landings EUR 26.9 million.

## Performance results of selected fleet segments

The Baltic Sea fleet consisted of 3 active fleet segments in 2018. A short description for the segments is provided below.

### Pelagic trawl 24-40 metres

40 vessels made up this segment in 2018 and vessels operated predominantly in the Baltic Sea. These vessels target species such as European sprat, Atlantic herring and Atlantic cod. The total value of landings was EUR 15.7 million and around 126 FTEs were employed in the fleet segment in 2018 contributing 78% and 44% to the total income from landings generated and FTEs in the national fleet,



respectively. The fleet segment was profitable with a reported gross profit of around EUR 4.8 million and a Net profit of around EUR 4.5 million in 2018.

### **Pelagic trawl 12-18 metres**

11 vessels made up this segment in 2018 and the vessels were operating predominantly in the Gulf of Riga. These vessels targeted at European sprat and Atlantic herring. The total value of landings was EUR 2.2 million and only 44 FTEs were supported in 2018 contributing 11% and 15% of the total income from landings generated and FTEs in the national fleet. The gross profit and net profit in 2018 was estimated at EUR 0.360 million and EUR 0.330 million, respectively.

### **Polyvalent or passive gears <10 metres**

194 vessels made up this segment in 2018 and the vessels were operating predominantly in the Baltic Sea and the coastal zone of the Gulf of Riga. These vessels targeted a variety of Atlantic cod, Atlantic salmon, European flounder, European eel, Atlantic herring and other coastal species. The total value of landings was EUR 2.3 million and 118 FTEs were supported in 2018 contributing to 12% and 40% of the total income from landings generated and FTEs in the national fleet, respectively. The gross profit and net profit of EUR 0.592 million and EUR 0.488 million were generated in 2018, respectively.

## **Drivers affecting the trends of the economic performance**

### **Operational costs, including fuel prices**

The operational costs for the Latvian fleet in 2018 were EUR 16.6 million amounting to 76% of revenue. Overall the operational cost structure stayed relatively stable between 2008 and 2018. The sharpest increase was observed for the personal costs and energy costs which increased by 37% and 42% respectively in 2017. The other non-variable costs and repair & maintenance costs decreased by 39% and 14% respectively between 2017 and 2018. The item with the largest cost in 2018 was personal costs contributed 29% to the operational costs. The average fuel price per vessel in 2018 was 0.60 EUR/litre, which increased by 20% from 2017 to 2018 while the average landed fish price increased by 13%.

### **Markets and Trade**

The average price obtained for European sprat increased by 8% while the Atlantic herring price increased by 7%, between 2017 and 2018 and the price of the Atlantic cod increase sharply by 17% during the same period.

The fishery sector in Latvia depends on the economic situation of external markets as well as on the turnover of the fish processing enterprises. The most important buyers of fresh fish are fish processing enterprises in Latvia and in neighbouring countries. The main produced product types are fresh or frozen fish and prepared or canned fish. The total exported value of the production to the EU countries stay stable and was EUR 153.9 million in 2018 while exported volume of the production decreased by 10% or around 7.3 tonnes between 2017 and 2018. The increase in exports to the non- EU countries was observed by 24% or EUR 8.7 million from 2017 to 2018.

The Lithuania ranked in the first place in terms of the total exported Latvian production value, followed by Denmark and Estonia with the share of 22%, 14% and 10% respectively in 2018. In terms of total exported Latvian production volume the Ukraine, Lithuania and Denmark were important with the share of 20%, 20% and 9% respectively for the same observed period.

It is expected that the Brexit will not have a direct disruptive effect on the fisheries in Latvia due to the low share (around 2%, annually) in the total Latvian fish exports, as well as in different operating areas for Latvian vessels.

### **Management instruments**

The scrapping of seven vessels was implemented according to the "Action plan for 2015-2017 to reach the balance between the Latvian fishing fleet's capacity and the fish resources for fleet segment VL24-40 m netters targeting at Eastern Baltic Cod". The other two vessels which potentially may operate as netters for the economic analysis have been included in the segment trawlers VL2440 m. The vessels decommissioning scheme was finalised in 2017. Nevertheless, ship owners express interest in a new decommissioning of ships and it is likely that it can be renewed in the near future.

The distant water fleet had significant changes between 2018 and 2019. Six vessels around 60 m length from 11 vessels in the segment VL40XX were inactive in 2018 and four of them were retrieved from the



Fleet Register in 2019. The main reason for this last was the discontinued fishing of Queen crabs in the Barents Sea in 2017 which was the target species of these vessels.

Latvia has one multilateral agreement for data sampling in CECAF area. Starting with 2012 the sampling of pelagic fishery has been performed on the basis of multi-lateral agreement between Germany, Latvia, Lithuania, the Netherlands and Poland by local observers.

Due to come into force a new reg. 2019/1838 which determined the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Baltic Sea for 2020, several measures were applied for the cod fishery limitation. The Reg. provides for a total ban on directed fishing for cod in the eastern Baltic Sea. At the same time, the EU regulation allows Latvia and other countries a small by-catch of cod, which is necessary in order not to endanger fishing opportunities for herring, sprat, flounder and other species in the Baltic Sea. The Latvian Ministry of Agriculture prepared proposals for limiting and controlling cod by-catches. The measures include that commercial coastal zone fishers are required to provide to the State Environmental Service data on cod by-catches for every ten days from the beginning of the month and to follow the cod by-catch limits 10%. If the limits are exceeded, actions as changing the fishing area or suspension of fishing in the coastal zone for 72 hours for the appropriate vessel are foreseen. For the sea fleet, the different catch limitation measures for cod by-catches depend on the commercial species were also applied. Taking into consideration that offshore and coastal fishery may have a cod by-catch and if cod by-catch quota (171 tonnes) be fully utilized before the end of 2020 Latvia will have to close all fisheries in the Baltic Sea and the Gulf of Riga in both offshore and in coastal zones.

## TACs and quotas

The economic effectiveness of the Latvian fishing fleet is fully dependent on the quota received for the three target species. The fishing quota for the European sprat decline by 22% between 2019 and 2020 and was 29 073 tonnes. The quotas for the Atlantic herring in the Gulf of Riga increased by 10% while in the central region of the Baltic Sea decreased by 10% as compared to 2019. The fishing quota of the Atlantic herring in the Gulf of Riga and the central region of the Baltic Sea are 4 753 and 18 539 tonnes respectively in 2020. The fishing quotas for the Atlantic salmon in the Baltic Sea are 11 411 by the number of individual fish. The fishing quota of the Atlantic cod had been sharply reduced in the eastern part of the Baltic Sea by 92% compared to 2019. The fishing quotas of the Atlantic cod in the western and eastern part are 137 and 171 tonnes, respectively. Latvia fulfils the fishing quotas of the sprat and Baltic herring assigned thereto almost completely. The fishing quotas of the salmon are used in a very small-scale. However, the remaining salmon share is used in the international quotas for the exchange for sprat.

## Improvements and Development

For the elaboration of the national Fisheries Policy the Integrated Control and Information System (ICIS) was developed and improved during 2018 and 2020. ICIS is used for general management of fishing licences, control and enforcement of fishing activities. The database contains information from the vessel electronic logbooks as well as information from the coastal logbooks for the SSCF. The new part of the database was developed for imputing the distant water fleet data. The first distant water fleet data was stored in the database for 2016. The improvement were applied for the ICIS coastal section in 2020. The changes include the opportunity for the fishers to submit the coastal logbooks to the ICIS database electronically. Development of the ICIS provides better collaboration between Latvian fishing fleet management institutions and improves work of the staff with the data base as well as simplifies the process of data validation and allows to make cross checks and reports automatically.

## Socioeconomic impacts

## Nowcasts for 2019-20 and beyond

### Model results

Preliminary results for 2019 forecast demonstrate decrease in landed weight by a 5% while landed value stay relatively stable. Projections suggest operating costs decrease by 16%, most notably personal and energy costs which are estimated to decrease by 13% and 24%. In addition, the slight increase by 4% in capital costs, fostered further economic performance deterioration in 2019: GVA (-8%), gross profit (-1%), while net profit stay relatively stable.

Results indicate that the Latvian fleet operated at a profit in 2019: with an estimated net profit of EUR 5.3 million and a margin of 28%. Thus, the increase of economic developments can be seen in performance

indicators GVA to FTE (+8%) and gross profit margin (+4%), GVA to FTE estimated at EUR 41 200 in 2019.

The fleet continuing operate with profit also in 2020. The decreased landings (-19% compared to projected 2019 figures) and lower prices per target species, resulting in an 20% decrease in value. With variable costs also decreasing in 2020 (-20%), the fleet remains profitable with gross and net profit margins of 32% and 29%, respectively.

Projection suggests that Latvian fleet will keep the profit-making position in 2019 and 2020. However, the reliable economic data for 2019 will be received by questionnaires in 2020 and results provided in the current tables for 2019 and 2020 should be used with caution.

## Outlook

On March 12 the Latvian government decided to declare a state of emergency until June 9, 2020.

The list of measures proposed by the Latvian government to mitigate the negative impact from COVID-19 to the economic situation in Latvia. In the frame of these measures the following compensations are foreseen:

- compensation for the temporary cessation of fishing activities and aid for storage of fishery products.
- compensation to the aquaculture companies for the reduction in sales in aquaculture.
- compensation to the fish processing companies for the turnover reduction.

The preliminary data for 2019 and 2020 were obtained from the ICIS database for the Baltic Sea fleet coastal and large-scale fleet for the time period 1<sup>st</sup> of January – 31<sup>st</sup>. The preliminary price data from Sale notes obtained for the time period 1<sup>st</sup> of January – 31<sup>st</sup> of July 2019 and 2020.

The total weight of landings in the Baltic Sea decreased by 24% between six month 2019 and 2020 (cod landings were excluded due to the cod quota reduction) while the days at sea and fishing days declined by 11% and 12% respectively during the same period. The landed weight reduction is observed for the target species European sprat and Atlantic herring by 28% and 19%, respectively. Weight of landings in the coastal zone also decreased by 7% between six month in 2020 in comparison to 2019. In the result the average first market price for the European sprat increases in EUR 0.04 or 18% while the price for Atlantic herring increased by 41%. The price per Atlantic cod also has a sharp grow by 45%. However, basically changes in cod price could be caused by the significant cod quota reduction in 2020. The exported volume and value from 2019 to 2020 for all types of fish products decreased by 11% and 5% respectively.

## Data issues

### Identify changes in respect to previous years

The calculations applied for FTEs and income from landings for 2008-2018 were based on the data received from questionnaires and vessel logbooks.

The estimated values for the costs were used for 2015 and 2018. Restructuring of the costs between segments of the fleet was implemented for 2015 and 2018 in a relative proportion to the value of landings. The main reason for restructuring the costs is the data collected from the companies which own vessels included in different segments. In some of such cases value and volume of landings precisely correspond to the segment but expenditures are attributed to the biggest segment.

### Improvements achieved within 2018 data collection

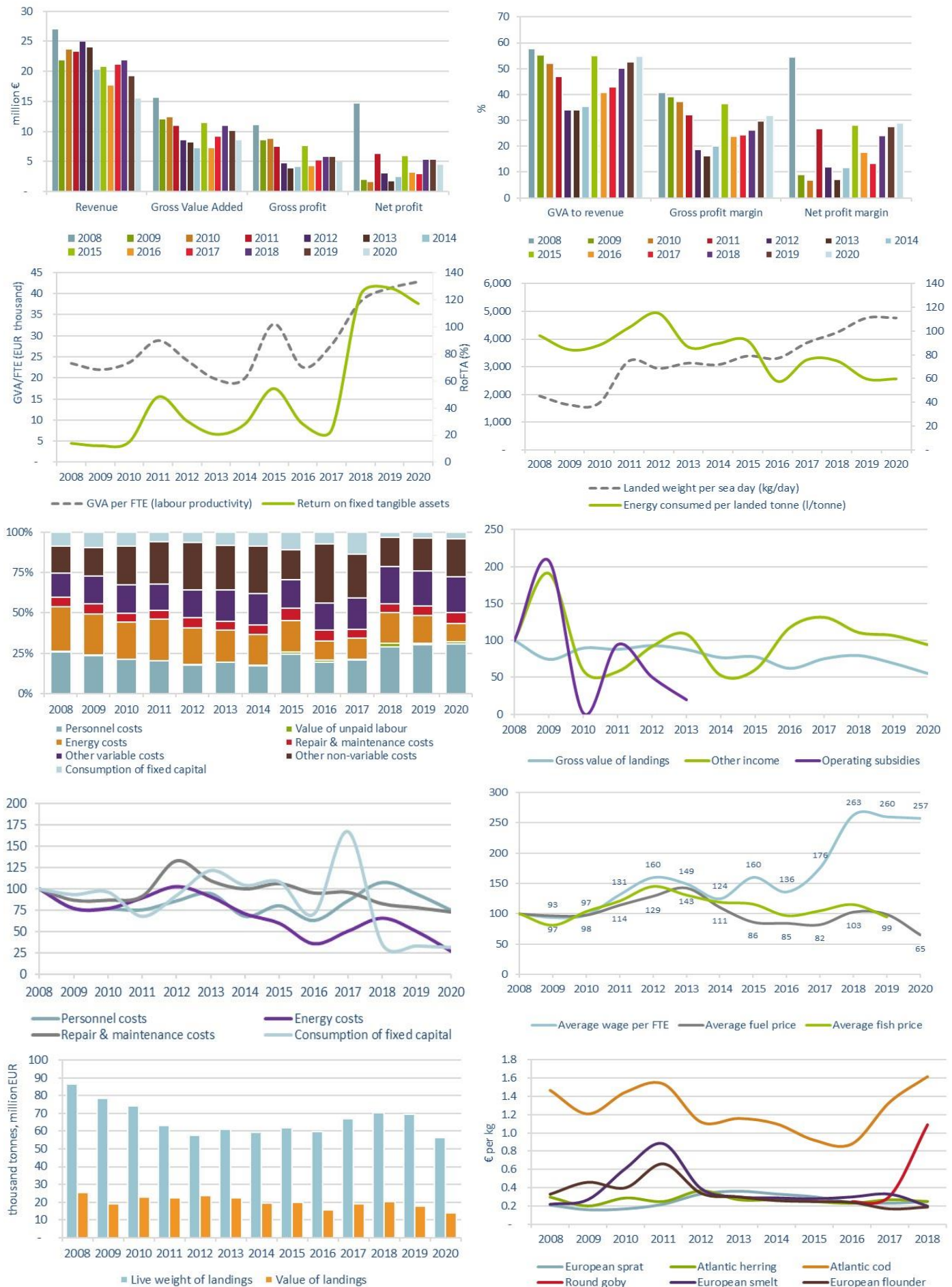
All transversal data for 2008 to 2018 were obtained from the 'Integrated Control and Information System' for Latvian fisheries. The information system contains the logbook data and technical parameters of the fishing vessels from the Vessel Register. The data is reported on a monthly basis and covers all members of the Latvian fishing vessel population. All economic variables for 2008 to 2018 were received from the Central Statistical Bureau of Latvia (CSB) after completing the state statistical questionnaire form "1-Fisheries" and other statistical sources of economic information based on the annual balance sheet. Primary economic information from the state statistical questionnaire "1-Fisheries" was received annually from the owners of fishing firms. Economic data covers all the members of population. Despite that economic data collection is based on questionnaire forms, participation of the respondents is obligatory according to the Latvian legislation. The achieved sample rate was 100%.

## Problems identified

The observed difference between 2010 and 2011 for the depreciated replacement value was caused by the necessary changes regarding data collection methodology implemented for more reliable data collection in 2010. The first data collected by the new approach was received for 2011. The data for 2008 and 2010 was imputed based on formulas for vessel scrapping. More reliable data for the depreciated replacement value was obtained by the questionnaire for 2011- 2017. The differences in time series could be observed for the variables - Consumption of fixed capital and Value of physical capital due to the application of PIM for 2018 year data. After the PIM model necessary calibration for the Latvian fleet data, during the PGECON workshop on Capital value in 2019, the PIM model will be applied started from 2018 and for all future years.

## Remaining issues

The data for the distant water fleet (segment VL40XX) operating in the Atlantic area 27 (NEAFC) and area 34 (CECAF) was collected but have not been submitted to ensure data confidentiality. In requested format, the data should be separated by supra regions and fishing technique. There were three segments which operated in the Atlantic in 2018: VL40XX TBB NEAFC AREA 27 (one vessel), VL40XX FPO NEAFC AREA 27 (one vessel) and VL40XX TM CECAF AREA 34 (three vessels). The economic data cannot be provided for an individual vessel or for the vessels belonging to different companies (two companies in 2018).



**Figure 4.13 Latvia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.14 Lithuania

### Short description of the national fleet

#### Fleet capacity

In 2018, Lithuanian fishing fleet consisted from 147 registered vessels and compared to 2017 it decreased by 1%. In 2018 national fleet used around 62% of the capacity corresponding to 91 active vessels. The total GT and kW in 2018 decreased by 16% and 14%, respectively. Compared to the 2008 to 2017 period's average total number of vessels and GT were 16% lower.

#### Fleet structure

Lithuanian fishing fleet consists of SSCF fishing in the coastal area of the Baltic Sea (73% of number of active vessels and 1% of total GT), LSF operating in the Baltic Sea (20% of number of active vessels and 10% of total GT) and LDF fleet (7% on number of active vessels and 89% of total GT). SSCF is composed by three segments: coastal vessels under 10 metres length (60 vessels) fishing with passive gears, vessels 10-12 metres (four vessels) operating in coastal area and 24-40 metres netters fishing in Baltic Sea (two vessels). Due to confidentiality issue, two netters of 24 metres length are clustered with coastal fleet segments. LSF consists from demersal trawlers 18-24 m and 24-40 m (nine vessels all together), pelagic trawlers 18-24 metres, 24-40 metres and over 40 metres (10 vessels all together). LDF was dominant in terms of landings and capacity and consists from three segments: demersal trawlers and/or demersal seiners 24-40 metres (one vessel), demersal trawlers and/or demersal seiners over 40 metres (one vessel), and the largest segment pelagic trawlers over 40 metres (four vessels).

#### Employment

In comparison to 2017 total number of jobs (fishers) and FTE in 2018 decreased by 7% and 1%, respectively. Employment in Lithuanian national fleet has a decreasing tendency since 2008. Furthermore, number of employees and FTE in 2018 was 30% and 21% lower compare to multiannual 2008-2017 average. However, number of FTE, shows a stabilized trend since 2016. Major decline was influenced by restructure of LDF fleet adapting to decreased fishing opportunities roughly from 2015 and in LSF particularly demersal trawler segment due to the deteriorating Baltic cod fisheries. In 2018 Lithuanian fishing sector employed 454 fishers, corresponding to 365 FTE.

#### Effort

After a decline of effort in terms of days-at-sea in 2017, it increased by 25% (9 600 days-at-sea) in 2018. However, it decreased by 15% in 2019 (8 200 days-at-sea). Taking into account long term trend of efforts, number of days at sea in 2018 was 2% higher than multiannual 2008 to 2017 average. Increase in fishing effort at national level was driven by the SSCF which also resulted in improved weight of landings. Despite the increase in days at sea, energy consumption in the SSCF remained almost unchanged, resulting in a better fuel efficiency. At national level, energy consumption in 2018 decreased by 15.6%, it was influenced by LDF, which has 13% lower effort of days at sea and consumed 17.2% less fuel compared to 2017.

#### Production

In 2018 Lithuanian fishing fleet landed 70 200 tonnes of seafood production, corresponding to value of EUR 57 million. Compared to 2017 weight and value of landings decreased by 21% and 2% respectively. Such low level of production was observed only in 2012, when the fleet landed 58 000 tonnes of seafood, the rest of period, fleet resulted in higher landings. Compared to the multiannual 2008 to 2017 average, in 2018 weight and value of landings were 41% and 28% lower, respectively. Decline in weight of landings was a result from LDF which in 2018 had almost a record low fishing effort levels.

Performance of national fleet significantly depends on LDF fisheries which in 2018 covered 65% of national total weight of landings. The structure of landings in LDF remained unchanged, with the largest share coming from Atlantic horse mackerel (28% of landings weight), followed by chub mackerel (26% of total weight) and Chilean jack mackerel (21% of total weight). Northern prawn generated the highest value of landings contributing to the 27% of the total.

Concerning fisheries in the Baltic Sea (Subarea 27.3.d), value of landings in 2018 increased by 16% (to EUR 5.3 million) compared to 2017, but in 2019 declined by 7% (to EUR 4.3 million). The largest share of the production value in 2018 was from Baltic sprat corresponding to 62% (EUR 3.27 million) of the total value, followed by Baltic herring with 25% (EUR 1.34 million) of the total value. Value of landings



of Baltic cod in 2018 dropped by 60% to EUR 565 000 and further declined by 82% in 2019 to EUR 102 900.

In 2018, in terms of SSCF's landings value, the dominant species were European smelt, Baltic cod and round goby. European smelt accounted for 49% of the total value of production in the SSCF. Seasonally harvested European smelt has a tendency to increase the value of landings and in 2018 improved by 51% to EUR 373 000. Income from Baltic cod, as is constantly decreasing in both, LSF Baltic fleet and SSCF. In 2018, Baltic cod landings in term of value decreased by 34% (to EUR 169 000) and in 2019 another 85% to EUR 24 900.

## Economic results for 2018 and recent trends

### National fleet performance

As the economic indicators of the national fleet are strongly dependent on the activity of the LDF, factors that affect the performance of other fleet segments have a minor impact at national level. Around 90% of total national revenues were generated from LDF in 2018. Total revenue increased by 7% compared to 2017. Taking into account LDF dominance in national fleet, economic performance will be provided separately by each segment and fishing area in relevant further sections of the report.

The total amount of revenues in 2018, generated by the Lithuanian national fleet was EUR 61.2 million and consisted from 98% of fishing income and 2% of other income. GVA generated by the Lithuanian national fleet in 2018 was EUR 7.7 million, 50% higher from 2017. Gross profit was EUR -0.3 million (losses) in 2018, whereas multiannual 2008-2017 average was EUR 4.1 million. Losses of national fleet were influenced by LDF segment, LSF demersal trawlers and SSCF netters more than 10 metres LOA. Value of physical capital of active fleet in 2018 decreased by 19% to EUR 89.8 million compared to 2017.

### Resource productivity and efficiency indicators

In 2018 labour productivity of national fleet increased by 51% after the observed drop in 2017. However, compared to multiannual 2008-2017 average, GVE/FTE was 13% lower. National fleet efficiency indicators are highly dependent on LDF economic performance and has a volatile pattern. In 2018 labour productivity increased in all fishing activity groups of national fleet. Compared to 2017 GVA/FTE in SSCF increased by 22% to EUR 9 800, in LSF – 63% to EUR 25 200 and 52% in LDF to EUR 21 700.

In 2018 RoFTA remained at negative level -9%, however, compared to 2017 it improved by 4 percentage points. SSCF generated 10% ROFTA, significantly depreciated by DFN 10-12m fleet segment which obtained losses. LSF and LDF generated -2% and -9 negative RoFTA, respectively.

Fishing efficiency in terms of landing weight per days at sea per active vessel (CPUE) in 2018 decreased to 80.5 kg with a 37% decline compared to 2017. Fuel consumption efficiency in terms of litres of fuel per kg landed remained 0.5 in 2018.

## Performance by fishing activity

### Small-scale coastal fleet

SSCF consists of two fleet segments – PG 0-10m and DFN 10-12m which due to confidentiality reasons were clustered with two netters 24-40m operating in the Baltic Sea. In 2018, fleet consisted of 66 active vessels with 6% increase compared to 2017. In 2018 SSCF spent 6 520 days at sea, 53% more than year ago. Compared to the multiannual 2008 to 2017 period, it was 33% higher. Improved effort resulted in 3% increase of landings and 13% in revenues, compared to 2017. Economic indicators for this fleet are characterized by high annual volatility and strongly depends on the vessels larger than 12 metres. In 2018, GVA improved by 42% to EUR 456 000, net profit was EUR 54 700. Profitability indicators improved significantly compare to 2017, but mostly due to the PG 00-10m segment results. Compared to multiannual 2008 to 2017 period, net profit was 32% lower. SSCF fleet employed 139 persons (crew and people on shore, related to fisheries) corresponding to 46 FTE. Compared to 2017 number of persons employed and FTE improved by 1.5% and 16%, respectively.

### Large-scale fleets

Lithuanian LSF consisted on two clustered segments, characterized by different fisheries and economic performance. Demersal trawler operates in the Baltic Sea targeting mainly Baltic cod, whereas pelagic trawlers operates in the same area but are targeting Baltic herring and European sprat. In 2018 LSF consisted from 19 active vessels with 3 500 GT and 7 400 kW capacity. Compared to 2017, GT and kW decreased 9% and 8.2%, respectively. In 2018 total number of days at sea decreased by 8%. However,

LSF vessels resulted in significantly higher weight of landings – 24 000 tonnes with 32% annual increase. Value of landings increased by 13% to EUR 4.9 million. Considerably higher landings were from pelagic trawler segment, whereas demersal fisheries further plummeted.

Concerning economic performance, in 2018 LSF obtained EUR 0.4 million of gross profit and EUR 0.04 million net profit. Compare to 2017 LSF improved profitability as a result of gains from pelagic fisheries and better cost efficiency. In 2017 total operating costs increased by 2%, whereas total revenues improved by 18%. Compared to multiannual 2008-2017 net profit was 82% lower, indicating the complicated economic situation in LSF demersal fisheries. Fleet employed 113 crew members corresponding to 80 FTE and compared to 2017 total jobs and FTE declined by 15% and 11%, respectively.

### **Distant water fleet**

In 2018, LDF consisted on 6 active vessels corresponding to 30 200 GT and 27 000 kW and compared to 2017 capacity indicators remained almost unchanged. Fishing effort decreased by 11% to the lowest level during the 2008 to 2018 period to 1 300 days at sea. Following the low 2018 effort, weight of landings dropped by 35% (45 400 tonnes) compared to year ago. However, due to sufficiently increased prices for top landed species, value of landings remained at the same level – EUR 51.4 million. In 2018 total revenues improved by 5% to EUR 55 million, whereas total operating cost declined by 2% resulting in a better profitability results compared to 2017. GVA increased by 53% compared to 2017 to EUR 5.2 million. However, weak fishing effort and with lowest weight of landings since 2012 were insufficient to drive segment to profitable level, resulting in - EUR 0.8 million gross losses and - EUR 5.2 million net losses. Total number of crew members in 2018 declined by 6% to 202 employees, whereas due to the higher number of hours worked, FTE remained at 239.3 level. In LDF number of FTE is always higher than average number of employees.

### **Performance results of selected fleet segments**

National fleet consists of five main fleet segments, representing four type of fisheries, SSCF (two segments), LSF demersal trawlers and pelagic trawlers operating in the Baltic Sea and the LDF. From the total fleet, four main segments will be presented.

#### **Passive Gears (PG) <10m**

This fleet segment is the most relevant in SSCF. In 2018, 60 active vessels represented this segment and operated entirely in coastal area of Baltic Sea with the passive gears. Segment represents 66% of total active vessels in national fleet. GT in 2018 was 8% lower than multiannual 2008 to 2017 average. The main species for this segment in terms of value was European smelt, round goby, corresponding to 11% and turbot with 8% of total value in the segment. In 2018 total revenue increased by 28% to EUR 0.6 million, the highest level during 2008-2018 period. Total operating costs increased by 6% resulting in substantial increase of profitability indicators. Net profit increased by 143% to EUR 0.2 million with 33% of net profit margin. In 2018 the total number of jobs in this segment remained unchanged (117 employees) compared to 2017, but the higher working hours increased the FTE by 19%.

#### **Demersal Trawlers and Seiners (DTS) 24-40**

In 2018, this segment consisted from nine active vessels, a 36% decline compared to 2017. Fleet segment represents cod fisheries and operates in the Baltic Sea with demersal trawlers as the dominant fishing gear. In 2018 demersal trawlers generated EUR 1.2 million revenue, 24% lower than in 2017. Profitability of this segment has been constantly decreasing since 2013. Demersal trawlers generated EUR 0.2 million GVA, whereas gross profit declined to - EUR 0.3 million losses. Concerning net profit, segment incurred - EUR 0.4 million net loss. Total number of jobs was 53 employees corresponding to 43 FTEs, down by 27% and 16% respectively, compared to 2017. Demersal trawler segment currently is the most vulnerable and has long term imbalance between fleet capacity and fishing opportunities in terms of negative profitability, very low capital productivity and weak cost efficiency. As a result net profit margin in 2018 was negative (-35%).

#### **Pelagic Trawlers (TM) 24-40**

In 2018, pelagic trawler segment consisted from 10 active vessels, 25% more than in 2017. This segment represents 65% of total Baltic fleet GT capacity, 87% of total landings in the Baltic Sea and Baltic Sea pelagic fisheries. In 2018, GT in pelagic trawler segment increased by 11% compared to 2017. Capacity improvements is a result of transfer of vessels from the demersal trawler segment. This segment targeting mainly small pelagic species as sprat and herring in Baltic sea with the pelagic trawlers as

dominant fishing gear. In 2018 total revenues increased by 40% to EUR 4.2 million, whereas total operating costs increased by 10%, resulting in better profitability compared to 2017. Segment generated EUR 1.8 million of GVA. Gross and net profits increased to EUR 0.7 million and EUR 0.5 million respectively. Compared to the multiannual 2008 to 2017 average, net profit was 47% higher, indicating substantial economic performance of the pelagic fleet. Net profit margin in 2018 increased to 11%. Segment employed 60 persons corresponding to 37 FTE the same level as in 2017, but around 30% higher than in the 2008 to 2017 multiannual average.

### **Pelagic Trawlers (TM) 40XX, distant water fleet**

This fleet segment represents Lithuanian long distance fisheries, 89% of total national GT capacity and the 90% of the total national value of landings in 2018. Just six active vessels were operating in LDF, 38% less than in the 2008 to 2017 multiannual average. LDF employed 239 FTE in 2018. Lithuanian LDF are predominantly operating in CECAF (area 34) and some vessels have efforts in NAFO and NEAFC. Main species targeted are small pelagic species, such as Atlantic horse mackerel, Chilean jack mackerel, chub mackerel and northern prawns. In 2018, total revenues increased by 5% to EUR 55.0. million. Effort and weight of landings declined significantly in 2018, but higher average price for small pelagic species increased revenues. Total operating costs remained at the same level as in 2017 resulting in a higher profitability. LDF generated EUR 5.2 million of GVA, but obtained - EUR 5.2 million net losses. However, it is an around EUR 3.5 million increase in net profit compared to 2017. Net profit margin was -11% in 2018.

## **Drivers affecting the economic performance trends**

### **Markets and Trade**

All Lithuanian fishing fleet segments supply fish production to relatively different markets. LDF, which operates in CECAF, NAFO and SPRFMO all production is landed in foreign ports. Around 63% of LDF catches, mainly small pelagic are landed in West African ports, mostly in Mauritania. Other important markets are Spain, Norway for northern prawns and Netherlands for demersal species. LDF do not land production in the national port since 2010, mainly because of insufficient capacity of processing industry for pelagic species in Lithuania. In 2018 increase of average price for LDF production sustained sufficient revenues, when effort and landings declined. Average landing prices for main pelagic species *Trachurus sp.* and *Scomber sp.* in 2018 increased by 35% and 33%, respectively, whereas average price for Northern prawn improved by 28%.

Landings from LSF were composed from 68% of sprat (16 500 tonnes), 27% Baltic herring (6 600 tonnes), 3% of Baltic cod (600 tonnes) and 2% of European flounder (300 tonnes). Concerning market for the pelagic species, caught in Baltic Sea, 99.7% of sprat and 91% of Baltic herring were exported. The main export market for sprat was Denmark, accounted for 74% of total sprat export. The biggest market for Baltic herring was also Denmark with 57% of total Baltic herring export. Second largest market for herring was Latvia accounted for 19% of exports. Average price for sprat and herring in 2018 increased by 5% and 11%, respectively.

Baltic cod landings are predominantly sold in national ports, approximately 54% of the total landings. Largest export market for Baltic cod is Poland with 40% of total landings. In 2018, average prices for cod declined by 3% to 0.93 EUR/kg.

SSCF allocates all production into the internal market. Main species as European smelt, turbot and Baltic cod are sold to local market for direct consumption with insignificant amounts coming for processing. Market situation for fresh European smelt, from which highly depends SSCF economic performance, was favourable in 2018 and value of landings reached the highest level ever recorded – EUR 0.37 million – 50% higher compared to 2017. Average price for European smelt in 2018 remained at the same level – 2.2 EUR/kg.

### **Management instruments (policy)**

In 2019 fishing rights to individual transferable quota (ITQ) were allocated to fishing companies, operating in coastal area of Baltic Sea, open Baltic Sea and long distance fisheries. Duration of fishing rights is for 2020-2034 period. For coastal fleet, fishing rights were allocated to use certain commercial fishing gear in each coastal fishing bar. For Baltic large scale fleet fishing rights were allocated as opportunities to use ITQ during 2020-2034 for sprat, Baltic herring, Baltic cod and salmon.

## TACs and quotas

In the Baltic Sea, Lithuania has quotas for cod, herring, sprat and salmon. From quoted species, landings of sprat and herring are predominant. Cod fisheries during recent years had a significant decline in landings and total allowable catches. Total cod quota for Lithuanian Baltic fleet consist from 92% of Eastern cod and around 8% of western cod. In 2018 total cod quota declined by 7% to 1 730 tonnes. In 2019 cod quota further declined by 9% but due to the stock conditions, catches were only 8% of allocated quota. In 2020 cod fisheries were closed.

In 2018 Baltic herring quota was a record high since 2018 and reached 6 700 tonnes – 20% higher compare to 2017. Sprat quota in 2018 remained almost at the same level compare to 2017 – 13 100 tonnes. As was mentioned previously Baltic fleet economic performance in 2018 mostly depended from pelagic fisheries. However, deterioration of cod stocks had negative impact of pelagic species conditions. Herring quota in 2019 declined by 26% and further dropped by 10% in 2020. Sprat quota in 2019 slightly increased by 3%, but remarkably dropped by 22% in 2020. Such development of pelagic species quotas and suspension of cod fisheries will have negative impact on Baltic LSF.

In Mauritania and Morocco, the Lithuanian fleet operates under EU fishery partnership bilateral agreements with third countries and quotas are set for every fishing year. The new agreement with Mauritania came into force at the very end of 2015 and for each year 57 600 tonnes of pelagic species were allocated to Lithuanian vessels. Such size of quota remains until 2020. Agreement with Morocco is valid from mid of 2014 and in 2017 year 20 700 tonnes were allocated. However, in 2018 pelagic quota was not attributed and only 1 600 tonnes left as quota residual resulting in significant decline of landings and effort for LDF. In 2019 quota for small pelagic species in Morocco renewed for 22 000 tonnes – 6% more than was allocated from 2014. In 2020 quota in Morocco increased to 23 300 tonnes.

Quota for small pelagic species in SPRFMO region in 2018 increased by 17% to 6 160 tonnes. In 2019 and 2020 it improved to 6 300 tonnes and 7 300 tonnes, respectively.

## Status of Key Stocks

For Baltic Sea fisheries, key stocks are Baltic cod, Baltic herring and Sprat. Based on the ICES advice for 2019 and 2020 there should be zero catch in 2020 and 2021, respectively. This advice applies to all catches from the stock in subdivisions 24-32. The poor status of the Eastern Baltic cod is largely driven by biological changes in the stock during the last decades. Growth, condition (weight at length), and size at maturation have substantially declined. These developments indicate that the stock is distressed and is expected to have reduced reproductive potential. Natural mortality has increased, and is estimated to be considerably higher than the fishing mortality in recent years.

ICES advise for sprat in Baltic Sea indicates that when the EU multiannual plan for the Baltic Sea is applied, maximum catches in 2020 is around 25% lower compare to 2019, whereas 2020 advice indicates recovery and 35.5% increase of maximum catches in 2021. ICES recommends that a spatial management plan is considered for the fisheries that catch sprat, with the aim to improve the condition of cod stocks. Condition of cod stocks is considered to be limited by food availability.

## Operational costs (external factors)

In 2018 total operating costs incurred by Lithuanian fleet were EUR 61.5 million and compared to 2017 declined by 1%. Compare to multiannual 2008 to 2017 year average total operating costs in 2018 were 2% higher. Energy costs accounted for the 23% of total operating cost, other variable cost for 22%. During 2018, in the global market oil prices surged to the highest level from 2014 resulting in growth of fuel prices. Compare to 2017, energy costs in fleet increased by 10%. Recently recorded rise in labour costs, during 2018 decreased by 20%. The most remarkable increase in operational costs was observed in the group of non-variable costs. Compared to 2017 it surged by 70% and was accounted for 26% of total operational costs. Group of non-variable costs due to confidentiality issues includes cost of quota and fishing right, which occurs periodically and overstate non-variable costs, mainly in long distance fisheries, where purchases of quotas and other fishing rights are considerable in the total cost structure. Another noticeable trend in 2018 concerning non-variable cost group is a significantly increase of expenditures as vessel lease. According to national legislation, quotas and fishing rights are allocated to companies, not individual vessels. Therefore, the increase of vessel lease in the companies which hold fishing rights, but do not own vessels are recently observed.

Operating costs structure is specific for each type of fisheries. For example, in 2018 for the LSF, crew wages were accounted for 32% as largest part of total operating costs. Energy costs contributed by 23% in total operation cost structure and from 2017 increased by 7%. Substantial increase in non-variable costs - 18% compared to 2017 was due to the growth of vessel lease expenditures and costs on fishing rights.



In SSCF 53% of total operating costs were composed by wages and salaries with a 9% increase compared to 2017. Around 15% of the total operating costs of the SSCF were composed by the energy products with a 15% increase compared to 2017.

LDF spent 26% of total operating expenditures on the other non-variable costs including expenditures on quota and other fishing rights, which turned it to the dominant position. Energy costs were accounted for around 23% of total operational costs with 10% annual increase. Other variable costs dropped by 41% in 2018, corresponding to a 35% decline in landings.

## Socioeconomic impact

During recent years wages in Lithuanian fisheries has a tendency to increase following the overall industry trends. In 2018, LDF salaries decreased by 25% to EUR 25 000 per FTE per year. Significant decline of wages in this segment was more related to the decreased fishing opportunities. LSF operating in Baltic sea paid 7% higher salaries in 2018. Wages in LSF demersal trawler segment in 2018 were EUR 13 000 per FTE and year, whereas pelagic fisheries remunerated crew with EUR 29 000 per FTE per year. In SSCF segments, compare to the national fleet, wages were significantly lower and in 2018 decreased by 6% to EUR 7 000 per FTE per year. For comparison, in 2018 the average annual gross salary in Lithuania was EUR 11 000, with 10% annual increase compared to 2017. Furthermore, in 2019, annual gross salary jumped by 40% to EUR 15 600. Such increase in 2019 will most likely be reflected in fisheries sector. According to preliminary data, number of employees in national fleet increased by 1%.

## Nowcasts for 2019-20 and beyond

### Model results

#### Outlook

In 2019 national fleet resulted in 104 thousand tonnes of landed seafood production corresponding to EUR 83 million with 48% and 45% increase compare to 2018 respectively. Increase of landings with 15% less effort in terms of days at sea lowered variable costs. According to the nowcast model estimates, national fleet in 2019 generated EUR 14.4 million gross profit with major contribution of long distance fleet with EUR 14.3 million. LDF fleet extended agreement on quotas for small pelagic species. Small scale fleet generated EUR 0.12 million gross profit, whereas large scale fleet obtained EUR 0.07 million gross loss. Due to the Baltic cod management policy, landings for eastern Baltic cod are closed, resulting in considerable losses for demersal trawlers. Segments depending on closed cod fisheries in 2019 achieved around EUR 0.8 million operating subsidies compensating part of losses from cod management measures.

Concerning outlook for 2020, the main concern comes from remarkable decline of sprat (-22%) and herring (-10%) TAC in Baltic Sea, continuous termination of cod fisheries and impact of COVID19 crisis on fisheries and related economies. Based on model estimation, in 2020, Lithuanian national fleet is expecting to have Eur -1.4 million net losses.

## COVID19

During pandemic COVID-19 crisis The Lithuanian government initially declared quarantine from 16 March to 30 March of 2020, but it was extended several times and was set to end on 16 June. Lockdown due to the quarantine affected all economic sectors including fisheries. The main threats from lockdown on economic performance of fleet was from suspended operations and sales, especially foreign trade, decreased effort and landings, resulting in lower turnover, increased extraordinary expenditures and remaining high fixed costs is expected to remarkably reduce profitability for 2020 annual results. Based on preliminary data and COVID19 impact assessment nowcast, the most affected are long distance fleet fisheries, which highly depended on international markets. Long distance fleet accounts for around 90% of national value of landings. Based on preliminary landings data, during first three quarters of 2020, long distance fleet decreased landings by 40% compared to 2019 respective period taking into account that TAC for LDF is in good status as in SPRFMO region quota set 15% higher compared to 2019, in CECAF – 2% higher.

## Data issues



## Identify changes in respect to previous years

Variable “value of quota and other fishing rights”, was estimated and available for analysis.

## Improvements achieved within 2018 data collection

In 2019, variable “value of quota and other fishing rights”, was estimated according to the established and tested applicable methodology. For estimation of variable modified Discounted Cash Flow method was used, using LAFPMIS, FDIS, Fleet register and other data sources. New methodology is prepared in accordance with PGECON 2019 Recommendations 1.1 and 1.4 as well as conclusions on Tor 4 from PGECON WS on Capital value estimations (Salerno, 2019).

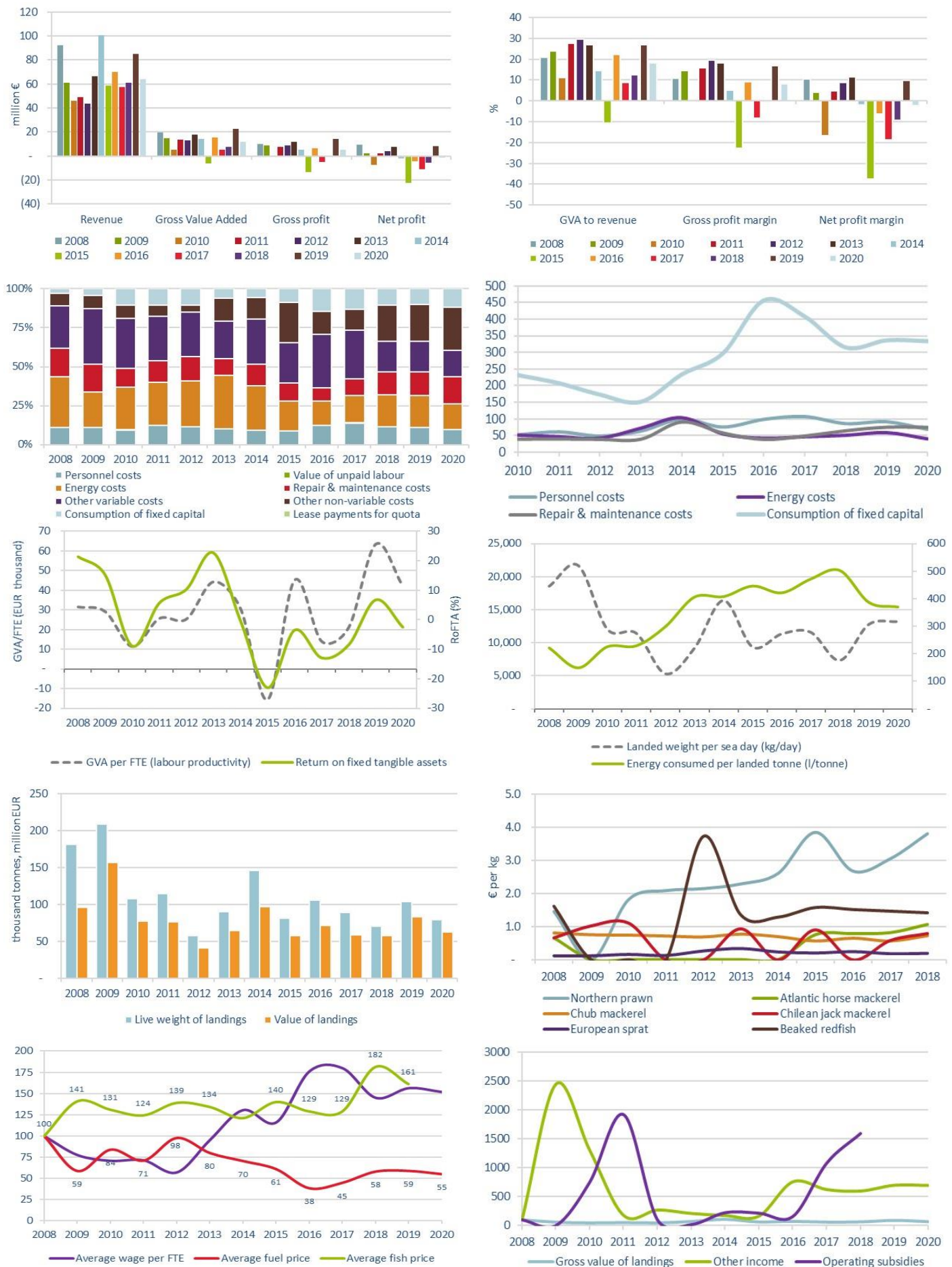
## Problems identified

No problems were identified.

## Remaining issues

Under DCF, revenues from landings reported from two distinct data sources (total value of landings as transversal variable and total income from landings as economic indicator). In Lithuania, income from landings together with other socio-economic indicators, such as expenditure, employment and capital value are collected through census with a one-year lag whereas transversal variables are collected one year prior to economic data.

Depreciation costs of capital and capital value at Member State level is recalculated for the total data set 2008-2017 after PIM method was revised and updated, whereas at fleet segment level data for capital depreciation costs and capital value from 2008 to 2016 left unchanged. The reason to leave previous data is because historic data were used for the fleet management with respectively addressed management measures.



**Figure 4.14 Lithuania: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.15 Malta

### Short description of the national fleet

#### Fleet Structure

The Maltese fishery is a relatively small industry of a typically Mediterranean artisanal type, and is frequently described as a multi-species and multi-gear fishery, with the majority of the fishers switching from one gear to another several times throughout the year. The vast majority of the Maltese fishing fleet is composed of SSCF vessels (89.7% in 2019) with an engine power of 38 200 kW and a combined 1 473 GT.

The total number of fishing enterprises in the Maltese fleet was 765 in 2019, 0.7% more than in 2018 (760 enterprises). The majority of fishing enterprises in 2019, 83.4% owned a single vessels, 16.5% of enterprises owned two to five fishing vessels while only 0.1% of the fishing enterprises owned six or more fishing vessels.

During 2019, the Maltese fishing fleet consisted of 912 registered vessels, 230 of which were inactive, having a combined 6 600 GT, engine power of 72 900 kW and an average age of 30 years. The vast majority of the inactive vessels are below 12 metres. In 2019, the number of vessels in the fleet decreased by 26 from 2018, furthermore the number of inactive vessels increased implying that the number of active fishing operations in the sector has decreased compared to the previous year. In fact, in 2018 682 vessels were active compared to the 728 recorded in 2018. The Maltese Fishing Vessel Register (FVR) did not open for new registrations during 2019, though registrations were accepted for recreational vessels, meaning that the fluctuations in total vessels were probably derived from vessel replacement.

The overall capacity of the Maltese fishing fleet has been showing a declining trend since 2008, with the number of vessels in 2019 being 14% less than the 2008 and 2018 average; the fishing capacity, in terms of GT and kW has also been showing the same trend, being 21% and 7% respectively lower, for the same comparison.

#### Fishing Activity and Production

The Maltese fleet spent a total of around 18 700 days-at-sea in 2019, 16 700 of which were fishing days. The total number of days-at-sea decreased by 17.9% between 2018 and 2019, whereas fishing days decreased by 12% over the same period. Since 2008 the total number of days-at-sea has decreased by 60%.

The quantity of fuel consumed in 2018 totalled around 3.81 million litres. Considering that in 2018, days-at-sea and number of trips increased by 2% each respectively from 2017 data, fuel consumption followed a similar flow, as over the same period fuel consumption increased by 2%. The increase in fuel consumption and in the market price of fuel in Malta, contributed to an 11% increase in fuel costs in 2018 from 2017.

The total weight landed by the Maltese fleet in 2018 was 2.7 million kilos, with a landed value of EUR 13.5 million, a 30% increase on 2017. The average weight of landings per vessel has also increased (19%) during the period analysed.

Provisional data for 2019 is showing that the total weight landed by the Maltese fleet was around 2.4 million kilos, with a landed value of around EUR 12.2 million. This means an 11% and 9% decrease in landings weight and value respectively on 2018. This landings data, both in terms of value and weight is still 24% and 15% above the 2008-2018 average.

The main exploited species include swordfish, common dolphinfish, Atlantic bluefin tuna, mackerel, silver scabbardfish, demersal and small pelagic species, and a number of additional species some of which although caught in smaller quantities, have a high commercial value such as the giant red shrimps and red scorpion fish.

In 2018, Atlantic bluefin tuna catches produced the highest landed real value volume (EUR 2.7 million), followed by swordfish (EUR 2.6 million), common dolphinfish (EUR 2.0 million), and giant red shrimp (EUR 0.6 million). These aforementioned species contribute to 59% of the total value of landings for the fleet. In terms of landings weight for these species, swordfish landings amounted to 308 tonnes, Atlantic bluefin tuna to 304 tonnes, common dolphinfish to 423 tonnes, and giant red shrimp to 29 tonnes.

Where in 2016 the prices of some of the key species such as swordfish, Atlantic bluefin tuna, giant red shrimp, red porgy, red scorpionfish had dropped, in 2017 all these species have increased in price. Conversely key species such as the common dolphinfish, silver scabbard fish and surmullet all dropped

in price. Since most of the key species have increased in price the overall economic performance of the Maltese fleet for 2017 should improve.

In 2017 the prices of key species such as swordfish, giant red shrimp, red porgy, red scorpionfish all recorded increasing, particularly swordfish and giant red shrimp which recorded a 32% and 25% increase in their average landed (real) price respectively. Conversely the prices of silver scabbard fish, and Atlantic blue fin tuna recorded drops of 13% and 4% respectively. The increases in prices of species, particularly red giant shrimp and swordfish, aided the economic performance of the Maltese fleet.

Of the key species mentioned above, giant red shrimp achieved the highest average real landed price per kilo in 2018 (EUR 16.38 per kg), followed by red porgy (EUR 16.15 per kg) and axillary seabream (EUR 15.64 per kg). Red scorpionfish, Atlantic bluefin tuna, giant red shrimp, red porgy, surmullet and common octopus attained the highest prices amongst top species landed by the Maltese fishing fleet.

## Employment

Employment in 2018 has remained quite stable to the numbers in the previous two years, only increasing by 1% from the figures reported from 2017 i.e. from 1 134 to 1 144. The FTE of the total employed in the industry is that of 594 or 0.82 per vessel. 79% of the total jobs were employed in small-scale fishing operations. This implies that the small-scale fishing sector is of fundamental importance to the social and economic aspects of the Maltese Fishing Fleet. It is important to note that 2018 employment figures for SSCF increased by 3%, whereas for LSF total employment decreased by 8%. Data shows that the average wage across all wage indicators (including per vessel, per FTE etc.) increased significantly over 2017.

## Economic results for 2018 and recent trends

### National fleet performance

The Maltese national fleet in 2018 showed a turnaround in its profitability since it recorded a positive profitability indicator. Net profit amounted to EUR 0.52 million, a 162% increase from 2017. This positive result was driven by: relatively high average landed prices of key species, causing landings income to increase. Even though operational costs increased as well, the fleet managed to maintain a positive profitability, potentially indicating an increase in the efficiency of the fleet.

The total amount of income generated by the Maltese national fleet in 2018 was EUR 14.5 million, a 33% increase derived from a 30% increase in the total landings income (EUR 10.5 million) and a 93% increase in other income (EUR 1 million). When adding also the income generated in the sector, from leasing out fishing rights (EUR 0.96 million), total income amounts to EUR 15.6 million.

The operating costs in 2018 amounted to EUR 11.9 million. Crew costs, capital costs and energy costs were the three major cost items (EUR 4.4 million, EUR 2.4 million, and EUR 2.3 million, respectively). However, EUR 3 million of crew costs were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2017 and 2018, the operating costs increased by 27% as labour, energy, repairs and maintenance, variable, and non-variable expenditure all increased. Due to the significant increase in revenue generated, the increase in operating costs did not affect gross profit. Gross profit in fact increased by 68% (EUR 2.6 million) from 2017.

Economic performance indicators such as GVA, gross profit and net profit all significantly improved. The total amount of GVA, were estimated at EUR 8.4 million. Between 2017 and 2018, the GVA of the industry increased by 58%. This indicates that the economic situation of the Maltese fishing fleet has taken a positive turn showing a significant improvements over previous trends. This improvement is mainly driven due to increases in landings income.

In 2018, the Maltese fishing fleet had an estimated (depreciated) replacement value of EUR 31.7 million and investments amounted to EUR 0.9 million, a 26% decrease compared to 2017. Investment decreased both in the SSCF (-13%) and the LSF (-41%).

### Resource productivity and efficiency

In 2018, the gross profit margin was 18%, implying further improvement in the operating efficiency levels for the sector from the 14% recorded in the previous year. This is also observed in the net profit margin for 2018 (4%) which increased by 146% over 2017 (-8%).

The RoFTA was 1%, in 2018, an improvement (+155%) when compared to the previous year. Labour productivity (GVA/FTE) has increased by 91% between 2017 and 2018, this is the highest level of productivity achieved by the fleet over the last 10 years. This increase in labour productivity is driven from the fact that GVA increased in value and FTE decreased in 2018.



Fuel consumption per landed tonne has followed an overall decreasing trend since 2008. In 2018, it is estimated at an average of 1 400 litres per tonne landed. This is a standard consumption for a typical fishing vessel in the Mediterranean. Fuel efficiency has decreased to 17% from 20% in 2017.

Landings in weight per unit of effort (in days-at-sea) followed an increasing trend since 2008. In 2018, this indicator reported an increase (23%) to 119kg per sea day. It is important to note that days-at-sea's rate of change is not a significant one, at least for 2018, which recorded a 2% increase from 2017. On the other hand the live weight of landings increased by 27%. This implies that between the 2017 and 2018 the Maltese fishing fleet operation continued improving its efficient.

## Drivers affecting the economic performance trends

Between 2017 and 2018, there was a significant increase in the weight of landings by 27%. Combined with an increase in the average prices of key species, landings income also followed the same trend and increase by 30%. There was also an increase in the major cost items for fishing operations, mainly labour costs and energy costs. The improved efficiency and favourable prices have been clearly the main driving source behind the overall improvement in the economic performance between 2017 and 2018. Although overall the fleet showed a turnaround in its performance, some segments have still showed signs of weak profitability and even deterioration in their economic trend. Positive profitability positions are present only in the large-scale fishery, profitability in SCF is still weak, although it showed signs of improvement.

## Markets and Trade (including fish price)

Fishing in Malta is mainly a traditional artisanal activity which operates on a small-scale. The majority of the fish landed is sold in the local market. In recent years, the status of the fish stock has reduced which led to a general increase in prices for some of the key species. In 2017 Malta consumed 37 kg per capita, the third largest domestic market for seafood per capita in the EU (52% over the EU average). This advancement could have been the result of Malta's tendencies towards fish all year round and the efforts of authorities to promote sustainable fish consumption through local publicity campaign which aimed at educating consumers, increasing consumer awareness, and diversifying national consumption patterns. Such campaigns were co-financed by the EFF and the EMFF.

Atlantic bluefin tuna, giant red shrimp, red scorpionfish, red porgy and surmullet attain the highest prices amongst all species landed by the Maltese fishing fleet. This is due to the fact that these species are characterised by a high demand both locally and abroad. In the latter case the main export markets for giant red shrimp is in Europe while Japan is the main export market for Atlantic bluefin tuna.

## Management instruments and regulation (policy)

Currently there are three management plans in place within the 25nM FMZ. These were developed in line with Article 19 of Council Regulation 1967/2006 and include: lampara purse seine fishery, bottom otter trawler fishery and lampuki FAD fisheries. The main objectives of management plans are to ensure the sustainability of stocks through better monitoring and to ensure financial stability for fishers.

Lampara fishery targets mainly small pelagic species, including chub mackerel (*Scomber japonicus*) and round sardinella (*Sardinella aurita*). The objectives of the lampara fishery management plan are to ensure that stocks are fished at sustainable levels, ensuring financial stability for fishers and safeguarding artisanal fishing activity. Following this management plan, the lampara vessel activities are monitored by a tracking system and catch logbooks and the fishing capacity in terms of GT and dimensions of the gear is frozen. In addition, the lampara management plans established that an implementation of a 20% reduction, in line with the precautionary approach, on the current lampara capacity in terms of number of vessels is to be carried out until the end of 2015. This action was then extended up until 2017.

The bottom otter trawl fishery main targets are shared stocks including red shrimps (*Aristaeomorpha foliacea*), red mullets (*Mullus* spp.) and deep water rose shrimp (*Parapenaeus longirostris*). The status of the latter stock together with that of European hake (*Merluccius merluccius*) is monitored annually at a regional level. The statuses of both stocks are in overexploitation. This management plan target to aid in the recovery of the stocks whilst at the same time ensuring economic returns and financial stability of fishers. The plan implemented a 20% capacity reduction, together with a temporal reduction in effort of 10%, via a one month cessation (closed season), up until the end of 2017.

The lampuki fish aggregating device (FAD) fishery targets juvenile species of *Coryphaena hippurus*. Lampuki is a highly migratory species and stocks are shared between diverse Mediterranean countries. The management plan for this fishery affects Maltese fishing fleet licensed to fish for the lampuki using FADs inside and outside the 25nM FMZ. The number of fishing vessels authorised to fish in the FAD fishery are frozen at 130 vessels. Following this management plan, the activities of all these vessels are monitored by means of tracking system and catch logbook. Moreover, the management plan stated that



the Department of Fisheries and Aquaculture will continue to enhance data collection and research on the stock. This policy tool is expected to be reviewed in 2018.

The multiannual management plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSA12 to 16) targets:

- Exploitation at MSY for the species in discussion by 2020;
- protection of nursery areas and essential fish habitats important for the stocks of species in discussion in the strait of Sicily;
- gradual elimination of discards, by avoiding and reducing unwanted catches and ensuring that catches are landed;
- implementation of measures to adjust fishing capacity of fleets to levels of fishing mortalities consistent with the MSY, whilst maintaining economic sustainability of fleets without overexploiting marine biological resources.

The plan establishes that up until three years; target fishing mortality rates to be achieved and maintained by 2020 and onwards, fisheries restricted areas in three areas if the Strait of Sicily, temporary cessation of fishing effort, that the contracting and co-operating non-contracting parties (CPCs) are to implement monitoring and management procedures, that CPCs have to establish designated ports in which landings of European hake and deep-water rose shrimp from the Strait of Sicily may take place and implement an observation and inspection programme to ensure compliance with the measures in the management plan. The plan also states that the CPCs are to carry out scientific monitoring, and ongoing adaptation and revision of the plan.

### Stock status

The status of some of the fish stocks in the Mediterranean are overexploited with 90% of the fish stocks being overfished.  $F$  and  $F_{MSY}$  or  $F_{0.1}$  are unavailable for most of the fish stocks for Malta. In 2019, the joint stock assessments for European hake and deep-water pink shrimp in GSAs 12-16 were updated by Maltese, Tunisian and Italian scientists, combining data collected throughout the Central Mediterranean. The stock assessments were conducted under the auspices of the MedSudMed project, and were finalised at the 2019 GFCM demersal working group. The assessments showed that hake was in overexploitation and overexploited, and the deep water rose shrimp was considered in intermediate overfishing status and relative intermediate biomass

MSE was also performed taking into consideration hake and deep water rose shrimp, using the same data used for the assessments.

One of the main problems of the economic performance of the Maltese national fleet is the status of fish stocks in the Mediterranean that have been declining for many years.

### TACs and quotas

The bluefin tuna fishery in Malta has been managed under an IQ system. In 2009, the transferability of quotas was allowed and the system changed from IQ to ITQ. In 2015, for the first time since the establishment of the bluefin tuna recovery plan in 2006, there was an increase in the quota, as the EU is allowed to fish over 9 372 tonnes. The annual increase in quota of 20% over three years (2015-2017) is due to the progressive recovery of the stock, as demonstrated by scientific evidence. As a result, Malta has benefitted and obtained an increase in the TACs of bluefin tuna.

In 2017, bluefin tuna represented the third most important species for Maltese fleets in terms of landings (204 tonnes in 2018), just after swordfish and common dolphinfish. In terms of value, bluefin tuna is one of the most valued species targeted by the Maltese fleets achieving an average first-sale price of EUR 8.87 per kg in 2018.

The established quota on swordfish has been in place since 2017. This catch limit, has impacted the landings of swordfish both in 2017 and 2018, as Malta recorded a 19% drop in 2017 since 2016, and a further 6.6% drop in 2018. Although the revenue earned from this specie dropped in 2017, it fluctuated back to pre-quota levels in 2018.

### Operational costs (external factors)

In 2018, both the small and large-scale fishing vessels in Malta experienced an overall increase in their operating costs in terms of crew costs, unpaid labour, energy costs and repairs and maintenance costs.

The number of fishing days and days-at-sea has decreased for both small and large-scale vessels. However the decrease was much more significant for the LSF than the SSCF, in fact the fishing and sea days of LSF decreased by 20% and 16% respectively, when compared to the 4% and 1% decrease for the small-scale fleet.

Relatively low fuel prices in 2017, was a driver in improving the level by which the overall economic performance of the Maltese fishing fleet improved.

## Innovation and Development

A number of project, co-financed by the EFF, involving upgrading of landing facilities in Gozo and designated ports in the southern regions of Malta were completed in 2016 with the aim to help fishers become more cost efficient.

A number of high standard training courses are being provided to all interested registered fishers. This investment was completed by the end of 2018 and involved courses with the aim of improving the knowledge and skills of those working in the local fishing industry, with the ultimate aim being that of increasing the overall standard of the local fishing industry. Another training course is expected to be launched in 2019.

A publicity campaign “Nesploraw Flimkien it-Teżori tal-Baħar!” was launched and completed by the end October 2018. This publicity campaign’s main aim was to communicate the importance of staying aware on the state of the local fish stocks, sustainable fish consumption, and the role of each individual in assisting conservation efforts.

A scientific study was also currently carried out to improve trawl gear selectivity so as to reduce discards of *Merluccius merluccius* and *Parapenaeus longirostris*. This study’s recommendations can assist the Maltese otter board trawling fleet to be more sustainable and economically efficient.

Such innovations and developments will support coastal communities in diversifying their economies and improve economic performance.

## Socioeconomic impact

Although the Maltese fishing fleet is benefiting from a number of young people who voluntarily help their family whilst at sea, on a seasonal basis, the Maltese fishing industry is experiencing the challenge to obtain the young generation into the profession of fishing. Fishing in Malta is mainly seasonal and as a consequence some of the full-time fishers own at least one small and one large vessel which enable them to practice off-shore fishing during the milder seasons and coastal activities during the winter months. Additionally, extra hands are sometimes recruited for bluefin tuna seines and common dolphinfish seasons.

91% of the active fishing vessels are small-scale fishers who fish a quarter of the total catches. These jobs are at risk as fish stocks in the Mediterranean are declining. Food security, livelihoods, and regional stability and security are all under threat.

Although the Maltese fisheries contribute a small percentage to Malta’s GDP, the sector creates is important to other industries of the economy, mainly tourism and catering.

## Nowcasts for 2019-20 and beyond

### Model results

No model projections were produced by the EWG.

### Landing Obligation

Commission Delegated Regulation (EU) 2018/161 of 23 October 2017 established a de minimis exemption to the landing obligation in the small pelagic mid-water trawl and purse seines fisheries for certain small pelagic species in the Mediterranean Sea until 31 December 2020. In conjunction, Commission Delegated Regulation (EU) 2018/2036 of 18 October 2018 established a discard plan for certain demersal fisheries in the Mediterranean Sea.

### COVID-19

Although Malta did not go under strict lockdown, this pandemic has left its effect on multiple industries, including fisheries. Overall, the main impact on the sector and on fishers was that the supply chain was interrupted. This implies that export channels for species such as the silver scabbardfish was interrupted, restaurants and hotels were partially or fully closed meaning that demand dropped significantly, traditional village markets were done open, and the remaining channels to sell the catch was either through the fish market or directly to households. The drop in demand created a problem of excess supply causing prices of species to drop significantly. This in turn has created a reluctance by fishers to operate and fish for normally targeted species.

Whilst small-scale vessels which are generally operated by the owner or few individuals had the possibility to still operate large vessels which require a crew of approximately four individuals or more could not operate due to safety regulations issued by the Health Authorities. In particular those large vessels that engage foreign crew, as most of these crew members returned back to their home country.

Considering that by May, many COVID-19 related measures started to be eased out, the impact on the sector, although existing, will hopefully be recovered in the upcoming months. Especially when considering that the bluefin tuna season was not significantly impacted and in August Common dolphin season opens and fishers will be allowed to operate normally.

The Department of Fisheries and Aquaculture is expected to issue a COVID-19 Compensation scheme via EMFF 2014-2020 where fishers will be given a subsidy on income based on the period on which they didn't operate.

## Other

In February 2019, Malta was hit by a storm, the worst since October 1982. This storm caused considerable amount of damage to the country. The fishing and aquaculture sector was also negatively impacted by this storm. Specifically, a number of fishers had their vessel severely damaged and were left inoperable for the remainder of the year. A damage compensation scheme is expected to be launched to assist the impacted fishers and assist them in restarting their fishing operation once more.

## Performance by fishing activity

### Small-scale coastal fleet

In 2018, there were 665 active vessels belonging to the SSCF. This represents 91% of the active vessels or 93% of the whole Maltese fishing fleet.

Fisheries in Malta are a relatively small industry where its social significance and impact on the coastal communities outweighs its overall economic importance. It can be described as a traditional activity which operates on a small-scale, producing small volumes of a very valuable primary products. The industry is mainly artisanal and it is considered as a typical fishery found in many Mediterranean countries. The majority of the small-scale fishing vessels conduct their coastal activities on a seasonal basis. There are no inland fisheries in Malta.

The Maltese national fishing fleet is mainly divided into two categories: The professional full-time fishing vessels and the part-time fishing vessels. 40% of the small-scale fishing vessels work on a full time basis in the fishing industry whilst 59% fish on a part time basis.

In 2018, 79% (302 employees) of the total 1 144 employed in the Maltese fishing industry worked on small-scale fishing vessels. This corresponds to 364 FTEs. In 2018, there was slight increase in the total jobs (3%) of the small-scale fishing vessels. It is important to note that the FTE is rather low compared to the total jobs potentially due to seasonal employment in a number of fisheries, in particular the common dolphin season. Data on the labour force in the sector shows that there have been constant fluctuations in the crew costs across the years due to unpaid labour and due to the fact that crew in this sector may also be paid a share of revenues/profits. In 2018, wages amounted to EUR 926 000 while the unpaid labour cost amounted to EUR 2.0 million. The vast majority of the employees in the small-scale fishing are the owners themselves with no employees. Others have their families and friends who voluntarily help them during a fishing trip working in certain fishing seasons or on a casual basis.

The landings value of the small-scale fishery increased by 40% from 2017 to 2018. In terms of profitability, in 2018, the economic performance of the small-scale fishery improved since it registered improvements in gross loss of EUR 0.4 million in 2018 from a gross loss of EUR 0.5 million in 2017. A similar trend was followed for the net profit as the industry registered a net loss of EUR 0.9 million in 2018, a 18% improvement from 2017. Although, overall, the SCF improved, segments within the SCF segment have still shown weak profitability in 2018, then again it is important to mention that the data shows an improving economic development trend in May contributed 31% of the GVA generated by the fisheries industry.

### Large-scale fleet

The large-scale fishing vessels that were active during 2018 amounted to 63. This represents 9% of the active Maltese fishing vessels. All large-scale fishing vessels work on a full time basis in the fishing industry.

In 2018, 21% of the total jobs (242 employees) in the Maltese fishing industry worked with the large-scale fishing vessels. This corresponds to 230 FTEs. In 2018, there was 8% decrease in the total jobs of the LSF.

The landings value of the large-scale fishing vessels increased by 25% between 2017 and 2018. In 2018 this fleet category contributed to 69% to total income from fishing activity. In 2018, the LSF reported a net profit of EUR 1.9 million. In terms of profitability, GVA, gross profit, and net profit increased by 44%, 48% and 118%, respectively, between 2017 and 2018.

These results indicate that the economic performance of the large-scale fishery continue improving on the previous year.

## Performance results of selected fleet segments

The Maltese fishing fleet is highly diversified with a broad range of vessel types targeting different species in the Mediterranean. The Maltese national fleet consisted of 19 active (DCF) fleet segments in 2017, which were clustered into 10 fleet segments and 5 inactive fleet segments, totalling 249 vessels. These vessels are classed as inactive if they did not land any catch in 2018.

Out of five large-scale clustered fishing segments, three generated a net profit during 2018. On the other hand, out of five small-scale fishing segments, one made a net profit in 2018. This shows that the overall economic performance of the fleet segments of the small-scale fishery is still rather weak but some segments may be showing signs of a turnaround. Further analysis on the performance of the fleet segments of the small-scale fishery is provided below.

Since for 2017 segments were clustered, economic development trend is not yet robust enough for prediction. thus no trend analysis has been provided for these clustered segments.

### Vessels using other active gears 06-12m

16 vessels made up this segment in 2018, which operates predominantly in the Mediterranean. This segment employed 42 jobs corresponding to 37 FTEs during the same period. The fleet targets mainly common dolphinfish by using FADs. In 2018, the total value of landings was about EUR 0.75 million; the segment generated 5% of the fleet's total revenue. In the same year, this segment generated a net profit of EUR 0.07 million or an average net profit of EUR 4 578 per vessel. The net profit margin is 115% over the 2008-2017 average, this the best recorded performance of the segment over this time series. Such profits were driven by the significant increase in landing volume which subsequently resulted in a significant increase landings income. This increase in income maintained positive profits even though costs for this segment increased. The sharp increase in landings volume was primarily derived from the increase in landings of common dolphinfish and swordfish and the fact that the price of common dolphinfish remain constant compared to previous years, whereas the price of swordfish increase.

### Vessels using active and passive gears 06-12m

135 vessels made up this segment in 2018, which operates predominantly in the Mediterranean and represents 21% of the small-scale fishery in Malta. This segment employed 212 jobs which are equivalent to 116 FTE during the same period. This fleet segment targets several species, mainly common dolphinfish (33% of total landings), common octopus (7% of total landings), Atlantic bluefin tuna (6% of total landings) and swordfish (5% of total landings) by using fish aggregating devices (FADs), and drifting long-lines (LLD), respectively. In 2017, the total value of landings was about EUR 1.7 million and generated a net loss of - EUR 42 364. The net loss for this segment decreased by 92% from 2017 to 2018, which continued building on the improvement in the economic performance made in 2017 from 2016. Such improvement was mainly due to an overall increase in the revenues. The segment is still in a weak position in terms of profitability, although its economic performance is still improving.

### Vessels using polyvalent passive gears only 06-12m

164 vessels made up this clustered segment in 2018, which operates predominantly in the Mediterranean and represents 23% of the small-scale fishery in Malta. This segment employed 264 jobs equivalent to 124 FTEs during the same period. This fleet segment uses different metiers. In 2018 this segment's most landed species were silver scabbardfish (116 tonnes) and Swordfish (84 tonnes), the net profit, gross profit and GVA amounted to -EUR 0.1 million, -EUR 0.4 million and EUR 1.2 million, respectively.

A short description of two important segments in terms of total value of landings is provided below.

### **Vessels using hooks 18–24m**

13 vessels made up this segment in 2018, which operates predominantly in the Mediterranean. This segment employed 60 jobs equivalent to 60 FTE during the same period. The fleet targets a variety of species mainly by using surface and bottom long-liners. Surface long-liners target mainly large pelagic species such as Atlantic bluefin tuna, swordfish, and common dolphinfish while bottom long-liners target demersal species such as bluntnose sixgill shark, red scorpion fish, silver scabbardfish species, among others. In 2018, the total value of landings was about EUR 1.7 million. In 2018 this segment recorded a net profit of EUR 70 345. Profit decreased due to a slight drop in landings income and larger increase in the cost structure of the segment. The increase in the average landed price of the key specie for this segment i.e. swordfish also continued assisting the maintaining of economic performance. 2018 profitability was deemed relatively weak especially when compared to 2017, then again the segment still showed an improving economic trend.

### **Demersal trawlers 24-40m**

12 vessels made up this clustered segment in 2018, which operates predominantly in the Mediterranean. This segment employed 42 jobs/FTE in 2018. The fleet targets a variety of species but in particular demersal and deep water species, such as deep water rose shrimp, giant red shrimp and red mullets. In 2018, the total value of landings was approximately EUR 1.3 million. Although the segment reported a gross profit of around EUR 0.3 million, it recorded a net loss of - EUR 0.2 million. This indicates a weak profitability for 2018, though a sign of improvement upon previous year. The main driver behind this weak profitability is the high costs incurred relative to the income earned.

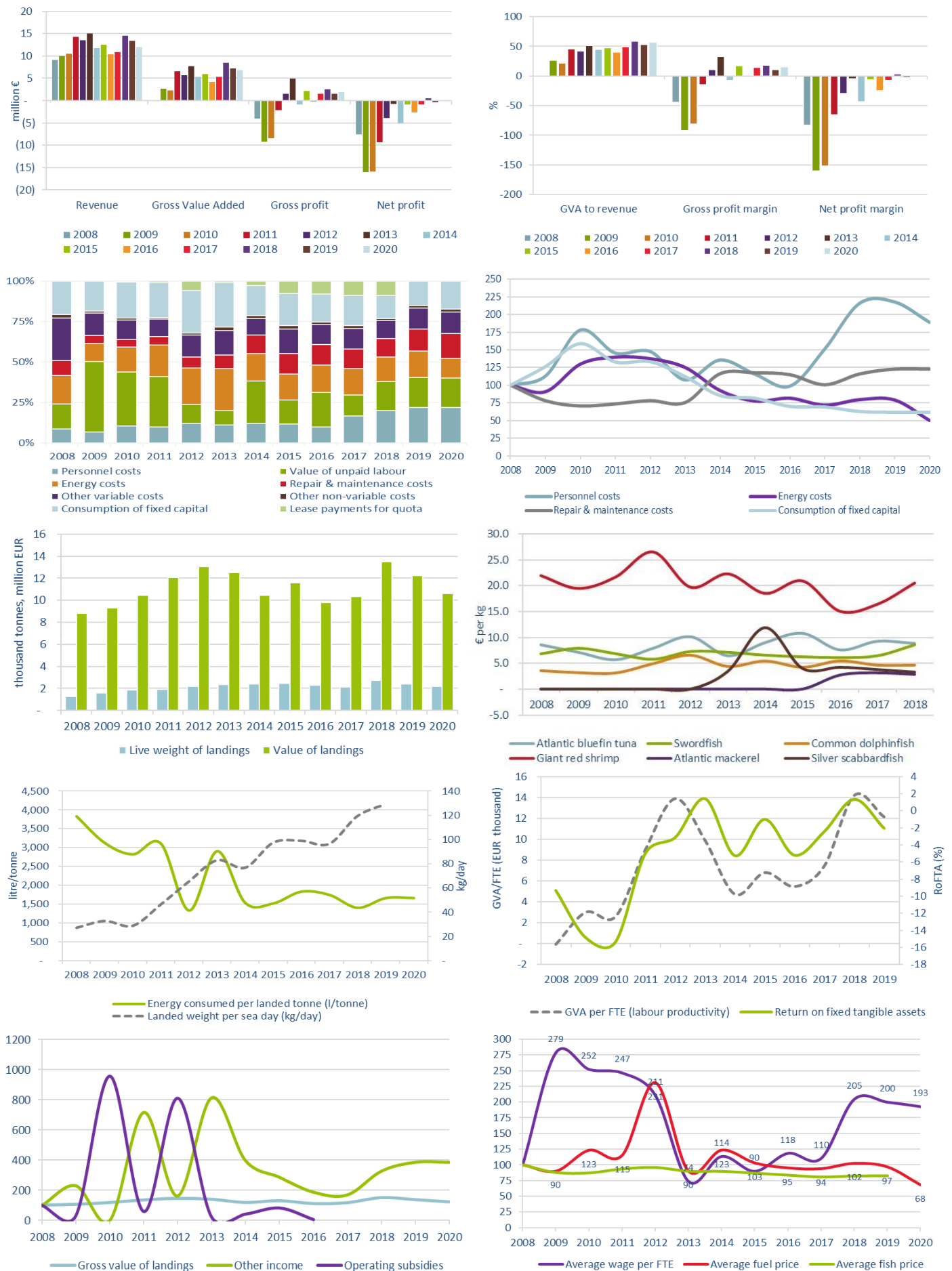
### **Purse seiners 18-24m**

4 vessels made up this clustered segment in 2018, which operates predominantly in the Mediterranean. This segment employed 31 jobs corresponding to 31 FTEs in 2018. The fleet targets mainly Atlantic bluefin tuna, Atlantic mackerel and chub mackerel. In 2018, the total value of landings was about EUR 2.6 million. This fleet segment was profitable in 2018, with a reported gross profit of around EUR 1.8 million and a net profit of EUR 1.7 million. This indicates high profitability for 2018, driven by the high efficiency of the fleet's performance and the fact that its key species, Atlantic bluefin tuna generates high turnover.

### **Data issues**

Although no major issues were detected given that the Maltese fishing fleet is mainly composed of small-scale fisheries, it is very challenging to collect precise and complete data from the fishers. The reason being that the majority of small-scale fishery do not engage an accountant and thus they do not have professional bookkeeping. Having said this, Malta does its best to enhance the quality of the data at data collection level and also at analysis level.





## 4.16 Netherlands

### Short description of the national fleet

#### Fleet capacity

In 2018, the Dutch fishing fleet consisted of 721 registered vessels. Compared to 2017 this was -2% (736 vessels). Within the last 10 years the size of the fishing fleet fluctuated between 712 to 740 vessels. The mean age per vessel has slightly increased by the years from 27 years (2008) to 32 years (2018). Of all registered vessels 72% (522) was active which is comparable to last year. However, the employment decreased with 8% (to 1.986 total jobs) and -2% in FTE (1.678) between 2017-2018. The total vessel power of the decreased with 5% (to ca. 246 900 kW) as total tonnage -11% (to ca. 103 500 GT) last year.

In 2018, the number of fishing enterprises totalled 564, with the vast majority (81%), owning a single vessel. Around 19% of the enterprises owned two to five fishing vessels and only a few enterprises owned more than five vessels.

#### Fleet structure

In 2019 the active fleet has the similar division (in percentages) as 2018, with 34% SCF (158 vessels) and 66% LSF (343 vessels). Both SSCF (-4%) and LSF (-6%) diminished compared to the years from 2008 on. In particular the number of pelagic freezer trawlers (TM40XX) strongly decreased through the years (-50%). In 2008 there were 14 trawlers, in 2018 only seven left among the Dutch flag. Most of them were and are operative among foreign flag, often to better utilize EU pelagic species quota owned by other Member States.

The mean length of SSCF was 7 metres, where this was 27 metres for the LSF between the period 2008 to 2018. The largest share of the LSF consists of cutters targeting Common shrimp (max. 221 kW) and cutters targeting flat fish (max. 1 468 kW). Both cutter segments fish often with beam trawl (TBB). Last 2 to 3 years multiple new building orders were given of modern vessels often with a combination of demersal trawl and Danish/Scottish seines (DTS2440) (so called fly shoot or purse seine). Some single orders were given for conventional beam trawl (TBB40XX) with flat fish (plaice or common Sole) as target species.

#### Employment

Around 16% of the jobs come from the small coastal fleet, whereas the rest comes from the large-scale fleet (65% from cutter fleet and 19% from the trawler fleet). If expressed in FTE, the contribution of the small coastal fleet is much lower: about 5% of the total. The trend from 2008-2015 was downward for employment mainly due to decreasing number of vessels characterized by years of economic losses or small profits (up to ca. EUR 30 million for the total fleet). In 2016 there was a kind of renewed hope by high profits which resulted into new investments (e.g. new vessels) and therefore (re)entering of crew into the fleet. From 2016 the number of pelagic freezer trawlers was decreasing which clarifies the again drop of engaged crew in the fleet.

#### Effort

In 2018, the Dutch fleet spent a total of 50 300 days-at-sea (DaS), a decrease of 1% from 2017. Compared with 2008-2017 the average of effort decreased as well by 1%. The quantity of fuel consumed in 2018 is estimated around 161 million litres, a decrease of 4% from 2017 and even a decrease of 14% compared with the mean of time series from 2008 to 2017. The decrease in fuel consumption last year (2017-2018) can be linked to the decrease in DaS, in particular for the fleet segment DTS 18-24m by -73% (from 3 051 to 824 days). Likely these vessels changed their fishing plan by using other gear targeting other species. Other larger segments (in terms of DaS) increased. For instance the pelagic freezer trawlers (TM40XX) +8% and shrimp and flat fish fishers +10% (TBB 18-24m), but these increasements did not outweighed the decreasing in DaS for other segments. The major factors causing the overall decrease in fuel consumption over 2008-2017 include the results of innovation programmes (introduction of new technics in fishing) that commenced in 2008 and the decrease of effort in kW-days. During 2019, of the total (around 80) exemptions for pulse technique those that were temporary had been expired. Therefore, in 2018 many around 80 pulse vessels could benefit the up to 40-50% less fuel

consumption per vessel per day at sea (Oostenbrugge et al, 2018<sup>34</sup>). It is expected that the total fuel consumption will increase in the next few years due to the ban on pulse fishing. Most of these pulse vessels will switch to the traditional beam trawl technique (with tickler chains).

The average weight landings per sea day for the Dutch large-scale fisheries was estimated around 8.5 tonne per day at sea in 2018, an increase of 8% compared to 2017. The reason of this increase can be found in the increased average landings of pelagic fish by the freezer trawler fleet (+18%) per day at sea. The average LPUE for the trawler fleet amounted 168 tonnes per day at sea in 2018 compared to 143 tonnes per DaS in 2017.

## Production

Compared to 2017, the total live weight of landings increased by 8% and landings value decreased by 3% in 2018. The total live weight of fish and shellfish landed by the Dutch fleet in 2018 was 406 000 tonnes, with a value of EUR 432.5 million. The increase in weight is mainly caused by the increased landings weight of pelagic fish species. The total landings of pelagic fish fluctuate from year to year often determined by the quota (often almost or fully utilized). The main reasons of the increased landed weight is the more than doubled catches of common shrimps (+102%) to a total of 27 000 tonnes in 2018. By this surplus the landing prices dropped with 50% from 6 EUR/kg in 2017 to 3 EUR/kg in 2018.

The demersal fleet targets mainly flatfish and common shrimp. In terms of value, the top landed flatfish species are European plaice and sole. Due to a great decrease in landings value of common shrimp (by the surplus in terms of landed weight), sole generated the largest share of landings in value in 2018. The landed value of sole was EUR 92 million, common shrimp was EUR 82 million (EUR 37 million less compared than 2016). These species represent respectively 21% and 19% of the total landings value.

In terms of live weight of landings, European plaice was the most important species for the demersal fleet in 2017. However, the landed weight of this species dropped with 20% (to a total of 24 300 tonnes) in 2018. Common shrimp was the most caught species in this year.

European plaice generated the third highest landed value (EUR 57.2 million, or 13% of total landings value). In particular due to a higher price (+33%) with an average of EUR 2.40 per kg compared to the previous year. Relative to last 10 years the price increase was even higher (+57%). The plaice processing companies were willing to pay these higher prices to a certain extend for this scarcer raw material in order to perform the supply contracts with their customers (wholesalers and retailers etc.). In 2018, the most important species for the pelagic freezer trawlers were Atlantic herring (EUR 39.2 million), blue whiting (EUR 35.2 million), Atlantic mackerel (EUR 19.7 million) and Atlantic horse mackerel (EUR 15.4 million).

## Economic results for 2018 and recent trends

### National fleet performance

The economic performance of the Dutch national fleet decreased in 2018 compared to 2016 and 2017. After years of economic losses (before 2014) the profits increased between 2014 and 2016. This latter was a year with relatively high landing prices and high live weight landings for the largest part of the Dutch fleet, which is demersal (mainly shrimp and flat fish). From 2017 the weight of landings decreased more and more by year.

In 2018, the total amount of income generated by the Dutch national fleet decreased with 1% to a total of EUR 436.2 million. This consisted of EUR 432.5 million landings value and around EUR 2.3 million in non-fishing income. When including income from leasing fishing rights and direct income subsidies, total income amounted to EUR 437.5 million. Total income is expected to decrease again in 2019 due to decreased landings of especially flatfish.

Total costs in 2018 were EUR 381 million. Total costs for 2018 increased 2% from 2017. In particular energy costs increased with 20%. Labour and energy costs, normally the two major fishing expenses, amounted to EUR 113 and EUR 73 million, respectively in 2018.

In 2018, GVA, gross profit and net profit generated decreased for the Dutch national fleet. Respectively -8%, -19% and -21% compared with the previous year. In similar order, these parameters were estimated at EUR 219 million, EUR 84 million and EUR 59 million. All indicators are expected to decrease further in 2019, due to decreasing catch volumes of flat fish and increasing energy costs due to the ban of pulse technique.

<sup>34</sup> Oostenbrugge et al, 2018. Economic aspects of pulse fisheries. *Wageningen Economic Research*, [https://www.wur.nl/upload\\_mm/b/f/8/c5e084a5-250e-4f90-8bf1-2e92edb16030\\_Economische%20aspecten%20pulsvisserij.pdf](https://www.wur.nl/upload_mm/b/f/8/c5e084a5-250e-4f90-8bf1-2e92edb16030_Economische%20aspecten%20pulsvisserij.pdf)

For 2018, the Dutch fleet had a (depreciated) replacement value of EUR 253 million, which was 2% lower than the year before. The value of fishing rights decreased with 40% in one year to a total of EUR 273 million. Main cause is a lower uptake of quota for the major species Plaice and Common sole. Fishing rights and quota are transferable in the Netherlands. Selling/buying and leasing these rights are quite common and prices fluctuate substantially from year to year, depending on market availability (e.g. quota for sole or plaice available or not). Since the introduction of the pulse (high selectivity for sole) sole prices grew substantially (average lease prices of around EUR 3.35 in 2015) but dropped again in 2016 due to a higher TAC and a lower uptake in 2017 and 2018. Investments amounted to EUR 16 million in 2018 and were 3% lower compared to 2017.

Dutch vessels are becoming older: the average age was 32 years in 2018. The improved economic performance stimulates further fleet renewal in the cutter fleet last years. New flyshoot (purse seiner), twinrig (DTS) and shrimp vessels (TBB) are expected in 2019. Uncertainties like Brexit, multi-use of the North Sea (windmill parks for instance), the landing obligation, ban for pulse fishery and the capacity at shipbuilding companies to build new vessels have an inhibiting effect on the speed of the fleet renewal.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was 19.3%, an -18% operating efficiency of the sector. This percentage increased yearly from 2011 (gross profit margin of 12.5%) till 2016 (28%). Net profit margin was estimated at 13.5%, a 3.5% decrease on 2017. The Rate of Return on Fixed Tangible Assets (RoFTA) decreased in comparison with 2016 (36%) and 2017 (28%) but it still positive with 22% relatively to negative ratios in 2011-2013.

Labour productivity (GVA/FTE) decreased in 2018 with 6%: EUR 130 100 per FTE. Both GVA (-8%) and FTE (-2%) decreased, therefore the labour productivity deteriorated by its inefficiency.

In 2018, fuel consumption per landed tonne decreased with 11% compared to 2017 and amounted 400 litres per tonne landed in 2018.

### Small-scale coastal fleet

In 2018, the SCF had a higher productivity relative to 2017. This fleet generated EUR 4.1 million of GVA (+75%), EUR 2.8 million of gross profit (+80%) and EUR 2.0 million of net profit (+153%). This increased performance could be clarified by the doubled landed weight by the SCF.

### Large-scale fleet

The LSF had a decreased productivity compared to previous year. In 2018, the segment generated EUR 215.3 million of GVA (-9%), EUR 81.5 million of gross profit (-20%) and EUR 56,9 million of net profit (-23%).

### Performance results of selected fleet segments

The Dutch fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the North Sea (demersal fleet) and North East Atlantic Ocean (pelagic fleet), around the UK and Ireland. Besides that, a small part of the pelagic fleet operates in African waters and in the Pacific.

The economic performance of the fleet relies heavily on innovation and technical/structural development. The Dutch government and the EU supported the fisheries sector to produce fish in a more sustainable way with economic perspectives. Projects started a few years ago (e.g. 'knowledge networks') appears to help to improve entrepreneurship in fisheries so that fishers will be able to compete in international fish business in future. In 2016 this project ended. New projects focus more on the fisheries' selectivity approaching landing obligation and innovative fishing gear (less energy consumption).

The national fleet consisted of 11 (DCF) fleet segments in 2018. Except TBB0010, all other 10 fleet segments made profits in 2018. Annex 4 provides a breakdown of key performance indicators for all 11 fleet segments in 2018. A short description of the five most important segments in terms of total value of landings is provided below.

### Beam trawl over 40m

In 2018, 60 vessels make up this segment which operates predominantly in the North Sea. The fleet targets a variety of species but in particular flatfish, such as sole, plaice and turbot. Compared to a year ago in 2018 the total value of landings was over EUR 132 million (+2%) and around 413 FTEs (-11%) were employed in this fleet segment, contributing to 24% and 32% of the total income from landings and FTEs generated by the Dutch fishing fleet, respectively. There was an increased Net Value Added

per FTE (+5%) as more value is landed with less FTE. However, more costs were made therefore average crew wage per FTE decreased with 4% (to a total of EUR 75,607). This fleet segment was profitable in 2018, with a reported GVA, gross profit and net profit of EUR 69.4 million (-7%), EUR 32.7 million (-9%) and EUR 29.3 million (-9%), respectively.

Due to increased fuel prices (compared to 2017), decreased live weight of landings and higher flatfish prices this TBB40XX segment made still profits in 2018. The main fishing gears of this segment are conventional beam-, SumWing and pulse trawl.

### **Pelagic trawl over 40m**

In 2018, 7 vessels made up this segment which operated predominantly in the North East Atlantic Ocean and to a lesser extend in the North Sea. The fleet targeted pelagic species, particularly herring, mackerel, horse mackerel and blue whiting. The total estimated value of landings was over EUR 116.5 million and around 378 FTEs were employed in this fleet segment, representing 28% of the total Dutch value of landings and 22% of the FTEs of the Dutch fishing fleet. These numbers are by estimation similar to 2017 except one vessel less. It should be noted that the prices used to calculate the value of landings of the pelagic trawlers are obtained from the pelagic sector (see data issues). They are internal prices used to calculate the wage of the crew of the fishing vessel. The integrated companies cover the whole production chain from fishing to the consumer and there are no real ex-vessel prices available.

This fleet segment was profitable in 2018, with a reported GVA, gross profit and net profit of EUR 52.9 million (-8%), EUR 16.2 million (-36%) and EUR 3.8 million (-66%), respectively. Information about the economic performance of the overall companies with cost allocations is not available, so it is hard to evaluate whether those profits resemble reality.

### **Beam trawl 18-24m**

Compared to 2017 a year later, there were 161 vessels (+7%) within this segment which operated predominantly in the North Sea and in the coastal zone. The fleet mainly targeted common shrimp and some vessels targeted *Nephrops* seasonally and flatfish, such as sole, plaice and turbot. In 2018, the total value of landings was around EUR 87.5 million (-1%) and around 433 FTEs (+5%) were employed in this fleet segment, contributing 26% and 21% respectively of the total income from landings and FTEs generated by the Dutch fishing fleet.

This fleet segment reported a GVA, gross profit and net profit of EUR 49.1 million (-7%), EUR 16.6 million (-12%) and EUR 12.5 million (-5%), respectively.

### **Demersal trawls and seiners 24-40m**

With one more in 2018, a total of 28 vessels made up this segment which operated both in the northern part of the NS and the British Channel. The fleet targeted a variety of species like mullet, gurnard, squid and sea bass (mainly fly shoot method) but also flatfish, such as plaice and turbot. In 2018, the total value of landings was EUR 30.3 million (-19%) and around 159 FTEs (+5%) were employed in this fleet segment, contributing to 7% of the total income from landings and 9% of FTEs generated by the Dutch fishing fleet, respectively.

This fleet segment reported a positive GVA, gross profit and net profit of EUR 18.2 million (-11%), EUR 6.2 million (-24%) and EUR 3.7 million (-40%), respectively. A combination of less landed value and higher energy costs (+37%) relative to 2017.

### **Beam trawl 24-40m**

A new vessel was added in 2018 that made a total of 28 vessels in this segment which operated predominantly in the North Sea. The fleet targeted in particular flatfish, such as sole, plaice and turbot. In 2018, the total value of landings was over EUR 31.3 million (-8%) and around 134 FTEs (+6%) were employed in this fleet segment, contributed to 7% of the total income from landings and 8% of FTEs generated by the Dutch fishing fleet.

This fleet segment was still profitable in 2018, while the profitable decreased relative to 2017 with a reported GVA, gross profit and net profit of EUR 13.7 million (-27%), EUR 4.2 million (-50%) and EUR 3.4 million (-52%), respectively. A major reason of the decreased profitability was increased energy costs (+29%) and repair/maintenance costs (+18%).

## **Drivers affecting the economic performance trends**

There were several driving forces behind the still profitable economic performance in 2018 by the Dutch fleet. Especially high flat fish prices caused by decreasing landing for many fish species (in particular



plaice), relatively low fuel prices (compared to fuel price levels before 2016) and still being able to use pulse trawling as innovative fuel saving fishing gear. However, a decrease in economic performance is already observable from the year of 2017. There is concern about further decreasing performances when the pulse fishing technique is forbidden, fuel prices increase and flat fish landings are expected to decrease to certain extent. The Dutch demersal fishing fleet is dominated by beam trawlers and demersal trawlers. As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are therefore key drivers of the fleet's profitability.

## Markets and Trade

The main challenge in 2017 and 2018 was to meet the demand from market for NS fish species (e.g. plaice and sole). By the decreased weight of landings it was difficult for the processing and trade industry to keep their customers if they were not able to deliver the demanded quantities for seasons. European plaice generally compete with other (non-) European flatfish species. However, they also compete with whitefish species on the same market in and outside Europe. An increased dollar exchange rate helped this flatfish to become more competitive, where important non-European whitefish species became less competitive due to relatively higher import prices. On the other hand, the total availability of (non-) European flatfish species and substitutes for these species dropped in previous years. As effect of the increased competitiveness and the relatively low availability the plaice price went up. Due to pending contracts from last year high prices are paid to fulfil the contracted volumes.

Most flatfish caught by the Dutch fishing sector is consumed in southern Europe in countries like Italy, Spain and France. In northern Europe, Germany is an important country for the consumption of flat fish fillets.

Where in 2017 there was the challenge of losing markets for common shrimps due to supply shortage, it was the opposite in 2018. Landings volumes in the Netherlands doubled in 2018. In 2018 common shrimp landings prices decreased explosively by 50% due to a growing unbalance between demand and supply. Many landed shrimps were frozen and stored by traders/processors. It resulted into POs' schemes for shrimp fishers to reduce their fishing effort to avoid a further unbalance between supply and demand.

## Management instruments

The Dutch fleet is managed mainly through ITQs for the most important species, together with a range of input controls.

In the context of the recovery of cod stocks, a number of effort measures (including real time closures) were implemented depending on the fishing gear in the North Sea, the Irish Sea, Skagerrak and west of Scotland. Many additional yearly restrictions exist, depending on the fleet segment, the species and area. In 2015, the North Sea cod management plan was discontinued and limits on days-at-sea in the North Sea stopped.

Due to Natura 2000 demersal trawl fisheries are facing many area closures. Besides that, other activities in the North Sea such as windmill parks claim more and more space. As a result, fisheries are forced to change their fishing grounds.

## Landing Obligation

In the Netherlands a *de minimis* exemption was set for multiple quota species between 2016 and 2019 in the North Sea. For instance for species as plaice, common sole, *Nephrops*, turbot, ray and common shrimps.

Different projects, partly funded by the EMFF, are started in the Netherlands for finding solutions for a workable landing obligation. The projects mainly focus on increasing survivability of quoted unwanted fish species and improving selectivity of nets. By increasing survivability species like sole and turbot could be excluded from the landing obligation. Improving selectivity will reduce the amount of unwanted bycatch. Especially in *Nephrops* fisheries net adjustments improved selectivity. The new developed SEPNEP, a net with two cod ends that separate the *Nephrops* from the other fish, reduces unwanted bycatch up to 65% (unwanted plaice and dab by -69% and -78% respectively) without losing (too much) marketable fish.

Another project started to monitor discards, named Fully Documentary Fisheries. Around 5-10 fisheries vessels have camera on board to monitor the enforcement of the Landing Obligation by the European fleet.

Dutch fishers fear that the discard ban will not be workable. Beside of the extra costs and the need of additional crew, the most important concern is related to choke species<sup>35</sup>, i.e. losing catches of species where quota are still available. Discards are highly variable depending on the fishery in terms of quantity and composition. It is expected that a quota uplift may not be sufficient in some fisheries to prevent a “choke”. In such a situation, the fishing activities are halted regardless of the available quota for other species. Particularly in a mixed fishery where the stocks and quotas of the target species are high, this could be an issue as many species are caught at the same time and multiple choke species may occur. Rays, turbot and brill are potential choke species candidates in mixed demersal fisheries.

## TACs and quotas

Total initial available quota for the Dutch fleet in 2019 is 262 000 tonnes for the most important demersal and pelagic species cumulative. For many species, quota is managed through ITQs.

The Dutch quota for sole from ICES Area 4 and union waters of 2a, which is especially important for the Dutch fleet, decreased by 19% (including top up for the purpose of the landing obligation) to 12 140 tonnes in 2018. The Dutch quota for European plaice from ICES area IV, union waters of Area 2a and area 3 (excluding Skagerrak and Kattegat) decreased as well with 10% (including top up for the purpose of the landing obligation), on 38 170 tonnes.

The Netherlands conducts quota swaps with other Member States. This, together with the transferable quota from 2017 to 2018, allowed for a sufficient amount of quota for important fish species like sole, plaice and *Nephrops* in 2018. In total sole quota increased in 2018 by 2%, amounting to a total of 12 896 tonnes. For European plaice this amounted to a total of 54 168 tonnes (-10%).

In 2018, Lease prices for sole were around EUR 0.25 to EUR 0.50 per kg. Sole quota was not fully utilised in 2017 (66%). This fact, together with an increased effort in shrimp fisheries (due to good shrimp prices) and uncertainty about pulse fisheries brought back the lease price for sole to below EUR 0.50 per kg in 2018.

The utilisation of plaice quota was low in 2016, 2017 and 2018 and lease prices were also very low.

## Status of Key Stocks

Most of the imported stocks fished by the Dutch fleet such as sole and plaice in the North Sea are fished at sustainable levels, below or at MSY. Some other stocks (like cod) are still overfished. These species (like cod) are caught as bycatch or a target for only a couple of vessels.

## Innovation and Development

Around 80 commercial vessels are currently using pulse technique. Pulse technique reduce fuel consumption up to 40-50%. Most of these vessels target flatfish. A few targeted shrimps. The European Parliament voted against the pulse fishing technique in European waters since 16 April 2019. This mean that the legal exemptions will be revoked. In June and by the end of December 2019 exemptions that were approved from 2014 for a 5 year period will not be prolonged. The other exemptions for an infinite period will be revoked from July 2021 when there is a total ban on pulse fisheries in the EU. Especially the Dutch fleet has a large pulse fishing fleet. In 2018 almost 30% of the active cutters applies this technique. The topic of pulse fishing is highly controversial at the moment, due to discussion about the ecological effect. In the end of 2019 the research program about these ecological effect of pulse fishing will be finished.

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<sup>35</sup> A choke species is a species for which available quota is insufficient to cover catches.

## Nowcasts for 2019-20 and beyond

### Model results

The figures of 2018 can be used to make a forecast for 2019. That forecast gives a calculated 22% decrease in landed weight, with a 21% decrease in landed value. Projections suggest that with that decrease in value of landings, the economic performance will decrease in 2019: GVA (-34%), gross profit (-52%) and net profit (-66%). GVA is estimated at EUR 145 million, gross profit at EUR 40 million and net profit at EUR 20 million in 2019.

Projection results suggest that the Dutch fleet will operate at a profit in 2019: with an estimated gross- and net profit margin of 12% and 5%, respectively. The GVA to revenue is another indicator of the economic performance which is expected to be 16% lower (at a total of EUR 42 million) than in 2018.

The main cause of predicted lower economic performance in 2019 compared to previous 3 years is the decreased live weight of landings with 87 000 tonnes compared to 2019. Similar holds for value of landings which are estimated at EUR 90 million less than in 2018.

For 2020 the expectation is an even further decreasing profit due to lower landings in weight and value. The nowcast predicts a decrease of -34% in both value and weight of landings compared to 2018. Therefore the forecast of the net profit is estimated at EUR 14 million. A decrease of 77% within between 2018-2020.

### Outlook

There are four main drivers that could impact the performances of the Dutch fisheries in the nearby future. Firstly, due to multiple *de minimis* exemptions in certain Member States including the Netherlands, the impact of the landing obligation on social economic performance of the Dutch fleet is still limited. There are several studies conducted to calculate the impact of the LO when there are no exemptions for quota species. Without adaptations the extra costs for demersal trawlers targeting Common sole and Nephrops will range between EUR 6 and EUR 28 million per year<sup>36,37</sup>. Another important factor that will determine the performance of the Dutch fleet is the outcome of the Brexit. In general up to 60% of the weight in landings by demersal trawlers and pelagic freezer trawlers (TM40XX) are caught in British waters<sup>38</sup>. The impact of Brexit is high for the Dutch fisheries and entire fish industry. Thirdly, the COVID-19 pandemic in 2020 is impactful which caused a fall in demand from especially food service within Europe. Also exports (to third countries) were restricted by lockdowns. At almost all Dutch fish auctions, fish prices dropped by 10-30% from March 2020. Fourthly, more and more areas of the North Sea are closed or to be closed because of marine nature protection or due to offshore wind farms. Most of these closed areas do contain important fishing spots for Dutch vessels. This will limit their operations to a certain extent and therefore likely their performance (e.g. landings).

### Data issues

Most of the segments in the Dutch fishing fleet were well covered. In some of the smaller segments (DRB 0-10 m, DRB 24-40 m, DTS 0-10 m and TBB 12-18 m) variation in activity levels was high resulting in high uncertainty in the economic indicators estimates and large fluctuations from year to year. Moreover, the smaller fleet segments are clusters of vessels using different fishing techniques:

- Drift and/or fixed netters 12-18m include drift and/or fixed netters 12-18m and vessels using pots and/or traps 12-18m;
- Drift and/or fixed netters 18-24m include drift and/or fixed netters 18-24m, vessels using pots and/or traps 18-24m and vessel using other active gears 18-24m;
- Dredgers 24-40m include drift and/or fixed netters 24-40m, dredgers 24-40m and dredgers 40m or larger;
- Beam trawlers 0-10m include demersal trawlers and/or demersal seiners 10-12m, purse seiners 0-10m, beam trawlers 0-10m, beam trawlers 10-12m, pelagic trawlers 0-10m and pelagic trawlers 10-12m;
- Beam trawlers 12-18m include demersal trawlers and/or demersal seiners 12-18m, beam trawlers 12-18m and pelagic trawlers 12-18m.

<sup>36</sup> Buisman et al, 2013. Economic effects of Landing Obligation for Dutch fisheries. LEI Wageningen UR. <https://edepot.wur.nl/283011>

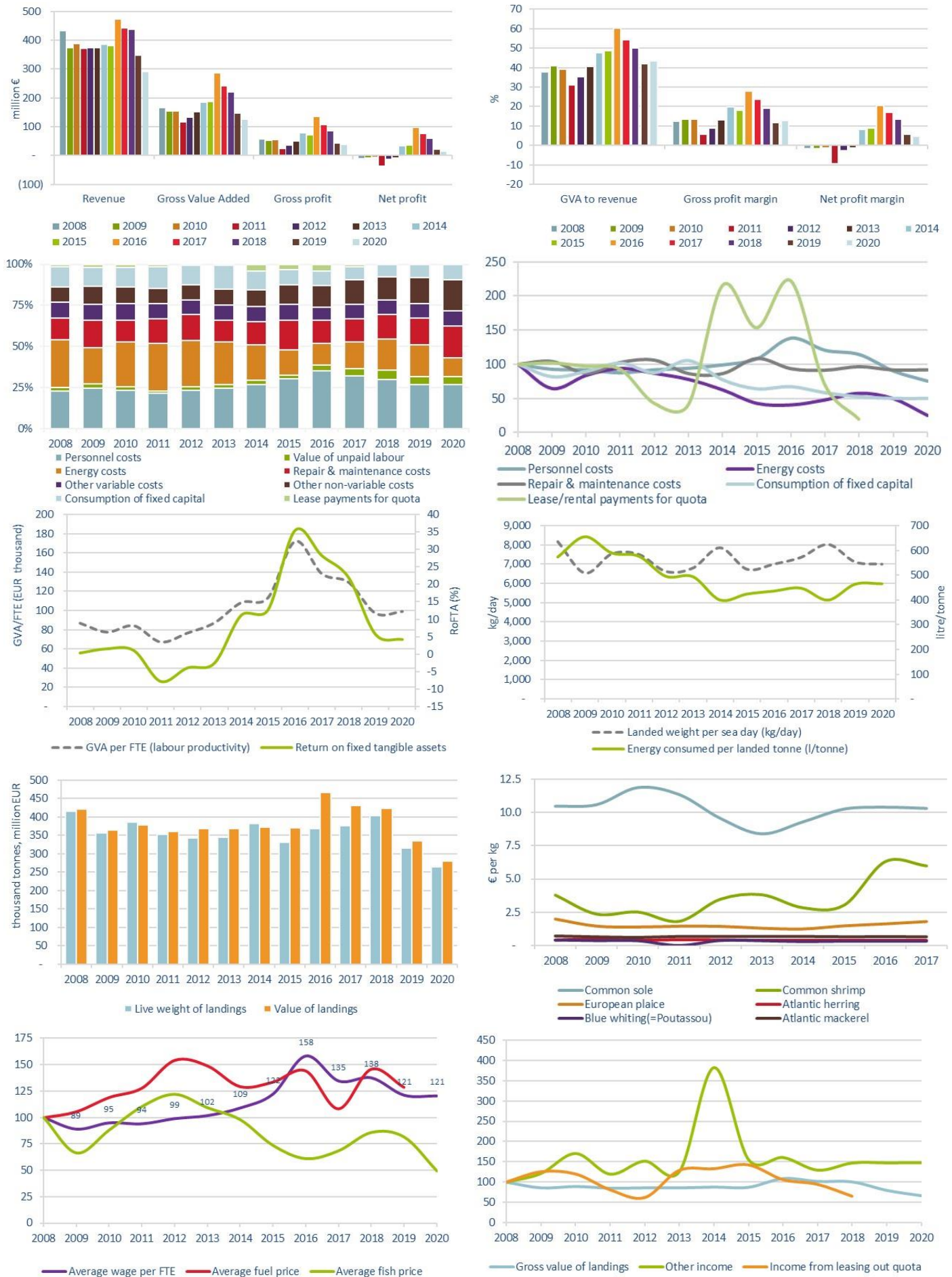
<sup>37</sup> Exploring economic impact Landing Obligation for Dutch cutter fisheries, 2015. <https://www.visserbond.nl/wp-content/uploads/2014/04/Eindrapportage-Flynth-LEI-Verkenning-economische-impact-aanlandplicht-op-de-Nederlandse-kottervloot.pdf>

<sup>38</sup> Turenhout et al, 2017. Brexit and the Dutch Fishing industry. Eurochoices 16 (2): p.24-25: <https://onlinelibrary.wiley.com/doi/full/10.1111/1746-692X.12159>

Because of low response rates for the data collection in the segments above in 2016, clusters were combined in order to estimate the economic parameters: Demersal trawlers and/or demersal seiners 0- < 10 m, Beam trawlers 0- < 10 m and Beam trawlers 12- < 18 m were combined and Dredgers 24- < 40 m and Drift and/or fixed netters 12- < 18 m were combined. Therefore, these figures should be viewed as indicative for the size of the sector rather than describing the exact trends. Currently, work is being carried out to improve the estimation procedures.

### ***Prices of pelagic fish***

The prices of pelagic fish used to calculate the fishing revenue of the pelagic trawler fleet are not actual prices. They are internal prices used within the fishing companies to calculate the wage of the fishing crew. The integrated companies cover the whole production chain from fishing to the consumer and there are no real ex-vessel prices available. Those prices probably underestimate the value of landings of pelagic fish.



**Figure 4.16 Netherlands: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.17 Poland

### Short description of the national fleet

#### Fleet capacity

In 2018 the number and engine power of Polish fishing vessels slightly decreased, with a total of 830 (-2%) or 85 600 kW (-1%). However, capacity increased by 8% and amounted to 40 700 GT. The number of vessels in 2018 compared to total time series (2008-2017) remained unchanged, engine power decreased by 1% and GT increased by 14%. The increase shall be attributed to replacement of vessels in the distant fleet. There were 47 inactive vessels in the fleet 4% less than in 2017. Majority of them belonged to two smallest length classes (<10, and 10-12m).

#### Fleet structure

In 2018, the Polish LSF fleet (length >12m) consisted of 163 vessels (-4% compared to 2017), whereas 623 vessels (-1%) were accounted for the SCF (<12m passive gears). Relative changes compared to total time series for these two groups of vessels were 9% and -19%. The reduction in LSF was caused by the decommissioning program addressed for these vessels in the previous years (not in place in 2017 nor 2018).

**Employment** increased in 2018 by 4% or 1% compared to total time series in terms of total number of people employed or decreased by 5% and 4% respectively for FTE.

**Effort**, estimated in days-at-sea or fishing days increased in 2018 by 12-13%, however compared to total series remained practically unchanged (+1%). The 2018 increase was a result of an effort recovery after a one year decline. The amount of energy used decreased by 1%.

**Total Production** in 2018, decreased compared to 2017, with a weight of landings of 205 800 tonnes (compared to 208 700 tonnes in 2017). The main Baltic species landed in 2018 were European sprat, Atlantic herring, European flounder and Atlantic cod. In terms of weight and value sprat is by far the dominant species - 79 700 tonnes compared to 71 900 tonnes in 2017 and EUR 13.8 million compared to EUR 13.4 million, followed by Atlantic herring (EUR 13.3 million) and Atlantic cod (EUR 8.1 million).

### Economic results for 2018 and recent trends

#### National fleet performance

Economic performance of the fleet had gradually deteriorated since 2012 up to 2014, improved in 2015 remained good in 2016. This was caused by lower energy costs and labour costs. The net and gross profit decreased in 2018 by 52% and 22%.

Revenue, estimated at EUR 47.5 million in 2018 (EUR 47.6 million in 2017), increased by 2% compared to total time series (2008-2017).

When including operating subsidies, revenues (no income from fishing rights) amounted to EUR 54.2 million, compared to EUR 63.1 million in 2017 and 14% decrease or 12% with regards to total time series. The operating subsidies are payments to fishers from EMFF, mostly for temporary stopping activity that took place in 2016, 2017 and 2018.

When excluding opportunity capital costs, total costs amounted to EUR 43.8 million, 3% increase compared to 2017 but not exceeding total revenue and generating a net profit of EUR 1.5 million (-50% compared to 2017). Total operating costs increased due to the 14% raise of unpaid labour cost and 11% increase of fuel cost.

GVA and gross profit in 2018 were estimated at EUR 25.7 million and EUR 6 million, respectively. This is a decrease of 1% in case of GVA and 22% in case of gross profit. Preliminary 2019 data shows that the situation may deteriorate due to lower value of landings.

Investments increased by 56% and amounted to EUR 1.4 million (EUR 0.9 million in 2016), what can be explained by new funds available from EFF/EMFF for vessels modernisation.

Generally, the cost structure has remained relatively constant over the years, with some apparent increase in personnel and unpaid labour costs which can be explained by an average salaries increase in Poland that has been taken place in recent years.

## Resource productivity and efficiency indicators

The gross profit margin had improved between 2013 and 2016 from 16% to 32%, then deteriorated in 2017 and in 2018 (12.6%).

After an overall improved development trend since 2014 in GVA/revenue, this indicator decreased in 2018 compared to 2016 by six percentage points. Net profit margin decreased in 2018 compared to 2017 to 3.2%.

## Performance results of selected fleet segments

### Pelagic trawlers (24-40)

Pelagic trawlers 24-40 m length is the most important segment in terms of economic output, operating in the Baltic Sea. In 2018, 43 vessels make up this segment (no change compared to 2017). Employment in the segment increased compared to 2017 (+3%). In 2018, the segment contribution to the total value of landings generated by the Polish Baltic fishing fleet amounted to 42% a decrease of 2 percentage points compared to 2017. The vessels belonging to the segment target particularly pelagic species, such as sprat (landed mostly for reduction to fish meal) and herring.

In 2018, the total value of landings of the segment was EUR 20.6 (3% less compared to 2017). Despite of lower herring and sprat prices in 2018 (-17% and -8% respectively) value of landings of the segment decreased just by 1% mainly as a consequence of higher weight of landings (+12%)

TAC for sprats available for the segments was 3% higher compared to 2017, better utilisation of available quota resulted in 10% increase of sprat landings of the segment, however revenues increased 2% only. 2019 sprat landings were again higher - by about 3% - with no change in value.

Herring (the second most important species) TAC increased by 13% and individual limits available for the segment went up by 16%. Unfortunately 2019 herring TAC was cut by 26%, what may negatively influence the segment revenues. In 2018 herring landings were 16% higher by volume and 4% lower by value.

In 2018 this fleet segment was profitable, with a reported gross profit of EUR 5.2 million compared to EUR 6.1 million in 2017 (-14%) and produced a net profit of EUR 3.9 million (2% increase compared to 2017). The profitability indicator of the segment was at "reasonable" level and economic development trend improved. Net profit margin was positive (19.1%).

### Passive gears <10 m

The passive gears <10 m segment constituted of 510 in 2018 (in 2017, 509 vessels) operating in the Baltic Sea including lagoon brackish waters. The segment is the biggest one in terms of people engaged or number of vessel. In 2018, there was 1 385 total jobs in the segment.

The fleet targets a variety of saltwater species: Atlantic herring, European flounder, Atlantic cod and a variety of freshwater species, such as freshwater bream, pike perch and pike. In 2018, the total volume of landings was 5 800 tonnes (-9% compared to 2017) worth EUR 6.2 million (-11% compared to 2017).

The net loss of the segment deteriorated in 2018 by over 80% and amounted to - EUR 3.9 million (- EUR 2.1 million in 2017). Net profit margin was highly negative -62% compared to 22% in 2017. The profitability indicator of the segment was at "weak" level and economic development trend deteriorated. Net profit margin compared to long time average (2008-2017) was highly negative.

The segment remained affected by poor condition of Eastern Baltic cod stock which used to be the most important species in terms of landings value before 2012. In 2018, landings dropped by 11% or 19% compared to total time series. Except for lower landings value, the poor economic condition of the segment in 2018 was again caused by a higher unpaid personnel costs; 22% growth compared to 2017 or 61% compared to the 2011-2017 average. The PG0010 has been highly subsidised from EMFF. In 2018 the fleet received EUR 4.7 million direct subsidies mostly in a form of compensation for a temporary cessation of fishing activities. The subsidies continued financing a growth of paid labour costs (4% compared to total time series).

## Drivers affecting the economic performance trends

Pelagic trawlers contribute the most to the total output of Polish fisheries. This implies that fuel price has always a major impact on the overall economic performance. In 2018 fuel price paid by the TM2440 increased by 14% compared to 2017.

Nevertheless, the poor condition of the Baltic cod stock, did improve. However, the bad condition of Eastern cod stock (poor recruitment) caused that the Commission decided to close fishery at the end of July 2019. It had a negative influence on the performance of the demersal fleet segments targeting cod (DTS, DFN, HOK and PG1012). Additionally, the SSCF is affected by limited abundance of this fish in coastal waters which is commonly attributed to environmental changes in the Baltic Sea.

Small pelagic stocks (sprat and herring) were in good condition. There was also a good demand on these fishes from processing sector as well as from fish meal industry.

Since the EU accession in 2004, subsidies for fisheries became a substantial part of the Polish fisheries sector incomes. In 2018 the operating subsidies decreased by 57%. However, in relation to landings, earnings remained at high level (14%).

Polish fish market is characterised by a well-developed fish processing sector with total annual output exceeding EUR 2 billion and generating a total demand close to million tonnes of raw material (live weight). However, the Polish market is dominated by imported fish and highly dependent on global market prices. This has indirect impact on the fisheries incomes by influencing first sale prices offered to fishers.

## Markets and Trade

Fish and fish products consumption in Poland amounted to 12.3 kg per capita (live weight) 1.5% increase compared to 2017. Imported species dominate in the diet - Alaska Pollock (2.2 kg), Atlantic herring (2 kg), Atlantic mackerel (1.1 kg), saithe (0.8 kg).

The annual production capacity of Polish fish processing sector amounts to about half million tonnes and is not satisfied by national supplies. Poland imported 600 000 tonnes (895 000 tonnes in live weight equivalent) of fish and fish products worth EUR 2.2 billion in 2018. It is estimated that it will rise to 610 000 tonnes (EUR 2.3 billion) in 2019. Alaska salmon and herring were two most important species imported to Poland in 2018, contributing to 29% and 15% respectively or, in monetary value, 52% and 9%. Atlantic cod (imported mostly from Norway) is the third most important species. In 2018 Poland imported 54 000 tonnes of cod products worth EUR 205 million.

Retail prices of fish and fish products index in 2018 was 101.4 year to year compared to 101.6 of the index of consumption goods and services. Price increases primarily for frozen fish (+2%), mostly due to continued growth of ground fish.

## Management instruments

The Polish Baltic fleet is managed mainly through TACs and subsequently - individual quotas imposed for all TAC species (sprat, herring, cod, and salmon) except for plaice. In 2018/2019 the quotas system did not change – cod, sprat and Central Baltic herring quotas are allocated to users based on vessel size (there are six vessel's length groups) or based on historical rights (in case of salmon and Western Baltic herring). Small-scale fisheries (vessels under 8 m length or 12 metres in sprat fisheries) were exempted from the quota system.

The regulation prohibiting individual catch or days quota exchange implemented in 2017 was relaxed in 2019. The former regulation limited possibility to exchange quotas to vessels belonging to the same fishing operator. The revised regulation enable the quota exchanges however, the Ministry can set coefficients for TAC regulated species.

LO in the Baltic Sea it came into force since 1 January 2015 for salmon, sprat, cod, and herring and, since 1 January 2017, also plaice. The regulation had neutral impact on the industry. Fish below MLS/MCRS are directed mostly for reduction to fish meal since (they are usually handled with no special care (no chilling) on board). No special solutions related to LO issue were implemented in Poland.

A multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks was adopted by European Parliament and the council on 6 July 2016. According to the regulation a target fishing mortality for the stocks concerned shall be achieved as soon as possible and, on a progressive, incremental basis, by 2020. The regulation set up mortality ranges for six Baltic fish stocks while left undefined for two (Eastern Baltic cod and Bothnian Bay herring).

Taking into account critical condition of the stocks, the Commission announced emergency measures for eastern Baltic cod on 23 July, 2019. Emergency measures banned, with immediate effect, commercial fishing for cod in most of the Baltic Sea until 31 December 2019. The decision affected all fishing vessels and applied in all areas of the Baltic Sea where the largest part of the stock is present (i.e. subdivisions 24-26), except for some specific targeted derogations.

## TACs and quotas

The 2018 quotas allocated to Poland on the Baltic Sea amounted to about 151 700 tonnes (+6% compared to 2017). In 2018 available quotas for sprat and herring were higher than in 2017 (by 2.4% and 11.4% respectively) since cod quota decreased by 1.7% (after swaps). Available total TAC for 2019 was 11% lower than 2018. Combined Central and Western Baltic herring quota available for Poland decreased by 22%, available sprat quota (after swaps) slightly decreased by 1%. Bad condition of Eastern Baltic cod resources caused that combined quota for Baltic cod for Poland (after swaps) decreased by 23% in 2019. The 2020 TAC allocated to Poland for Baltic species adjusted for swaps decreased by 25% compared to 2019. The reduction affected all regulated species: sprat -20%, herring - 19%, cod - 88% salmon - 43% and plaice - 42%.

## Performance by fishing activity

### Small-scale coastal fleet

617 vessels were assigned to the SSCF. The number of vessels decreased by 1% compared to 2017 or 9% compared to total time series. The fleet operates exclusively in the Baltic Sea and two brackish water lagoons, targeting mainly flounder, cod, herring and various kinds of freshwater species which are not managed under a TAC regime. Weight and value of landings of the small-scale fleet increased 8% and 2%, respectively following increase of effort 19% compared to 2017 or 9% compared to total time series. The reason behind landings recovery was a successful change of fishing patterns towards other species (like flatfish), after gradual collapse of cod catches in recent. In 2018, volume and value of flounder landings increased by 42% and 49% respectively or 36% and 64% compared to total time series average. The fleet benefited improved pike perch catches that increased by 36% and 39% in terms of volume and value landed.

In 2018 GVA of the fleet increased 1% however compared to 2008-2017 average deteriorated by 9%. This can be explained by long term gradually decrease of landings value as well as other variable and non-variable costs increase.

The small coastal fleet produced negative gross and net profit of EUR 2.1 million and 3 million, 30% and 27% increase compared to 2017. The number of people working in the fleet rose by 19% compared to 2017 or 26% compared to 2008-2017 long time average. Since the Poland accession to EU the fleet has been heavily subsidised from European funds. Net profit subsidised was positive in 2018 and amounted to EUR 1.2 million (-27% compared to 2017). Operating subsidies decreased compared to 2017 by 47% or total time period by 33%.

### Large-scale fleet

In 2018, 163 active vessels were assigned to the large-scale fleet 4% or 19% fewer compared to 2017 or long time average. The vessels exclusively operate in the Baltic Sea, except for one large trawler fishing for crabs in the North Atlantic. The vessels targeting mainly sprats, herring - 98% share in total landing volume. The landings volume continued upward trend in 2018 (+11% compared to 2017 or 41% compared to 2008-2017 average). However, value of fish landed decreased (-1%). Sprat and herring contributed to 96% and 97% of total landing revenues in 2017 and 2018, respectively.

Profitability of the fleet deteriorated by -11% (gross profit) or -12% (net profit) or - 1% decrease and +26% increase compared to 2008-2017 averages. The GVA of the fleet decreased by 1% compared to 2017 however improved compared to long time period (+8%). Personnel and fuel costs were two main items which negatively affected economic results of the segment in 2018 (an increase compared to 2017 by 7% and 11% respectively). The increase of labour costs followed the situation in national economy.

## Nowcasts for 2019-20 and beyond

### Model results

According to preliminary available figures landings volume and value decreased by 6% and 9% respectively (real prices) in 2019. Lower cod (-37%) and herring (-21%) catches contributed the most to the landings decline. Landings value of these two species decreased by 34% and 17% respectively. DFN1218 landings revenue decreased by as much as 55%, PG1012 by 33% and TM 1824 by 30% compared to 2018. PG0010 was the only segment reported higher volume and value of landings +32% and +39% respectively. Pike perch, bream and herring were main species contributed the most to the observed increase. According to preliminary 6 months figures volume of landings of Baltic fleet in 2020 were 18% and 1% lower than in the first half of 2019. Considering most economically important species

sprat landings decreased the most (-27%) following herring (-19%) and flounder (14%). However, higher prices caused that value of herring and flounder landings rose by 4% and 18% respectively.

## Outlook

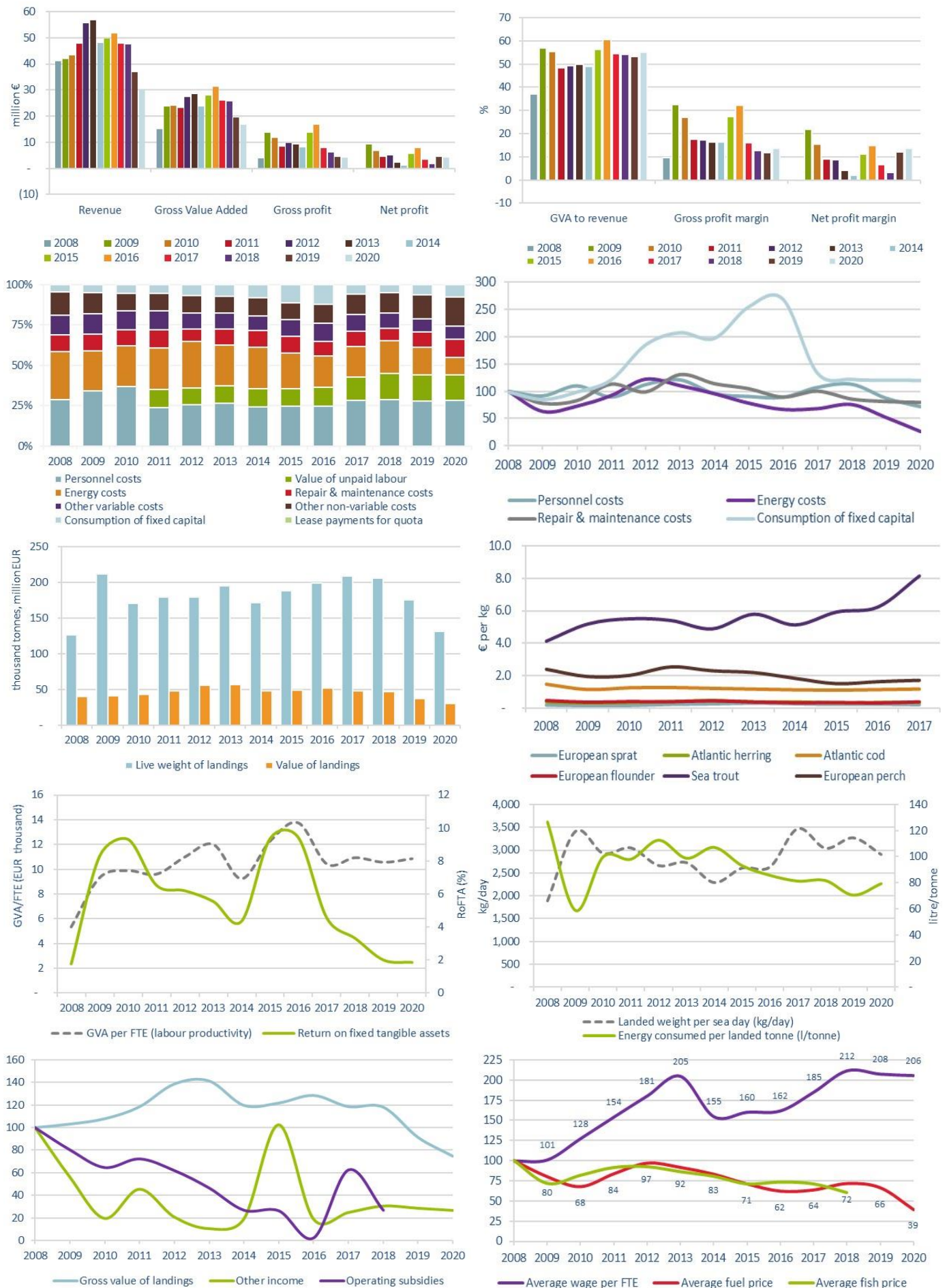
It is not expected that landing obligation neither Brexit will negatively influence the sector. Value of Polish fish products exported in 2019 to United Kingdom amounted to EUR 88 million (19 000 tonnes) and constituted mostly goods processed from imported fish raw material. The Baltic fisheries rely mostly on species that are directed on local not United Kingdom markets. There is one distant water vessel operating in the United Kingdom EEZ in the Polish fleet which can be affected by possible changes in fishing grounds access.

No remarkable negative COVID-19 effects on fisheries have been observed in the first half of 2020 except for salmon and sea trout which prices were affected by decreased HORECA demand. This, however, had limited negative influence since both species do not contribute much to the sector economy.

## Data issues

Due to confidentiality reasons, distant water fleet (vessels over 40 metres fishing outside Baltic Sea) were excluded from the economic analysis. However, transversal data (except for value of landings) and employment data were provided for all fleet segments. In order to ensure consistency with data provided for previous years, premiums paid by government for scrapped vessels were taken into account when calculating invested capital (not the PIM method). Because change in methodology of reporting capacity, 2017 and 2018 figures are not fully comparable with the earlier years.





**Figure 4.17 Poland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.18 Portugal

### Short description of the national fleet

#### Fleet capacity

In 2018, the national fleet capacity was composed by 7 887 vessels, having a combined gross tonnage (GT) of 86 600 tonnes and engine power of 346 000 kW, distributed by Mainland Fleet, Azores and Madeira. In 2018, 48 new vessels entered the Portuguese fleet, while 103 ceased their fishing activities.

The active fleet represents 47% of the national fleet and is characterized by a prevalence of small fishing vessels, with length of less than 12 metres representing 79% of the all fleet in number of vessels and 12% of GT. The average length is 9 metres and the age of the active fleet is 24 years.

#### Fleet structure

The Portuguese fishing fleet includes the Mainland Fleet, Azores and Madeira and developing the respective fisheries in accordance with the operating areas and gears. The national fleet contains vessels from the small-scale, large-scale and vessels which operate in distant waters and are grouped into 11 major segments (DFN, DRB, DTS, FPO, HOK, MGO, PS, TBB, MGP, PGP and PMP). The most important segments in terms of value from landings are: DTS40XX, DTS2440, PGP0010 and PS1824 that together represents 43% in value landings.

#### Employment

Employment was estimated at 14 542 jobs (7 922 FTEs) with average of 2.1 FTE per active vessel (11% increase in 2008-17 period). The average wage per FTE reaches the maximum value over the all period with a 2.6% increase compared to 2017 reaching a value of EUR 17 105. The Portuguese official statistics reports three different age-classes to classify the age of the fishers: below 35 (23%), between 35 and 55 (56.2%) and over 55 (20.8%).

#### Effort

After the decreased trend of the period 2008-15 (24% decrease over the period) effort remains stable with a decrease of 0.7% compared to 2017. The average days-at-sea per vessel shows also the same trend: 2014 achieved the lowest value of 85 days of activity per vessel. In 2017 the observed value was 87. Landed weight per sea day at 487 kg/sea day, it was 1% higher than the 2017 value. The energy consumption decreases 0.2% compared to 2017.

Vessels operate mainly in the Northwest Atlantic, NAFO and Savlbard/Irminger areas (demersal trawlers), Indian and Pacific oceans (surface longliners) and in the coastal waters of Madeira.

#### Production

In 2018 the landings decreased 0.1% compared to 2017 and 11.1% with the average (2008-2017). The landing value decreased 0.1% compared to 2017 and 0.1% with the average (2008-2017).

The mean price of fish reached the value of 2.34 EUR/kg which represents the higher value for the all period resulted mainly from the significant increase of common octopus prices in 2018 to a value of 6.9 EUR/kg (6.5 EUR/kg in 2017).

In terms of landed weight, chub mackerel is the most representative specie 20,9% of total catches followed by Atlantic horse mackerel (10.1%). Due to the limitations imposed by the Iberian sardine management plan, catches of European pilchard reaches the volume of 9 900 tonnes (6,1%) representing a decrease of 84% between 2008 and 2017. This strong reduction affects in an important manner not only the fleet segments that catch this species but also the processing industry. In order to overcome the strong reduction in the European pilchard catches, the importations of these species strongly increased between 2010 and 2018.

The average price of the European pilchard increases from 0.7 EUR/kg in 2008 to a sustainable value in 2014-2016 of 2.0 EUR/kg (in 2015 the price reaches the maximum value of 2.2 EUR/kg). In 2017 a reduction of the European pilchard price were observed (1.6 EUR/kg) due to a strong concentration of daily landings that pushes the prices down. In 2018 the price recover reaching the 2014-2016 values with a value of 2.1 EUR/kg. The fish stock shows some recuperation and new values for the Portuguese catches limitation are expect in near future which will appoint to a good direction to the optimal values in terms of sustainability/economics and necessary catches to feed the internal consumption and industry needs. These three species represent 37% of the total Portuguese landings.

## Economic results for 2018 and recent trends

### National fleet performance

In 2018, the Portuguese national fleet worsened its economic performance compared with 2017 by 38%. The reason for that was increased of several costs: Other non-variable costs (81%), depreciated costs (61%) and energy costs (14%). In terms of value, the increase of depreciated costs represents 57% of the total increased value of these three costs, other non-variable costs 24% and fuel price 19%.

The depreciated costs increased is related to established of a new approach for estimate this cost. Other non-variable costs increased could be not correct for 2018 due to incorrect interpretation of the new inquires scheme. Increased of fuel price in 2018 was the main responsible for the energy costs increase.

Due to the changes in the costs estimation and possible deviations Net Profit will not be used in this report for comparing 2018 with the previous years.

Revenue, decreased 0.3% compared with 2017 and 0.7% from the average of (2008-2017), confirms the stability of this parameter over the time period.

GVA and gross profit in 2018 decreased 5% and 9%, respectively compared with 2017 and over the 2008 to 2017 period, GVA, gross profit increased 0.2%, 5.3%, respectively.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was 20%, indicates a satisfactory operating efficiency of the sector.

The RoFTA has been improving since 2012, where it achieved a minimum of 6.8% due to drop of landings revenue and very high fuel prices. Since then, decreasing operational costs were observed, due to the reduction of fuel prices. This decreasing has contributed to the better economic performance of the fishing fleet. In 2018, RoFTA achieved 13.4%.

Labour productivity (GVA/FTE) contradicts the recent trend (increasing during 2013-2017) decreased in 2018 to EUR 31 000 (-5.8% by comparison with the previous year),

Fuel consumption of 532 litres per tonne landed is similar to the one observed in 2017. Landings in weight per unit of effort (in days at sea) was 481 kg/day similar to 2017 and to the mean value in the 2008-2017 period.

## Performance by fishing activity

### Small-scale coastal fleet

In 2018, SSCF comprised 2 908 vessels, GT of 7 020 and total power of 99 400 kW. The majority of SSCF, up to 50.4%, operates along the coast using several gears (PGP - nets, longlines, pots and traps) catching a diverse amount of species, being the cephalopods (octopus and cuttlefish) the major group achieving 25% of SSCF landings. Demersal and pelagic species like conger and chub mackerel are the following species that with cephalopods represents 43% of SSCF landings. FTE correspond of 32% of the FTE national. The average fleet activity in 2018 reached a value of 74 days at sea/vessel.

Landings in weight increased 1.2% and 2.0% in value compared to 2017. When compared with the time period (2008-2016) the live weight of landings decreased 2.2% but the value increased 10.2% following the trend of improved fish prices this fleet segment. In 2017, landings from the SSCF represented 12.1% in weight and 23.8% in value of the total Portuguese landings, revealing high quality of the fresh product catch by this fleet segment.

In terms of economic performance, the GVA decreases 1.1% and gross profit generated by the SSCF in 2018 increases 1.4%. The performance of the fleet improved consistently since 2012. Furthermore, this part of the national fleet contributes significantly to the economic and social sustainability of local fishing communities. Projections for 2019, suggest that the SSCF continued to decrease in capacity (number, GT and kW) but an improvement is expected in terms of economic performance.

The cost structure of the fleet remained stable over the period 2008-18 with wages and salaries of the crew being the major cost and highly linked to the income from landings.

### Large-scale Fleet

The LSF comprised 768 vessels and it represents 20.5% of the active Portuguese fleet. The majority of the LSF use mobile gears (purse seine, demersal trawl and dredges). FTE correspond of 64% of the of the FTE national. In 2018, the activity decreased 0.7% and landings (in weight) increased by 1%. The economic performance (GVA, gross and net profit) deteriorated when compared to 2017.

## Distant water fleet

The distant water fleet comprised 19 surface longliners. It must be stressed that the 12 demersal trawlers and 7 pole and line vessels operated in Madeira included in the previous years in this fleet were reclassified for the LSF, so it is not appropriated to compare the economic and social indicators with the previous years. In 2018, the fleet generated 310 FTE. In terms of economic performance, the fleet showed a decreased of GVA and gross profit of 17% and 52%, respectively.

## Outermost region fleets

### Madeira

The Madeiran fleet consisted of 87 active vessels in 2018, GT of 1 800 and an engine power of 9 100 kW. The majority of this fleet belongs to SSCF (68%). The Madeiran fleet develops its activity mainly in Subarea 2 ZEE-Madeira, with vessels operating in certain seasons of the year in Azorean waters and the Canary Islands, under reciprocity agreements. The majority of the active vessels operated with long-lines and the most representative species are black scabbardfish and tunas, representing 47.6% and 41.4% of total landings, respectively.

### Azores

In 2018, the fleet of Azores consisted of 533 active vessels, 6 300 GT and an engine power of 38 200 kW, 85.7% of this fleet belongs to SSCF. The Azorean fleet develops its activity mainly in the Azores EEZ, and is licensed mostly for longliners (83.3%) and purse seiners (7.5%). The most representative species are: tunas (42.6%), blackspot seabream (12.4%), veined squid (9.8%) and blue jack mackerel (4.7%).

## Other fishing regions

### NAFO

The fleet operated in NAFO waters is composed by 9 vessels (DTS40XX) with a total capacity 16 357 GT and 18 117 kW. In 2018 the average effort was 211 fishing days per vessel and the catches for each fishing day were around 6.5 tonnes. The most representative species are: Atlantic redfish (56.4%), Atlantic cod (26.4%) and Greenland halibut (12.7%).

### ICCAT

All the regions of the Portuguese fleet operate in ICCAT zone and catches species assessed by this organization. The main gear used by this fleet is the surface long line for the mainland fleet and pole and line for the outermost regions (Azores and Madeira). The total landings for the species that are full assessed by ICCAT, and represent 9.2% of the Portuguese landings, 9.7% in landing value. The main species in value by this fleet are: blue shark (44%), bigeye tuna (18%), skipjack (15%) and swordfish (13%).

Based on the last year AER the ICCAT fleet were obtained using the following criteria: vessels over 24m in length were the value of ICCAT species represents at least 40% of the total value landings, these fleet is composed by 53 vessels (22 from Azores, 24 from mainland and 5 from Madeira) with 11 701 GT and 25 632 kW.

## Performance results of selected fleet segments

The Portuguese fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Portuguese Exclusive Economic Zone (27.IX.a for the mainland fleet, 27.X for the Azores's fleet and CECAF 34.1.2 for the Madeira's fleet). The national fleet consisted of 53 (DCF) fleet segments in 2017 and six inactive length classes. A short description of the most important segments is provided below.

**DTS40XX (mainland fleet)** – Nine vessels made up this segment which operates predominantly in Area 27 and 21 (NAFO, Norway, Banana hole and Irminger). The fleet targets a variety of species but in particular Atlantic redfish (52.4%), Atlantic cod (33.5%) and Greenland halibut (11.5%) of the total value of landings. In 2018, the value of landings represents 13.7% of the total landing value and the FTE 2.4% of the national value. This fleet segment shows a significant improvement in the economic performance in 2008-2017 period. In 2018 the gross profit decreases 24% which represents a value close to 2016.

**DTS2440 (mainland fleet)** – 58 vessels made up this segment in 2018, which operates predominantly in Area 27 (27.IX.a and 27.VIII.c); the fleet targets a variety of species but in particular Atlantic horse mackerel (22.6%), Atlantic mackerel (15.6%) deep water rose shrimp (11.8%), and blue whiting (11.7%). In 2018, the value of landings represents 12.8% of the total landing value and the FTE 6.5%



of the national value. The fleet segment reported an increased gross profit 6.9% when compared with 2017.

**PGP0010 (mainland fleet)** – This fleet segment represents the major one with 1439. The fleet targets a large variety of species, such as common octopus (19.7%), common cuttlefish (13.5%), European seabass (8.9%) and meagre (5.6%). In 2018, the value of landings represents 9.6% of the total landing value and the FTE 15.0% of the national value. Gross profit decreases 13% when compared to 2017. The average price per kg continued its upward trend in 2017, contributing to the stability of the segment.

**PS1824 (mainland fleet)** – 53 vessels made up this segment in 2018. The fleet targets a variety of species but in particular small pelagic fishes, such as Atlantic pilchard (44.8%), European anchovy (24.0%), chub mackerel (19.4%) and Atlantic horse mackerel (11.6%). In 2018, the value of landings represented 6.5% of the total landing value and the FTE 7.9% of the national value. The gross profit for 2018 decreased 11.5% in relation of 2017.

**Hooks 24-40m (Azores)** – This fleet segment generates over 33% of total landings value and around 51% of total weight in Azores. It's composed by 25 vessels operating exclusively in Area 27.X.a. The fleet targets mainly tuna fishes (bigeye tuna, albacore and skipjack). In 2018, the total value from landings was EUR 13.5 million similar to 2017 value that reflects a huge improvement comparing to the last years with very weak profitability. The fleet segment employed 268 FTEs. Economic indicators for this fleet reported an gross profit increase of 13%.

## Drivers affecting the economic performance trends

Fish prices, fuel costs and effort are the main driving forces behind the overall fleet performance. Historical correlation between fuel costs and net profit can be found in DTS and HOK LLS (surface long lines) fleet segments.

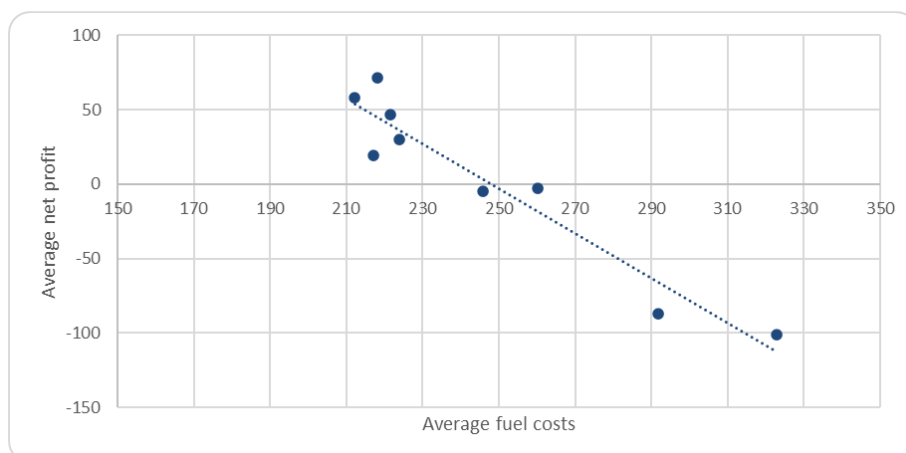


Figure xx DTS2440 – Relation between fuel costs and net profit (2010-2018)

In general the increase in the average prices was a consequence of the lower availability of fish (supply and demand). The strong decrease of sardine landings, traditionally the most caught specie in Portugal, due to the restrictions imposed on catches, made the average price of this specie go up from 0.8 EUR/kg in 2011 to 2.1 EUR/kg in 2018 which contribute to mitigate the economic impact for all purse seiner fleet segments.

## Markets and Trade

Landings in foreign harbours represents around 23% of the total landings. The most important countries are: Spain (64.1%), Uruguay (8.6%), Cape Vert (7.4%) and Germany (6.3%).

The number of recognized Producers organizations is 16 (the same in 2017), in which 13 are based on mainland. These organizations account 49% of total active vessels. Purse seiners are the most represented segment in those structures and sardine, horse mackerel and chub mackerel the main species landed. Around 98% of sardine, 81% of horse mackerel and 79% of chub mackerel landed in Portugal were accounted to producer's organizations.

The average price of fresh fish landed in 2018 in national harbours decreased 1.7% in relation to 2017, from 2.23 EUR/kg to 2.20 EUR/kg.

## Management instruments

As in previous years, the Portuguese Administration applied a variety of tools to manage national fisheries and to respect international fishing agreements and partnerships. The overarching objective of the



policies followed is to achieve the MSY in all fisheries where Portugal maintains commercial interests, either within or outside the borders of the EU.

Therefore, year after year, the trend in the number of licenses follows a decreasing trajectory even when momentary pending commitments require the restitution of some fishing permissions that had previously been suspended. This policy, however, is not draconian, in the sense that under specific circumstances, the administration allows gear transfers between vessels, providing that both the economic viability and general health and safety of those aboard the vessels are improved, without any increase in the deployed effort.

In general, the condition of most EU stocks has been improving, much in response to the firm management commitments, which have allowed the concomitant improvement in fishing opportunities and the reinforcement of the profitability of the commercial operations.

In 2018, the following recovery and management plans / adjustment of fishing effort or capacity control schemes were in force:

- Recovery plan for Southern hake and Norway lobster stocks in the Cantabrian Sea and South Western Iberian waters with the aim of rebuilding those stocks to within safe biological limits. This recovery plan sets TAC constraints and progressive adjustments to the maximum number of fishing days available to vessels subject to a system of fishing effort limitations, lately *frozen* at the former levels. The vessels under this recovery plan are identified with a special fishing permit;
- Fishing permit limitations were issued for all vessels operating in deep waters (in compliance with the EU Regulation 2016/2336), in different capacities depending on the individual history of recorded catches, resulting in a limitation of the species and quantities allowed, having nonetheless not changed the total number of licenses.
- Several modifications and various tuning decrees were published throughout the year, aiming to adjust the fishing effort to new rules of management and permitting a rapid response management plan to further promote the recovery of the Iberian sardine stock. After an assessment conducted by ICES revealed that the former management plan was not likely to fulfil the objectives, new rules had to be introduced even before a new plan could be evaluated;
- Adjustment of fishing effort for surface longline vessels targeting swordfish in the north Atlantic with the aim to maintain the sustainability of the fishery. A capacity reduction objective still exists, aiming to allow an adequate balance between fishing effort and available quotas;
- Recovery plan for bluefin tuna, freezing fishing capacity. Catching vessels are not authorized to fish actively for bluefin tuna. Only by-catches of bluefin tuna not exceeding 5% of the total catch on board are authorized;
- Eel management plan, including fishing gear restrictions, limited catching seasons and a complete ban on recreational fishing.

## TACs and quotas

Fishing opportunities were kept mostly unaltered in 2018. The stock of horse mackerel was in excellent condition, providing very significant fishing opportunities and having become the dominant stock in Portuguese TACs, accounting for more than 50% of all fishing opportunities. This implies that this stock accounts for most of fluctuations in global opportunities. As it is being managed at MSY, any small fluctuations in the MSY reference level could have large implications to the overall Portuguese fishing opportunities.

The TAC for anchovy was allowed to rollover, a welcome relief for the seine industry that has been the most affected by the condition of the Iberian sardine stock, one of the few stocks as yet to be sustainably managed.

Skates and rays in 2017 showed a significant recovery, having allowed an increase of 15% of the fishing opportunities for 2018. Of particular relevance is the condition of the stock of Norway Lobster in Portugal, one of the areas where functional units of the stocks of this species are no longer overfished. In response to this management success, the quota went up by 13%. Similarly, the condition of the megrim stocks has improved substantially, resulting in an increase of 19% in the fishing opportunities. In the opposite direction, the perception of the condition of the stock of hake has remained poor, albeit based on questionable assumptions. In response, the fishing opportunities maintain a declining trend, driven by a high relative fishing effort, even if the reproductive biomass has been increasing for over a decade.

The condition of deep sea stocks was not assessed in 2018, as these species are managed on a bi-annual basis and fishing opportunities issued for 2 years.

The state of exploitation of the resources captured by the Portuguese fleet in national waters continues to show a positive evolution, with fluctuations more compatible with the natural evolution of living stocks managed at MSY.

As is commonly done, during 2018 there were several fishing opportunity swaps with other Member States sharing the same management units. The quotas available for undulate ray, megrim and red seabream (FAO 27.9) were increased through the mechanism of exchange quotas between Member States, as provided for in Article 16(8) of the Regulation (EC) No 1380/2013. An increase in quotas was also possible for anglerfish, black-scabbard fish, greater forkbeard, hake, horse mackerel (FAO 27.8c and 27.9), mackerel, red seabream (FAO 27.10) and blue whiting, from the quantities initially allocated, through the mechanism provided for in Article 4 (2) of Regulation (EC) No 847/96, allowing the transfer to the following year up to 10% of the allocated and unused quota of units subject to an analytical assessment.

Portugal also has fishing possibilities under the regional fisheries agreements in the field of international waters and the fishing protocols annexed to the partnership agreements of the European Union and third countries for exclusive economic zones. In the case of Regional Fisheries Management Organizations (RFMO), the activity of the national fleet is traditionally carried out in the areas of NAFO, NEAFC, ICCAT, IATTC and IOTC. Under the Sustainable Fisheries Partnership Agreements (SFPAs), between the European Union (EU) and third countries, in 2018, fishing opportunities were used under the protocols of Morocco and Madagascar.

As for ICCAT managed resources, in 2018 we highlight the increase in the northern albacore Portuguese quota (from 1 465 tonnes to 1 758 tonnes), and also a 20% increase in the bluefin tuna national quota, leveraging this quota from 398 tonnes to 470 tonnes. Swordfish and blue shark remain the main targeted species for the surface longline segment, while tropical and northern albacore are the main targeted species for the bait boat segment from Azores and Madeira. In 2018 entered in force new provisions for the management and control of north Atlantic mako shark with the objective of allowing for the recovery of this stock. No relevant changes occurred in the tropical group of species, where bigeye and skipjack are the two main species for the bait boat and artisanal/small-scale fisheries of Azores and Madeira. Nevertheless, it is worth to mention that on the short term the Portuguese quota will need to be reduced due to the new allocation scheme and as a consequence of the most likely reduction of the TAC reflecting the pessimistic perspective of bigeye tuna.

As for IATTC managed resources, in 2018 we have to mention the adoption of a conservation measure for yellowfin tuna, bigeye tuna and skipjack for 2018 to 2020 and amended the existing conservation measure for 2017 for those species with three vessels operating in 2018 in the IATTC area.

In the Northwest Atlantic, there was a slight decrease in overall quantities, during 2018, more specifically a 2000 tonnes decrease in NAFO, substantiated by the decrease of the cod TAC around 600 tonnes. The other species maintained the same quantities as in 2017, with a slight increase on the Greenland halibut.

Concerning the other stocks there is an overall stability on quantities, with an increase around 200 tonnes on the NEAFC horse mackerel and a decrease of 200 tonnes on the Svalbard Cod.

As for the partnership agreements with third countries, the situation has changed since last year.

With regard to the Fisheries Protocol with Morocco, in 2018, it was possible to license only one Portuguese longliner vessel for Moroccan waters, (minus 2 than in 2017).

With regard to Partnership Agreements in the Indian Ocean, in 2018 there was a decrease in fishing licenses in this area, keeping operating one surface longline vessel with the framework of the protocol to the fisheries partnership agreement between the EU and Madagascar.

## Nowcasts for 2019-20 and beyond

### Model results

Preliminary results for 2019 forecast that landings in weight increased slightly compared to 2018 (+4%) as did value (+1%). In relating to costs for 2019, a decrease is expected for the main costs items (labour and fuel). Estimates suggest that the economic performance of the fleet was better off than in 2018, with improved GVA (+4%) and gross profit (+6%).

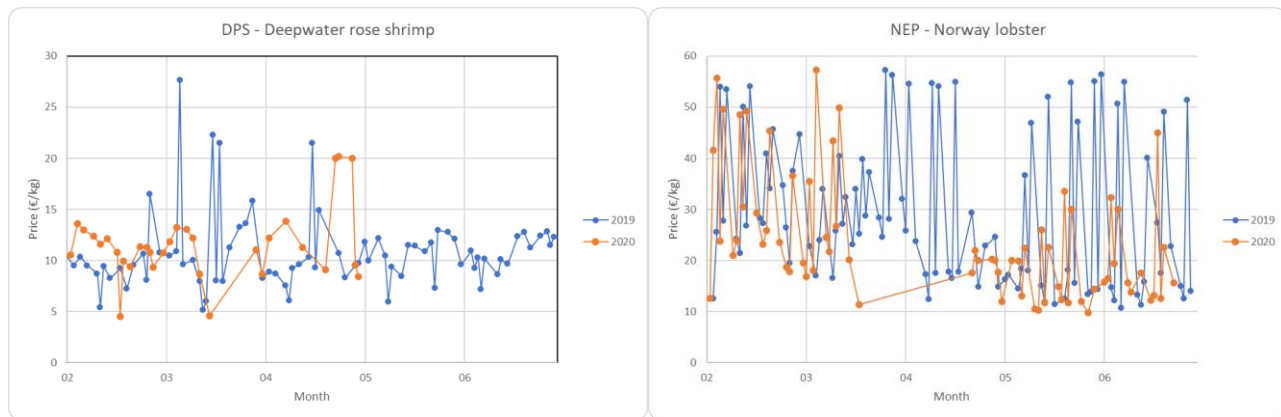
Nowcasts for 2020 suggest that a decrease in the weight and value of landings (-23% and -25%, respectively), will lead to a worsening of the economic performance.

According to the Portuguese official statistics for 2019 the landings in fresh fish in national ports, which normally represents 75% of the overall landings in weight, increased 7.2% in weight and 1.2% in value. The fresh fish average price decreased 0.12 EUR/kg.

## COVID-19

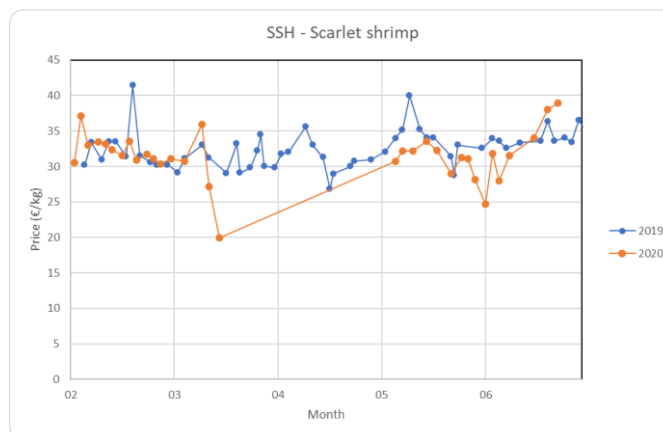
In 2020 two different aspects affects fishing activity related to COVID-19: market and health. One of the major fleet segments affected by this epidemic concerning to market reasons was the DTS catching crustaceans (DPS, NEP and SSH are the main target species).

This fleet operate mainly in south of Portugal (Algarve) and the main market is Portugal and Spain for fresh consumption, mainly for restaurants. The prices for all species just drop in the beginning of the pandemic crisis in Portugal and all fleet stops in middle of march. Few vessels return to activity in end of march but the major fleet only starts to operate in beginning of May. The next figures illustrate the price variation and accumulated landing values for the most important species (source: first sales in Portuguese ports) of DTS CRUS fleet segment.

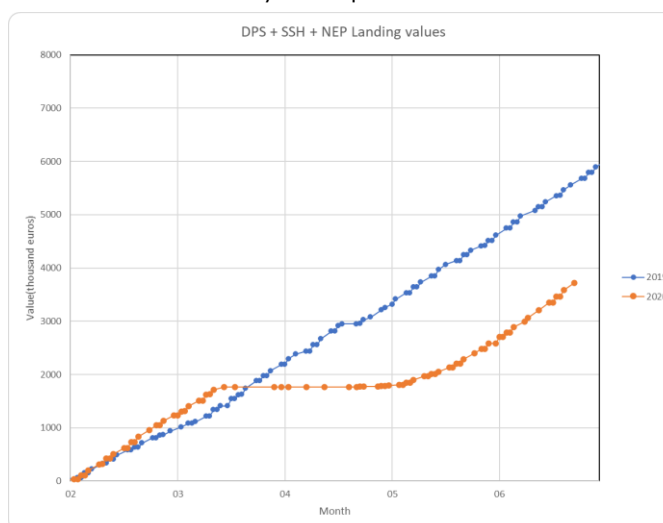


Daily mean prices DPS

Daily mean prices NEP



Daily mean prices SSH

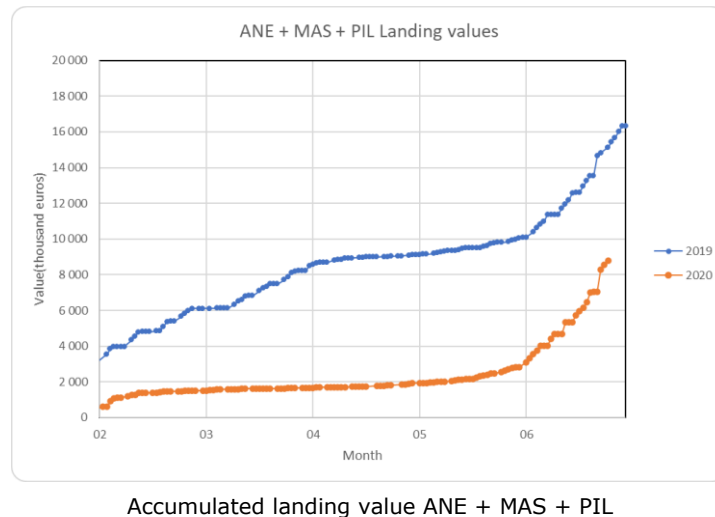


Accumulated landing value DPS + NEP + SSH

Landing and revenues in 2020 for this fleet segment will be affected by the drop of fish prices due to the observed lack of demand for these species and cessation of activity.

Another reason for the cessation of activities was the health care of the fishers. Keeping the social distance in fishing vessels is an difficult task. This aspect is particularly relevant in the purse seine fleet segment where the number of crew is high, the crew area is small, and normally the fishers stay in the

sea overnight. Almost all the purse seine fleet only start activity in beginning of June. The next figure illustrates time history of accumulated landing value of the most important purse seine species for 2019 and 2020: Anchovy (ANE), chub mackerel (MAS) and Iberian pilchard (PIL).



In order to mitigate the economic impact of COVID-19, Portugal implemented three measures of temporary cessation oriented for DTS, PS and all the other fleet segments. The number of cessation is limited to 60 days per vessel and the maximum financial package is expected to be EUR 7 million of public aid (75% EMFF + 25% national funds).

### Landing obligation

The socioeconomic impacts of the landing obligation were not yet evaluated. However, the feedback from the sector reports difficulties of improving selectivity in mixed fisheries without economic losses for fishers. In fact, commercial losses generated by selective devices that allow the greatest escape from unwanted catches are not always compatible with the economic balance of the fleets. There are studies indicating that those technical devices may generate a forecast turnover below the economic profitability limit of the companies.

### Fleet structure

Since 2005 (year when the public support to new vessel construction stops) the investment costs with new vessels construction are very close to zero, since the fleet renewal represents only 0.1% of the total capacity (GT and kW) per year.

Maintaining the renewal indicators in the observed levels for the period 2005 to 2019 can compromise all the fishing activity in the future.

The main factors related to that are: the instability for the TACs and quotas for the future, the problems with the past financial sector in Portugal and the difficulty of new investors enter in this activity, since if a new investor wants get in this business with a new production unit (new vessel), first she/he has to buy an old equivalent one and after that scrap the vessel, which will represent a large investment.

It is observed also that the ship owners tend to keep the vessel to an over age limit, doing only some repairs, since they have size constraints for the new vessel, which represents a large investment that for one unit that will be equivalent in terms of GT to the one they own.

### Data issues

#### Identify changes in respect to previous years

In 2019 Portugal implemented a new website, in a new platform, for the questionnaires in order to have a more friendly interface and collect and store the fisheries economic data. In order to improve the quality of the data collected, the structure of the survey was changed.

#### Improvements achieved within 2018 data collection

The surveys for collecting the 2018 data were made disposable for all the ship owners, what have permitted a greater number of responses. However, this situation, as it is a census, brought a decrease in the response rate.

The new data collection procedure also bring improvements in establish fish prices and landing values for the landed species in the foreign harbours and processing.

### **Problems identified**

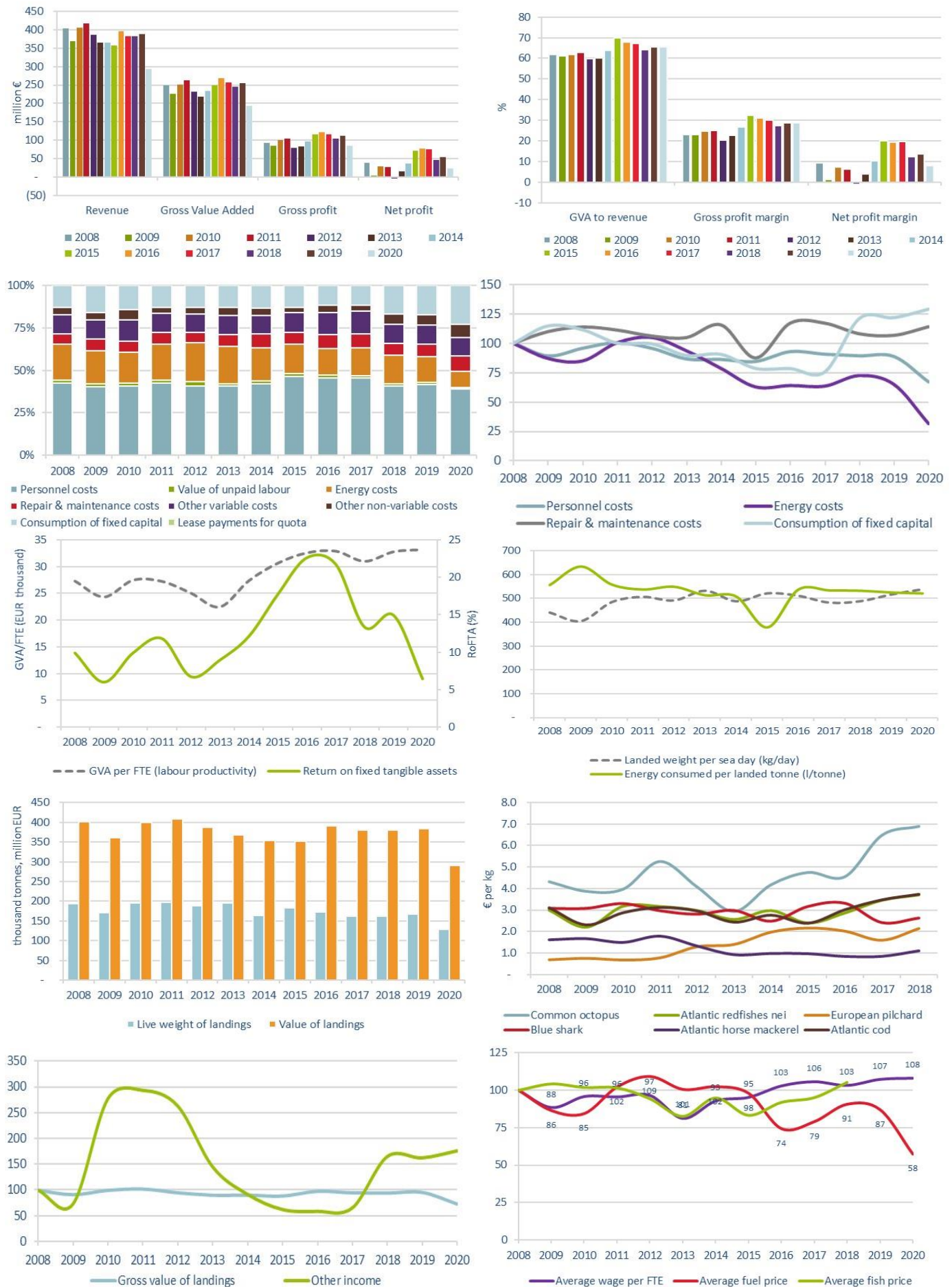
Some problems were found related to the new inquiries schema, respondents had some difficulty in interpreting the new questionnaire and gave some less correct answers. The data collection team realized this situation and corrected some inquiries.

Besides that, it was not possible to process the data on the new platform, so it had been necessary to develop procedures for migrating the data to the old database. This need brought added difficulties, delaying the process of estimating economic variables.

### **Remaining issues**

In 2020 efforts will be done in order to migrate and analyse the data in only in the new platform. Portugal is preparing legislation that will make mandatory the response to the questionnaires. Some work will be done in order to improve the data, using cross check tools between the several sources of information.





**Figure 4.18 Portugal: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.19 Romania

### Short description of the national fleet

#### Fleet capacity

In 2019, the Romanian fishing fleet consisted of 162 registered vessels, with a combined gross tonnage of 1 560 GT (+ 88 GT compared to 2018) and a total power of 6 240 kW (-14 kW compared with 2018), 138 active vessels and 24 inactive vessels; 88.19% of vessels in FFR were active. The size of the Romanian fishing fleet decreased between 2008 and 2019 in 279 vessels, a decrease of 63%, due to the scraping vessels, mainly. GT increased in the last four years registering in 2019 an increase by 7% compared to 2016, and total kW increased in 2019 by 40% compared to 2016. The percentage of inactive vessels was 11.8%

#### Fleet structure

The fishing fleet in 2019 is composed by a small-fleet segment 06-12m (60.5%), that can be considered as the main segment of the fleet. The difference (39.5%) are for other fleet segments, as follow: 8.64% vessels of 00-06m, 12.96% vessels of 12-18m, 0.62% vessels of 18-24m and 2.47% vessels 24-40m. Despite the fact the small vessels 06-12m are taking the largest share as number, in terms of GT (16.5%) and kW (22.99%) are not so important. 12.96% correspond for the length vessel segment 12-18 m as number, but for 44.13% as GT and 51.63% as kW, and is the most important share in the fleet. The segment is the most important, followed by: 2.47% 24-40m segment with 476 GT (30.52%) and 1217 kW (19.52%) and 8.64% 00-06m segment with GT 0.73% and kW 1.57% from total fleet capacity.

The number of fishing vessels has considerably decreased by removing inactive vessels (the reason being: poor technical condition, no annual activities, orientation to other activities (tourism, commercial fishing in continental waters, etc.) starting in the year 2012.

#### Employment

In 2018, the number of fishing enterprises totalled 90, with the majority (66%), owning a single vessel. 32.22% of the enterprises owned two to five fishing vessels and just one owned six or more vessels. Total employment in 2018 was estimated at 405 jobs, corresponding to 60 FTEs. The level of employment decreased between 2008 and 2018, with total employed decreasing by 8%, and FTEs by 15%. For 2019, actual number of fishers authorized for fishing activities totalise 412 fishers, mainly due to the increasing number of scuba-divers on Rapa whelk fishery. The number of enterprises owing one fishing vessel in the segments 1-12m long represent the majority part of national fishing enterprises.

#### Effort

The total days-at-sea reported for the fleet totalled almost 5 650 days in 2018, with an increase of 16% compared to 2017. A similar evolution was registered for the number of fishing days totalising 5 134 in 2018, versus 4 770 in 2017. In 2018 the energy consumption totalized 840 litres, versus 768 litres in 2017. The major factor causing this increase is the higher number of days at sea spend by fishers manually catching Rapa whelk as scuba-divers, as well as trips for big vessels fishing Rapa whelk who is migrating to the North part of Romanian waters fishing area. The main characteristic of the vessels catching Rapa whelk, who counts for the most catches of this species, is the use of PMP gears on the North part of the Romanian littoral waters, but not exceeding 24 hrs/day fishing operations. The SSCF is also catching Rapa whelk by scuba-divers. Both parts of the fleet having small catches of pelagic species, due to the market constant demand of Rapa whelk and the opportunities of stock status stability, and limits of turbot TACs, in order to ensure the recovery of the stock in the whole region of the Black Sea. In this area, Romania has the second smallest fleet of all riparian countries., as per GTs and kW totals. This issue was addressed at regional GFCM-WGBS and EU Commission to balance the level fleets of all riparian countries.

#### Production

The total weight of landings of the Romanian fleet in 2018 was 7 700 tonnes of fish and sea foods, comparing with 2017 (9 500 tonnes), and a corresponding value of EUR 4 million in 2018, versus EUR 4.5 in 2017. The decrease is explained by the reduced quantities of Rapa whelk landings. The current status of fishing in Romania is similar to 2017 and 2018. Fishing activities are being carried out only in the waters of the Black Sea under Romania jurisdiction. There are no fishing activities in other regions or catches of other species than in the area of Romania Black Sea coast. A total of 25 different species were

landed in 2019 counting for catches. Trends in landings were stable over time, with small pelagic species having a small percentage in the landings composition. Small pelagic species constituting as significant species in terms of volume, are represented by: sprat and anchovy - 0.12%, 1.21% in total landings, also horse mackerel and other pelagic species in small quantities. The main landed catches as shared in total landings recorded, with major importance are: Rapa whelk - in 2019 year - 95.32%, catches increased over 2018 year - 94.65%, followed by Mediterranean mussels 2.22% in 2019 catches decreased over 2018 year - 2.97%, turbot - 0.75% in 2019 comparing with 0.74% in 2018 year, as per approved TACs.

The vessels operate up to 30 - 35 marine miles out of shore. The climate conditions have a big influence on the presence of living aquatic resources in the area. Fishing activity is seasonal because of the strict dependence of that specific conditions and the general poor technical conditions of the fleet. It could be considered that the fishing fleet activity is dependent on the TACs under EU regulation for turbot and sprat, and, also on Rapa whelk and mussels, based on the stock abundance, and annual ministerial order establishing annual TACs and quotas for all commercial fish species. As mentioned above, the abundance during the fishing season, offers better opportunities for fishers. The other significant conclusion is that the national fleet is 100% dependent of catches in waters under national jurisdiction of Romania, due to the limited capacity for navigation of the vessels. The quantity of fuel consumed in 2018 was around 218 000 litres, a decrease of 60% from 2008. The major factor causing this decrease includes the scrapping of several vessels in the fleet, including two of the largest vessels.

The average prices for the five key species are relatively stable for the years 2017 and 2018, except for turbot. This stock registered an increasing trend in price in the last five years achieving the highest value in 2016 (10.6 EUR/kg). In 2018, with a price by 7.6 EUR/kg, turbot represents the most valuable stock among the five key stocks exploited by the Romanian fleets. While the other four fish species have less level of prices, i.e. horse mackerel 2.4 EUR/kg, Mediterranean mussels -2.4 EUR/kg, European anchovy 1.1 EUR/kg and European sprat 0.7 EUR/kg, but the recorded quantities are very small. Should be mentioned that sea foods, like Rapa whelk for which is an increasing demand market fresh, whole, and counting more and more in total landings volume have just the level of 0.51 EUR/kg, as first sale prices.

## Economic results for 2018 and recent trends

### National fleet performance

In 2018 the amount of income from landings generated by the Romanian national fleet was around EUR 4 million. There is not any source of income from activities other than fishing. The total income of the Romanian fleet decreased by 11.5% between 2018 and 2017. Due to the reduced landings, Romanian fishers are looking for the opportunity to generate earnings in other industries, such as tourism. Total expenditure accounted by the fleet in 2018 equated to EUR 2.5 million. Personnel and energy costs, the two major fishing expenses represented together the 63% of total expenditures. Between 2008 and 2018, total operating costs increased by 252%, from EUR 1 million in 2008, up to EUR 2.5 million in 2018, largely due to increase of the fishing effort. In the last few years, starting in 2013, Romanian fisheries sector records an increasing landings value. The results of changes in landings are also increased depreciation costs, personnel costs, repair and maintenance costs (from 2013 to 2018), as well as total income.

Between 2008 and 2018, GVA recorded an increase of 455%, while gross profit and net profit increased by 38% and 86% from losses - 2008, to EUR 2 445, and EUR 1 948, respectively. Although the Romanian fleet is in weak economic condition because of old and poorly equipped fleet and reduced catches, still records positive trends on economic indicators. The explanation for the positive trend is primarily because of gross income from landings, and lack of other sources, as subsidies - i.e.. In 2018, the physical capital value of EUR 8.9 million, and the investments amounted to EUR 0.8 million in 2018.

GVA, gross profit and net profit generated by the Romanian national fleet in 2018 were estimated at levels of EUR 2.7 million, EUR 1.8 million and EUR 1.5 million, respectively. Compared to 2016, increased by 10%, 8% and 14%, respectively.

### Resource productivity and efficiency indicators

The gross profit margin and net profit margin also increased in 2018 to the 2008-2017 average for 44% and 135%, respectively.

Labour productivity (GVA/FTE) recorded an increase in the period 2008-2017 of 32%: GVA increased by 3% while the number of FTE increased by 47% in the analysed period.

The landed weight per sea day increased significantly for more than 1 069% from 2008 to 2018. One of the reasons for that is the increase of total landings of vessel fleet with high volume of landings and,

subsequently, changed composition of the fleet. Greater volume of landings of segments engaged in last few years in Rapa whelk increased also productivity and efficiency indicators since these type of catch has a huge importance in total catches.

In 2018 RoFTA, amounting to 18%, decreased comparing to the previous year, and increased by 43% comparing to the average 2008-2017. The labour productivity (GVA/FTE) also registered a low decrease if compared to 2017 value and an increase of 32% if compared to the average 2008-2017.

## **Social impact**

In Romania the marine fishing sector is very small and has a reduced influence on national GDP. However, it is still considered to have an social impact on just on the coastal region in terms of employment. Besides, this activity is also important for maritime identity and tradition. It is directly influenced by the seasonality of the tourism season. As said before, the value and volume of landings, as key drivers to have affect only on fishers, and also to the people on local communities. The local fish processing industry is less influenced by national fisheries because most of the raw materials are imported from other countries, mostly EU countries.

## **Performance by fishing activity**

The fishing fleet has totalized a number of 167 vessels in 2018, out of which 136 active and 31 inactive vessels and targeting different species only in the Black Sea. There were four active segments fleet in 2018, PG VL00-06m, PG VL06-12 – belongs to SSCF, PMP VL12-18 and PMP VL 24-40 belongs to the LSF.

### **Small-scale coastal fleet**

In 2018, there were 113 active vessels classified in SSCF, representing 83% from the total number active vessels. The amount of income totalized by Romanian SSCF in 2018 was EUR 1.77 million, no other income were reported by fishers. The income generated was EUR 1.77 million. Landings income increased by 69% on the average level 2008-2017. In terms of economic performance, the amounts of GVA, gross profit and net profit generated by the SSCF were EUR 1.15 million, EUR 0.63 million and EUR 0.56 million, respectively. Compared to the average 2008-2017, GVA and gross profit increased by 68% and 84%, respectively, while net profit increased by 107%. Should be mentioned that in this segment of fleet, are included the scuba divers, collecting Rapa whelk manually, and that the total income increased compared to 2017 by 10%. Despite this increase, the gross profit and net profit decreased by 12% and 13% ,mainly due to the increasing costs for personnel and energy.

The most important factor with a positive impact on the improvement in economic performance in the period analysed included increases in the landing income.

### **Large-scale fleet**

In 2018 for the LSF fleet counted a number of 23 active vessels - 17% from the total active vessels, with a total crew of 95 fishers. In 2018, the income generated was EUR 2.28 million, an increase of 106% compared to the average 2008-2017, but a decrease of 24% compared to 2017. The main explanation is that in 2018 the total landings decreased from 6835 tonnes to 4967 tonnes. In terms of economic performance, the amounts of GVA, gross profit and net profit generated by this fleet were smaller than in 2018, EUR 1.55 million, EUR 1.19 million and EUR 0.973 million, respectively. Compared to the average values of the period 2008-2016, GVA, gross profit and net profit increased by 93%, 100% and 128%, respectively. However, no significant change was registered from 2018 to 2017.

## **Performance results of selected fleet segments**

In 2018 the entire active Romanian fleet generated a gross profit of EUR 1.52 million. The SSCF increased its landing values, in weight and value. The national fleet is characterised by four fleet segments and all of them made profits in 2018.

### **Vessels using passive gears only for vessels 00-12m**

PG VL0012 is the largest segment with 113 active vessels in 2018. The value of landings was EUR 1.77 million, representing 44.3% of the national fleet. This fleet registered a gross profit of EUR 0.63 million and a net profit of EUR 0.56 million in 2018. These vessels use passive gears (mainly traps) and include also fishers who catch Rapa whelk manually – scuba divers-. Due to the increases of the total expenditures the results for these indicators in 2018 are weaker than in 2017. The segment was encountered difficulties in the sale of fish catches, each crew acting on its own.



## Vessels PMP gears belongs to the segments 18-40m

PMP VL1824 has a big importance considering the total value of landings totalizing EUR 2.2 million, 55.70% of the total landings. This segment includes mainly vessels using GNS for catching turbot, and beam trawlers for Rapa whelk. They are not specialized by gear types, switching from one gear to other depending on the abundance of the both stocks during the year, and the market request.

For both fleet segments should be underlined the fact the catches are oriented mainly to Rapa whelk, and the small pelagics species representing less quantities in total catches of Romania fishing fleet.

## Drivers affecting the economic performance trends

The Romania catches in 2018 decreased compared to 2017 (-19%), while the average 2008-2017 increased by 88%, due the low value of total landings till the year of 2012. After 2012, starting with 2013 Rapa whelk became the most important species in total catches. This trend is affecting all performance of the fleet, and the evolution of stocks and market demand for this species is leading to a dependency of the whole fleet of Rapa whelk catches. Also, the most valuable fish species caught, turbot, is subject to TACs limitation under EU Regulations, and this is resulting in a very limited money amounts earned by fishers.

## Markets and Trade

The trade balance in Romania for fish and sea food is negative. First of all due to the small dimensions of the fleet and therefore, total catches. Also, due to the huge quantities imported by the super market chains. In the same time should be noted the weaknesses of the processing development which is not able to use the internal production. It should be noted the interest by the Romanian consumers for ocean fish species and other fish species not available in the Black Sea.

## Management instruments

In Romania, fisheries is the responsibility of the Ministry of Agriculture and Rural Development, having in subordination National Agency for Fisheries and Aquaculture, which implements the specific legislation for fisheries, as well as for the aquaculture sector. The Agency is in the way to finalize the contract for a new information system and centralized data base of the agency, in order to collect data on marine species, landings, register of fishing vessels and socio-economic data. The data will be available for each fishing vessel and enable assessment of the status in marine fisheries. It is the aim of this data base to be used for the improvement for adopting measures for sustainable development and for the CFP implementation.

Fisheries management is under EU regulations who introduced capacity limitations and temporal restrictions (in the fishing seasons for turbot). Romania's fleet capacity is small comparing with the other countries' fleets, in terms of total GT and kW. Should be mentioned that no modern fishing industrial port is available, although, there is information on the modernization port of Midia in the next future. From 2019, the GFCM adopted rules for the monitoring for the turbot fishery, introducing annually, catch limits for this stock, establishing a maximum number fishing days for targeting turbot and restricting the number of fishing vessels licenses.

## TACs and quotas

Romania has TACs for turbot and sprat. Additionally, for commercial catches, national level of quotas are approved annually based on the scientific advised approved by National Academia of Romania, and a decreasing number of days at sea and fishing days. From the provisional data available the value of landings will increase by 0.5%, despite the 0.8% decrease in the volume of landings.

## Operating costs

In the analysed period 2018-2008, the total costs of the fleet increased by 252%, due to changes in the fleet structure and due to the 18 3% increase in total catches in this period. Personnel costs and energy costs, are the mayor expenditure items, with a 33% and 30% share of the total expenditures, respectively. This could be explained by the increased level of salaries during this period and also by the increased number of total weight landings.

## Nowcasts for 2019-20

Considering the estimated figures for 2019, the number of total vessels was diminished by one, but no significant changes in for total GT and kW are foreseen. These figures would no implicate major changes,



in terms of total jobs (could be a small increase in the number of fishers in SSCF for scuba divers catching Rapa whelk).

## Outlook

2019 preliminary data suggest a 8% decrease in the weight of landings, together with a 4% decrease in the number of fishing days, but a 5% increase in the value of landings, which might be due to the increasing trend of the average prices of the most landed species. The economic performance improves in 2019 compared to 2018: gross profit by 2%, and GVA by 4%. Projections suggest that, overall, the fleet operated at a positive gross profit (EUR 1.9 million) and generated net profit (EUR 1.5 million) in 2019. The preliminary data shows that Net profit will increase by 1%, while the net profit margin will fall by 4% compared to 2018.

Preliminary results for 2020 suggest a 38% decrease in landed weight and 35% in the value of landings. The situation in 2020 is projected as worst as possible due to the COVID-19 factor and even with more than 40% decrease in gross profit and decrease by 60% of the net profit compared to 2019, the expected values are projected as EUR 1.1 million and EUR 0.6 million, respectively.

## Landing obligation

Landing obligation has a small impact due to the fact that the bulk of the fleet is composed by the SSCF. Its catches has no individuals caught under minimum conservation reference size required to be retained on board. Only, in the Rapa whelk fishery, the catches of under sized individuals are subject to derogation granted for this fishery. Due to the very low catches, especially for the small pelagic species, for fishers to separate, store and land very small quantities (very often less than one kg), for vessels below 12m, is representing a huge disproportioned burden, with implications on the financial costs and technical issues that are to be addressed, especially, by the fishers from SSCF, that occurred additional storage space and labour. These vessels are not suitable for investments allowing the execution of these operations.

## COVID-19

Starting in the beginning of March until middle of May, in 2020 Romania declared the COVID-19 emergency situation. In the first 20-15c days, fishers were blocked in ports, and after that period the activity started again. Comparing the records received/collected by NAFA inspectors, the volume of landings was all most the same as in 2019, so no big differences encountered. Comparing the same period 2019/2020, quantities are around the same level, due to the fact that in this period of the fishing season the weather conditions are not so different. Weather conditions are influencing the level of fishing activities; these activities depends mainly by the seasonality of touristic activity among the littoral, and the season is opening, usually, after 1 of June. This year opening was delayed to end June, but the influence hasn't importance for fishery due to the low level of catches. Meantime the level of fishers engaged on, is relatively low, and it situation conducted to less interest for authorities to adopt specific measures. Prices of some species increased in period March-May 2020 according to period March-May 2019, i.e. for turbot by 5%, but more influenced by the closure period of fishing starting with half of April. For fisheries no measures were adopted to balance the impact of COVID-19 crises, due to small dimensions of the sector, and the bigger importance for agriculture issues and importance on chain supply of local population.

## National Fleet

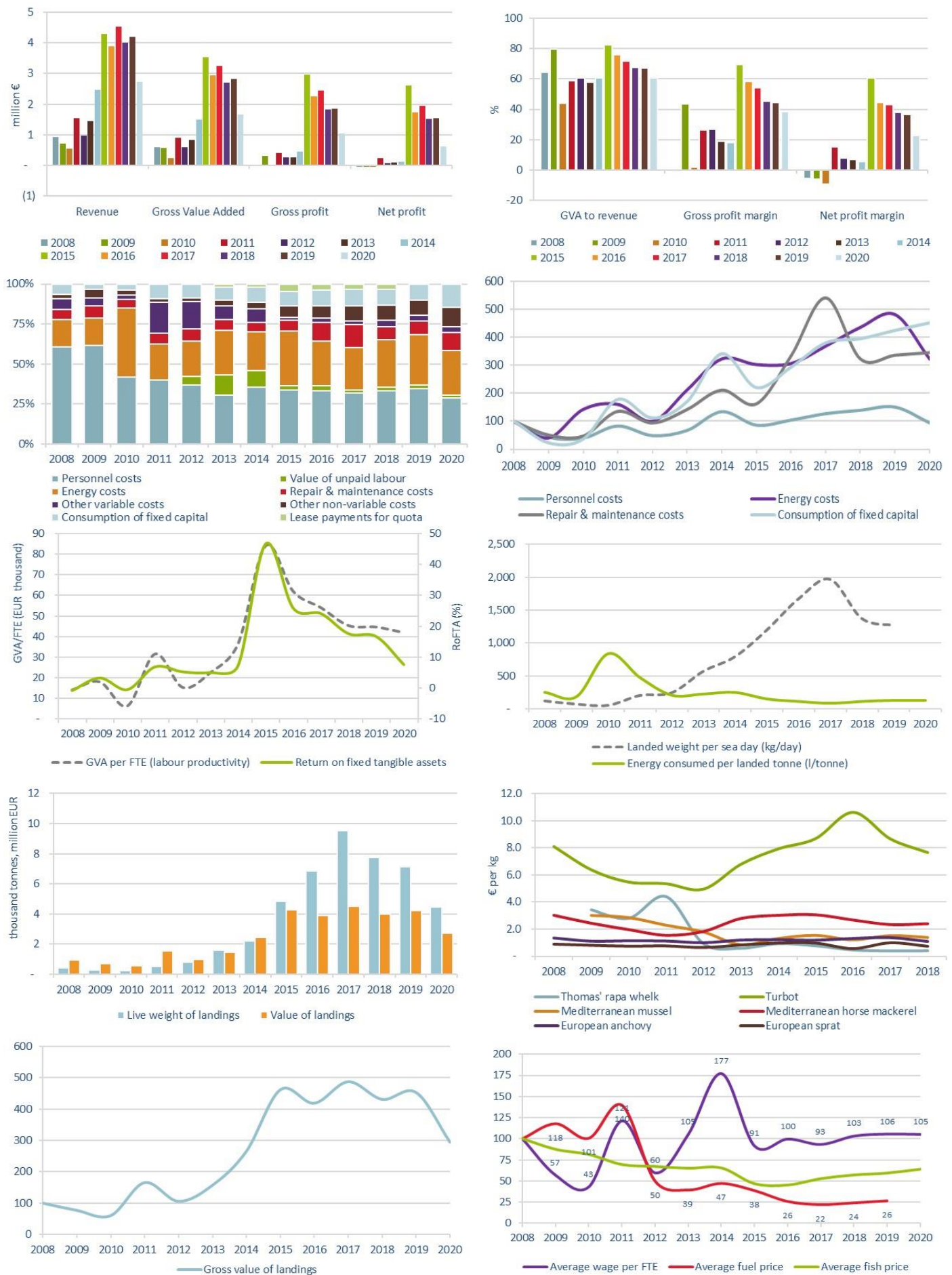
During the analysed period 2008-2018, the fleet decreased by 42 in vessel numbers, the fleet decreased between 2008 and 2018: the number of vessels by 26% and GT and kW by 21% and 5%, respectively. Should be underlined that, despite the percentage of the SSCF is still high 83%, although the importance in total landings actually counts for just the 43%, because the captures of Rapa whelk mainly and other catches, are performed intensively by the LSF segment, counting for 57% in total catches in 2018. This trend is foreseen also for 2019 and 2020. In 2019 the positive trend regarding volume of landings cannot be expected. Landings volume and income, which depend on the status of fish stocks, are the main drivers for the Romanian fishing fleet. Also the catches of small pelagic species is a main driver for fishers and authorities. The fleet is relatively old and poor equipped and in the next future no better results would be achieved, while the costs for repair and maintenance will remain high. They have the effect on all others economic and social indicators.

### **Small-scale coastal fleet**

The same aspects related to age and equipment of the fleet are the main constraints for the SSCF. This fleet depends mainly on volume of landings, and the fishing capacity for small pelagic fishes which is foreseen to don't be improved in 2019 and 2020. The variety of natural factors, mainly, the sea temperature, strong winds, especially on spring time and winter seasons, are limitations for this fleet segment. The segment is dependent on Rapa whelk stocks, as the whole fleet, and this issue should be addressed by the both national authority and fishers.

### **Data issues**

No specific issues were detected on the data submitted, considering the previous last annual report. It should be noted that the establishment/implementation of a centralized data base of national agency for Fisheries and Aquaculture will allow the increase in the process of collection, storage and cross-checking, and in general the quality of data. Due to the importance of data validation at national level, the member state is to improve the methods used in order to get better results, and having the capacity to obtain dynamic reports on further data analysis.



**Figure 4.19 Romania: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.20 Slovenia

### Short description of the national fleet

#### Fleet capacity

In 2019, the Slovenian fishing fleet consisted of 138 registered vessels (an increase of 3% compared to 2018), with a combined 675 GT (+1% compared to 2018), a total power of 8 900 kW (+5% compared to 2018) and an average age of 44.2 years. The average length of the fishing vessels was 9.8 metres in the same year. The size of the fleet decreased between 2008 and 2019; the number of vessels by 24% and GT and kW by 31% and 17%, respectively. The major factor causing the fleet to decrease was the scrapping of vessels, including two of the largest vessels in Slovenian fishing fleet. A decrease of 22% in number of vessels is recorded in 2018 regarding 2017. In 2018, Slovenia updated the register of fishing vessels. All inactive vessels, with no fishing license, were, with the permission of the owner, deleted from the registry.

In 2019, there were 73 active vessels which represent 53% of all fishing vessels. The number of all active vessel increase for 7% from 2008-2015, while a decrease of 17% was recorded in 2019 to 2015. One of the reasons for increased number of active vessels (2008-2015) is scrapping of some large vessels. Many fishers lose their jobs and decided to start fishing on his own. Also the economic crisis over the past few years had the similar effect on increased number of active vessels. One of the reasons for the drop from 2016 to 2019 was the crisis in the purse seiners sector where the number of vessels decreased by two thirds in the period 2016 to 2018 while, in 2019, there was no more vessels in this segment. Regardless of the increased number of active vessels, the number of passive vessels is still high. The case is complex and there are several reasons for this situation. One of the reasons is the high age of these vessels. Many vessels are very old and they are no longer suitable for fishing. Also many owners cannot fish anymore because they are retired but they do not have a successor to continue with the fishing activity. In many cases, fishers found a new job, because they could no longer earn a living from fishing, but still own the fishing vessel.

#### Fleet structure

The Slovenian fishing fleet nationally divided into SSCF (88% of all active vessels in 2019) with an engine power of 3 900 kW (+26% compared to 2018) and a large-scale fleet segment (12% of all active vessels in 2019) with an engine power of 1 700 kW (-5% compared to 2018). The number of vessels in the SSCF increase for almost 7% from 2008-2019, while the number of LSF vessels decreased in 64% in the same period. Scrapping is the major factor for the decreased LSF. Additionally, those fishers who lost their jobs because of scrapping, starts to fish on their own, which results in a higher, number of small-scale vessels.

The Slovenian national economy is not influenced by the marine fisheries sector. However, the sector has a social impact in terms of employment. The watershed moment for Slovenian marine fisheries began with Slovenian independency in the year 1991. The period after the independency marked a decrease in the extent of fishing regions and a substantial loss of market for fish products. A large number of poorly equipped small-scale fishers, inadaptability of large-scale fisher, along with the discordance among fishing, producing and marketing capabilities brought the sector into crisis. Landings of almost 6 000 tonnes in 1990 decreased to less than 200 tonnes in 2019.

The existence of two sea fishery reserves where all fishing activities are banned (Portorož and Strunjan fishery reserves) further limit the reduced Slovenian fishing area. Moreover, there is an important industrial port in the Gulf of Koper. Due to safety and international rules, a common routing system and traffic separation scheme was established in the Northern Adriatic, which impacted fisheries. For the last few years, this has had a negative impact, particularly on those fishers who are engaged only in small-scale coastal fishing.

#### Employment

In 2018, the number of fishing enterprises totalled 73, with the majority (78%), owning a single vessel. 22% of the enterprises owned two to five fishing vessels and none of the enterprises owned six or more vessels. Total employment in 2018 was estimated at 103 jobs, corresponding to 64 FTEs. The level of employment decreased between 2008 and 2018, with total employed decreasing by 8%, while the number of FTEs decreased by 15 %.

The Slovenian fishing fleet consists predominantly of small vessels of less than 12 metres (mainly vessels of 6 metres). Self-employed fishers who own one fishing vessel about six metres long represent a typical Slovenian fishing enterprise.

## Effort

In 2018, the fleet spent a total of around 7 700 days-at-sea. Effort, in days-at-sea, increased 29% between 2008 and 2015, while in the period 2016 to 2018 decrease for almost 30% comparing 2015. The fisheries in the Adriatic Sea is very intense, consequently most of the fish stocks are overexploited. Although small Slovenian fisheries have a negligible effect on fish stocks, feels the effects of intensive fishing, which resulting in lower landings and increased effort. Furthermore, the fisheries sector, particularly the SSCF, is affected by the limited size of marine fishing area. Most of the fleet is poorly equipped and unable to operate in international waters. One of the reasons for increased days-at-sea, in the period 2008 – 2015, is also the high price of fuel in these years, which encouraged the fishers to do shorter but more frequent trips. Additionally, the reason for the declined fishing days after 2015 can be attributed to the crisis in Purse seiners sector and reduced effort in DFN 00-06m segment. Fluctuation in number of vessels and number of fishing days in small-scale sector is mainly related with activity of occasional fisher, i.e., those whom fishing is not the only source of income. During the economic crises, when incomes were lower, they went to the sea more often to earn some additional income. Also effort increase when the season for fishing of some "high market price" species, i.e. sole, turbot, is very good.

The quantity of fuel consumed in 2018 was around 218 000 litres, a decrease of 60% from 2008. The major factor causing this decrease is the scrapping of several vessels in the fleet, including two of the largest vessels.

## Production

The total weight of seafood landed in 2018 was around 126 tonnes, with a landed value of EUR 0.87 million. The total weight and value of landings decreased by 71% and 47%, respectively, over the period analysed. In 2009, the national fleet generated the highest landed value (EUR 2.4 million), followed by 2008 (EUR 2.3 million). In terms of landings weight, in 2009 the fleet landed around 866 tonnes, 2010 (764 tonnes) and 2011 (719 tonnes). The major factor causing the decrease in landed weight and value, especially for European anchovy and sardine, include scrapping of fishing vessels. In the last quarter of 2011, Slovenia sent the two largest ships to be scrapped (pelagic trawlers 24-40m); those vessels targeted mainly sardine and anchovy and represented around 50% of the Slovenian landed weight. The climate changes could be also one of the reason for reduce landings. The Northern Adriatic Sea was very warm over the past few years, which could be the reason for the reduced presence of certain fish species, e.g. whiting. The landings volume of whiting decreased from 2012 to 2018 for 46%.

Prices obtained for the key species targeted by the fleet generally remain stable between 2008 and 2018. Slight annual variations of the prices are the results of increased or decreased volume of landings over the period. European pilchard and European anchovy, most important species in period 2008 - 2012 (together accounted around 50% of the total landings value obtained by the Slovenian fleet) in 2018 recorded a negligible catch – less than 1% in landing value. gilthead sea bream and common sole records increased value of landings from 2008-2018 for 285% and 41%, respectively. Consequently, the price for species mentioned decreased – for gilthead sea bream by 32% and for common sole by 15% (period 2009 – 2018).

Slovenia, in the last period, invested a large amount of money in marine aquaculture, especially in shellfish farming. Increased production of shellfish could be one of the reasons for more frequent occurrence of gilthead sea bream in the Slovenian sea since it is mainly fed with shellfish.

## Economic results for 2018 and recent trends

### National fleet performance

The amount of income generated by the Slovenian national fleet in 2018 was EUR 2.32 million. This consisted of EUR 0.87 million in landings value, EUR 1.29 million in non-fishing income and EUR 0.16 in subsidies. The Slovenian fleet's landings income decreased for 47% between 2008 and 2018, while other income more than doubled in value during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

Large increase in subsidies was recorded in 2015. The reason for this were payments to fishers implemented by Slovenia through the "Socio-economic compensation for the management of the Community fishing fleet in the framework of OP EFF 2007-2013" measure which was a consequence of Croatia's accession to the EU. Through Croatia's Accession Treaty which entered into force on 1 July 2013, the provision became applicable in EU legal order that Slovenia may finance a scheme of individual premiums for fishers who would benefit from the access regime laid down in Part 11 of Annex I to Regulation (EC) No 2371/2002 (this access regime is now provided for in point 8 of Annex I to Regulation



(EU) No 1380/2013) as amended by the Act of Accession of Croatia. The scheme may only apply during the period 2014 to 2015 or, if this occurs earlier, up until the date of the full implementation of the arbitration award resulting from the Arbitration Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Croatia, signed in Stockholm on 4 November 2009.

Total operating costs incurred by the fleet in 2018 equated to EUR 0.86 million 37% of total income. Personnel and energy costs, the two major fishing expenses, represent 37% and 23% of total operating costs, respectively. Between 2008 and 2018, total operating costs decreased 64%, largely due to scrapping of several vessels. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities. The results of these investments are also increased depreciation costs (period 2013-2015) and other income.

Between 2008 and 2018, GVA recorded a decrease of 11%, while gross profit and net profit increased 38% and 86%, respectively. Although the Slovenian fishing fleet was in a poor economic condition because of old and poorly equipped fleet and reduced catches, still records positive trend of economic indicators. The reason for the positive trend is primarily because of higher revenues from other sources.

In 2018, the Slovenian fleet had an estimated (depreciated) replacement value of EUR 3.9 million. Investments by the fleet amounted to EUR 0.1 million in 2018.

### **Resource productivity and efficiency indicators**

The gross profit margin and net profit margin also increased from 2008 to 2018 for 75% and 134%, respectively.

Labour productivity (GVA/FTE) also record increase in period 2008- 2018 for 4%: GVA decreased for 11% while the number of FTE decreased by 15% in the period analysed.

Fuel consumption per landed tonne has followed an overall increasing trend since 2008, and amounted 1 730 litres per tonne landed in 2018 (an increase for 120% from 2008). On the other hand, the landed weight per sea day decreased significantly for more than 80% from 2008 to 2018. One of the reasons for that is scrapping of some large vessels with high volume of landings and, subsequently, changed composition of the fleet consisting now in majority of smaller vessels with lower landed weight per sea day. Lower volume of landings of Purse Seiners segment in last few years than in previous ones also affected the productivity and efficiency indicators since this segment has the best ratio between the weight of catches and fuel consumption.

### **Social impact**

Although the marine fishing sector is numerically small and has no influence on national economy, it is still considered to have a strong social impact on the Slovene coastal region in terms of employment. Besides, this activity is also important for maritime identity and tourism. In addition to directly creating employment opportunities, it is linked to the economy of the entire region, especially to tourism and catering. As said before, the value and volume of landings, as key drivers do not have affect only on fishers but also to the people on shore. Slovenian fish processing industry, on the other hand, less depends on Slovenian fisheries because most of the raw materials are imported from another, mostly EU, countries. However, the crisis in Purse seiners segment had negative impact on some smaller processors which produce salted fillets of anchovies.

### **Performance by fishing activity**

The Slovenian fleet has a range of vessel types targeting different species predominantly in the Adriatic Sea. The fleet consisted of 7 (DCF) fleet segments in 2018, with 4 inactive length classes consisting of 58 vessels. Two of active segments (DFN VL00-06, DFN VL06-12) belongs to SSCF and one (DTS VL12-18) belongs to the large-scale fleet.

#### **Small-scale coastal fleet**

In 2018, there were 76 active vessels of which 85% are classified as small-scale (an increase for 8% from 2008). The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian SSCF in 2018 was EUR 1.77 million or 76% of all income in 2018. Landings' income increased 11% between 2008 and 2018, while other income increased for more than 500% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

Between 2008 and 2018, GVA, gross profit and net profit following the positive trend (although the substantial fall was recorded in 2015). The major factors causing the improvement in economic

performance in period analysed included increases in landing income and income from other sources while, on the other hand, operation costs remain relative stable during the period analysed. In 2018, the SSCF had an estimated (depreciated) replacement value of EUR 1.37 million. Investments by the fleet amounted EUR 0.07 million in 2018.

### Large-scale fleet

11 vessels (15% of all active vessels) represents Slovenian large-scale sector in 2018. The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian large-scale fleet in 2018 was EUR 0.55 million (24% of all income). Landings' income decreased 78% between 2008 and 2018. The major factor for decreased value of landing income was scrapping of some vessels and in the last few years a crisis in PS segment, which is deeper from year to year. Moreover, this segment did not operate at all in 2018.

Between 2008 and 2018, GVA, gross profit and net profit decreased 80%, 97% and 101%, respectively. The major factor causing for decreasing in economic performance is a crisis in the purse seine sector and scrapping of some vessels. In 2018, the LSF had an estimated (depreciated) replacement value of EUR 0.96 million. Investments by the fleet amounted to EUR 0.02 million in 2018.

### Performance results of selected fleet segments

The entire active fleet made an overall profit in 2018. All SSCF segments improved their economic performance in 2018, while LSF segments pursued a negative trend in the same year.

#### Demersal trawlers and demersal seiners 12-18m

11 vessels based predominantly in the Adriatic. This fleet targets a variety of species, the most important being whiting, musky octopus and European squid. The value of landings was EUR 0.41 million and 15 FTEs were employed in this fleet segment in 2018, contributing to 47% and 23% of the total income from landings and FTEs generated by the Member State's fishing fleet, respectively. This fleet segment made a loss in 2018.

#### Drift and fixed netters <6m

29 vessels operating in the Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, sea bass and sea bream. The total value of landings was EUR 0.12 million and 24 FTEs were employed in this fleet segment in 2018, contributing 14% and 37% of the total income from landings and FTEs generated by the national fleet respectively. This fleet segment made a profit in 2018.

#### Drift and fixed netters 6-12m

36 vessels operating in the Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, Mulletts, turbot and sea bream. The total value of landings was EUR 0.34 million and 25 FTEs were employed in this fleet segment in 2018, contributing 39% and 40% of the total income from landings and FTEs generated by the national fleet, respectively. This fleet segment made a profit in 2018.

### Drivers affecting the economic performance trends

Although lower income from landings were observed (which depends, mainly, on the status of fish stocks), reduced operating costs and higher income from other sources were the main driving forces behind the overall improved trend.

The Slovenian fleet's landings income decreased more than 47% between 2008 and 2018 while other income increased more than 100% in the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities.

### Markets and Trade

The Slovenian seafood trade balance is relatively stable over the years and it presents a negative balance. Slovenia is a net importer of fish and fish products. In 2018, imports were approximately five times larger than export and amounted to 18 608 tonnes (EUR 99 million) of fish and other fish product. On the other hand, exports amounted to 5 361 tonnes (EUR 31 million) in the same year. The majority of the imported fish and fish products come mainly from EU. The largest Slovenian seafood import partners

are Italy, Spain and Croatia. Concerning exports, the largest partners are Austria, Croatia and Bosnia and Herzegovina.

The Slovenian volume of landings for 2018 amounted less than 130 tonnes. In the same year Slovenian aquaculture sector has produced 1 938 tonnes of fish and shellfish. Slovenian market for marine products is fragmented and disorganized. A large number of producers and dealers are unorganized and acting individually. Most of the catches are sold directly to known customers. Part of landed catches is sold also on the fish market in Trieste, Italy.

Prices obtained for the key species targeted by the fleet generally remain stable between 2008 and 2018. Slight annual variations of the prices are the results of increased or decreased volume of landings in the period.

## Management instruments

In Slovenia the field of fisheries, together with the relevant legislation and management, is currently the responsibility of the Fisheries Sector at the Ministry of Agriculture, Forestry and Food (MAFF). The ministry developed a new information system (InfoRib) which collects data on marine species, landings, register of fishing vessels and socio-economic data. The data are linked to each fishing vessel and enable assessment of the socio-economic status in marine fisheries. Those data provide the basis for adopting measures in favour of sustainable development and for the common European fisheries policy.

Fisheries management is regulated mostly by capacity limitations and spatial restrictions. Capacity limitation is related to increase of vessel power and GT in terms of total national fleet capacity. Spatial restrictions are related with the existence of two sea fishery reserves where all fishing activities are banned (Portorož and Strunjan fishery reserves). Moreover, there is an important industrial port in the Gulf of Koper. Due to the safety and international rules, a common routing system and traffic separation scheme was established in the Northern Adriatic, which also has an important impact on fisheries.

From 2014 GFCM management plan for small pelagic fish in GSA 17 has been in force. By the provisions of this plan maximum number of fishing days for targeting sardine and anchovy has been set, as well as temporal closure period.

## TACs and quotas

Slovenia does not have any TACs and/or quotas.

## Status of Key Stocks

According to the GFCM Working Group on Stock Assessment of Small Pelagic Species (WGSASP) held in 2018, anchovy in the Adriatic Sea (GSA17-18 combined) was considered as overfished with relative high biomass, and sardine in the Adriatic Sea (GSA17-18 combined) was considered overexploited with relative intermediate biomass.

According to the GFCM Working Group on Stock Assessment of Demersal Species (WGSAD) held on November 2017, out of the 37 stock assessments validated by the WGSAD, seven were found in a state of sustainable exploitation and 30 were assessed as in overexploitation.

## Operating costs

Between 2008 and 2018, total operating costs decreased 49%, largely due to scrapping of several vessels. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities. The results of these investments are also increased depreciation costs and other income. In the period 2013-2016, i.e., after the scraping, operating costs remained relatively stable, with slight annual variations as a result of increased or decreased number of active vessels in the fleet. One of the drivers which effect on the economic situation of the fleet are repair & maintenance costs which are relatively high and represented 18% of total operating costs in 2018. In the future an increase in the value of repair & maintenance costs is expected because of old fleet. Energy costs are one of the key drivers only for demersal trawlers and demersal seiners 12-18m segment. Increased energy costs in 2018, because of higher prices of fuel, were one of the main reasons for the poor economic performance of this sector in 2018.

## Innovation and Development

Slovenia has a derogation regards the minimum distance from coast and the minimum sea depth for the "volantina" trawlers; Article 13(1) of Regulation (EC) No 1967/2006 shall not apply in territorial waters

of Slovenia, irrespective of the depth, between 1.5 and 3 nautical miles from the coast, to 'volantina' trawlers which are used by vessels:

- (a) bearing the registration number mentioned in the Slovenian management plan;
- (b) having a track record in the fishery of more than five years and not involving any future increase in the fishing effort deployed;
- (c) holding a fishing authorisation and operating under the management plan adopted by Slovenia in accordance with Article 19(2) of Regulation (EC) No 1967/2006.

The derogation shall apply until 27 March 2020.

For this purpose, Slovenia will have to implement a study in order to display the structure of catch with 'volantina' trawlers in the zone between 1.5 and 3 nautical miles from the coast.

## Nowcasts for 2019-20 and beyond

### Model results

Preliminary results for 2020 forecast an increasing landed weight and value for both SSCF and LSF. Projections suggest total job in general will remain stable for both fleets, while an increased number of FTE can be expected for all of the fleet in 2020. Economic performance results in 2020: GVA, gross profit and net profit will increase in both SSCF and LSF. GVA per FTE will decrease in SSCF, while an increase is expected in LSF.

Results indicate that the RoFTA for Slovenian SSCF will reach 87%, while LSF RoFTA will amount 28%.

### Outlook

#### Landing obligation

Slovenia estimates that the landing obligation won't have any effect on fisheries as Slovenia is enforcing specific de minimis discard allowance.

Slovenian fisheries have been subject to the following scheme in terms of the landing obligation:

- from 2015: landing obligation for small pelagic species in the Mediterranean, namely anchovy, sardine, mackerel and horse mackerel;
- from 2019: landing obligation for all species subject to minimum sizes in the Mediterranean as defined in Annex III to Regulation (EC) No 1967/2006 (now Annex IX of Regulation (EU) 2019/1241 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures) other than small pelagic species.

The de minimis exemptions in North Adriatic Sea on the basis of the relevant Commission Delegated Regulations have been crucial for Slovenian fisheries, as Slovenian fishers ceased targeting small pelagic species in 2019, while the catches of all species decreased – in 2019, the catches of Slovenian commercial marine fishers were the lowest in history, amounting to only about 120 tonnes. Due to the extremely low catches, the obligation for Slovenian fishers to separately store and land a few kilograms of discards, which would need to be taken care of (separately, due to hygiene Regulations in the area of food safety), would represent a disproportionate burden.

Safety on board in Slovenian fishing vessels was not an issue due to the de minimis exemptions in the Adriatic Sea as provided for in the relevant Commission Delegated Regulations. If there were no exemptions, safety on board fishing vessels might have been compromised, as Slovenian fishing vessels are predominantly old (more than 30 years on average) and most of them are smaller than 15 metres of length (only five active fishing vessels were of more than 15 metres of length) and implementation of the landing obligation would demand additional storage space as well as additional labour.

### COVID – 19

Slovenia declared the epidemic on 12 March, 2020. In the first 7-10 days after the declaration of the epidemic, fishers remained mostly in ports. Loss of market was mainly due to closure in touristic sector and closure of fish market in Trieste. Later, however, there were more fishing trips than usual at this time of year, when the availability of fishes is low. Part of the reason for this is the fact that quite a few fishers who are otherwise employed elsewhere were at home and used their spare time to fish. At the same time fishers established new sales channels; they informed customers about the daily catch through various means of information (Facebook, SMS, local media...).

Volume of landings in period March – May 2020, increased by 56% compared to the same period in 2019. The largest increase in volume of landings (+111%) was recorded in DTS VL1218 segment. The increase is mainly due to higher catches of whiting (+134% regarding March – May 2019), which is one of targeting species in DTS segments. One of the reasons for the increased landings could be, the reduced fishing effort of Italy and Croatia fishing fleets.

In terms of effort, fishing days increased by 3% in this period. This increase was mainly due to increased fishing days in DTS segments (+29%).

Prices of most important species increased in the period March-May 2020 compared to the period March-May 2019. The price of whiting increased by 33%, gilthead seabream by 8%, common sole by 11%, musky octopus by 44%, European squid by 6% and European seabass by 12%. The reason for increased prices is in direct sales to customers where fishers could achieve a higher selling price than by selling to fish markets or restaurants.

Due to the COVID-19 outbreak, Slovenia implemented various measures to help businesses face these challenging times. The public support took the form of direct grants, wage subsidies, exemption from paying social security contributions, reduction of certain taxes and water fees, bank guarantees, deferred payment of certain credits and compensatory payments. The basic condition for measures mentioned was a 20% decrease in turnover / production in the sector compared to the same period in 2019 (13.03. - 31.05.).

## National Fleet

Due to scrapping, the fleet decreased between 2008 and 2018; the number of vessels by 26% and GT and kW by 32% and 20%, respectively. Because of that and because of poor landings volume of the purse seiners segment, the weight of landings decrease in 2018 more than 80% compared to 2008. Also in 2019, the positive trend regarding volume of landings cannot be expected. Landings volume and income, which depends on the status of fish stocks, are the main drivers in Slovenian fishing fleet. They have the effect on all others economic and social indicators. If the fish stocks in the Adriatic Sea will recover in the future, we can expect also an increased trend in economic and social situation of the sector.

As the fleet is generally old and poorly equipped it can be expected that repair and maintenance costs will continue to increase in the future. Furthermore, because of old age of the fleet, an increase in inactive vessels can be expected.

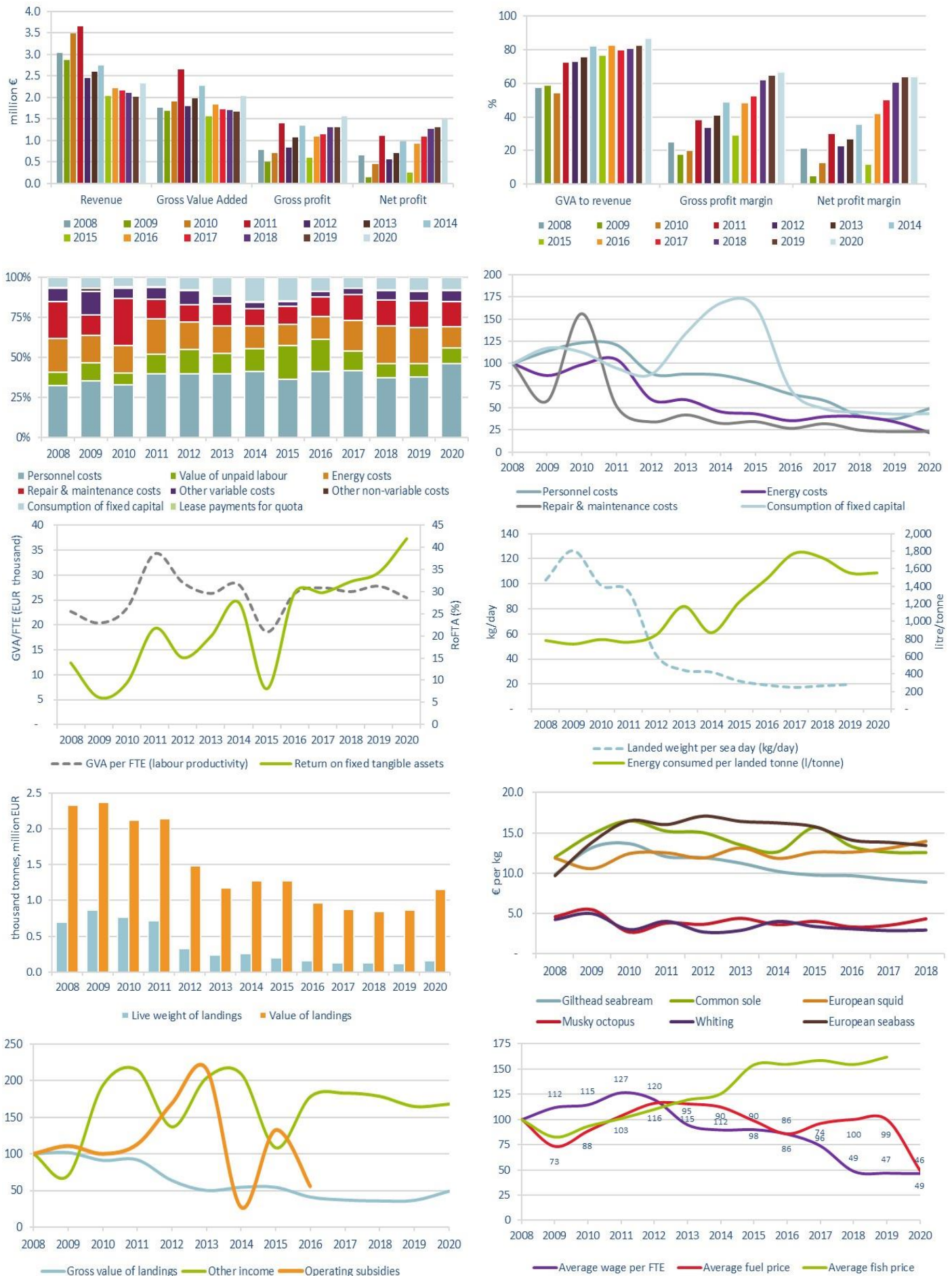
## Small-scale coastal fleet

The same issues regarding age and equipment of the fleet apply also to the SSCF. The economic situation of SSCF is largely dependent on the landing volume of migratory species, such as sole, sea bream, turbot or European flounder so it is very difficult to predict the volume of landings. It depends on a variety of factors, such as sea temperature, other climatic factors, condition of the stock, fishing effort in neighbouring countries etc. Based on current data, the volume of landings decrease in 2019 for 2% regarding 2018, mostly because of decreased landings of sea bream.

## Data issues

No major issues detected. The economic data on the fishing sector were collected mostly from accounting records – AJPEs, from data base 'InfoRib', through questionnaires and sales notes. In the monitoring programme all fishing vessels were included. The data collected from all sources were combined in such a way that a complete set of accounting items is compared for each business enterprise. The target population was all the fishing sector of Slovenia. There were approximately 100 fishing companies. In March 2019 the questionnaires for 2018 were sent to all users of fishing vessels in Slovenia. Where the questionnaire was the only source used, the response rate was around 94% (100% in active vessels). Where the data from annual accounts of business enterprises was used the response rate was 100%, because there are economic reports for all investigated companies or fishers.





## 4.21 Spain

### Short description of the national fleet

#### Fleet capacity

In 2019, the Spanish fishing fleet consisted of 9 014 registered vessels, with a combined GT of 337 000 tonnes and an engine power of 788 000 kW.

The Spanish fishing fleet has decreased almost by 30% the number of vessels, engine power and GT from 2008, in order to bring fishing capacity in balance with fishing opportunities, and to remove vessels from those fleet segments that for biological, economical or technical reasons were not in balance.

In 2019, 11.17% of the Spanish fleet was inactive (looking back to 2008, the restructuring of the Spanish fleet sector is evident. In 2008, 25% of the Spanish fleet was inactive); almost 90% of these inactive vessels are small coastal vessels, less than 12 metres in length.

Accounting only the number of vessels with more than 90 fishing days, which can be consider real professional vessels, the 66.67% of the active fleet was professional in 2019.

#### Fleet structure

The Spanish fleet, is one of the largest EU fleet, and the one that carries out fishing activities in more fishing zones.

More than 71% of the active Spanish fleet are vessels under 12 metres LOA (with activity always in national waters, of Atlantic, Mediterranean, and Canary Island Waters. The Spanish SSCF is the largest in number of vessels, and the activity of this type of vessel is carried out on trips that last less than 1 day.

Around 95% of the 8 007 active vessels carried out the fishing activity on Spanish waters (FAO 27.8, 27.99.a, 37.1, and the Canary Island waters 34.1.2), with a combined gross tonnage of 36% of the total of the Spanish GTs, and 61% of the total engine power in kW.

The classification presented in this report, shows a distorted image for the Spanish fleet, as the activity of this fleet is complex, fishing in very different fishing grounds. Also, as the data are aggregated at a supra region level, this report is giving for the North Atlantic area the same profitability for the NAFO drift and/or fix netters as the ICES drift and/or fix netters, or for the drift and/or fix netter vessels that fish in national waters which have different target species, different fuel consumption, and therefore incomes, costs and profitability. So the economical results do not completely reflect the reality of the Spanish fleet, as the data are aggregated on big boxes and cover very different types of activities, this makes the analysis of the real economic situation complex.

Also, it has to be taken into account that with the data uploaded to the Fleet Economic Data Call (based on six length sections, main gears, and three supra regions) the fleet is reclassified as:

- Small-scale coastal fleet (SSCF) - includes all vessels under 12 metres using static gears.
- Large-scale fleet (LSF) - segment includes all vessels using towed gears, and vessels over 12 metres using static gears operating in EU fishing regions.
- And distant water fleet (DWF) - includes EU registered vessels over 24 metres operating in 'other fishing regions' including EU outermost regions.

According to this definition, 1 667 Spanish dredges (towed gear which are under 12 metres in length) with coastal activity in Spanish waters should be classified as SSCF and instead of that, they are evaluated at the LSF group, which results as a distortion on the data analysis. These dredges are shellfish catchers who use a small dredger towed by a small vessel for the capture of oyster, prawn, crabs and so on.

The number of fishing enterprises reached 8 286 in 2019. If we look back to 2008 we can see that the small enterprises "oneves" decreased by 31.7%

#### Employment

Total employment in the Spanish fishing fleet for 2018 was estimated at 31 743 jobs, corresponding to 27 060 FTEs, with an average wage per FTE of EUR 24 132, similar to that in 2017 (+1%).

#### Effort

In 2018, the Spanish fleet spent 966 305 days-at-sea, (a decrease of 9.42% compared to 2017), and 978 260 fishing days (4% less than in 2017). It is consistent with the decrease of number of vessels (-

3%) and the quantity of fuel consumed (-7%). However, the value of fuel consumed increased by 10% in 2018 compared to 2017, due to the increase of fuel price by 20% (0.47 EUR/litre). Overall, the fuel expenditure represented in 2018 a 1.5% more of the total expenditures than in 2017.

## Production

Production in 2018 in terms of weight of landings decreased by 1.36% compared to 2017, however, the value of landings showed an important decrease of 13%. In terms of live weight and value of landings, the main species for the Spanish fleet are: skipjack (which represents 21% of total Spanish catches), Argentine hake, yellowfin tuna, European anchovy, blue shark and bigeye tuna.

## Economic results for 2018 and recent trends

### National fleet performance

In 2018, the economic performance of the Spanish fleet worsened compared to 2017. Income from landings (total value of landings) decreased by 9%. Revenue was estimated at EUR 1 823 billion (-10%), with an average revenue per vessel of EUR 226 467 (-7%).

GVA, gross profit and net profit for the Spanish fleet in 2018 were estimated at EUR 940 million (-7%), EUR 288 million (-18%) and EUR 177 million (-35%), respectively. These figures show a worse profitability of the sector (RoFTA). Moreover, total operational costs decreased barely 2%.

From 2008 to 2018, the investments data presented a high variability and no clear trend; so the information on the last 5 years (2014, to 2018, of EUR 33.6 million, EUR 65 million, EUR 31 million, EUR 55 million and EUR 47.9 million, respectively) shows a variability that has to be analysed further.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was 16%, showing a decrease on profitability for 2018 (-28% compared to 2017). Similarly, net profit margin was estimated at 10% (-40%), mainly due to a decrease of the income of landings.

Labour productivity (GVA/FTE) decreased in 2018 and is estimated at EUR 34 700 (-11% than in 2017). Fuel intensity was estimated at 610 litres/tonne in 2018 (-5.7%)

### Performance by fishing activity

The Spanish fleet is highly diversified, not only on the number of catches species, but also in gears and fishing areas. This diversity can be seen on the high number of segments that make it up, 60 fleet segments.

The SSCF represents almost 50% of the total fleet, while 47.8% of the fleet belong to the LSF, and the remaining 2.4% are covered by the DWF.

Even though almost half of the Spanish fleet belongs to the SSCF segment, the live weight of landings, are higher for the vessels belonging to the LSF segment (44%) and DWF (53%), than for the SSCF (3%) and the incomes from landings follow the same structure, LSF segment (53%), DWF (40%) and SSCF (7%).

### Small-scale coastal fleet

In 2018, 4 005 vessels were covered by the fishing activity SSCF in accordance with the European definition. However, as it has been remarked, this classification differs from the Spanish classification that includes on this fishing activity the mobile gears of 12 metres (mainly DRB). However, the analysis of this fleet is carried out according to the European definition, but using as the beginning of the period of reference the year 2011, which is the first one in which the Spanish classification included mobile gears belong 12 metres on the LSF).

Economic data need to be treated with caution, as just 50% of this fleet carried out their activity on partial time (less than 90 days/year). In 2018, the decrease in the number of vessels and power continued in 5.1% and 6% compared to 2017, respectively. However, the number of days-at-sea decreased only 3%.

This segment suffered a decrease in total employed (-12 %) and FTE (-17% compared to 2017); generated 8 516 jobs (27% of the total jobs generated for fisheries). In this way, personal cost decreased also by 19%. In the SSCF it has to be considered that 47% of the jobs are unpaid labour.

Regarding energy cost, SSCF was the segment which presents the highest increase of all the Spanish segments of 17%, even if fuel consumption increased less than that by 5.5%

Landings decreased 10% compared to 2017, although they are 4.7% higher than in 2011. However, value of landings for SSCF increased compared to 2017 by 3.72% (10.7% compared to 2011).

This is an economically profitable segment, however, GVA decreased 10% compared to 2017 and it contributed only by 11.5% of Spanish fleet's GVA.

### Large-scale fleet

In 2018, 3 851 vessels were included on the LSF segment; according to the European definition (1 683 DRB vessels are included in this fishing activity), 7% less than 2017.

The number of days-at-sea decreased by 13.55% in 2018, therefore the weight of landings, and value of landings also decreased by -7% and -5.4%, respectively.

An increase on salaries and decrease on total employment compared to 2017 (57% of the total jobs generated by the Spanish fleet), probably due to the professionalization of this fleet, with less people employed but with better salaries. This, summed to the decrease on other costs (unpaid labour -14% and variable costs -5%), led to that although other costs increased, to a positive GVA (but 14% lower than in 2017), contributing to the total GVA on 58% (EUR 548.7 million). This higher contribution was due to a combination of factors, such as the balance achieved by the Spanish fleet that carry out their fishing activities in EU waters and the decrease of the GVA of the DWF segment.

Regarding energy costs, it is important to say that even though the fuel consumption decreased by 11%, the fuel cost, on the contrary, increased by 9%.

### Distant water fleet

In 2018, just 194 vessels were included on the DWF. Nevertheless, it has a high participation on the Spanish fleet's GVA (30.12%).

Days-at-sea, reduced 7% compared to 2017, and 29.7% if 2011 is used as the reference year. DWF is the only segment that has increased the weight of landings (+4%), however, the value of landings decreased by 23% compared to 2017.

In terms of costs, energy costs breaks the trend seen over the last period, with an increase of 6.5% despite of the drop of the fuel consumption (-3%).

### Outermost regions (Canarias)

The Spanish outermost region, Canary Islands' fleet (FAO 34.1.2) had the following main characteristics: the number of vessels reached to 743 vessels, 590 of them active during 2018. This is the Spanish fleet with the highest average vessel age (35 years); mainly small vessels, 519 vessels below 12 metres LOA, 62.7% of the active vessels carried out their fishing activity for less than 90 days/year. These vessels carry out a polyvalent fishing activity (polyvalent gears, targeting more than one species).

The main problem for this fleet is the inactivity; fisheries are partial time and complementary activity. 20.6% of the Canary Island fleet is inactive.

## Performance results of selected fleet segments

### Purse seiners 24-40m (CNW)

87 active vessels (84 with more than 90 days of activity) created the 7% of the total weight of landings and the 5% of total value of them. Therefore, it is an important segment at national level.

This segment shows better results than in 2017 thanks to reducing the catches of overexploited species (herring and mackerel) and their diversification towards other species such as tunas.

The economic performance of this fleet segment also improved, probably due to the live weight of landings and value of them increased (+16%, +9%, respectively), probably due to targeting different species.

### Drifting longliners fleet

As the Spanish drifting longlines fleet is so particular, the Spanish authorities consider that the information of this fleet should be split from the information of the rest of the hooks, and so decided to add geo indicator LLD to the gear HOK, in order to have the information of this fleet separated from the rest of the hokes.



The management of this fishery is carried out by national regulation that covers the drifting longline fleet for highly migratory species (mainly swordfish, tunas and pelagic sharks). A unified census of drifting longline is developed. In this census the right to carry out the fishing activity is set down, for each vessel and fishery area, also the percentage of quota for those areas subject to TACs (South and North Atlantic swordfish) for each of the seven areas in which this fishery is split:

Zone 1: Mediterranean

Zone 2: waters covered by the sovereignty or jurisdiction of Spain till 80 miles on Atlantic

Zone 3: Waters of the Atlantic Ocean north of latitude 5° N and outside sovereignty or jurisdiction of Spain till 80 miles of base lines.

Zone 4: Waters of the Atlantic Ocean south of latitude 5° N.

Zone 5: Waters of the Indian Ocean (IOTC)

Zone 6: Waters of the Pacific Ocean (IATTC)

Zone 7: Western & Central Pacific Ocean (WCPFC)

We are going to highlight Drifting Longliners 24-40 in OFR.

58 active vessels were part of this subgroup (57 with more than 90 days of activity). This segment represented 29% of the total vessels fishing in the OFR.

This segment experienced a worsening in their economic variables. So weight of landings decreased by 12%, and the value of landings by 20%. Moreover, fixed expenditures increased by 20% compared to 2017.

The results of the performance indicators in 2018 were: GVA to revenue 25.1% compared to 36.4% in 2017 and gross and net profit margins 1.64% and 3.51% compared to 15.3 and 11.1% in 2017.

This drop of the value of landings occurred also in other segments in 2018, so the causes have to be studied.

## Drivers affecting the economic performance trends

### Markets and Trade

During 2018, the Spanish DWF fleet continued under fisheries agreements with third countries. Value of DWF landings implies 40% of the total value, therefore, economic performance of DWF has a deep impact on the overall economic result of the Spanish fleet.

Within the Morocco agreement, 54 vessels had licence on 2018, under the different parts of the agreement, three species are especially important for the Spanish fleet: *Engraulis encrasicolus*, *Pagellus bogaraveo* and *Lepidopus caudate*.

The main agreements of the Spanish fleet with third countries are Mauritania, Guinea Bissau, Ivory Coast Cabo Verde, Senegal, Cook Islands, Liberia, Madagascar, Seychelles, and Mauritius islands. These agreements have allowed 96 vessels of the Spanish fleet to carry out their fishing activities on many different places, and for different target species.

In 2019, 1.7 million tonnes of processed, preserved and seaweed fishery products were imported, with a value of EUR 7 167 million, mainly cuttlefish, frozen squid, prawns, salmon and hake, and prepared and preserved tuna. 73% of them came from third countries, mainly, Argentina, Peru, Ecuador, Morocco, China and Chile, and among those from the EU, Denmark, Portugal, Sweden, France, United Kingdom and Italy.

Around 1.1 million tonnes were exported, with a value of EUR 4 095 million, mainly frozen skipjack and octopus and tuna preparations and preserves. The main destination was the EU market (64.2%), with the main demand coming from, Italy, France, Portugal, the United Kingdom and the Netherlands. Regarding third countries, Ecuador, Morocco, Egypt, Mauritius and the United Arab Emirates were the most important.

Foreign trade in fishery products ended with a balance deficit of EUR 3 072 million. The coverage rate of the balance stood at 63.5%. If foreign trade with third countries is considered, the coverage rate is 31.3%. Regarding commercial exchanges with the rest of the EU, the coverage rate is 148.6%.

### Management instruments, Regulation Policy

The Spanish fleet is managed through several management tools, such as fishing licenses, engine power limitations, time at sea limitations, TACs and quotas, related to the area and fishing stock. Under national regulations there are different managements plans set down; each plan covers species, gears allowed



for the fisheries, additional prohibited days, and technical requirements (such as power, vessel tonnage, length). In several cases the management or recovery plans have also a capacity reduction objective that funded by the EMFF.

### TACs and quotas, Status of Key stocks

The Spanish fleets operate in almost all fishing grounds of the world, under agreements with third countries (Sustainable Fisheries Partnership Agreements, SFPAS), under the umbrella of Regional Fisheries Management Organizations (RFMOS), and in the EU and national waters.

Each of the above mentioned fishing grounds have a specific importance. The DWF, is a very well developed fleet, with important technical investment, able to seek for new fishing grounds and able to incorporate new technologies that help to a more sustainable activity. Also, the collaboration with third countries offers a payback in terms of employment, training, etc. to the third country, aside to the specific contribution to the development that the EU establishes in each agreement.

In the case of RFMOS, the fishing possibilities (and allowed fishing effort) are negotiated by the EU in the framework of each organization, having had the advice of the relevant scientific advisory body. This is the case of NAFO, NEAFC, ICCAT, GFCM, IOTC, CIAT, CCSBT, CCAMLR and WCPFC. As for the SFPAs, the fishing activity is limited to the surplus in the specific area, which is also under scientific review, according to the provisions signed in each agreement.

The fleet operating in the nearest fishing grounds, is the major in terms of number and direct impact on coastal populations. They may differentiated the fleet that operates in the Atlantic fishing grounds and within the national waters which is the biggest in terms of number (accounting the small-scale fisheries, including those vessels of less than 12 metres-trawlers and dredges of this length included<sup>39</sup>). The SSCF is less prepared to stand a sudden change, depending mainly on the activity performed targeting the species that traditionally meant their most important catches. As social data shows, educational level, paid work and the rest of main indicators lead us to conclude that they are in a more weak position, and therefore, efforts should be driven to achieve the goal of social sustainability as it is expressed in the EU Regulation 1380/2013<sup>40</sup>, on the CFP.

Regarding the fishing possibilities, in a wide generalization, the Mediterranean with no quotas but, as it was previously expressed, given the delicate situation of most important fishing stocks, with a number of measures driven to recovery the stock status, such as effort limitation, closure areas or size limit.

In the case of the Atlantic, the fishing possibilities are set according to the scientific recommendations made by ICES, and subject to negotiations during the December Council of Ministers that conclude with the adoption of the fishing possibilities for the following year (the "TAC and quota regulation"). Spanish TAC and quota are distributed among fishing grounds and fishing gears. In several segments of this area, TAC and quota also are distributed among individual vessels.

The recovery plan for sardine that is being implemented for Portugal and Spain jointly, was approved in 2018. Recovery of sardine stock is expected by the year 2023. According to stock management measures fishing activities is limited for a maximum of 6 months.

### Status of Key stocks

As it has already been presented and for the sake of clarity and efficiency, it will be reviewed under this chapter the status of the most important stocks in terms of its impact in the fleet.

Spain shares the need of achieving MSY for all stocks that are not currently in this biological situation, making ours the commitment to achieve it. But it cannot be forgotten that sustainability has also another pillar; the socio-economic sustainability.

The adequate standard of living for the fisheries sector is therefore, one of the main goals to prosecute. The CFP itself, requests for the collection of data to facilitate the adoption of the best management measures. Although the fisheries sector does not contribute in a significant percentage to the economic macro magnitudes, it is essential in some small-scale economies, determining the survival of small and medium populations along the coast.

For this reason, one of the main milestones was the situation of anchovy. For 2020, ICES cannot assess the stock and exploitation status relative to MSY and precautionary approach (PA) reference points. However, when the precautionary approach is applied, the catches can increase results from a 63%

<sup>39</sup> For the sake of coherence, it is mentioned that this is not the definition included under the arrangements to build the data call whose data are explained in this report.

<sup>40</sup> Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC

increase of the survey biomass for Western component and 98% for Southern component in 2020 compared to the mean of the two previous years. The situation of this stock is key to purse seiners operating in the Gulf of Cádiz and CNW, whose catches implies a 23% of their total catches.

As for the Southern hake, one of the most important species in terms of value, social appreciation and impact on specific fleet segments. The stock-size indicator is variable, although it shows a historical upward trend. It has decreased slightly in recent years. The stock status relative to candidate reference points is unknown; therefore, the precautionary buffer was applied to the ICES 2020 advice. It is necessary to seek for a balance that supports the permanence in the coastal zones by means of the maintenance of the activity and the employment, avoiding its disappearance. The dependence of this stock for many fleets is very high. So we can highlight in CNW that 136 DFN vessels catch Southern hake, entailing a 21% of their total catches (in kg and value). Also for the 68 HOK vessels, whose catches implies 15% of their total catches and 21% of the value of their catches.

Regarding the horse mackerel in ICES Division 9a, ICES 2020 advice presents a stock in good condition (both in the situation of biomass and in the fishing pressure), however the management of southern horse mackerel, blue jack mackerel, and Mediterranean horse mackerel under a combined TAC prevents effective control of the single-species exploitation rates and could lead to overexploitation of any of the mentioned species. This is a species of great relevance in the Spanish coastal fleet and of special dependence for the purse seine fleet of Galicia as a 105 vessels catch this stock, entailing a 30% of their total catches (in weight and value).

### **Operational costs (external factors)**

As the year previsions the wages and salaries, represented the most important issue of the operational costs (41% in 2018), the trend is maintained, as this item has been the most important operational cost during the last years.

The second most important issue of the operational cost has been Other Cost Variables which represent a 25.5% of the total variable costs in our fleet. Finally, energy costs represented a 18%.

The cost in repairs and maintenances also increased 13% compared to 2017, and represented a 10% of the variable costs.

### **Innovation and Development**

In the field of technological development and innovation in the Spanish fishing sector, new projects are being developed with a specific target. It is important to highlight in gender equality matters, the Spanish net of women in fisheries (REMSP) in order to help the society to have a better knowledge of the women activities in fisheries, more visibility, and to promote the women leadership.

Spain has adopted the so-called Strategic Plan for Innovation and Technological Development in Fisheries and Aquaculture, covering the period from 2014 to 2020. Its main objective is to increase the competitiveness of the Spanish fisheries and aquaculture sectors through innovation and technological development, optimizing resources in the context of the EU and considering economic, social, and environmental and health requirements.

Regarding fishing technologies, priorities and specific strategic objectives were established, highlighting priority. Among all of them, the following:

Innovation in more selective gear, in order to avoid bycatches, reducing the environmental impact of fishing, capture reduction of sensitive species and by catch, promotion of energy audits, to promote energy savings, design of energy efficient fishing gear, automation of fishing practices, adaptation of fuel cells for marine use (fuel cells are an energy alternative that should be raised in the medium term).

Complementarily, it has been established other priorities in the field of marine resources:

Quantification of socioeconomic exploitation of fisheries and integration in all studies on the state of resources and exploitation models, conservation of marine and coastal ecosystems, study of profitability of the fleet, genetic characterization of biodiversity, determination of the impact of aquaculture on the marine environment, recovery of discards and new species.

### **Socioeconomic impact**

The entry into force of several agreements that have the main objective of improve the labour conditions of fishers could be one of the challenges for the following years, better conditions is a must if the Spanish fleet wants to maintain their fishery activities, as a lack of professionals is increasing. However, more space for fishers may led to less room for storage, as the EU regulation establishes limits on capacity, so the improvement on labour conditions could reduce vessels' income, and so the profitability could be worsened.

## Nowcasts for 2019-20 and beyond

Preliminary results for 2019 suggest that the structural policy carried out to reduce the number of vessel will continue, considering the number of vessels but also the tonnage and power. Of the total 9 014 vessels, 8 007 were active during 2019. Most of the inactive vessels (more than 90% of them) being below 12 metres LOA.

In addition, results for 2019 forecast a 4% decrease in landed weight, matched with landed value.

Projections suggest operating costs increase because of energy costs and other variable cost. However, throughout 2020 energy costs decreased meaningfully.

For 2020, the first weeks after the declaration of the state of alarm in the middle of March were those with the greatest impact on the fleet, which had to get adapted to a series of new regulations, market fluctuations and the closure of the HORECA channel. This negative impact on the fleet economic performance continued over 2020.

## Outlook

### Landing Obligation

Despite of Landing Obligation affects all Spanish fleet, it can be highlighted the impact on bottom trawls in Mediterranean Sea, NWW and SWW, where the use of deminimis are so important in order to obey the Landing Obligation. The return of species of high survival are also important in bottom trawls in Mediterranean Sea, skates and rays caught by any fishing gear in the NWW and to red seabream caught with hooks and lines in the SWW.

### COVID-19

The COVID-19 crisis is having growing impacts on the fishing sector. It has produced the standstill of fishing activity for many vessels in Spain. In a first evaluation, it has been estimated a decreased of 34% of days at sea in Spanish Waters and 19% of weight landing relative to 2018

Relative 2019 forecast, It is estimated that the volume losses in the national fishing ground are around EUR 68 million regarding net profit.

By fishing grounds, it should be noted that the fishing grounds of the Mediterranean and the Northwest Coasts have been the most affected.

The Mediterranean fishing ground registered a fall of approximately 40% in sales volume from the start of the state of alarm until the end of May, estimating losses of around EUR 34 million, with a drop in the first-sale price of 37%. Except the anchovy and sardine, the rest of the main species such as hake, monkfish or Norway lobster have registered significant losses.

For its part, the North West Spanish fishing ground was affected to a greater extent than the Mediterranean because the state of alarm coincided with the development of important seasonal fisheries such as mackerel and anchovy. The imbalances in supply and demand, especially in hake, mackerel () and anchovy, generated a 31% drop in revenue compared to 2019.

### Support measures.

Spain published a Royal Decree on aid for the fishing fleet, pursuant to article 33.1.d) of the European Maritime and Fisheries Fund, to alleviate the extraordinary stoppage days derived from the COVID-19 pandemic.

In addition, it provides support to producer organizations in application of Articles 66 and 67 of the FEMP to increase the percentage of advances to the preparation of production and marketing plans above 50%, increasing the support to a maximum of 12% of the average annual value of the production of that organization during the preceding three calendar years and support the reactivation of the storage mechanism. All this in order to alleviate the consequences of COVID-19.

### BREXIT

In 2019, 62 vessels have developed part of their activity in British Waters or next to them (FAO 27.6ab and 27.7). The main segments affected are trawlers and passive gears in ICES areas 5b, 6, 7, and 8abde area; and freezer-trawlers in the NAFO area.

The main impact is not the direct effect on these vessels (whose catches signify the 22% of their total catches), but in vessels from other countries that decide to develop their activity in other waters next to United Kingdom. It could produce an exploitation of some species.

The effect of Brexit will depend on the final agreement. In the worst scenario 62 vessels would be affected of which eight vessels could be affected over 60% of their catches.

## **Data issues**

### **Identify changes in respect to previous years**

The main change in 2018 has been the increase of fuel's price. It has triggered an increase of energy's expenditure even though the litres consumed decreased by 7%.

Secondly, the drop of 13% in the value of landing compared to 2017 has entailed that in many segments the incomes were less than expenditures producing a bad profitability, both in the short and long term.

Finally, the decrease in the number of workers (unpaid labour -11% and crew -7%) to a greater extent than the expenditures on them means a better labour conditions.

### **Improvements achieved within 2018 data collection**

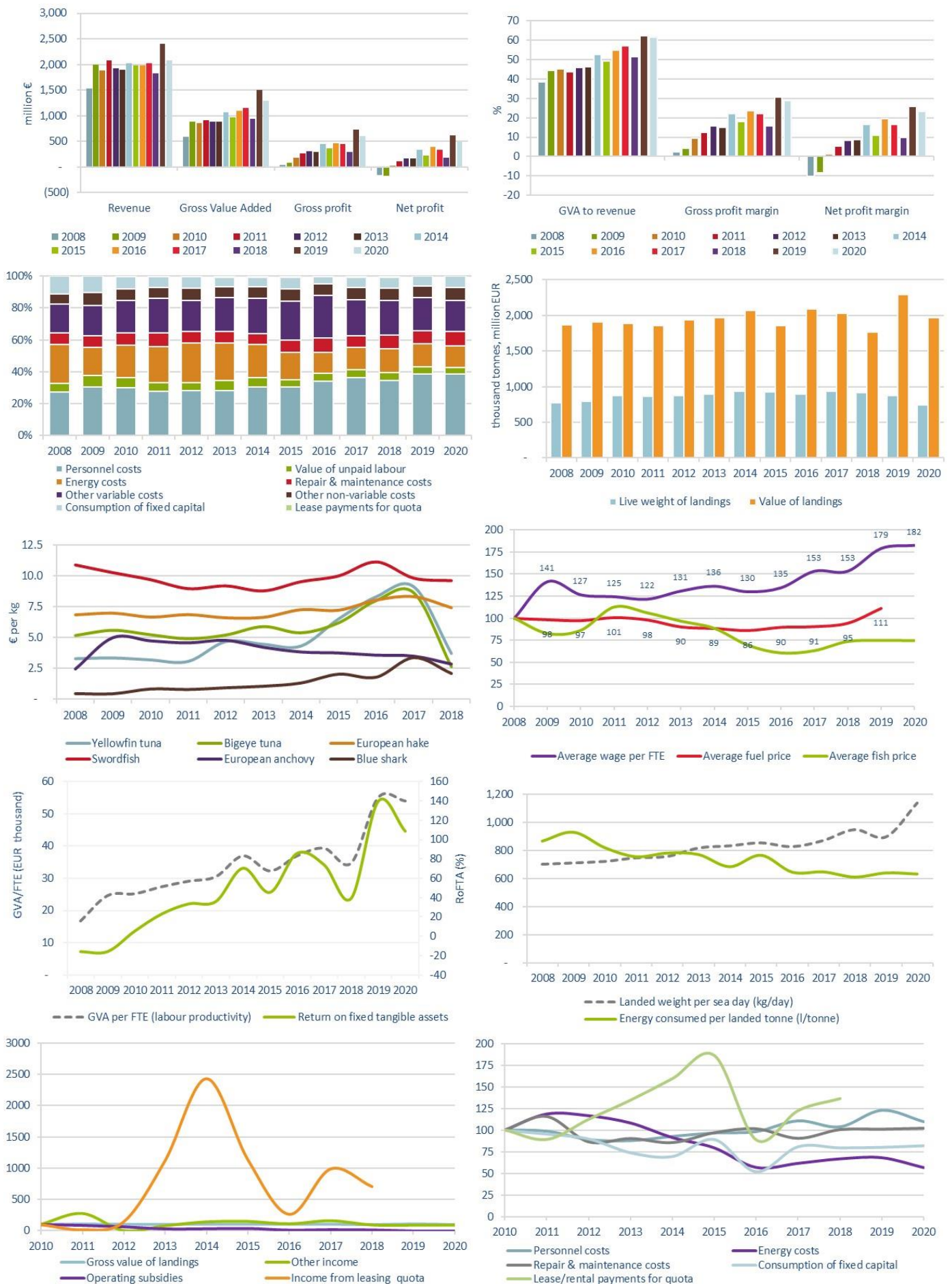
This year, we have developed a new system of algorithms (called DORI) for the data's compilation. This system let us to obtain a better quality data. Although this new algorithm could produce some distortions in our historical data, the analysis of the data will be improved in the near future.

### **Remaining issues**

The economic data collection on the Spanish fleet is carried out by statistical sampling; such sampling does not differentiate the fleet according to the days of activity, so the sampling can include vessels with few days of activity. When these results are raised for the total of the fleet segment, the profitability of the segment can be influenced, obtaining worse results than the reality and vice versa. That's why, we have important differences between incomes of landing and value of landing in some segments. The first is obtained from statistical sampling, so the result of not many vessels are raised for the total of the fleet segment. However, the value of landing is obtained by the sales notes which have been declared from the vessel's owner.

Finally, boat dredges under 12 metres are considered LSF, however, they should be considered as a SSCF because they develop a traditional work that has nothing to do with mechanised dredges such as suction dredge. In addition, It must be highlighted, that gear HOK-LLD is regarding only to the gear drifting longliners fleet.





**Figure 4.21 Spain: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



## 4.22 Sweden

### Short description of the national fleet

#### Fleet capacity

In 2018, there were 1 175 vessels, 288 of these were inactive whereas in 2017 were 1 209 vessels, 298 where inactive. The capacity decreased by 34 vessels compared to 2017 and the general trend of the Swedish fleet is still that the number of vessels is decreasing. In 2019, the number of vessels were 1 135. The fleet in 2018 had a combined GT of 28 000 tonnes and engine power of 153 600 kW.

#### Fleet structure

The Swedish fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. The national fleet consisted of 10 fleet segments in 2008-2018 including seven clustered active length classes and three un-clustered inactive length classes.

#### Employment

In 2018 the fleet employed a total of 1 400 workers, including owners, which corresponds to approximately 747 FTE or an average of 0.84 FTE per active vessel. The level of employment follows the same decreasing trend as the overall capacity. Total number of employed has decreased by 652 employees since 2008 and is projected to continue the negative trend in 2019. FTE follows the same trend but has decreased by 6 % compared to 3% decrease in total jobs between 2017 and 2018. The higher decrease in FTE compared to the decrease in total jobs indicate that the share of part-time fishers is increasing in Sweden.

In 2018 there were on average 0.53 FTE per employed. The average wage per employed and per FTE has increased over the period 2008 to 2018, 34% and 36%, respectively. Compared to 2017, the average wage per employed and per FTE in 2017 decreased by 7% and 5%, respectively.

#### Effort

An estimated 60 400 days were spent at sea during 2018, a decrease by 4 % compared to 2017. The amount of energy consumed decreased in 2018 which is a shift in the trend from 2008. Both SSCF and the LSF have a decreasing trends in fuel consumption where the LSF is the dominating part. Since 2008 both fleets have decreased their consumption by 2 and 3%, respectively.

#### Production

The total weight landed in 2018 was 215 000 tonnes of seafood (177 000 tonnes in 2019), with a landed value of EUR 111 million (EUR 97 million in 2019). The total weight and the value of landings vary over the period analysed due to quotas, prices and currency, especially the pelagic. In 2012 for example, the catch was exceptionally low due to low quotas. The currency SEK has continued to be weak even during 2019, as in 2018.

The fleet targets both pelagic and demersal species, with herring remaining the dominant species, generating the highest landed value with EUR 41.2 million, which represented approximately 35% of the total landings value in 2018. Other important species in value in 2018 were Norway lobster EUR 17.2 million, Northern prawn EUR 12.4 million, European sprat EUR 10.8 million and cod EUR 6.2 million.

### Economic results for 2018 and recent trends

#### National fleet performance

The Swedish national fleet decreased the revenue in 2018 by 16%. It is mainly due to the lower net profit in the large-scale fleet that has previous years covering the losses in the small-scale fleet. The results of 2018 in large-scale fleet decreased between 2017 and 2018 by 55% which can be a result of weak national currency and decreased landings.

Revenue in 2018, estimated at EUR 113 million due to a 13% decrease in landings income and an decrease in other income (EUR 3 million) by 38%. Total operating costs decreased between 2017 and 2018. Personnel costs decreased by 1%, while unpaid labour was at the same level as in 2017. Energy cost are at similar level as 2017 whereas repair & maintenance costs decreased by 7.6%. Other variable

costs increased by 5% since 2017 in contrast other non-variable costs decreased by 8%. Total operational costs amounted to approximately EUR 85 million. When including capital costs, total costs amounted to EUR 104 million, deducted from total revenue, it generates a net profit of EUR 10 million.

GVA, gross profit and net profit in 2018 were estimated to EUR 28.1 million, EUR 10.2 million and EUR 10 million, respectively. Compared to 2017 GVA and gross profit decreased by 37% and 59%, respectively. The positive trend observed between 2016 and 2017 did not continue in 2018.

The (depreciated) replacement value of the Swedish fleet was estimated at EUR 92 million, a decrease by 8% compared to 2017. Investments amounted to EUR 7.5 million in 2018, which is similar to previous year.

## Resource productivity and efficiency indicators

The gross profit margin in 2018 was 25%, decreasing from 33% since 2017. Net profit margin was estimated at 9%, a decrease since 2017.

An overall improved development trend can be seen up to 2017 but in 2018 the result is different. Labour productivity (GVA/FTE) further decreased in 2018 with 22%; GVA decreased by 27 % while the number of FTE decreased by 6%.

Fuel consumption per landed tonne has increased since 2008 but is still low at 224 litres per tonne landed in 2018. Landings in weight per unit of effort (in days-at-sea) has been stable since 2008 at around 2.1 tonnes per day. In recent years it increased due to less demersal in relation to pelagic fishing and it amounted to 3.3 tonnes per day in 2017. During 2018 it also ended at 3.3 tonnes per day whereas a decrease in 2019 to 2.9 tonnes per day.

## Performance by fishing activity

### Small-scale coastal fleet

The number of small-scale vessels decreased from 852 in 2008 to 660 in 2018 (632 in 2019), a decrease of 15%, following the general trend of the Swedish fleet but a lower annually percentage decrease compared to large-scale vessels.

The numbers employed and FTE in the small-scale fisheries followed the same decreasing trend as overall national fleet in over the period 2008-2018, 14% and 16%, respectively. Vessel tonnage as well as engine power has decreased during 2018, 2% and 4%, respectively.

Overall, the SSCF is not profitable, generating a net loss of EUR 3.2 million in 2018. GVA is positive but relatively low per FTE at EUR 24 900. As tangible assets are, in most cases, probably paid off, these vessels can afford to continue fishing. Low GVA is a signal that there are other reasons for fishing than just profit, such as part-time employment or a way of life. Fishers whom do not have profit as main reason for fishing raises the competition on the market, which makes it harder for new firms/individuals to enter the market.

Additionally, increased seal populations along the Swedish coastline are still affecting both income, by taking and eating fish directly from the gears, and costs, by destroying gears as well as creating extra work.

Due to the discard ban a new management system was introduced in 2017. Despite still missing transferability like a proper ITQ system the individual quotas now introduced with some transferability during the year (not permanent) is by performance a step forward.

### Large-scale fleet

For the large-scale fleet, the number of vessels decreased from 344 in 2008 to 227 in 2018 (224 in 2019), a decrease of 17%. More than half of this decrease stems from vessels with main income from the Norway lobster fishery. The Swedish authorities have promoted fishing Norway lobster with passive gears and as cod populations are in bad conditions, mixed fisheries with cod and lobster are no longer a profitable option. Vessels fishing for cod as main source of income have also decreased.

The numbers employed in the large-scale fisheries decreased by 7% in 2018 and follows the same decreasing trend as the fleet in general. The decrease in FTE is somewhat, at 9% indicating a decreasing portion of part-time fishers, meaning less fishers doing more fishing. Vessel tonnage and power has decreased and are still decreasing at 10% for both in 2018.

The weight and value of landings for the large-scale vessels from 2008 to 2018 are more dependent on quotas than the small-scale fleet. The landings weight decreased substantially in the first half of the period. Although, with recent increase in quotas over the later period the landings weight is higher and

almost back at the same level as in 2008. Yet it is probable that due to the decrease in quotas between 2017 and 2018 the landings decreased by 3% in 2018. The landing values follow the same trend but with more variation due to changes in fish prices and the exchange rate EUR/SEK. Despite, the LSF seems to perform fairly well but the variation is large. Vessels fishing pelagic species and those that fish in the north Baltic for vendace rom are performing well while those fishing for cod are performing poorly. The LSF decreased their operational costs (6%), mainly due to a decrease in repair & maintenance costs. Increasing total incomes is the main reason for the large-scale fleet to maintain its overall high net profit. Overall, the LSF is profitable, though it faces a decrease of 55% in 2018 in net profit compared to 2017. It generates a net profit of EUR 13.6 million in 2018. GVA per FTE is at EUR 99 000, lower than in 2017.

## Performance results of selected fleet segments

The Swedish fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. None of the four fleet segments using active gear made losses in 2018 in comparison to the passive gear segments whom all except one made losses. It can further be observed that the vessels with active gears account for the main part of the landed value and the landed weight. During the time period 2008-2018, the vessels with active gears annually accounted for 96-98% of the total catch measured in weight, and 85 to 89% of the total catch value. Thus, the vessels with passive gears only accounts for 2-4% of the total catch measured in weight, and 11 to 15% of the total catch value. A short description of the two most important segments in terms of total value of landings is provided below.

### Demersal trawl seine 18-24 metres

In 2018, 39 vessels made up this clustered segment that uses different types of active fishing gear. It operates predominantly in the Baltic Sea, Skagerrak and Kattegat. The fleet segment targets a variety of species but in particular demersal species such as cod, Norway lobster and Northern prawn and pelagic species such as herring and sprat. In 2018, the total value of landings was EUR 16.2 million and around 127 FTEs in this fleet segment, contributing 15% of the total income from landings and 17% of the FTEs in the Swedish fishing fleet. This fleet segment was profitable, with a reported net profit of around EUR 2 million in 2018. There are some differences in performance within the segment. The vessels in the segment fishing Northern prawn and vessels fishing pelagic species have the highest profit of all the national fleet, while the vessels fishing for cod have low profit in this segment.

### Demersal trawl seine 24-40 metres

Composed by 33 vessels in 2018, the segment also contains 17 vessels using pelagic trawlers (nine of the pelagic trawlers are over 40 metres). This segment is operating in the Baltic Sea, Kattegat, Skagerrak, and North Sea. The fleet targets a variety of species, in particular pelagic species such as herring and sprat but also demersal species such as cod and Northern prawn to a small extent. In 2018, the total value of landings was EUR 61 million and around 198 FTEs in this fleet segment, contributing to 55% and 27% of the total income from landings and FTEs in the Swedish fishing fleet, respectively. This segment dominates the Swedish fishing fleet with 88% of the total landings in weight.

This fleet segment was profitable, with a reported gross profit of around EUR 15.8 million and a net profit of EUR 5.5 million in 2018. There is a distinct difference in performance within the segment. The profit is generated from vessels fishing mainly pelagic species. Vessels with more than 50% cod in landings value are making losses while the Northern prawn vessels are profitable in aggregated terms.

## Drivers affecting the economic performance trends

Higher quotas for pelagic species than demersal species were still the main driving force behind profitability and the continued trend in 2018, it was the same in 2017. The Swedish fleet's income is dominated by trawlers, both pelagic and demersal. As trawling is typically fuel intensive, fluctuations in fuel prices are a key driver of this fleet's profitability. The pelagic fleet is the one driving the economic performance for the Swedish fleet.

## Markets and Trade

Good economic performance for the Swedish fishing fleet is highly dependent on fish prices for pelagic species as well as a strong national currency. High prices but more importantly stable prices are key to good economic performance. Furthermore, changes in seasonal fishing, e.g. shorter fishing period for certain species, can have an effect on the fish price. These regulation of shortening fishing periods can produce a sudden supply shock on the market. One example of this is the vendace fishing in northern

Baltic sea. The access to the resource is limited to a few vessels and the price elasticity is quite high. In recent years the landed weight have been approximately half of what it once was but the price has double, yielding approximately the same total value.

## Management instruments

A major challenge regarding fleet management is the adjustment to the landing obligation. It requires a system to allocate fishing opportunities that as far as possible facilitates this requirement and creates the conditions for the Swedish fleet to comply with it. A system that is compatible with the landing obligation must for example consider the challenge of choke species and allow some flexibility so that it is possible to match catches and fishing opportunities.

With background of the needs created by the landing obligation, the Swedish Agency for Marine and Water Management (SwAM) introduced a system in 2017 with individual annual fishing opportunities that can be temporarily transferred between fishers with license during the year. The individual allocations are, with some exceptions, based on reported catches during the reference period 2011 to 2014. The design of the system paid particular attention to small-scale coastal fisheries fishing with passive gears for which unallocated quotas are reserved. This new system increases the flexibility and improves the possibilities for individual fishers 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 has recently been evaluated by SwAM. 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 to the system. Even though the system allows for increased flexibility, quotas may still be limiting at the individual level. Given economic incentives to maximise 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, fishers 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 a system is of critical importance in order to avoid unwanted effects.

## Status of Key Stocks, TACs and quotas

Most of the important stocks fished by the Swedish fleet are fished at MSY. In 2018, Sweden had a total quota of 289 000 tonnes, compared to 330 000 tonnes in 2017. In 2018 the quota to decreased by 12%. Herring and sprat is especially important for the Swedish fleet. The quota for herring decreased by 6.6% by compared to 2017 in Skagerrak, Kattegat, and North Sea, while the quota for sprat was approximately the same.

In 2018, the important quota for cod in the Baltic continued to decrease, the total quota increased by 26% in the western stock and a decrease of 10% in the eastern stock, resulting in a 7% decrease in the total cod quota. Total available cod quota for the Swedish Baltic fleet in 2018 in eastern and western stocks was 16 600 tonnes and 1 800 tonnes, respectively (in 2017; 18 500 tonnes and 1 500 tonnes, respectively).

## Innovation and Development

Towards the end of 2009, Sweden introduced a tradable fishing right system for pelagic quotas running for a 10 year period. The system made the pelagic fishing a lot more efficient and increased the overall profit for the fleet. The end of the first 10 years period is approaching and will be analysed if it had all of its desired effects.

In the beginning of 2017, Sweden introduced a tradable fishing right system for non-pelagic fishers, in order for fishers to comply with the landing declaration. Fishers can temporarily, trade quotas, which will allow fishers to be more flexible and efficient, which in turn can have an impact on the profitability in the small-scale fisheries. There is no clear evidence, after one year using this system, if the impact on the profitability has been positive or negative.

The increasing seal population around the Swedish coastline has caused a growing conflict between seals and inshore fisheries. Seals damage the fisher's catch and fishing gear, which causes significant economic losses to the fishing industry. In some areas, it is even impossible to conduct a profitable fishery because of that. The development of seal-safe fishing gear is at the moment the only long lasting and sustainable solution to the conflict. The development mainly focuses on improving traditional fixed gear, such as push-up traps for salmon and by developing new alternatives to the net fisheries, such as cod pots.

In the Northern prawn and Norway lobster fisheries, research for new and more sustainable fishing techniques is on-going. In general, transition towards the implementation of these new techniques in the sector is slow as fishers are hesitant due to high investments, the uncertainty of the impact of the techniques and the possible market effects.

## Nowcasts for 2019-20 and beyond

### Outlook

Preliminary results for 2019 and 2020 suggest an annual decrease of 0% and 27% in landed weight, matched by a 12% and 43% decrease in value, respectively. Projections for 2019 suggest a decrease in personnel costs, energy costs, repair and maintenance costs, variable costs and non-variable costs. A larger decrease in income than in costs will make performance in 2019 and 2020 worse than in 2018; with GVA decreasing 13% and 11%, respectively. The prospects of gross and net profits also decrease for 2019 while slightly increasing in 2020. These projections are also reflected in the performance indicators GVA to revenue, GVA per FTE and gross and net profit margins, that are predicted to decrease in 2019 but partly recover in 2020.

In mid-2019, it was decided to close the commercial fishing for cod in parts of the Baltic Sea which affected approximately 160 vessels. They were offered financial support from the government or encouraged to focus their landing on other species. The ban will have an economic impact on the small-scale fisheries in Baltic Sea where the ban was introduced. Yet, this is expected to affect the volume of landings hence the value of landings which is partly reflected in the forecast for 2019.

The general trend since the beginning of the 2000s is a decrease in Swedish fleet capacity, i.e. in the number of vessels that also reflects reduction of total engine power and gross tonnage. This is partly due to management efforts directed at decreasing fleet size in order to bring it in balance with the fishing possibilities. The analysis of economic performance shows that all Swedish segments with vessels using active gear are making positive net profits while the one passive segments are negative net profits with one exception, 10 to 12 meter vessels using passive gears.

There is also a crew recruitment problem as working on board fishing vessels is not a particularly attractive job for young people; this is due to low wages and relatively poor working conditions compared to other land-based jobs. Furthermore, there are other reasons than profit to keep a fishery going in small-scale fisheries, e.g. a way of life or a part-time employment. The fact that profit is not the sole driver can have a huge impact on the market in terms of higher competition, due to that fishers don't have to make a profit from their business, thus making it harder for new firms/individuals to enter the market.

### COVID-19

Due to the COVID-19 pandemic in 2020 the demand for specific species decreased drastically. In Sweden it was mainly prices of the Norway lobster and fresh water species that dropped due to decrease in demand from restaurants. This caused a loss of income for vessels aiming for these species. The government introduced in June 2020 a possibility to get financial support for pausing the fishing activity, to help cover for non-variable costs and salary for the license owner over a chosen time period. The conditions for receiving this financial support were mainly based on fishing activity and vessel length. Agents eligible for this support were fisheries with license, vessels smaller than 24 metres, not included in the pelagic ITQ-system and being actively fishing for at least 120 days over the years 2018-2019 or at least 60 days in 2019. Therefore it is an expected decrease in activity during 2020 among small-scale fisheries.

### Landing obligation

The landing obligation affected some part of the fleet and it's activity. The use of De minimis has been relatively low and mainly for Northern prawn, Norway lobster and some demersal species. When it comes to high survival exemption the use has been high, mostly for northern lobster. The loss of income due to landing obligations is expected to be low. Changes in enforcement have been low since there has been no surveillance using flights or camera.

### Brexit

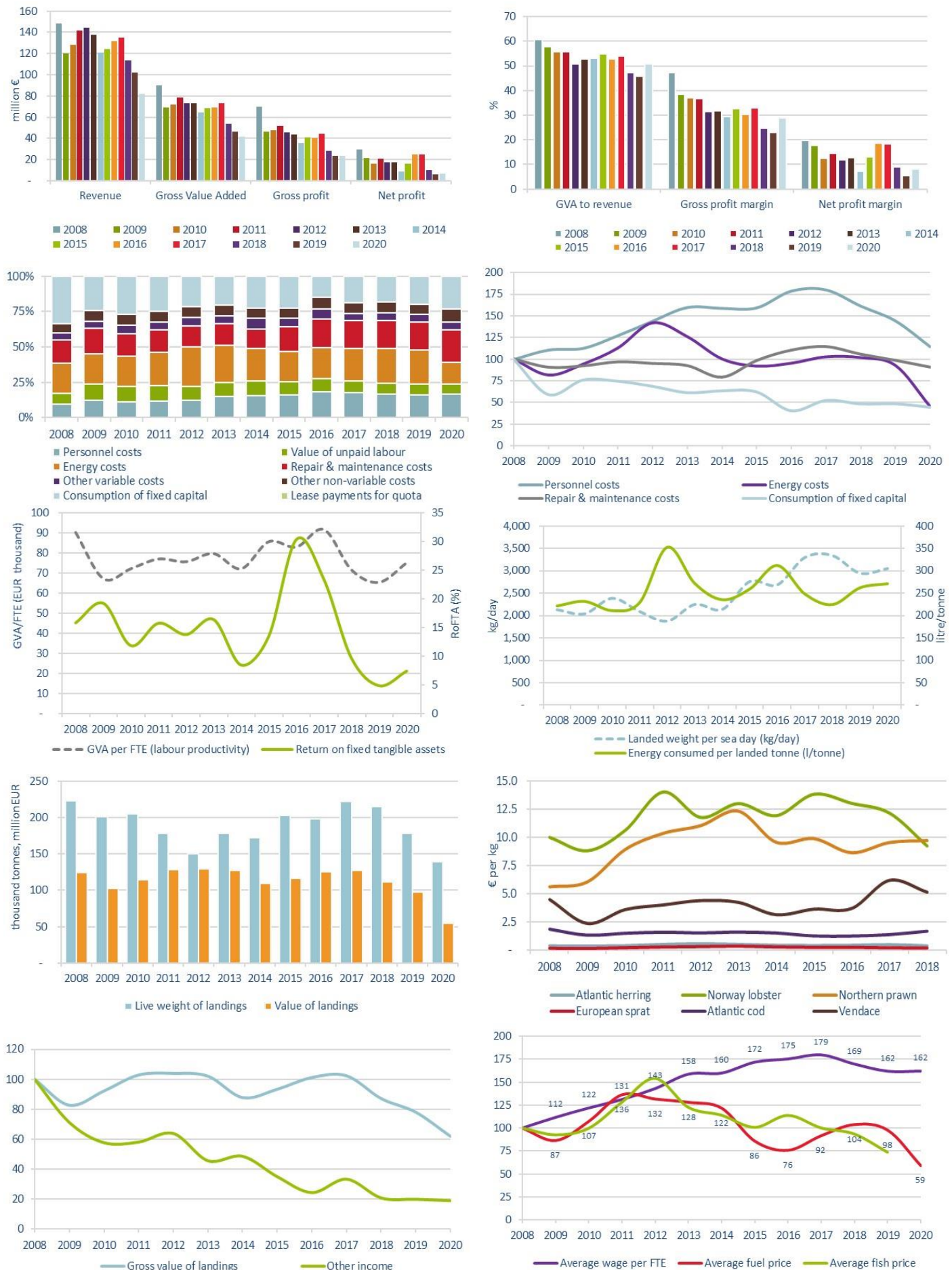
The Brexit can affect the Swedish fleet to some extent. There has been one vessel who changed in the time of fishing mackerel in the North Sea. Otherwise it has not changed so much. Depending on the Brexit deal it is possible that it affects vessels fishing for Sand lance. In total there has not been any changes in activity due to Brexit.



## Data issues and improvements

There are no major data issues in the Swedish EU-MAP data. Swedish data come from logbooks, journals, surveys with a census sample with high response rate (87%) and tax declarations. Previously, Sweden used probability sampling when sending out the questionnaires. Since 2012, the survey had a census approach. With the census approach, the number of data points has increased by the double and the response rate has been stable around 85% since 2012. Information on economic of the fleet were previously assessed at segments level but since 2018 it is assessed on micro level, firm level, by ordering registered from Statistics Sweden. This has improved the quality of the data since it is register data from the Swedish Tax Agency. Further, in 2019 Swedish Agency for Marine and Water Agency made it possible to fill out the survey on economic cost online instead of by hand. This has and will increase the quality of the survey responses due to missing data and miss writing or miss readings.

An important issue is clustering. With a small and diminishing fleet, Sweden is forced to cluster all of the economic data and also report cluster definitions.



**Figure 4.22 Sweden: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2019 and 2020.**

Data source: MS data submissions under the DCF 2020 Fleet Economic (MARE/A3/ASC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

## 5 DATA COVERAGE AND QUALITY

### Data validation – AER Exercise

#### Quality and Coverage checking procedures on the data submitted under the 2020 fleet economic data call

Although the quality and coverage of the fleet economic data reported under the Data Collection Framework are a responsibility of the EU Member States, JRC undertakes systematic quality and coverage checking procedures on the data submitted, some carried out during the data uploading phase and some afterwards. The quality and coverage of the data has also been checked by national experts during the STECF EWG 20-03 virtual meeting on the 2020 Annual Economic Report of the EU fishing fleet, which took place during the week 22-26 June 2020. In addition, four ad hoc contracts for Cyprus, Germany, Latvia and Lithuania were carried out during the week 29 June to 3 July to assess the data coverage and quality for these Member States for which experts were unable to attend EWG 20-03.

#### Data issues

In terms of the completeness of the Member States data submissions, most countries submitted the majority of the parameters requested under the call. Overall, there has been an improvement in the data quality and coverage compared to previous years. In many cases missing data relates to fleet segments with low vessel numbers for which data are hard to obtain (detailed account of data coverage issues are provided in the DTMT).

For confidentiality reasons, Member States may aggregate fleet segments into clusters to provide sensitive economic data. In several cases, clustering may not be enough to guarantee confidentiality, and hence, parts of Member States fleets are not completely covered. These generally relate to distant-water fleet segments and include Estonia, Germany, Italy, Latvia and Poland.

In terms of data quality, inevitably some 'abnormal' estimates for various parameters were detected by the JRC or the EWG 20-03 and in most cases rectified by the Member States. However, some quality issues remain outstanding.

Incomplete time series data due to either the non-submission of data, questionable data and/or new MS additions, make trend analysis at the EU level impossible without excluding the MS fleets that are incomplete. These discrepancies make an evaluation of the overall economic performance of the EU fishing fleet for the period 2008-2017 impossible. The data submitted for the Greek fishing fleet for the year 2018 in the 2020 data-call was deemed fit for purpose; Greece is therefore included in all EU level analyses for 2018 and 2019.

Submissions from France and Spain continue to be somewhat incomplete, especially for the period 2008-2010 that impacts on time-series analysis mainly. Some Member States continue to have problems in collecting comprehensive data sets for the under 10 metres segments. Transversal data sets for some effort and landing variables continue to not be provided at the correct aggregation levels (for e.g. days at sea at FAO fishing areas 3 or 4 or live weight and value of landings by FAO species 3-alpha code). Several Member States continue to provide 'zero' values for several of the new EU-MAP variables (debts, assets, investments in tangible assets, subsidies on investments, operating subsidies, etc.).

#### Member State specific data issues and developments

Although the coverage and quality of the data submitted by Member States has improved significantly over the years, some data transmission issues remain. These include, relative mainly to data for 2017-2019 (EU-MAP), the following (see annex for a more detailed account of the data transmission issues reported, Member State responses and outcomes):

**Belgium:** No major data transmission issues to report. Unpaid labour and hours worked not provided for 2017 and 2018 for any of the fleet segments. Capital value and capital costs not reported for inactive segments.

**Bulgaria:** No major data transmission issues to report. Again, huge efforts from the Bulgarian data experts to improve on the coverage and quality of the data, going back to 2008 where possible.

**Croatia:** No major data transmission issues to report. As a new Member State, Croatia submits data from 2012 onwards.

**Cyprus:** No major data transmission issues to report. Only partial data reported for PS VL2440 due to confidentiality (1 vessel).

**Denmark:** No major data transmission issues to report. Efforts were made this year to report requested 2019 data. Capital costs (totdepco<sub>st</sub>) not reported for DNK NAO DTS0010 NGI. Data not reported for inactive segments.

**Estonia:** No data transmission issues to report. For confidentiality reasons, Estonia only provides data for its Baltic Sea fleet, i.e., only Capacity data are provided for the distant water fleet (2018); this impacts on the AER as a complete coverage of the EU fleet is not possible.

**Finland:** No major data transmission issues to report.

**France:** Significant amount of data not reported for several fleet segments, in particular OFR fleet segments (Outermost Regions). Inconsistencies in landings and effort data provided by FAO sub-regions for several fleet segments in 2017 and 2018 (landings reported but no effort data); this significantly impacts on the AER regional analyses.

**Germany:** No major data transmission issues to report. For confidentiality reasons, Germany provides only partial data on its pelagic fleet. This impacts on the AER as a complete coverage of the EU fleet is not possible.

**Greece:** Major data transmission issues continue for previous years; however, almost complete data sets were provided for 2018 and 2019. Big data gaps for the period 2008-2017, in particular for landings and effort variables, for most fleet segments and years. Gross value of landings in 2017 reported for 3 fleet segments only. Landings reported for 5 large scale fleet segments only. *Days-at-sea* provided for 6 fleet segments only. Due to these and other data issues, the Greek national fleet can only be included in aggregated analyses in the AER from 2018.

**Ireland:** A significant amount of missing data (transversal and economic data) for the under 10 m segments. Capital value and capital costs, as well as other variables, not reported for several fleet segments, mainly segments <10m. This impacts the calculation of net profit as the opportunity cost of capital cannot be estimated. Landings data provided but no effort (days-at-sea) provided by FAO sub-region for several fleet segment, which impacts on the AER regional analyses.

**Italy:** No major data transmission issues to report. Due to confidentiality reasons, Italy only provides partial data on its distant water pelagic trawler fleet (PS VL40XX IWE). This impacts on the AER as only incomplete coverage of the EU fleet is possible.

**Latvia:** No major data transmission issues to report. For confidentiality reasons, Latvia does not provide economic data on its distant water fleet; this impacts on the AER as a complete coverage of the EU fleet is not possible.

**Lithuania:** No major data transmission issues to report. Capital value and capital costs not reported for inactive segments.

**Malta:** No major data transmission issues to report.

**Netherlands:** No major data transmission issues to report. Capital costs not reported for inactive segments.

**Poland:** No major data transmission issues to report. Due to confidentiality reasons, Poland only provides partial data on its distant water fleets (NAO DTS 40XX, NAO TM VL40XX and OFR TM40XX). This impacts on the AER as a complete coverage of the EU fleet is not possible.

**Portugal:** No major data transmission issues to report. Inconsistencies in landings and effort data provided by FAO sub-regions for several fleet segments in 2017 and 2018 (landings reported but no effort data); this significantly impacts on the AER regional analyses.

**Romania:** No major data transmission issues to report. FTE national not reported (on a voluntary basis) for 2017.

**Slovenia:** No major data transmission issues to report. Capital costs not reported for inactive segments.

**Spain:** Inconsistencies in landings and effort data provided by FAO sub-regions for several fleet segments in 2018 (landings reported but no effort data); this significantly impacts on the AER regional analyses.

Capital costs not reported for inactive segments in 2018. Capital costs also missing for several fleet segments. This impacts the calculation of net profit as the opportunity cost of capital cannot be estimated.

**Sweden:** No major data transmission issues to report.

**United Kingdom:** No major data transmission issues to report.

## Recreational catches: Data coverage and Quality

Continued concerns regarding the coverage and quality of the data submitted for recreational catches. Please see table X for an over view of the recreational data available by Member State and region (species are not shown).

MS	Region	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	MS comments
BEL														Currently, it is not mandatory to provide these data. Belgium has started the collection of data on recreational fisheries since 2017 in a regular way for the catches and biological data, based on the recommendation of WGRFS (see <a href="https://www.recreatievezevisserij.be/">https://www.recreatievezevisserij.be/</a> ). Since 2020, Belgium has started a qualitative collection of economic data. In the second part of 2020 the quantitative collection of social and economic data will be started through a pilot study. From 2021, the pilot study will be used to have a regular data collection on the economic data on recreational fisheries.
BGR	MBS	-	-	-	-	-	-	-	-	-	-	-	-	No recreational fishery in the Black sea (all fishermen are registered as commercial).
CYP	MBS	-	-	-	-	-	-	-	-	-	-	-	-	Catches of eel, sharks and BFT are forbidden for recreational fishermen.
DEU	BS	2,539,600	2,158,400	2,974,400	2,861,500	3,824,300	2,930,500	3,002,900	4,590,000	2,647,000	1,983,898	1,345,339	1,674,853	
DEU	NS										51,209	51,209	51,209	
DNK	BS	15,000	735,330	1,190,900	825,800	916,100	1,093,800	1,913,700	1,396,000	1,431,000	1,182,000	695,000	702,700	
DNK	NS		509,400	668,300	571,600	462,100	563,900	905,600	800,800	1,003,700		561,102	437,612	
ESP	MBS	10,364	9,461	11,889	8,715	3,161	6,458	5,807	6,433	3,578	13,159	5,463	9,233	
ESP	NA	9,058	2,371	2,413	6,944	8,628	6,670	9,321	9,609	7,576	48,205	48,009	79,603	
EST	BS	2,858	3,455	3,388	3,153	2,975	2,504	3,437	4,602	5,422	7,108	3,549	3,801	
FIN	BS	75,774	75,774	37,142	37,142	46,858	46,858	77,264	77,264	115,511	115,511	4,063	4,063	
FRA	NA											-		
GBR														Some recreational fishing data submitted. CEFAS do have 2019 data but are wanting to Recatch = 0
GRC	MBS	-	-	-	-	-	-	-	-	-	-	-	-	
HRV	MBS					2,086	2,716	3,552	3,156	6,676	8,200	6,302	9,197	
IRL	NA	149,000	115,000	159,000	142,000	148,000	136,000	88,000	105,500	97,000	142,500	84,000		
ITA	MBS	16,583	58,205	161,262	66,051	7,565	9,709	9,863	10,879	12,843	29,675	18,343	20,098	
LTU	BS							13,477	41,961	38,535	47,698	64,801	35,391	
LVA	BS	2,451	3,367	3,687	2,317	2,585	4,228	3,872	3,744	3,206	4,492	3,540	1,884	
MLT	MBS				113	-	907	1,929	3,849	3,448	5,003	3,338	2,667	
NLD	NS			1,484,000		1,592,000		2,030,000		215,000				
POL	BS	1,042,000	1,703,000	1,106,000	1,058,600	718,400	876,700	1,279,500	883,500	1,440,000	1,220,884	472,952	455,437	
PRT	NA	400	400	400	400	400	400	400	400	2,170	2,867	1,015,135	1,154,012	
ROU	MBS	-	-	-	-	-	-	-	-	-	-	-	-	
SVN	MBS	-	-	-	-	-	-	-	-	-	-	-	-	
SWE	BS	244,509	229,855	258,489	269,964	335,055	1,270,384	1,840,886	2,115,651	1,019,925	1,162,871	1,647,556		
SWE	NS	70,500	69,500	241,524	247,724	239,931	471,224	734,429	698,000	268,102	231,083	199,442		

See JRC online tool and data coverage report for more details on data transmission issues by fleet segment, variable and year <https://datacollection.jrc.ec.europa.eu/web/dcf/data-analysis>



## 6 LIST OF PARTICIPANTS EWG 20-03 AND 20-06

The 2020 AER has been produced by two working groups of economic experts convened under the Scientific, Technical and Economic Committee for Fisheries (STECF), which took place virtually from the 21 to 26 of June (EWG 20-03) and 12 to 16 October (EWG 20-06). The groups consisted of independent experts from within the EU and experts from the European Commission's Research Centre (JRC).

1 - Information on EWG participant's affiliations is displayed for information only. In any case, Members of the STECF, invited experts, and JRC experts shall act independently. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest, which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: <http://stecf.jrc.ec.europa.eu/adm-declarations>

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## 7 LIST OF BACKGROUND DOCUMENTS

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Background documents are published on the EWG-20-03 meeting's web site on:

<http://stecf.jrc.ec.europa.eu/web/stecf/ewg2003>

Background documents are published on the EWG-20-06 meeting's web site on:

<http://stecf.jrc.ec.europa.eu/web/stecf/ewg2006>

EWG-20-03 – Declarations of invited and JRC experts (see also section 6 of this report – List of participants)

EWG-20-06 – Declarations of invited and JRC experts (see also section 6 of this report – List of participants)

Member States Annual Report on the National Data Collection Programmes  
<http://datacollection.jrc.ec.europa.eu/ars>

Data-handling procedure for STECF Expert Working Groups  
<http://datacollection.jrc.ec.europa.eu>

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## ABBREVIATIONS

### *European Member States*

BEL	BE	Belgium	HRV	HR	Croatia
BGR	BG	Bulgaria	IRL	IR	Ireland
CYP	CY	Cyprus	ITA	IT	Italy
DEU	DE	Germany	LTU	LT	Lithuania
DNK	DK	Denmark	LVA	LV	Latvia
ESP	ES	Spain	MLT	MT	Malta
EST	EE	Estonia	NLD	NL	Netherlands
EU	EU	European Union	POL	PL	Poland
FIN	FI	Finland	PRT	PT	Portugal
FRA	FR	France	ROU	RO	Romania
GBR	UK	United Kingdom	SVN	SV	Slovenia
GRC	EL	Greece	SWE	SE	Sweden

### *Fishing Technologies – DCF categories*

DFN	Drift and/or fixed netters
DRB	Dredgers
DTS	Demersal trawlers and/or demersal seiners
FPO	Vessels using pots and/or traps
HOK	Vessels using hooks
MGO	Vessel using other active gears
MGP	Vessels using polyvalent active gears only
PG	Vessels using passive gears only for vessels < 12m
PGO	Vessels using other passive gears
PGP	Vessels using polyvalent passive gears only
PMP	Vessels using active and passive gears
PS	Purse seiners
TM	Pelagic trawlers
TBB	Beam trawlers

### *Fishing activity – scale of fishing operation*

SSCF	Small-scale coastal
LSF	Large-scale fleet
DWF	Distant water fleet

### *Fishing regions*

BS	Baltic Sea
BKS	Black Sea
MED	Mediterranean Sea
NSEA	North Sea & Eastern Arctic
NWW	North Western Waters
OFR	Other fishing regions
SWW	South Western Waters

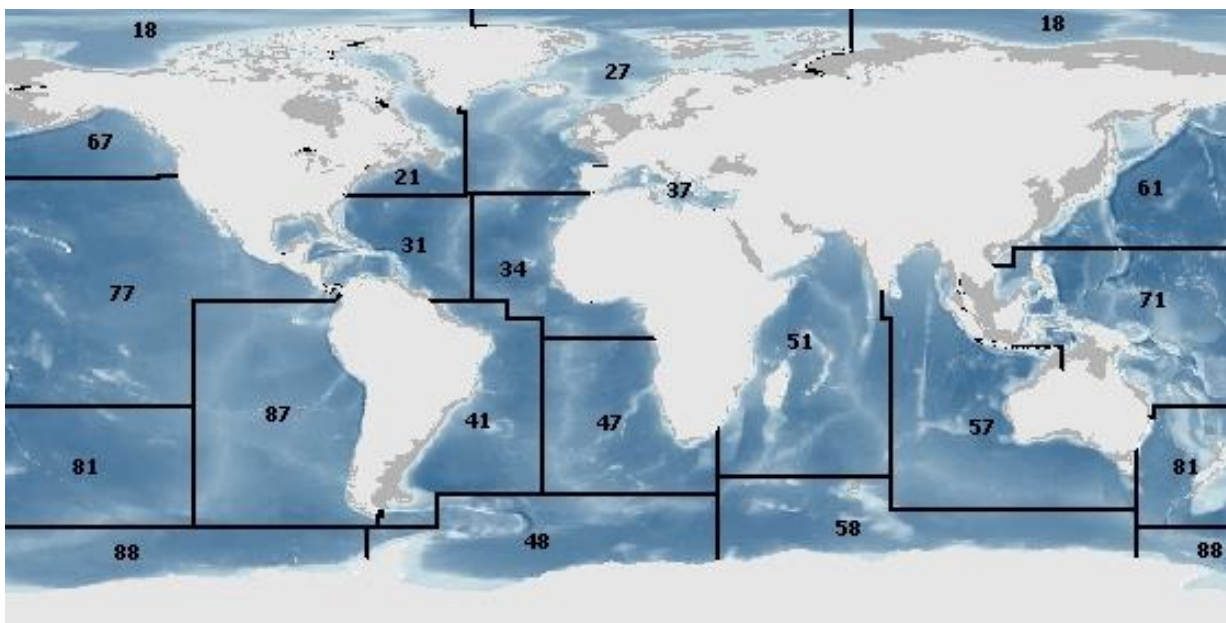


## Regional fisheries

ABNJ	Areas Beyond National Jurisdiction
CECAF	Fishery Committee for the Eastern Central Atlantic
GFCM	General Fisheries Commission for the Mediterranean
ICCAT	International Commission for the Conservation of Atlantic
IOTC	Indian Ocean Tuna Commission
LDF	Long Distant Fisheries
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North-East Atlantic Fisheries Commission
OMR	EU Outermost Regions
RFB	Regional Fisheries Bodies
RFMO	Regional Fisheries Management Organisations
SFPAs	EU Sustainable Fisheries Partnership Agreements

## Food and Agriculture Organization of the United Nations (FAO) Major Fishing Areas

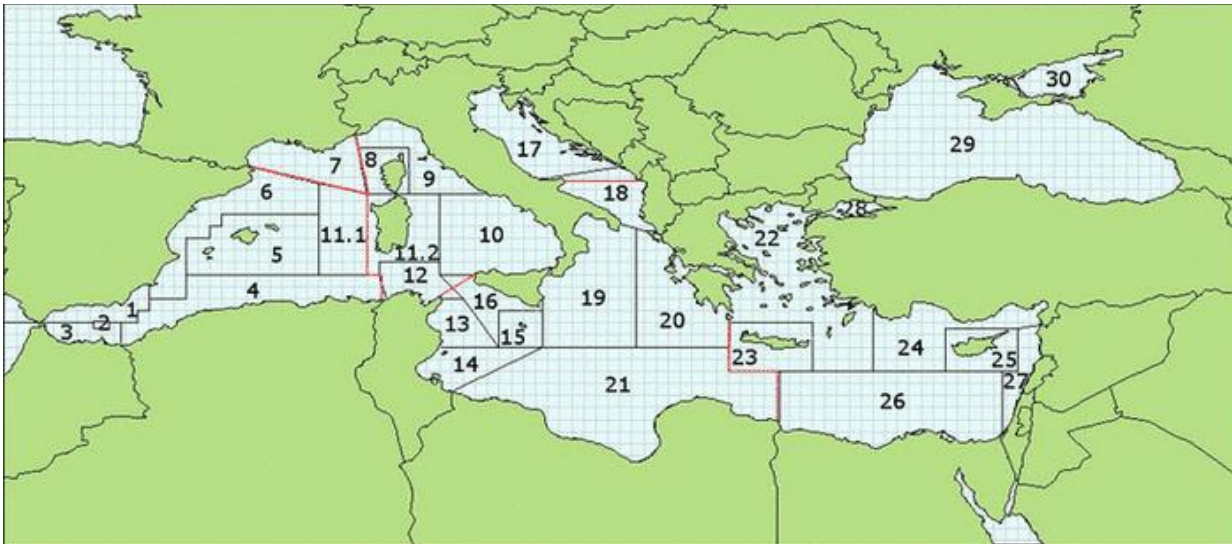
FAO area 18	Arctic Sea	FAO area 57	Indian Ocean, Eastern
FAO area 21	Atlantic, Northwest	FAO area 58	Indian Ocean,
FAO area 27	Atlantic, Northeast	FAO area 61	Pacific, Northwest
FAO area 31	Atlantic, Western Central	FAO area 67	Pacific, Northeast
FAO area 34	Atlantic, Eastern Central	FAO area 71	Pacific, Western
FAO area 37	Mediterranean and Black Sea	FAO area 77	Pacific, Eastern
FAO area 41	Atlantic, Southwest	FAO area 81	Pacific, Southwest
FAO area 47	Atlantic, Southeast	FAO area 87	Pacific, Southeast
FAO area 48	Atlantic, Antarctic	FAO area 88	Pacific, Antarctic
FAO area 51	Indian Ocean, Western		



Source: <http://www.fao.org/fishery/area/>

*General Fisheries Commission for the Mediterranean (GFCM) Geographical subareas (GSAs)*

GSA 1	Northern Alboran Sea	GSA 16	Southern Sicily
GSA 2	Alboran Island	GSA 17	Northern Adriatic
GSA 3	Southern Alboran Sea	GSA 18	Southern Adriatic Sea
GSA 4	Algeria	GSA 19	Western Ionian Sea
GSA 5	Balearic Island	GSA 20	Eastern Ionian Sea
GSA 6	Northern Spain	GSA 21	Southern Ionian Sea
GSA 7	Gulf of Lion	GSA 22	Aegean Sea
GSA 8	Corsica	GSA 23	Crete
GSA 9	Ligurian Sea and North Tyrrhenian Sea	GSA 24	Northern Levant Sea
GSA 10	Southern and Central Tyrrhenian Sea	GSA 25	Cyprus
GSA 11.1	Western Sardinia	GSA 26	Southern Levant Sea
GSA 11.2	Eastern Sardinia	GSA 27	Eastern Levant Sea
GSA 12	Northern Tunisia	GSA 28	Marmara Sea
GSA 13	Gulf of Hammamet	GSA 29	Black Sea
GSA 14	Gulf of Gabes	GSA 30	Azov Sea
GSA 15	Malta		



Source: <http://www.fao.org/gfcm/data/maps/gsas>



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## STECF

The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.

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