European Commission

Scientific Technical and Economic Committee for Fisheries (STECF) –

The 2024 Annual Economic Report on the EU Fishing Fleet (STECF 24-03 & 24-07)

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Contents

Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines.

In 2022, the EU fishing fleet numbered 70 986 vessels with a combined gross tonnage of 1.32 million and engine power of 5.26 million kW. Based on data submitted by EU Member States under the EU multiannual programme (EU MAP) for data collection, there were 52 830 active vessels in 2022 offering direct employment to 119 702 fishers, corresponding to 75 816 FTEs; on average earning EUR 30 277 per FTE in wages, annually. The EU fleet spent 5.1 million days-at-sea and consumed 1.81 billion litres of fuel to land 3.49 million tonnes of seafood with a reported value of EUR 6.6 billion. The Gross Value Added (GVA) and gross profit (all excl. subsidies and fishing rights) were estimated at EUR 3.4 billion and EUR 1.1 billion, respectively. GVA as a proportion of revenue was estimated at 49.2% and gross profit margin at almost 15.9%. With a total net profit of almost EUR 148 million in 2022, 2.2% of the revenue was retained as profit. These results should be read in a context of an increase of fuel cost in 2022 compared to the whole time series. Overall economic performance indicators display a deterioration compared to 2021 while nowcast estimates suggest that the economic performance of the EU fishing fleet has improved in 2023 and in 2024, specially driven by the decrease in fuel prices.

This publication includes: 1) a structural and economic overview of the EU fishing fleet in 2022, trend analyses for the years 2013-2022, and where possible nowcasts for 2023 and 2024; a regional analysis of the EU fishing fleet by major sea basin, as well as, fleets operating in the EU Outermost Regions and in Other Fishing Regions; 3) a detailed structural and economic overview of each Member State's fishing fleet, including qualitative economic performance assessments for 2022 and nowcasts for 2023 and 2024.

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Executive summary

The 2024 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 States fishing fleets. Should be noted that this year and in comparison with previous releases of the report, the base year is 2022 (including the forecast and nowcasting procedures).

Results indicate that the net profitability of the EU fleet decreased in 2022, registering a net profit of almost EUR 0.15 billion, down 52% from 2021, low record of all the time series. Opportunity cost of capital is the main driver of this result as it can be seen when analyzing gross profits. This last indicator was also lower than in 2021 but the drop of it was of 16% compared to 2021. Although the value of landings increased by 5.1% compared to the previous year, energy cost increased sharply by 43%. It should be mentioned that for 2022 the energy costs in real terms were similar to those observed at the beginning of the time series (year 2013) but with far less active vessels. It should be further mentioned that 2022 does consider the sharp increase in fuel prices brought on by Ukraine-Russia conflict. Nowcast estimates indicate that the performance of the fleet will improve in 2023, due, chiefly, to the effects of the reduction in fuel costs. In 2024 it has been forecasted a recovery of the profitability to values similar to those observed in 2021.

In 2022, the **EU fishing fleet** numbered 70 986 vessels with a combined gross tonnage (GT) of 1.32 million and engine power of 5.26 million kilowatts (kW). There were 18 156 inactive vessels (26% of the total number of vessels), bringing the number of active vessels to 52 830. Of the active vessels, 76% were SSCF vessels, 23.7% LSF and less than 0.5% DWF.

While the total number of vessels in the EU fishing fleet continues to decline with the total fleet declining by 0.9% in 2022, other fleet capacity indicators, such as engine power and gross tonnage, showed different trends compared with 2021: total fleet power and tonnage increased respectively by 0.3% and 0.9% compared to 2022.

Direct employment generated by the sector, amounted to 119 702 fishers, corresponding to 75 816 FTEs. These values follow a similar trend as the capacity indicators. Almost 29% of the employed persons were estimated as being unpaid labour (similar to 2021). Average annual wage per FTE was estimated at EUR 30 273, an increase of 4.5% compared to 2021. Remarkable, is the big dispersion along the different Member States.

To perform, the EU fishing fleet consumed 1.6 billion litres of fuel and spent 5.1 million days-at-sea (DaS) in 2022. This combination produced 3.49 million tonnes of seafood landings with a value of EUR 6.6 billion (a slight decrease of 0.4% compared to 2021).

In 2022, the EU fishing fleet had an estimated depreciated replacement value (tangible asset value) of EUR 5.5 billion and in-year investments amounted to EUR 1 275 million. These figures indicate that the capital value of the EU fishing fleet decreased (-10%) in 2022 compared to 2021. However, investments presented the highest value of the time series (2013-2022).

The amount of GVA and gross profit (all excl. subsidies) generated by the EU fishing fleet in 2022 was EUR 3.4 billion and EUR 1.1 billion, respectively. GVA as a proportion of revenue was estimated at 49%, lower than in 2021 and gross profit margin at 16.5%, lower to the one obtained in 2021. After accounting for capital costs, 2.2% of the revenue generated by the fleet was retained as net profit. These figures indicate that the economic performance of the total EU fleet worsened in 2022, compared with 2021, for gross values.

Overall, the EU fishing fleet is very slightly profitable in 2022 and net performance decreased when compared to 2021. Evaluating economic performance at the Member state level, 5 countries accounted for 84% of gross operating profit on European vessels in 2022: Spain, Italy, France, Denmark and Portugal. 11 countries show negative net profits in 2022. The methodology used to calculate capital values can, however, have a major impact on the net results presented, which should therefore be treated with caution.

The EU **small-scale coastal fleet (SSCF)** totalled 40 083 active vessels in 2022, employing 59 694 fishers. This implies that the SSCF comprised 76% of the active fleet and 53% of the engaged crew. FTEs were 29 409, revealing the part time nature of this activity. Collectively, the SSCF was profitable in 2022 although decline in revenue, GVA and profits are recorded compared to 2021. Exceptions are other income and operating subsidies, which increased by 8% and 75% respectively compared to 2021. Results by Member State reveal that five SSCF suffered gross and net losses (Poland, Germany, Denmark, Malta and Lithuania). This negative situation was particularly marked in the Baltic region were collectively the SSCF was already performing at negative gross losses in 2018-21. In 2022, although an improvement of the performance was observed, the fleet is still operating at gross losses. The Mediterranean SSCF (the major EU contributor to this segment in vessels and employment) also suffered a contraction in its economic performance in 2022 compared to 2021.

The EU **large-scale fleet (LSF)** encompassed 12 503 vessels in 2022 and employed 53 516 fishers, representing 24% and 45% of the total active EU fleet, respectively. This fleet contributed 73% in landings and 65% to the value of these landings of the total EU fleet. The LSF was profitable in 2022 but GVA, gross and net profit reduced by 7.3%, 13% and 44% compared to the previous year, respectively.

The EU **distant-water fleet (DWF)** numbered 244 vessels in 2022 and covered 21.5% of the total gross tonnage and 7.9% of the engine power of the EU total fishing fleet, respectively. The DWF covered employed a total of 6 492 fishers FTE, less than 0.5% and 5.5% of the EU total, respectively. This fleet contributed 20.5% in landings in weight and 19.5% in value of the total EU fishing fleet. The reported GVA was of EUR 405 million. Gross profit was estimated at EUR 166 million and net profit at EUR 31 million. In general terms, the economic performance of the DWF remained stable and was very similar to that of 2021, except for a slight increase in number of vessels (2) which reversed the trend from previous decade and a sharp decrease of 56.4% in net profit. This is partly due to the application of 3.5% inflation as new criteria this year.

The 10 Member States fleets operating in the **North Sea & Eastern Arctic** (NSEA) region in 2022 numbered 2 026 vessels, 14 vessels more than in 2021, with an estimated 3 454 FTE (3 138 LSF, 206 SSCF, 110 DWF). The revenue generated was EUR 1 069 million, 32% of which was provided by Denmark (EUR 341 million), 29% by the Netherlands (EUR 308 million), and 13% by Germany (EUR 142 million). The difference in revenue between 2022 and 2021 was only slightly lower (- EUR 6 million; -1%) in total, but diverse for the different Member States. Those with a significant decrease were Denmark (-EUR 26 million; -7%), the Netherlands (-EUR 23 million; -7%), and Sweden (-EUR 17 million; -18%). Countries with a significant increase in revenue were Spain (EUR 38 million; +196%) and Germany (EUR 24 million; +21%). GVA produced by the fleets was estimated at EUR 480 million in 2022; representing an overall decrease of 8% compared to 2021. The fleets made EUR 187 million in gross profit a 19% decrease compared to 2021. By fishing activity, the SSCF generated EUR 24 million in revenue in 2022 (-22% relative to 2021), the LSF

generated EUR 1 016 million in revenue (–1%), and the DWF generated EUR 29 million in revenue (+25%).

Eight Member States were involved in **Baltic Sea** (BS) fisheries in 2022: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, and Sweden, of which the Estonian, Finnish, Latvian and Polish fleets were fully dependent on this region. In 2022 the total number of vessels operating in the BS decreased by 5%. The fleet with 4 831 active vessels generated EUR 181 million in revenue, a decrease of 8% compared to 2021. GVA decreased by 14%. Overall, the EU Baltic Sea fleet was unprofitable in 2022, generating a EUR 18 million net loss, which was unequally distributed amongst MS. Two Member States' fleets (Estonia, Latvia and Sweden) generated net profits in 2022 in the region. While the SSCF had 92% of the vessels (4 463 vessels) in 2022, total employment in the sector amounted only to 2 009 FTE or 63% of the total, indicating the predominantly part-time nature of employment in this part of the fleet. Overall, FTE of SSCF decreased by 3% in 2022 and reached the lowest level since 2013 (3 133 FTE). In 2022, the SSCF generated a gross value added of EUR 22.1 million (EUR 24.5 million in 2021). The profitability of the SSCF improved slightly, though remaining negative, from net losses of EUR 21.9 million in 2021 to net losses of EUR 12.9 million in 2022. SSCF in the Baltic accounted for 7% of the landed weight and 22% of the value and the profitability is presenting a deteriorating scheme with signs of very slight recovery in 2022. The contribution of Atlantic cod in total revenues of SSCF has decreased from 37% in 2008 to 0.3% only in 2022. The revenue generated by the LSF fleet in 2022 was EUR 136.1 million, 6% less compared to 2021. As consequence, gross profit generated by the LSF decreased substantially by 22%. The number of people employed (total jobs) by the LSF decreased by 9%.

The main Member State fleets operating in the **North Western Waters** (NWW) are the French and Irish. Ireland had the highest total percentage of national landed value from the region at 91% indicating their high dependency on this area. Belgium, Denmark, Spain and the Netherlands also had quite a substantial amount of production from the area while Germany, Lithuania and Portugal showed low activity. Overall, the fleets account for 2 484 active vessels with 5 711 FTE, a decrease of –3% compared to 2021. In 2022, the two main species landed in terms of weight were small pelagic species including blue whiting and Atlantic mackerel representing 43% of all landings by weight in the region. In terms of value, Atlantic scallop and European Hake, combined represented 21% of the total landings. Total revenue in the region was estimated at EUR 1.18 billion in 2022 (no change from 2021), however, there were variations in term of economic results for the Member States. Negative performances in some, have been offset by positive performance in others. Only three Member States achieved an increase in revenue from 2021 to 2022: Denmark (59%), Belgium (27%) and France (4%), while Ireland (–9%), the Netherlands (–15%), Spain (–3%), Germany (–13%) and Lithuania (–64%) had decreases. The French and Irish LSFs are responsible for 57% of total GVA and 47% of total gross profits of the NWW in 2022.

The main fishing Member States in the **Southern Western Waters** (SWW) are Spain, France and Portugal (combined, generated 99% of the revenue in 2022). The main species landed were European pilchard, blue whiting, Atlantic horse mackerel, Atlantic mackerel and European anchovy. In terms of value, the main species were European hake, octopus, albacore and anchovy. Overall, the fleets of this region were profitable in 2022, posting a net profit of over EUR 85 million. SWW fleets generated over EUR 1.4 billion in revenue, EUR 818 million in GVA and EUR 208 million in gross profits. In 2022, revenues and profits maintained the growth tendency of 2021, after the negative trend recorded between 2016 and 2020. The SSCF was profitable in 2022, totalling EUR 237 million in GVA. Total employment for the SSCF was higher in Portugal and Spain than in France, totalling 6 709 and 6 306 jobs, respectively, reflecting the high number of active vessels in

these Member States. The three main Member States in the SWW have demonstrated a much lower FTE figures than total employed, especially in Spain and France where FTE is 49% and 45% of the total jobs, respectively, indicating that a large part of those employed in the SSCF are part-time employees. The most important species caught by these fleets are the common octopus (17% of the landed value) followed by the Atlantic mackerel (6%). The LSF was profitable in 2022, totalling EUR 577 million in GVA and EUR 129 million in gross profit.

The **Mediterranean Sea** (MED) fleet accounted for 42% of all EU vessels and 45% of the EU employment (FTE) in 2022. The Mediterranean fleet also contributed 9% of the EU landings in weight and 23% in value. Almost all landings by the Cypriot, Croatian, Greek, Italian, Maltese, and Slovenian fleets originated from the region. The Greek and Italian fleets are the main contributors in terms of the number of vessels (32% each) and days-at-sea (44% and 32%, respectively). The Italian fleet is the dominant fleet in terms of landings (38% in weight and 48% in value), revenue (48%), gross value added (47%) and gross profit (63%). The economic performance was mostly driven by the LSF, which contributed to 73.5% of the landings value from the Mediterranean and 85% of landings weight in 2022. In contrast, 80% of the vessels operating in the region belong to SSCF. Employment in the Mediterranean fishing fleet in 2022 was estimated at 56 078 jobs, corresponding to 34 390 FTEs. Employment (measured as FTE) decreased by about 12% relative to 2021. More than half of the employment is created by the SSCF; 32 968 jobs correspond to more than 59% of total jobs, and 18 207 FTEs are almost 53% of total FTEs. In 2022, the regional fishing fleet's economic performance changed significantly concerning the previous year; the key factor impacting the ability of the Mediterranean fishing fleet to generate profit in 2022 was the fuel crisis. Revenue was estimated at EUR 1.62 billion, GVA produced by the fleets amounted to EUR 0.92 billion, gross profit was EUR 346 million, and net profit was EUR 94 million. A decrease in all the economic indicators is detected for SSCF and LSF.

Bulgaria and Romania are the only two EU Member States involved in the **Black Sea** (BKS) fisheries. Revenue in 2022 was estimated at EUR 9.2 million, decreasing by 26% compared to 2021 and by 29% compared to the average 2013–2021 period. GVA produced was EUR 4.6 million, representing an overall decrease of 47% compared to 2021 and a 48% decrease from the average for the period from 2013 to 2021. Gross profit was estimated to be EUR 2.5 million, a 61% decrease compared to 2021. Net profit also decreased in 2022, reaching EUR 1.14 million, which was 77% lower than in 2021. The BKS fishery is dominated by SSCF vessels. The number of SSCF vessels in 2022 (1 222) increased by 3% compared to 2021, GT remained at the same level as in 2021, and kW increased by 3%. They make up 91% of the total fleet by number and 83% of the total employment (66% of FTE). In 2022, 1 779 fishers were directly employed, corresponding to 450 FTEs. In most cases, vessels are operated by the owner or a family member.

Although the main fishing grounds for the EU fishing fleet are located in FAO areas 27 and 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 territories, namely, Saint-Martin, Guadeloupe, Martinique, French Guiana, Mayotte and La Reunion 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 (e.g. no granular analysis of SFPAs or RFMOs/RSCs such as SPRFMO, SIOFA or CCAMLR).

Combined, the EU OMR (local) fleet numbered 2 587 active vessels in 2022 with 93% of the fleet under 12 meters LOA. With 1 439 vessels, the French fleet was the most numerous, accounting for 55.6% of all active EU OMR vessels. The Portuguese fleet comprised 579 vessels (22.4%) and the Spanish fleet 569 vessels (22.0%). Martinique and Canaries Islands, with 575 and 569 active vessels each, were the largest OMR fleet (by number), followed by Guadeloupe (499), Azores (489), Reunion (168), French Guiana (105), Mayotte (92) and Madeira (90). In 2022, the OMR fleets operated 1 900 009 DaS for a total energy consumption of 21.9 million litres. In terms of energy efficiency, average figures were 115 litres per trip for the OMR as a whole, 1.5 kg and 7.1 euro of fish landed per litre of fuel consumed but with heterogeneous situations between OMRs and segments. Engaged crew was 6 675 for 3 488 FTEs. Landings from the OMR fleets combined amounted to 33 566 tonnes valued at EUR 155.5 million in 2022 (average price 4.6 euro/kg). The French OMR fleets accounted for 45% of the landings in value (30% in weight), followed by the Portuguese OMR fleets (37% in value, 46% in weight) and the Canaries Islands fleets (19% in value, 25% in weight). The average price was 7.0 euro/kg, 3.7 euro/kg and 3.5 euro/kg for the French, Portuguese and Spanish fleets, respectively. Gross value added and net value added were EUR 104.0 million (63% of total revenue) and EUR 89.0 million, respectively. Gross profit and net profit were estimated to EUR 29.0 million and EUR 10.9 million, respectively.

According to the data submitted, the EU **ICCAT** fleet amounts to an estimated number of 221 commercial vessels. The total reported EU landings in weight for the main species regulated by ICCAT in the Atlantic Ocean amounted to 175 271 tonnes in 2022, valued at EUR 406.5 million. Activity of the DWF in the Atlantic is largely directed towards tropical tuna by purse seiners and longliners. As a result, 56% of these catches correspond to tropical tunas (yellowfin, bigeye and skipjack), 31% to tuna-like species (swordfish) and sharks and 14% to albacore. To analyse the EU ICCAT DWF Fleet with high dependency on this fishery, all fleet segments over 18 metres LOA and with 20% or more of their landings in value obtained in 2022 from one or more of the major species or stocks in the ICCAT RA were selected. Based on these criteria 14 DCF fleet segments from four Member States (Spain, France, Ireland and Portugal) were identified for the ICCAT DWF analysis in 2022, the same as in 2021. The number of vessels with high dependency is 202, with a total of 51 000 fishing days, EUR 376 million in value of landings and 164 500 tonnes in weight. The main Atlantic species landed in 2022 were skipjack (51 128 tonnes, 30.5% of the total landings), blue shark (41 084 tonnes, 24.5%), yellowfin tuna (34 416 tonnes, 20.5%), albacore (23 098 tonnes, 13.8%), swordfish (10 158 tonnes, 6%) and bigeye tuna (7 931 tonnes, 4.7% of the total). In 2022, 56% of the major species and stocks landed consisted of tropical tuna. As a result of the increase in number of vessels, days at sea and landings, the economic indicators have experienced a remarkable growth in 2022 with respect to those of 2021 and previous years, showing a revenue of EUR 377 million (73% increase compared to 2021), a GVA of EUR 163 million (59% increase), a gross profit of EUR 59.4 million and a net profit of EUR 12.2 million.

According to the EU-MAP **IOTC** fleet data, four Member States were active in the IOTC Convention region in 2022: Spain, France, Portugal and Italy (same as in 2021). The EU active fleet in 2022 consisted of 35 vessels, the same number as in 2021: 21 from Spain, 11 from France, 2 from Portugal and 1 from Italy. The top species in landings were the tropical tuna species, with skipjack in first place with 130 663 tonnes in weight and EUR 219 million in value, followed by yellowfin

(66 269 tonnes and EUR 179 million) and bigeye (19 955 tonnes and EUR 47 million). Regarding sharks, blue shark (2 798 tonnes and EUR 6 million) and shortfin mako (475 tonnes and EUR 1.7 million) are the main species. Landings of swordfish amounted to 2 292 tonnes and EUR 12 million. For the EU IOTC DWF, four fleet segments over 18 metres, with 27 vessels, showed high dependency on activity in IOTC in 2022. The four fleet segments are Spanish, French and Italian purse seiners above 40 metres LOA; and Portuguese longliners above 40 metres. Combined landings for the IOTC DWF amounted to 218 649 tonnes valued at EUR 449.1 million. The IOTC DWF with high dependency covered 98% of the IOTC fleet's landings in weight and 97% of the value in 2022. It is noticeable to see an upward trend in value of landings from 2020 to 2022 due to increase first sale prices of all species of tropical tuna and swordfish. Profitability has remained at similar levels than 2021. The Gross Value Added (GVA) has been in both years above EUR 210 million, and a gross profit around EUR 120 million, with both variables almost doubling 2019 and 2020 values.

Much of the activity in the **CECAF** region is related to tuna fishing, within the framework of six tuna SFPAs in West Africa (Cape Verde, Ivory Coast, Gabon, Liberia, Sao Tome e Principe and Senegal) and three multispecies SFPAs (Guinea-Bissau, Mauritania and Morocco). 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.

Part of the activity in CECAF overlaps with ICCAT areas. When excluding landings of ICCAT major species and selecting vessels over 18 metres, four DWF segments were identified with high dependency in this area targeting demersal and/or small pelagic species (40 vessels). Total catches for these selected segments were approximately 53 million tonnes valued at EUR 111 million in 2022. Combined, the CECAF DWF with high dependency in the area was not profitable in 2022, worsening its loss-making position to levels similar to those of 2018.

In 2022, eight fleet segments from four Member States (Portugal, Spain, Germany and France) showed some activity in the **NAFO** convention Area (excluding ICCAT major species). The fleet was composed of an estimated number of 24 vessels (one less than in 2021) which produced 37 700 tonnes (lower than in 2021) valued at EUR 94.7 million (higher than in 2021). None of the national fleet segments are heavily dependent on the region, although specifically, Portuguese demersal trawler fleets above 40 metres obtained around 80% of its total landings in value from activity in NAFO, and half of the Spanish trawlers above 40m are almost fully dependent on this area. The other Member States' fleets have less than 5% dependency on this area, although individually vessels could have a higher dependency than this average. Economic performance results for 2022 show an increase in revenue, GVA and gross profit for the fleet operating in this area with respect to that of the previous year, breaking the downward trend started in 2016.

The main fisheries in the **NEAFC** convention area were redfish, mackerel, haddock, herring, blue whiting and deep-sea species like Greenland halibut, ling or tusk. The global (EU and non-EU) catch in the NEAFC regulation area is approximately 3.3 million tonnes. The main difficulty in providing an accurate assessment of the performance of the EU fleet active in the NEAFC RA is the granularity of the data, which is generally reported at area level 3. This makes it impossible to discriminate the EU fleet operating in NEAFC RA waters.

Nowcast results for 2023 and 2024 are driven by the sharp decrease in fuel prices compared to 2022, but lower weight of landings and average prices. However, they should be taken with caution because they do not consider tactical adaptations of the fishing fleet but also due to the methodological limitations of the procedure to produce these results.

Preliminary results for 2023[1] are driven by the sharp decrease in energy costs. In mean, the increase in fuel cost is estimated to be a 31% lower in 2023 than in 2022. Overall, the nowcasting methodology indicates a lower landed value in 2023 compared to 2022, although with a 3% increase in weight. This implies that prices, in real terms (after accounting for inflation) are lower than in 2022. This situation drives the performance of the EU fleet to an increase of 29% and 244% in the overall gross and net **profits.**

Preliminary results for 2024[1] project an overall increase in landed weight of 3% compared to 2022 and 6% compared to 2023. Overall, the change in economic performance is anticipated to moderately improve in 2024 across most metrics including GVA (16% compared to 2022, 12% compared to 2023), gross profit (12% compared to 2022, 18% compared to 2023), and net profit (56% compared to 2022, 53% compared to 2023). This year-on-year improvement brings these indicators close to their decadal average. The number of vessels and employment continue a long-term and steady decline.

This publication includes:

1) A structural and economic overview of the EU fishing fleet in 2022, with nowcasts for 2023 and 2024, and trend analyses for the years 2013-2022.

2) A regional analysis of the EU fishing fleet by major sea basin: Baltic Sea, North Sea & Eastern Arctic, North Atlantic (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 2022 and nowcasts for 2023 and 2024.

4) A glossary, definition of indicators, an outline of the methodology and nowcast model used to estimate economic indicators for 2023 and 2024.

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 2017-2024 (EU_MAP).

The 2024 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, the exclusion of the United Kingdom). 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 2024 Data Collection Framework (DCF and EU-MAP).

2022 EU 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 **2022** and developments in relation to the previous year (2021):

BELGIUM: In 2022 a **deteriorated** performance was noted, operating at a net profit of -EUR 8.8 million (-79%). Only the small beam trawler fleet had a better long term economic development.

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[1] Includes Greece. Excludes the United Kingdom.

Revenue increased by 15%, amounting to EUR 99.5 million; GVA estimated at EUR 40.1 million (–2%) and gross profit EUR 5 million (–43%). The 2022 year was socio-economically not as good as 2021 but this was expected as the fleet was under many stressors such as high fuel prices and increased employment costs.

BULGARIA: **Deteriorated** economic performance compared with 2021 and to the period 2013–2021. Revenue decreased by 46%, amounting to EUR 5.2 million; GVA estimated at EUR 2.39 million and decreased by 66%, gross profit EUR 0.9 million and net profit EUR 0.11 million also decreased by 83% and 97% respectively. One of the reasons for the deteriorated performance is the decrease in value of landings in 2022.

CROATIA: **Improved** economic performance in 2022. Revenue increased by 10%, amounting to EUR 109.9 million; GVA EUR 64.6 million (20%), gross profit EUR 31.4 million (69%) and net profit to EUR 11 million (342%) increased. Main reasons for improved performance are increase in revenue in 2022 (10%) and lower operating costs EUR 78.4 million (–4%).

CYPRUS: Overall economic performance **deteriorated** compared to 2021. Revenue decreased by 8%, amounted to EUR 6.68 million; GVA EUR 2.4 million (–14%), gross profit EUR 0.67 million (–55%) and a net loss of –EUR 1.45 million (–57%). One of the reasons for the worse performance is the significant increase in some of the expenditures, especially the energy cost due to the much higher fuel prices in 2022 compared to 2021.

DENMARK: Overall status quo economic performance from 2021 to 2022. Revenue in 2022 was EUR 399 million, at the same level as in 2021. GVA decreased 9% to EUR 245 million, gross profit decreased 10% to EUR 132 million and net profit decreased 191% to –EUR 2.6 million in 2022 compared to 2021.

ESTONIA: Overall **deteriorated** performance. Revenue decreased by11%, amounting to EUR 16.4 million; GVA was estimated at EUR 8.9 million (–24%), gross profit EUR 3.4 million (–40%) and net profit EUR 0.5 million (–54%). No improvement in economic performance is expected in 2023. The increase in the price of inputs is also affecting the fishing sector; which in turn affects the profitability of fishers and thereby the selling price of fish. According to the official data the average first-sale prices of the key species as sprat, herring and perch increase 71%, 52% and 15% in 2023, respectively.

FINLAND: Overall **deteriorated** performance. GVA of the national fleet in 2022 was nearly EUR 37 million with an increase of just over 7%. However, for the LSF GVA remained almost 50% below long-term average and decreased 30% from the previous year. Gross profit remained unchanged and was around EUR 7.7 million for the national fleet. Yet there were significant changes between fishing techniques: gross profit of SSCF increased around EUR 4 million while gross profit of LSF declined accordingly. The gross profit margin decreased to 21% and remained significantly below the long-term average. The net profit improved from previous year but was –EUR 2.8 million (negative) and stayed below long-term trend. SSCF managed to perform positive net profit of EUR 300 000.

FRANCE: **Slight improvement of performance**. Revenue increased by 6%, amounting to EUR 1.45 billion; GVA estimated at EUR 716 million (+3%). Gross profit EUR 166 million (+15%) and negative net profit –EUR 34 million (compared to –EUR 54 million in 2021 and –EUR 62 million in 2020). For 2023 and 2024, a slightly deterioration of all economic indicators is expected.

GERMANY: Economic performance **has deteriorated;** fleet operating at a net loss (–EUR 35.6 million). Revenues increased to EUR 196 million (+9%), GVA was estimated at EUR 75.0 million (unchanged), gross profit EUR 8.7 million (–34%). Profitability further decreased in 2022, highly negative due to sharply increased costs especially for energy (+70%) and, to a lesser extent, personnel cost.

GREECE: Economic performance **deteriorated significantly.** Revenue is estimated at EUR 273 million (–12%), GVA EUR 120 million (–27%), and gross profit EUR 8 million (–81%). The outcome for 2022 revealed a significant decline in all the economic indicators due to the considerable market disruption caused by substantial energy increase, the COVID-19 pandemic effects, and high inactivity. In 2023 and 2024, the economic indicators will further deteriorate the economic performance due to the increased fuel prices.

IRELAND: Economic performance **deteriorated significantly.** Revenue decreased by –10%, amounting to EUR 311.8 million; GVA EUR 137.5 million (–30%), gross profit EUR 17.6 million (–82%) and net profit decreased to EUR –34.6 million (–215%). Significant increases in inflation, the impact on operating costs, particularly fuel (up 92% on 2021), coupled with the ongoing quota reductions as a result of Brexit were the main driving forces behind a severe deterioration in the economic performance in 2022.

ITALY: Economic performance has **deteriorated**. Revenue decreased by –9%, amounting to EUR 764 million; GVA EUR 445 million (–14%), gross profit EUR 220 million (–23%) and net profit decreased to EUR 67 million (–45%). Profitability sharply decreased in 2022, due to increased costs especially for energy.

LATVIA: Slight improvement of performance. The fleet was profitable in 2022. Revenue decreased by 1% to EUR 21.7 million (increased by 3% for LSF and decreased by 35% for SSCF); GVA is estimated at EUR 13.8 million (11%), gross profit at EUR 8.6 million (30%) and net profit at EUR 8.4 million (34%).

LITHUANIA: **Deteriorated** performance although in 2022 gross value of landings increased by 3% to EUR 104 million. GVA was estimated at EUR 22 million and gross profit at EUR 12 million with 41% and 55% decline compared to 2021, respectively. Fishing industry employed 423 fishers corresponding to 361 FTE. In 2023, fishing effort in days at sea decreased by 5% with corresponding decline of weight and value of landings by 6% and 21% from 2022, respectively.

MALTA: No data was received from Malta on the economic performance of its fleet for 2022.

NETHERLANDS: An overall **deteriorated** economic performance operating at a net loss of EUR –3.6 million in 2022 (EUR 15.2 million in 2021). The number of employees (as FTE) was 1 362 (–14%). The total revenue of the total Dutch fleet decreased by 8% (to EUR 373 million) and GVA decreased by 24% (to EUR 131 million). Much higher fuel costs (+36%, despite –22% fuel consumption) increased total costs. For 2023 and 2024 all performance indicators are expected to be worse. Still high fuel costs because of high fuel prices will further deteriorate economic results.

POLAND: Despite a 4% increase in gross profit, the overall economic performance in 2022 **deteriorated**. Revenues decreased to EUR 36.2 million (–10%), Gross Value Added (GVA) decreased to EUR 20.2 million (–13%), net profit margin worsened by 8%, fishing effort decreased by 3% in terms of days at sea. Vessels belonging to three pelagic segments reported high profitability, while four other segments achieved a negative gross profit margin. Profitability is expected to improve in 2023 (due to higher landing revenues and lower fuel prices), mainly for pelagic segments.

PORTUGAL: Deteriorated economic performance in 2022. Compared to 2021, revenue decreased 4%, amounting to EUR 436.5 million; GVA estimated at EUR 240.1 million (+14%), gross profit EUR 83.1 million (-22%) and net profit EUR 25.7 million (-49%).

ROMANIA: **Improved** economic performance in 2022. Compared to 2021, revenue in 2022 was EUR 3.9 million (+41%), GVA EUR 2.19 million (+30%), gross profit EUR 1.54 million (+60%) and net profit EUR 1.03 million (+109%). The reason for the positive trend is primarily due to higher income from landings (higher presence in landings of fish of high economic value), as well as other sources and operating subsides.

SLOVENIA: Positive and with **improved** performance. Compared to 2021, revenues increased 14%, amounting to EUR 5.17 million; GVA estimated at EUR 4.1 million (+18%), gross profit EUR 3.8 million (+22%) and net profit EUR 3.73 million (+18%). The major driver for improved performance is higher value of other income in 2022.

SPAIN: **Improved** economic performance in 2022. GVA, gross profit and net profit were estimated at EUR 1 023 million (similar than 2021), EUR 321 million (+12%) and EUR 186 million (+18%), respectively. Compared to 2021, revenue increased by 7% (the amount was EUR 2 090 million).

SWEDEN: **Deteriorated** economic performance in 2022. Compared to 2021, revenue decreased by 16% amounting to EUR 113.9 million. GVA, gross profit and net profit all decreased, amounting to EUR 52.4 million (28%), EUR 28.9 million (-35%) and EUR 0.07 million (-100%). The most important driver for the economic performance in 2022 were lower value of landings and higher energy costs.

STECF Report on EWG 24-05

Request to the STECF[2]

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

STECF observations

EWG 24-03 took place online 8-12 April 2024 (AER I) and EWG 24-07 took place in Ispra, Italy 10-14 June 2024 (AER II). The two EWGs addressed all the ToRs.

STECF observes that the Annual Economic Report (AER) is structured in four parts with i) a structural and economic overview of the EU fishing fleet, ii) a regional analysis of the EU fishing fleet by major sea basin, outermost regions and by different Regional Fisheries Management Organisations (RFMOs), iii) a detailed structural and economic overview of each EU Member State fishing fleet and iv) an assessment of the data quality and coverage.

STECF notes that from next year onwards, the data of the AER will be made available to experts in the JRC web dashboard. EWG 24-07 tested the useability of the dashboard but the data analysis remained based on the previous approach. The dashboard was considered an improvement by the EWG as it allows experts and end-users to directly visualize, analyse and download the data (replacing the data visualisations previously provided in annex 2 of the report).

STECF notes that to ensure that the experts, in particular experts new to the AER process, understand the data and the workflow during the EWG, more information on the database structure, aggregation levels and codes used is needed in addition to a description of the tasks performed by the EWG experts.

STECF observes that all the national, regional and EU overview sections in the AER are based on the same reference year (2022). As requested by PLEN 23-02, all time series are updated to 2022 real prices, the historic time series provided in the AER is therefore now 2013-2022 and the nowcast performance estimates are provided for 2023 (t+1) and 2024 (t+2).

STECF notes that as in previous years, the AER includes information on the EU fleet's fishing capacity, effort, employment, landings, income, costs and performance indicators. In addition, following the so-called special request of the ToRs, the report also includes a section on energy use with fuel intensity, fuel efficiency and the calculation of break-even fuel price.

STECF notes that the EWG 24-07 proposed new fleet group definitions for the overview of the EU fleet for the 2024 report and onwards. From 2024 onwards, "long distance fisheries" (LDF) will be replaced by "Distant Water Fleet" (DWF) as the AER considers fleets (aggregation of vessels) and not fishing operations.

STECF observes that for the AER 2025 and onwards, EWG 24-07 suggested to add a new vessel category for vessels under 12 meters that are using active gears. This vessel group currently encompasses over 4000 vessels classified under the Large-Scale Fleet (LSF). This grouping of

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[2] The contact details of the STECF members are reported in Annex 7.

vessels creates inconsistencies in the analysis, as it includes vessels that vary significantly in size and operation. STECF notes that the Small-Scale Coastal Fleet (SSCF) section also presents the economic performance results by length classes (0-6/6-12 meters in the Mediterranean Sea, 0-8/8-12 meters in the Baltic Sea and 0-10/10/12 meters in the other regions). This is considered an important addition, done with available data, to provide a more detailed analysis for an heterogeneous group of vessels.

STECF notes that in the AER 2024, the analysis of the economic performance of the EU overview and the national chapters are focused on active vessels only (net profit and related indicators). For the capacity and capital value, information is also reported for inactive vessels (inactive vessels represent about 25% of the total capacity and approximately 10% of the total estimated capital value).

STECF notes that the EWG estimated Net Profit with opportunity cost based on a fixed rate of 3.5% (as requested by PLEN 23-02) instead of the real interest rates. As explained in detail in the report, this will not affect the work of the Balance/Capacity EWG, because the interest rate is not used to calculate the balance indicators only for the interpretation of performance of the return on investment.

STECF notes that on a voluntary basis Member States should be able to provide data for the nowcast t+1 (2023 in the AER 2024). A workshop facilitated by RCGECON could be organised to develop a common methodology for this nowcast.

STECF notes that the possibility to separate less active vessels from other vessels in a fleet segment by using the "ACTIVITY" column has been used in the outermost fishing regions in two French territories (French Guiana and Guadeloupe). This led to improved assessments of the economic performances of those fleets.

STECF observes that the EWG 24-07 considered the Data Transmission Monitoring Tool (DTMT) Guidance, version March 2024 updated by the STECF PLEN 24-01, as a mean for tracking data issues. The EWG used the dashboard implemented by the JRC to identify data issues and to report any additional data issues detected during the analysis. To this end, the EWG defined an internal DTMT workflow (see below) with a clear division of tasks and assignment of responsible people to each task during both EWGs.

STECF observes that out of the 29 data issues identified (19 related to coverage, 10 related to quality), only one was considered of "high severity" (Malta did not provide economic data for 2022), four were considered of "medium severity" and 24 of "low severity". The EWG decided to use Malta's data from 2021 for 2022 in the EU overview and Mediterranean chapter, while the National chapter was not updated.

STECF observes that while new data issues were identified and documented, future EWGs related to the AER could also check if issues from previous years have been resolved.

STECF notes that to facilitate the regional analysis in Outermost regions, landings data could be requested by species at least at level 3 (the EUMAP (Commission Delegated Decision (EU) 2021/1167) states that: "3.1. Data shall cover variables indicated in Table 6 [Fishing activity variables] at the lowest relevant geographic level"), allowing Member States to provide data also at level 4.

DTMT workflow

AER I:

1. **Each national expert** to check the data and include data issues in the excel template
   - data issues to be identified on the basis of: dashboard/data checks during the EWG/expert knowledge
   - recurrent issues to be identified by comparison with the list of previous issues made available by JRC in the STECF working space
   - make use of the DTMT guidance (version March 24) on filling in issues

AER II:

1. Revision of the data issues from AER I:
   - **JRC** to inform on the MS/data sets resubmitted in between the 2 EWGs.
   - **One expert to be appointed as focal for the** revision of the list from AER I on the basis of the updated dashboard [Evelina]
2. New issues to be included in the excel template, on the basis of the regional data analysis, following the DTMT guidance. The **focal person of each region/section is** responsible for such updated
3. Final assessment of the issues in the **plenary** the last day of the meeting

STECF conclusions

STECF concludes that the two EWGs addressed all TORs and STECF endorses the AER report.

STECF concludes that it is currently not possible for Member States to provide economic data for the report that is more up to date than is collected currently (i.e., t=2022 in the 2024 AER). However, a workshop could be facilitated by RCGECON to develop a common method for nowcasting for the year t+1. Such a methodology could be applied by Member States to provide the nowcast for the year t+1 in the yearly data call.

STECF concludes that to further improve the reporting by fleet at the EU level, the Small-Scale Coastal fleet using active gears should be included in the EU overview and separated from the Large-Scale Fleet in the future.

STECF concludes that the text of the official data call could be slightly modified to ask for landings data "at least" at level 3. The call now asks "Yearly, by: 1) Fleet segment and Supra-region, FAO area level 4 (Baltic), GFCM-GSA (Mediterranean & Black Sea), FAO area level 3 (All other regions)" and it is suggested to be changed to: "Yearly, at least by: …"

STECF concludes that checking the data issues of previous years could be carried out by the EWG if specified in an additional TOR for the EWG.

STECF concludes that it is fundamental to provide the EWG experts with a manual on the database structure with a description of the different data aggregation and codes that will be available to them in the two AER EWGs. This would avoid misinterpretation of datasets and facilitate the involvement of new experts. This manual could be prepared before AER I with ad-hoc contracts for the chairs and support from the JRC.

Expert Working Group EWG-24-05 report

REPORT TO THE STECF

EXPERT WORKING GROUP ON
The 2024 Annual Economic Report on the EU Fishing Fleet

(EWG-24-03 & 24-07)

Virtual meeting, 08-12 April & Ispra (Italy) 10-14 June 2024

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 2024 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 2022 and includes information on the EU fleet's fishing capacity, effort, employment, landings, income and costs. The reference year is 2022 with nowcast performance estimates provided for 2023 and 2024, where possible. All monetary values have been adjusted for **inflation to 2022 constant prices**. The profitability and performance of the EU fishing fleet is also reported in terms of Gross Value Added (GVA), profits (gross and net), 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 2022, with trend analyses for the period 2013 to 2022, including estimates for 2023 and 2024;

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 2008-2022 and nowcasts for 2023 and 2024.

The 2024 AER supersedes all previous AERs. Comparisons across AER reports cannot not be made.

2   EU Fleet Overview

2.1   Background

The EU overview chapter provides a summary of the structure and economic performance of the EU fishing fleet in 2022 and highlights some key trends over the period 2013-2022, based on data submitted by Member States under the 2024 fleet economic data call. **All monetary values have been adjusted for inflation to 2022 constant prices and therefore, data prior and subsequent to 2022 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 analysis on the economic performance for the EU fleet over the period analysed. Croatia officially joined the EU in 2013 and, hence, only required 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 and forward. The United Kingdom officially left the EU at the end of 2020, the British data has been excluded from the analyses. More details on data availability are provided in the chapter on quality and checking procedures (Section 5).

For analyses at Member State level, 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 coastal fleet – SSCF-, large-scale fleets -LSF- and distant-water fleets -DWF-). Results for 2022 at the EU level include all Member States fleets in 2022, 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 statistical 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, statistically confidential 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 2013 (based on 2013=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 2022, by Member State and main type of fishing activity, i.e. SSCF, LSF and DWF (including data summary tables);

A section with nowcasts for 2023 and 2024 on the economic performance of EU fleets where possible (based on fleet segment data);

A 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 fishing vessels flying the flag of an EU Member State and fishing predominantly in non-EU waters.

As a special request for this AER 2024, specific analysis has been carried out, to estimate the fuel intensity, fuel efficiency, and the break-even prices for fuel, at fleet segment level.

2.2   At a glance

Due to incomplete data from Member States, the EU Fleet Overview (Section 2) and Regional Analysis (Section 3) omit Greece when comparing trends 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 2022 and all monetary values are adjusted for inflation; constant prices (2022).

Fleet Capacity

In 2022, the EU fishing fleet numbered **70 986 vessels** with a combined gross tonnage of 1.32 million and engine power of 5.26 million kW.

There were 18 156 inactive vessels (26% of the total number of vessels), bringing the number of **active vessels to 52 830**.

Of the active vessels, 76% were SSCF vessels, 23.7% LSF and less than 0.5% DWF.

While the total number of vessels in the EU fishing fleet continues to decline with the total fleet declining by 0.9% in 2022, other fleet capacity indicators, such as engine power and gross tonnage, showed different trends compared with 2021: total fleet power and tonnage increased respectively by 0.3% and 0.9% compared to 2022.

Employment and wages

The EU fleet directly employed **119 702 fishers**, corresponding to 75 816 FTE. Of the total employed, at least 34 336 were estimated as being unpaid labour[3].

Average annual wage (including crew wages and unpaid labour) per FTE was estimated at EUR 30 273 in 2022 (an **increase** of 4.4% compared to 2021).

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[3] Unpaid labour figures exclude Romania and France.

Effort and landings

The EU fleet spent over 5.1 million days-at-sea (DaS) and consumed almost 1.6 billion litres of fuel.

Landings reported amounted to 3.49 million tonnes of seafood (a decrease of 2.5% compared to 2021), amounting to a value of EUR 6.6 billion (a slight decrease of 0.4% compared to 2021).

Landings per day at sea (LPUE), for the EU fleet as a whole, was estimated at around 0.69 tonnes per day (an **increase** of 5.4% compared to 2021).

Economic performance

Including Greece, and concerning active vessels, revenue (gross value of landings plus other income) amounted to almost EUR 6.9 billion and remained stable compared with 2021. Other income represented 3.4% of this revenue.

GVA, gross profit and net profit (all excl. subsidies and fishing rights) generated by the fleet was EUR 3.4 billion, EUR 1.1 billion and EUR 148 million, respectively. GVA and gross profits decreased by 8.1% and 16.5% in 2022 compared to 2021. Net profit was low in 2022, compared with recent years, but still positive

GVA to revenue was estimated at 49.2% (53.6% in 2021); gross profit margin at 15.9% (down from 19.1% in 2021), and 2.2% of the revenue was retained as net profit for active vessels, including Greece. These figures indicate that the economic performance of the total EU fleet worsened in 2022, compared with 2021, for gross values.

Overall, the **EU fishing fleet is very slightly profitable in 2022 and net performance decreased** when compared to 2021. Evaluating economic performance at the Member state level, 5 countries accounted for 84% of gross operating profit on European vessels in 2022: Spain, Italy, France, Denmark and Portugal. 11 countries show negative net profits in 2022. The methodology used to calculate capital values can, however, have a major impact on the net results presented, which should therefore be treated with caution.

The physical value of capital of the EU fishing fleet in 2022, including inactive vessels was estimated to be EUR 5.5 billion (-8.5% compared to 2021) and in-year investments amounted to over EUR 1 275 million (+72.6%, regarding for this indicator only active vessels).

EU Small-scale coastal fleet (SSCF)

The EU SSCF comprised 40 083 active vessels covering up to 76% of the number of active vessels, but only 8% of the gross tonnage and 21

% of the engine power.

Engaged crew amounted to 59 694 fishers or 29 409 FTE, 53% and 43% of the EU total, respectively.

Contributed 7% of the weight landed (229 432 tonnes) and 29% of the landed value (EUR 1.0 billion).

Generated EUR 686 million in GVA (a **decrease** of 10% compared to 2021), EUR 175 million in gross profit (-31%) and EUR 42 million in net profit (-58%).

In relative terms, this amounted to a GVA to revenue of 62.3% (**down** from 4.6% in 2021), a gross profit margin of 15.9% (**down** from 27.2% in 2021) and a net profit margin of 3.8% (**down** from 60% in 2021).

EU Large-scale fleet (LSF)

Comprised 12 503 vessels (including Greece, 23.7% of the EU active fleet) and covered 70.6% of the gross tonnage and 60.1% of the engine power of the EU total fishing fleet, respectively.

Engaged crew amounted to 53 516 fishers or 39 055 FTE, 44.7% and 51.5% of the EU total fishing fleet, respectively.

Contributed 72.9% to landed weight (2.5 million tonnes) and 65.4% to landed value (EUR 4.3 billion).

Generated EUR 2.3 billion in GVA (**down** by 7.3% compared to 2021), EUR 756 million (-12.9%) in gross profit and EUR76 million in net profit (-44.4%)

In relative terms, this amounted to a 50.3% GVA to revenue (**down** from 54.2% in 2021), 16.5% gross profit margin (**down** from 19%) and 1.7% net profit margin at 3.5% (**down** from 3%).

EU Distant-water fleet (DWF)

Comprised 0.46% of the EU active fleet (244 vessels) and covered 21.5% of the total gross tonnage and 7.9% of the engine power of the EU total fishing fleet, respectively.

Employed 6 492 fishers, which represent 5.4% of the EU fishing fleet total, respectively.

Contributed 20.5% to landings in weight and 19.5% in value of the EU fishing fleet total.

Generated EUR 405 million in GVA (a **decrease** by 9.7%, compared to 2020), EUR 166 million in gross profit (a **decrease** of 13.2%) and EUR31 million in net profit at 3.5% (a **decrease** of 56.4%).

In relative terms, this amounted to a 33.1% GVA to revenue (**down** from 39.1% in 2021), 13.6% gross profit margin (**down** from 16.7% in 2021) and a 2.5% net profit margin (**down** from 6.2% in 2021).

Table 2.1 provides a summary of the evolution of the inactive EU-27 fleet.

Table 2.2 provides a summary of the main results for the EU-27 active fleet (all figures exclude Greece) for the period 2008-2022 and nowcast results for 2023 and 2024.

Table 2.3 provides a summary of the main results for the EU-27 active fleet, including Greece in 2018 and forward.

Tables 2.4 to 2.6 provide a summary of the main results for the EU-27 fleet by main fishing activity (SSCF, LSF and DWF) (all figures exclude Greece) for the period 2008-2022 and nowcast results for 2023 and 2024.

Table 2.1. Inactive fleet evolution for 2013-2022

EU27		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	%Δ 2022-2021	%Δ 2022-avg 2013-2021	%Δ 2022-2013
Number of vessels	thousand	14.3	14.2	17.3	14.5	16.1	15.6	16.9	17.7	17.4	18.2	4.2%	13.4%	27.3%
Total vessel tonnage	thousand GT	649	648	712	631	698	661	661	734	724	786	8.6%	15.7%	21.2%
Total vessel power	thousand kW	124	114	116	106	97	99	93	101	103	119	14.7%	11.7%	-4.7%
Value of physical capital	million	520	516	584	553	448	460	444	476	470	518	10.3%	4.4%	-0.4%
Consumption of fixed capital	million	15	15	32	24	27	65	66	79	82	84	1.4%	85.9%	472.1%
Opportunity cost of capital with 3.5%	million	18	18	20	19	16	16	16	17	16	18	10.3%	4.4%	-0.4%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Table 2.2. Main results for the EU-27 active fleet (excl. Greece) for 2013-2022 and nowcasts for 2023 and 2024.

EU27 (excluding Greece)		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	%Δ 2022-2021	%Δ 2022-avg 2013-2021	%Δ 2022-2013
Number of vessels	thousand	45.9	45.5	45.0	47.1	47.4	46.1	45.6	44.5	44.2	43.2	42.3	41.6	-2.3%	-5.5%	-5.8%
Total vessel tonnage	thousand GT	1 226.0	1 247.3	1 212.5	1 185.0	1 192.2	1 199.2	1 184.5	1 141.5	1 151.4	1 148.8	1 076.9		-0.2%	-3.7%	-6.3%
Total vessel power	thousand kW	4 491.0	4 492.5	4 435.8	4 388.7	4 394.1	4 330.1	4 341.6	4 178.2	4 213.4	4 169.9	4 016.5		-1.0%	-4.4%	-7.1%
Engaged crew	thousand	118.4	117.8	114.8	115.5	118.3	114.0	110.7	105.4	105.6	103.4	92.3	98.1	-2.0%	-8.8%	-12.7%
FTE national	thousand	84.4	84.4	84.8	84.7	83.0	80.1	76.6	67.3	69.4	65.4	60.2	64.5	-5.7%	-17.6%	-22.5%
Days at sea	thousand	4 754	4 644	4 585	4 603	4 477	4 322	4 187	3 695	3 930	3 680	1 790	1 686	-6.4%	-15.5%	-22.6%
Fishing days	thousand	4 672	4 607	4 519	4 616	4 347	4 302	4 125	3 646	3 859	3 661	795		-5.1%	-14.8%	-21.6%
Energy consumption	million litre	1 992	1 931	2 041	1 994	1 974	1 938	1 958	1 779	1 762	1 534	1 463	1 519	-13.0%	-20.5%	-23.0%
Live weight of landings	thousand tonne	4 100	4 313	4 305	4 206	4 545	4 415	3 983	3 894	3 522	3 427	3 329	3 564	-2.7%	-17.3%	-16.4%
Value of landings	million EUR	7 030	7 235	6 900	7 710	7 575	7 312	6 822	6 023	6 378	6 397	5 810	6 287	0.3%	-8.6%	-9.0%
Gross value of landings	million EUR	6 868	7 033	7 060	7 543	7 442	7 239	6 731	5 934	6 370	6 417	5 991	6 443	0.7%	-7.2%	-6.6%
Other income	million EUR	117	131	117	115	157	155	189	201	210	209	189	190	-0.5%	35.0%	78.3%
Operating subsidies	million EUR	69.4	79.6	64.3	46.5	58.4	55.7	53.1	129.0	81.9	138.0	82.0	79.6	68.5%	94.7%	98.9%
Income from leasing out quota	million EUR	41.9	40.7	38.4	32.2	39.9	38.1	22.1	36.7	26.6	24.2			-9.2%	-31.3%	-42.3%
Personnel costs	million EUR	1 849	1 930	2 052	2 191	2 241	2 168	2 069	1 952	2 018	1 967	1 818	1 950	-2.5%	-4.2%	6.4%
Value of unpaid labour	million EUR	284	283	257	282	286	273	239	221	241	216	164	213	-10.2%	-17.9%	-23.9%
Energy costs	million EUR	1 525	1 377	1 128	938	1 030	1 130	1 095	767	986	1 424	982	983	44.4%	28.5%	-6.6%
Repair & maintenance costs	million EUR	546	568	606	656	607	662	630	555	588	540	484	480	-8.3%	-10.4%	-1.2%
Other variable costs	million EUR	933	942	999	1 031	966	929	958	827	872	866	810	879	-0.7%	-7.8%	-7.1%
Other non-variable costs	million EUR	528	546	553	568	551	598	591	574	607	525	462	457	-13.5%	-7.7%	-0.5%
Consumption of fixed capital	million EUR	762	744	791	753	798	788	742	756	765	738	639	643	-3.6%	-3.8%	-3.2%
Opportunity cost of capital	million EUR	175.6	180.9	183.8	180.5	179.5	178.2	185.6	193.9	189.9	170.9	147.9	147.5	-10.0%	-6.7%	-2.7%
Lease/rental payments for quota	million EUR	40.2	58.8	71.2	64.8	49.3	45.0	44.4	46.7	53.4	32.8			-38.5%	-37.6%	-18.4%
Value of physical capital	million EUR	5 018	5 169	5 253	5 158	5 129	5 090	5 302	5 541	5 427	4 883	4 225	4 215	-10.0%	-6.7%	-2.7%
Value of quota and other fishing rights	million EUR	1 309	1 688	1 776	2 389	3 570	3 404	2 923	3 186	2 430	2 037			-16.2%	-19.1%	55.6%
Investments	million EUR	435	383	409	466	500	395	464	629	709	1 247	83	83	75.9%	155.6%	186.4%
Gross Value Added	million EUR	3 453	3 730	3 890	4 465	4 445	4 076	3 645	3 412	3 526	3 271	3 442	3 834	-7.2%	-15.0%	-5.3%
Net Value Added	million EUR	2 572	2 877	3 024	3 656	3 643	3 296	2 932	2 662	2 877	2 821	2 868	3 191	-1.9%	-7.8%	9.7%
Gross profit	million EUR	1 321	1 516	1 581	1 993	1 917	1 634	1 336	1 240	1 267	1 088	1 461	1 671	-14.1%	-29.1%	-17.6%
Net profit	million EUR	383	591	606	1 059	940	668	409	291	312	180	674	881	-42.4%	-69.2%	-53.1%
GVA to revenue	%	49	52	54	58	58	55	53	56	54	49	56	58	-7.9%	-9.2%	-0.1%
Gross profit margin	%	19	21	22	26	25	22	19	20	19	16	24	25	-14.7%	-23.9%	-13.1%
Net profit margin	%	5	8	8	14	12	9	6	5	5	3	11	13	-42.8%	-66.5%	-50.6%
Average wage per FTE	thousand EUR	25.3	26.2	27.2	29.2	30.5	30.5	30.1	32.3	32.6	33.4	32.9	33.5	2.5%	13.8%	32.1%
GVA per FTE (labour productivity)	thousand EUR	40.9	44.2	45.9	52.7	53.6	50.9	47.6	50.7	50.8	50.0	57.2	59.4	-1.6%	2.9%	22.2%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Nowcast for 2023 and 2024.

Table 2.3. Main results for the EU-27 active fleet, including Greece in 2018 and forward, and nowcasts for 2023 and 2024.

EU27 (including Greece)		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	%Δ 2022-2021	%Δ 2022-avg 2013-2021	%Δ 2022-2013
Number of vessels	thousand	60.6	59.1	59.4	60.7	60.8	59.7	58.0	56.1	54.2	52.8	54.4	52.8	-2.6%	-10.1%	-12.9%
Total vessel tonnage	thousand GT	1 298.5	1 316.2	1 283.2	1 252.4	1 256.5	1 264.7	1 247.5	1 199.9	1 206.9	1 203.9	1 139.5		-0.2%	-4.3%	-7.3%
Total vessel power	thousand kW	4 919.3	4 889.2	4 847.0	4 782.9	4 775.7	4 724.8	4 720.7	4 514.5	4 522.7	4 477.3	4 376.1		-1.0%	-5.6%	-9.0%
Engaged crew	thousand	142.9	141.1	140.2	140.5	140.7	134.8	131.8	124.4	121.9	119.7	110.0	115.6	-1.8%	-11.6%	-16.2%
FTE national	thousand	107.0	105.2	108.2	107.8	83.0	98.3	94.8	81.9	82.0	75.8	67.9	72.2	-7.6%	-21.4%	-29.1%
Days at sea	thousand	4 754	6 566	5 243	6 644	4 557	6 166	6 117	5 326	5 505	5 075	1 790	1 686	-7.8%	-10.2%	6.8%
Fishing days	thousand	4 672	4 607	5 177	6 657	4 427	6 146	6 056	5 277	5 435	5 057	795		-7.0%	-6.1%	8.2%
Energy consumption	million litre	2 106	2 038	2 148	2 099	2 067	2 027	2 048	1 858	1 831	1 599	1 511	1 567	-12.7%	-21.0%	-24.1%
Live weight of landings	thousand tonne	4 100	4 361	4 327	4 280	4 594	4 486	4 059	3 954	3 573	3 485	3 371	3 606	-2.5%	-16.9%	-15.0%
Value of landings	million EUR	7 030	7 545	7 042	8 226	7 815	7 796	7 322	6 411	6 667	6 640	6 026	6 500	-0.4%	-9.3%	-5.6%
Gross value of landings	million EUR	6 941	7 348	7 200	8 060	7 682	7 721	7 231	6 318	6 676	6 670	6 162	6 612	-0.1%	-7.9%	-3.9%
Other income	million EUR	117	131	117	115	160	155	189	201	216	229	203	205	6.5%	47.5%	96.2%
Operating subsidies	million EUR	73.5	85.2	67.2	49.6	60.0	57.1	54.7	167.6	106.2	159.3	82.0	79.6	50.0%	98.8%	116.8%
Income from leasing out quota	million EUR	41.9	40.7	38.4	32.2	39.9	38.1	22.1	36.7	26.6	24.2			-9.2%	-31.3%	-42.3%
Personnel costs	million EUR	1 963	2 004	2 138	2 293	2 321	2 244	2 141	2 017	2 069	2 011	1 848	1 978	-2.8%	-5.7%	2.4%
Value of unpaid labour	million EUR	371	366	349	387	394	375	345	305	309	284	215	263	-8.1%	-20.1%	-23.4%
Energy costs	million EUR	1 642	1 479	1 222	1 022	1 105	1 206	1 171	823	1 043	1 491	1 027	1 025	43.0%	25.3%	-9.2%
Repair & maintenance costs	million EUR	593	606	646	693	636	689	660	580	611	561	498	495	-8.3%	-11.7%	-5.4%
Other variable costs	million EUR	1 017	1 024	1 086	1 117	1 028	999	1 032	893	929	923	849	920	-0.7%	-9.0%	-9.2%
Other non-variable costs	million EUR	535	554	561	575	559	607	602	585	616	532	467	462	-13.6%	-7.7%	-0.4%
Consumption of fixed capital	million EUR	825	774	817	794	839	827	787	800	805	773	672	677	-4.1%	-4.3%	-6.4%
Opportunity cost of capital	million EUR	184.3	180.9	187.4	186.0	185.0	183.4	191.6	199.9	195.5	175.7	152.4	152.3	-10.1%	-6.6%	-4.6%
Lease/rental payments for quota	million EUR	40.2	58.8	71.2	64.8	49.3	45.0	44.4	46.7	53.4	32.8			-38.5%	-37.6%	-18.4%
Value of physical capital	million EUR	5 266	5 169	5 355	5 315	5 286	5 240	5 474	5 712	5 585	5 021	4 355	4 352	-10.1%	-6.6%	-4.6%
Value of quota and other fishing rights	million EUR	1 309	1 688	1 776	2 389	3 570	3 404	2 923	3 186	2 430	2 037			-16.2%	-19.1%	55.6%
Investments	million EUR	462	383	440	495	531	424	503	667	739	1 275	104	105	72.6%	147.2%	176.3%
Gross Value Added	million EUR	3 271	3 815	3 802	4 767	4 513	4 376	3 955	3 639	3 692	3 392	3 523	3 914	-8.1%	-14.8%	3.7%
Net Value Added	million EUR	2 298	2 933	2 898	3 905	3 663	3 552	3 193	2 840	3 002	2 914	2 917	3 237	-2.9%	-7.3%	26.8%
Gross profit	million EUR	937	1 445	1 315	2 087	1 799	1 758	1 469	1 318	1 314	1 097	1 461	1 673	-16.5%	-26.6%	17.1%
Net profit	million EUR	- 73	490	310	1 107	775	748	490	318	313	148	636	844	-52.6%	-70.2%	304.3%
GVA to revenue	%	46	51	52	58	58	56	53	56	54	49	55	57	-8.2%	-8.5%	6.1%
Gross profit margin	%	13	19	18	26	23	22	20	20	19	16	23	25	-16.6%	-20.7%	19.8%
Net profit margin	%	- 1	7	4	14	10	9	7	5	5	2	10	12	-52.6%	-67.0%	309.0%
Average wage per FTE	thousand EUR	21.8	22.5	23.0	24.9	32.7	26.6	26.2	28.3	29.0	30.3	30.4	31.0	4.4%	15.9%	38.7%
GVA per FTE (labour productivity)	thousand EUR	30.6	36.3	35.1	44.2	54.4	44.5	41.7	44.4	45.0	44.7	51.9	54.2	-0.6%	7.0%	46.3%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Nowcast for 2023 and 2024.

Table 2.4. Main results for the EU-27 Small-scale coastal fleets (excl. Greece) for 2013-2022 and nowcasts for 2023 and 2024.

EU27 SSCF (excluding Greece)		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	%Δ 2022-2021	%Δ 2022-avg 2013-2021	%Δ 2022-2013
Number of vessels	thousand	31.5	31.1	30.9	33.1	33.4	32.8	32.1	31.8	31.9	31.1	30.8	26.2	-2.6%	-3.0%	-1.1%
Total vessel tonnage	thousand GT	82.6	82.0	81.0	82.7	82.6	79.8	78.7	77.4	77.8	75.4	75.1		-3.2%	-6.4%	-8.7%
Total vessel power	thousand kW	1 336.9	1 321.4	1 310.7	1 313.5	1 313.2	1 286.2	1 268.6	1 250.7	1 273.3	1 251.2	1 288.7		-1.7%	-3.5%	-6.4%
Engaged crew	thousand	54.5	52.0	51.0	53.4	54.2	51.8	48.3	47.6	47.3	47.2	41.4	41.7	-0.4%	-7.8%	-13.5%
FTE national	thousand	30.8	28.1	27.7	28.0	26.8	25.9	22.9	20.0	22.3	20.7	17.9	18.4	-7.4%	-20.1%	-32.9%
Days at sea	thousand	2 744	2 655	2 649	2 651	2 541	2 495	2 381	2 130	2 377	2 211	939		-7.0%	-12.0%	-19.4%
Fishing days	thousand	2 801	2 743	2 711	2 782	2 527	2 546	2 417	2 166	2 375	2 279	522		-4.0%	-11.1%	-18.7%
Energy consumption	million litre	166	120	129	130	124	121	121	108	121	100	89	93	-17.8%	-21.4%	-40.0%
Live weight of landings	thousand tonne	254	253	244	227	225	207	199	221	230	216	198	182	-5.9%	-5.5%	-14.9%
Value of landings	million EUR	826	924	852	966	943	946	864	806	909	887	778	841	-2.4%	-0.6%	7.3%
Gross value of landings	million EUR	945	913	954	1 017	993	972	903	832	945	909	787	843	-3.9%	-3.5%	-3.9%
Other income	million EUR	29	31	22	21	43	44	50	52	63	57	52	50	-10.2%	44.5%	96.9%
Operating subsidies	million EUR	16.2	12.8	13.1	4.8	18.7	16.6	22.7	46.7	16.8	26.4	14.6	11.8	57.6%	41.4%	63.6%
Income from leasing out quota	million EUR	1.5	1.4	2.5	1.3	5.7	1.3	1.3	1.8	1.4	1.1			-25.4%	-47.2%	-29.7%
Personnel costs	million EUR	278	282	281	309	325	293	307	293	313	330	290	312	5.4%	10.8%	18.8%
Value of unpaid labour	million EUR	163	156	150	159	162	145	106	99	111	101	64	83	-8.7%	-27.4%	-38.1%
Energy costs	million EUR	142	101	88	82	86	85	80	65	87	99	66	66	13.7%	8.7%	-30.7%
Repair & maintenance costs	million EUR	63	57	57	65	53	58	56	55	63	59	52	54	-6.4%	0.7%	-6.2%
Other variable costs	million EUR	115	91	96	97	103	99	101	85	98	99	83	92	1.2%	1.1%	-13.5%
Other non-variable costs	million EUR	78	79	76	81	59	80	78	79	82	82	72	71	-0.5%	6.5%	5.1%
Consumption of fixed capital	million EUR	113	111	107	104	109	105	97	104	101	91	82	81	-9.7%	-13.8%	-19.1%
Opportunity cost of capital	million EUR	25.8	24.9	24.5	24.7	24.3	24.0	24.9	23.8	22.6	20.9			-7.6%	-14.2%	-18.8%
Lease/rental payments for quota	million EUR	1.7	1.4	1.8	1.6	1.5	1.2	0.9	1.0	1.2	0.9			-22.7%	-33.3%	-45.0%
Value of physical capital	million EUR	736	710	700	706	694	687	711	680	647	598	540	504	-7.6%	-14.2%	-18.8%
Value of quota and other fishing rights	million EUR	103	88	70	100	144	130	156	156	83	70			-15.5%	-39.1%	-32.4%
Investments	million EUR	82	59	59	38	22	40	10	58	52	82			57.5%	75.6%	0.0%
Gross Value Added	million EUR	576	616	658	713	735	693	639	601	679	627	566	610	-7.7%	-4.6%	8.7%
Net Value Added	million EUR	443	487	537	598	622	587	543	496	590	568	498	529	-3.6%	4.3%	28.1%
Gross profit	million EUR	135	177	227	244	248	255	225	209	255	196	212	215	-23.3%	-10.9%	44.3%
Net profit	million EUR	- 3	41	95	116	114	127	103	81	131	84	112	116	-36.4%	-6.6%	2937.7%
GVA to revenue	%	59	65	67	69	71	68	67	68	67	65	67	68	-3.5%	-3.0%	9.7%
Gross profit margin	%	14	19	23	24	24	25	24	24	25	20	25	24	-19.8%	-9.3%	45.7%
Net profit margin	%	- 0	4	10	11	11	12	11	9	13	9	13	13	-33.5%	-4.4%	2963.1%
Average wage per FTE	thousand EUR	14.3	15.6	15.6	16.7	18.2	16.9	18.0	19.6	19.0	20.9	19.8	21.5	9.9%	22.1%	45.8%
GVA per FTE (labour productivity)	thousand EUR	18.7	21.9	23.8	25.4	27.5	26.7	27.9	30.0	30.4	30.3	31.6	33.2	-0.2%	17.6%	62.1%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Nowcast for 2023 and 2024.

Table 2.5. Main results for the EU-27 Large-scale fleets (excl. Greece) for 2013-2022 and nowcasts for 2023 and 2024.

EU27 SSCF (excluding Greece)		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	%Δ 2022-2021	%Δ 2022-avg 2013-2021	%Δ 2022-2013
Number of vessels	thousand	14.1	14.1	13.8	13.7	13.7	13.1	13.3	12.5	12.1	11.9	11.2	10.9	-1.6%	-11.3%	-16.1%
Total vessel tonnage	thousand GT	893.4	878.9	851.7	840.6	852.4	872.0	858.2	827.6	821.0	814.7	748.3		-0.8%	-4.7%	-8.8%
Total vessel power	thousand kW	2 815.9	2 793.1	2 752.7	2 720.2	2 734.6	2 704.4	2 726.6	2 598.0	2 595.5	2 567.1	2 383.1		-1.1%	-5.5%	-8.8%
Engaged crew	thousand	58.1	59.4	57.6	56.7	57.9	56.1	55.9	51.3	51.4	49.8	44.8	45.7	-3.2%	-11.2%	-14.4%
FTE national	thousand	47.2	49.0	49.3	49.8	48.9	46.8	45.6	39.9	40.2	37.4	35.1	37.3	-7.0%	-19.2%	-20.8%
Days at sea	thousand	1 932	1 911	1 859	1 880	1 861	1 758	1 732	1 496	1 485	1 401	848		-5.6%	-20.8%	-27.5%
Fishing days	thousand	1 802	1 794	1 741	1 774	1 754	1 699	1 648	1 426	1 431	1 329	272		-7.1%	-20.6%	-26.3%
Energy consumption	million litre	1 453	1 419	1 438	1 491	1 478	1 447	1 438	1 272	1 291	1 109	1 059	1 120	-14.2%	-21.6%	-23.7%
Live weight of landings	thousand tonne	3 152	3 283	3 367	3 251	3 595	3 488	3 087	3 077	2 578	2 496	2 420	2 736	-3.1%	-22.2%	-20.8%
Value of landings	million EUR	4 759	4 723	4 869	5 291	5 257	5 217	4 804	4 245	4 304	4 215	3 853	4 283	-2.1%	-12.7%	-11.4%
Gross value of landings	million EUR	4 668	4 719	4 887	5 301	5 168	5 074	4 716	4 156	4 292	4 304	4 064	4 470	0.3%	-9.9%	-7.8%
Other income	million EUR	81	82	78	81	101	106	134	134	134	135	120	119	1.1%	31.0%	68.0%
Operating subsidies	million EUR	45.8	60.3	47.1	40.6	37.5	37.3	27.6	78.2	63.9	103.5	67.4	63.1	62.0%	112.6%	125.9%
Income from leasing out quota	million EUR	39.3	38.6	35.1	30.5	33.5	36.1	19.8	33.9	24.1	21.4			-11.2%	-33.9%	-45.6%
Personnel costs	million EUR	1 356	1 439	1 542	1 657	1 651	1 616	1 514	1 412	1 449	1 400	1 302	1 420	-3.4%	-7.6%	3.2%
Value of unpaid labour	million EUR	120	127	107	122	124	126	132	120	129	114	99	114	-11.9%	-7.4%	-5.2%
Energy costs	million EUR	1 108	1 012	805	699	776	854	822	563	720	1 004	694	708	39.4%	22.8%	-9.4%
Repair & maintenance costs	million EUR	379	400	441	478	448	471	462	420	422	385	340	328	-8.8%	-11.7%	1.5%
Other variable costs	million EUR	542	528	525	564	536	529	524	474	495	473	443	491	-4.3%	-9.7%	-12.6%
Other non-variable costs	million EUR	351	353	343	372	371	392	387	372	389	337	290	279	-13.4%	-8.9%	-4.0%
Consumption of fixed capital	million EUR	586	578	594	538	565	550	518	540	565	535	456	453	-5.4%	-4.4%	-8.8%
Opportunity cost of capital	million EUR	133.0	135.8	136.8	133.4	134.6	133.7	137.5	145.6	145.4	126.4	107.9		-13.1%	-7.9%	-4.9%
Lease/rental payments for quota	million EUR	37.7	56.2	65.1	59.6	43.4	41.1	40.2	41.0	45.2	30.5			-32.5%	-36.1%	-19.1%
Value of physical capital	million EUR	3 799	3 880	3 909	3 810	3 845	3 819	3 929	4 159	4 156	3 612	3 083	3 028	-13.1%	-7.9%	-4.9%
Value of quota and other fishing rights	million EUR	1 195	1 579	1 694	2 278	3 347	3 202	2 697	2 957	2 275	1 902			-16.4%	-19.4%	59.1%
Investments	million EUR	338	298	307	397	444	304	384	538	560	1 141	39		103.6%	187.6%	237.7%
Gross Value Added	million EUR	2 368	2 508	2 851	3 269	3 139	2 935	2 655	2 460	2 400	2 240	2 418	2 782	-6.7%	-18.0%	-5.4%
Net Value Added	million EUR	1 693	1 852	2 206	2 690	2 570	2 388	2 158	1 924	1 922	1 920	2 003	2 330	-0.1%	-11.0%	13.3%
Gross profit	million EUR	892	942	1 202	1 490	1 364	1 192	1 009	928	821	727	1 017	1 248	-11.5%	-33.5%	-18.5%
Net profit	million EUR	173	229	471	818	665	508	353	242	111	66	453	690	-40.7%	-83.5%	-62.0%
GVA to revenue	%	50	52	57	61	60	57	55	57	54	50	58	61	-6.9%	-9.7%	1.2%
Gross profit margin	%	19	20	24	28	26	23	21	22	19	16	24	27	-11.8%	-26.4%	-12.9%
Net profit margin	%	4	5	9	15	13	10	7	6	2	1	11	15	-40.9%	-81.3%	-59.4%
Average wage per FTE	thousand EUR	31.3	31.9	33.4	35.7	36.3	37.3	36.1	38.4	39.3	40.5	39.9	41.1	3.1%	13.9%	29.4%
GVA per FTE (labour productivity)	thousand EUR	50.2	51.2	57.8	65.7	64.2	62.8	58.2	61.6	59.7	59.9	68.8	74.5	0.3%	1.4%	19.4%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Nowcast for 2023 and 2024.

Table 2.6. Main results for the EU-27 Distant-water fleets for 2013-2022 and nowcasts for 2023 and 2024.

EU27 SSCF (excluding Greece)		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	%Δ 2022-2021	%Δ 2022-avg 2013-2021	%Δ 2022-2013
Number of vessels	thousand	14.1	14.1	13.8	13.7	13.7	13.1	13.3	12.5	12.1	11.9	11.2	10.9	-1.6%	-11.3%	-16.1%
Total vessel tonnage	thousand GT	893.4	878.9	851.7	840.6	852.4	872.0	858.2	827.6	821.0	814.7	748.3		-0.8%	-4.7%	-8.8%
Total vessel power	thousand kW	2 815.9	2 793.1	2 752.7	2 720.2	2 734.6	2 704.4	2 726.6	2 598.0	2 595.5	2 567.1	2 383.1		-1.1%	-5.5%	-8.8%
Engaged crew	thousand	58.1	59.4	57.6	56.7	57.9	56.1	55.9	51.3	51.4	49.8	44.8	45.7	-3.2%	-11.2%	-14.4%
FTE national	thousand	47.2	49.0	49.3	49.8	48.9	46.8	45.6	39.9	40.2	37.4	35.1	37.3	-7.0%	-19.2%	-20.8%
Days at sea	thousand	1 932	1 911	1 859	1 880	1 861	1 758	1 732	1 496	1 485	1 401	848		-5.6%	-20.8%	-27.5%
Fishing days	thousand	1 802	1 794	1 741	1 774	1 754	1 699	1 648	1 426	1 431	1 329	272		-7.1%	-20.6%	-26.3%
Energy consumption	million litre	1 453	1 419	1 438	1 491	1 478	1 447	1 438	1 272	1 291	1 109	1 059	1 120	-14.2%	-21.6%	-23.7%
Live weight of landings	thousand tonne	3 152	3 283	3 367	3 251	3 595	3 488	3 087	3 077	2 578	2 496	2 420	2 736	-3.1%	-22.2%	-20.8%
Value of landings	million EUR	4 759	4 723	4 869	5 291	5 257	5 217	4 804	4 245	4 304	4 215	3 853	4 283	-2.1%	-12.7%	-11.4%
Gross value of landings	million EUR	4 668	4 719	4 887	5 301	5 168	5 074	4 716	4 156	4 292	4 304	4 064	4 470	0.3%	-9.9%	-7.8%
Other income	million EUR	81	82	78	81	101	106	134	134	134	135	120	119	1.1%	31.0%	68.0%
Operating subsidies	million EUR	45.8	60.3	47.1	40.6	37.5	37.3	27.6	78.2	63.9	103.5	67.4	63.1	62.0%	112.6%	125.9%
Income from leasing out quota	million EUR	39.3	38.6	35.1	30.5	33.5	36.1	19.8	33.9	24.1	21.4			-11.2%	-33.9%	-45.6%
Personnel costs	million EUR	1 356	1 439	1 542	1 657	1 651	1 616	1 514	1 412	1 449	1 400	1 302	1 420	-3.4%	-7.6%	3.2%
Value of unpaid labour	million EUR	120	127	107	122	124	126	132	120	129	114	99	114	-11.9%	-7.4%	-5.2%
Energy costs	million EUR	1 108	1 012	805	699	776	854	822	563	720	1 004	694	708	39.4%	22.8%	-9.4%
Repair & maintenance costs	million EUR	379	400	441	478	448	471	462	420	422	385	340	328	-8.8%	-11.7%	1.5%
Other variable costs	million EUR	542	528	525	564	536	529	524	474	495	473	443	491	-4.3%	-9.7%	-12.6%
Other non-variable costs	million EUR	351	353	343	372	371	392	387	372	389	337	290	279	-13.4%	-8.9%	-4.0%
Consumption of fixed capital	million EUR	586	578	594	538	565	550	518	540	565	535	456	453	-5.4%	-4.4%	-8.8%
Opportunity cost of capital	million EUR	133.0	135.8	136.8	133.4	134.6	133.7	137.5	145.6	145.4	126.4	107.9		-13.1%	-7.9%	-4.9%
Lease/rental payments for quota	million EUR	37.7	56.2	65.1	59.6	43.4	41.1	40.2	41.0	45.2	30.5			-32.5%	-36.1%	-19.1%
Value of physical capital	million EUR	3 799	3 880	3 909	3 810	3 845	3 819	3 929	4 159	4 156	3 612	3 083	3 028	-13.1%	-7.9%	-4.9%
Value of quota and other fishing rights	million EUR	1 195	1 579	1 694	2 278	3 347	3 202	2 697	2 957	2 275	1 902			-16.4%	-19.4%	59.1%
Investments	million EUR	338	298	307	397	444	304	384	538	560	1 141	39		103.6%	187.6%	237.7%
Gross Value Added	million EUR	2 368	2 508	2 851	3 269	3 139	2 935	2 655	2 460	2 400	2 240	2 418	2 782	-6.7%	-18.0%	-5.4%
Net Value Added	million EUR	1 693	1 852	2 206	2 690	2 570	2 388	2 158	1 924	1 922	1 920	2 003	2 330	-0.1%	-11.0%	13.3%
Gross profit	million EUR	892	942	1 202	1 490	1 364	1 192	1 009	928	821	727	1 017	1 248	-11.5%	-33.5%	-18.5%
Net profit	million EUR	173	229	471	818	665	508	353	242	111	66	453	690	-40.7%	-83.5%	-62.0%
GVA to revenue	%	50	52	57	61	60	57	55	57	54	50	58	61	-6.9%	-9.7%	1.2%
Gross profit margin	%	19	20	24	28	26	23	21	22	19	16	24	27	-11.8%	-26.4%	-12.9%
Net profit margin	%	4	5	9	15	13	10	7	6	2	1	11	15	-40.9%	-81.3%	-59.4%
Average wage per FTE	thousand EUR	31.3	31.9	33.4	35.7	36.3	37.3	36.1	38.4	39.3	40.5	39.9	41.1	3.1%	13.9%	29.4%
GVA per FTE (labour productivity)	thousand EUR	50.2	51.2	57.8	65.7	64.2	62.8	58.2	61.6	59.7	59.9	68.8	74.5	0.3%	1.4%	19.4%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Nowcast for 2023 and 2024.

## 2.3 Overview of the EU Fishing Fleet in 2022

Fleet Capacity and structure

The EU fleet numbered 70 986 vessels in 2022 (-0.4% compared to 2021), of which 52 830 (73.9%) were active (Figure 2.1).

EU fleet[4] capacity has decreased gradually on average over the period 2013-2022, and number of vessels has been steadily declining since the year 2018 (-5% decline between 2018 and 2022). The fleet decreased by 3% in kW and GT compared to 2013.

Greece maintained the largest fleet within the EU (by vessel number) with 16.6% of the total number of vessels, followed by Italy (16.5%) and Spain (12.3%). Belgium, with 65 vessels has the lowest number of vessels of all Member States. The Spanish fleet held the largest GT (24.8% of the total) while the French fleet was superior in engine power (18.5% of the total).

Figure 2.1. Trends and variations on capacity in number of vessels, gross tonnage and engine power (excluding GRC).
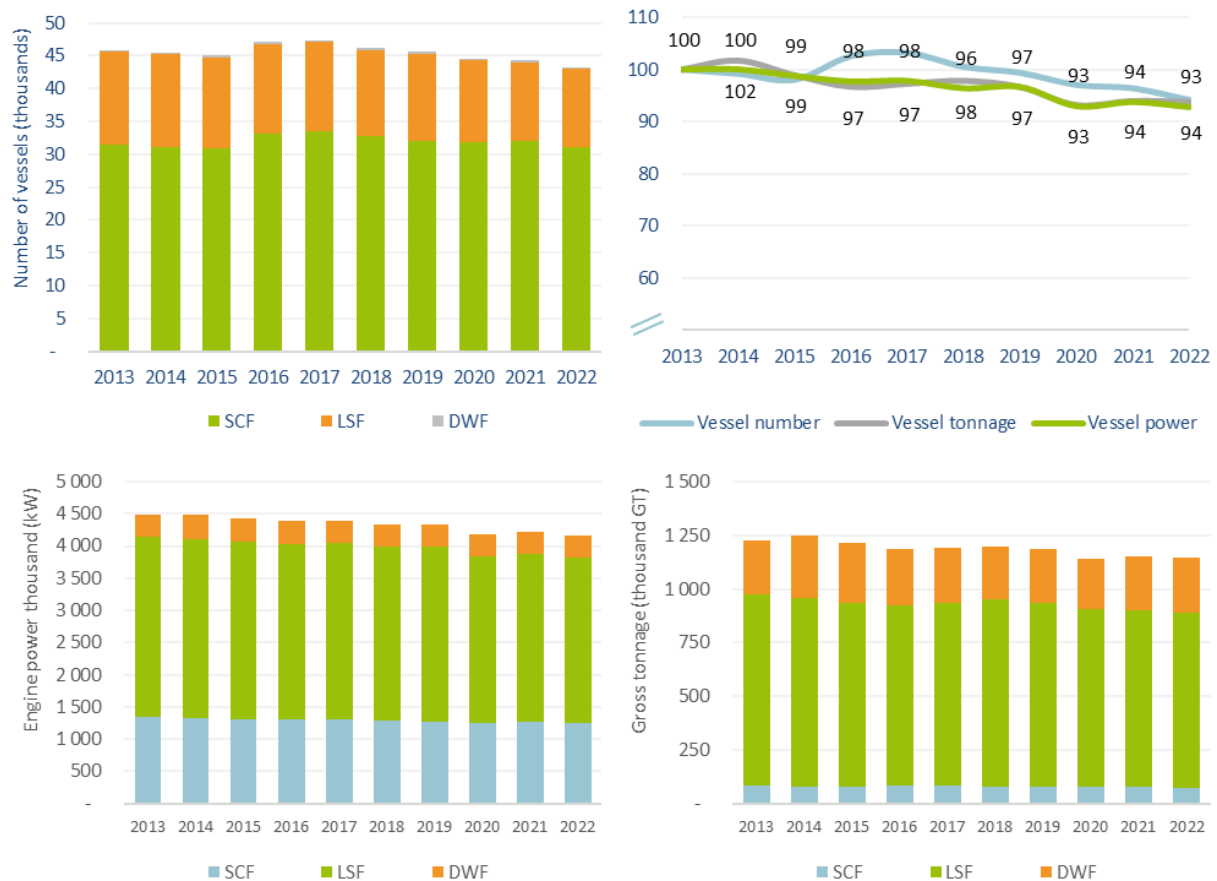
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)). Trends exclude Greece for time-series consistency.

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[4] Variations exclude Greece for time-series consistency unless otherwise stated.

Employment and average wage

In 2022, 119 702 fishers (including Greece) were directly employed in the EU fishing fleet, corresponding to 75 816 FTEs. Total employed decreased by 1.8% and FTE decreased by 7.6% compared to 2021 (Figure 2.2).

Employment decreased by 3% (including Greece) in total employed over the period 2018-2021; and –8.2% in FTE compared to 2018 (Figure 2.2).

Personnel costs decreased by 2.8% and average wage per FTE increased by 4.4% in comparison with 2021 (EUR 30 277) (Figure 2.2).

The Spanish fleet employed 25.5% of the total, followed Italian (17.5%) and the Greek (13.6%) fleets. In terms of FTEs, the Spanish fleet has the highest (30.8%) followed by the Italian (17.7%) and then the Greek fleet for 13.7%.

Figures below, regarding the average wages per FTE presented, must be treated with great caution, as they do not necessarily reflect reality, calculating the average wage depending indeed on parameters that are not always collected and calculated in the same way in all Member States.

Figure 2.2. Trends on employment (in persons employed and FTE) and average wage per FTE (excluding GRC).
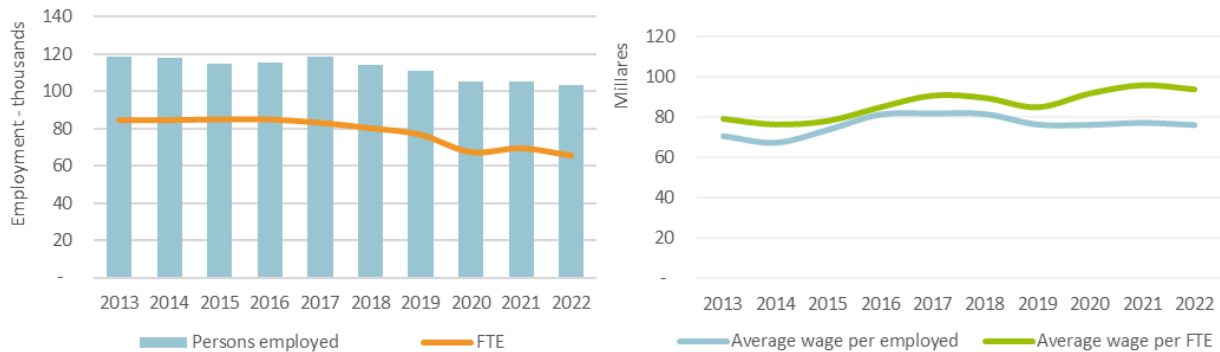
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Trends exclude Greece for time-series consistency.

Figure 2.3. Variation in employment and average wage (based on 2013=100); average wage per FTE by MS.
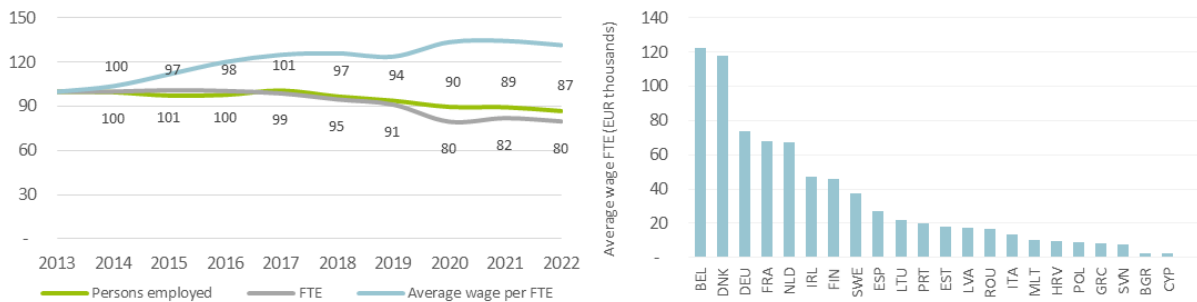
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Fishing effort and fuel consumption

In 2022, and including Greece, the EU fishing fleet spent 5.1 million Days at Sea (DaS), indicating a 7.8% decrease, and consumed 1.6 billion litres of fuel (Figure 2.4), that means that on average, each active vessel spent around 96 DaS and consumed 30 266 litres of fuel in 2022. Spain, France, Italy and Netherlands are the countries with the highest energy consumption, representing respectively 28%, 19.5%, 11.9% and 8.8% of total consumption in the EU.

Greece, Italy, Spain and France account for more than 3/4 of total sea days in EU. Generally speaking, six Member States account for nearly 90% of days at sea spent by European vessels in 2022.

Effort, in DaS, deployed by EU fleets decreased by 7.8% compared to 2021. Energy consumption decreased by 12.7% (including Greece).

Greece reported the highest number of sea days (1.4 million or 27.4% of the total), followed by Italy (1.0 million days or 20.3% of the total) and then Spain (around 846 000 days or 16.7% of the total).

Figure 2.4. Trends and variations on fishing effort and fuel consumption (based on 2013=100)
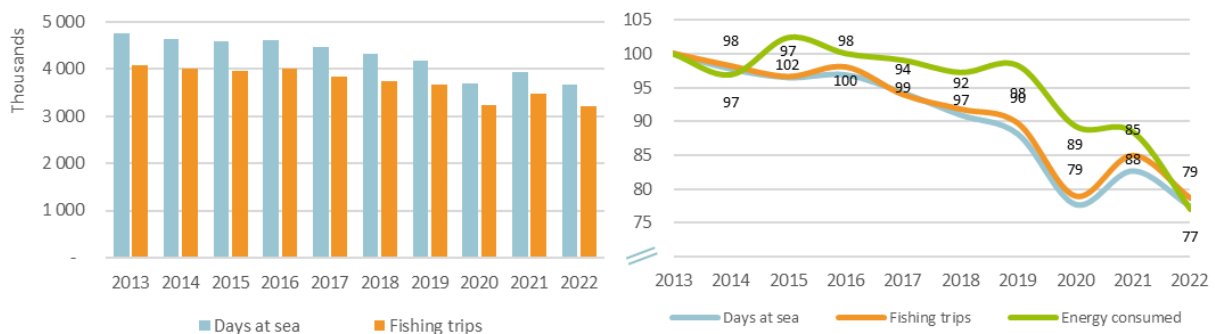
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)). Trends exclude Greece for time-series consistency.

Landings

Including Greece, the EU fleet landed 3.49 million tonnes of seafood in 2022, decreasing by 2.5% compared to 2021. The value of landings reported was EUR 6.6 billion, remained stable compared to 2021 (Figure 2.5 shows the results excluding Greece).

The landed weight and the landed value provide different fluctuations during the period. Changes in the landed weight and value between 2013 and 2022 have reflected the average fish price over the period, with some periods of increased landings often resulting in lower average prices and vice-versa. Furthermore, a number of shocks (such as the COVID-19 crisis and BREXIT) had obviously an impact on the trends observed. The average price per kilo has remained relatively stable until 2019, and has been rising since year 2020, oscillating between 1.55 euro/kg in 2020 and 1.87 euro/kg in 2022).

The Spanish fleet accounted for 30.6% of the total value landed during the year 2022 (23.1% in weight), followed by France (20.9% in value, 15.1% in weight), Italy (11.4% in value and 3.8% in weight) and Portugal (6.6% in value and 4.7% in weight).

Figure 2.5. Trends and variations on landings in weight and value and average landed price (based on 2013=100)
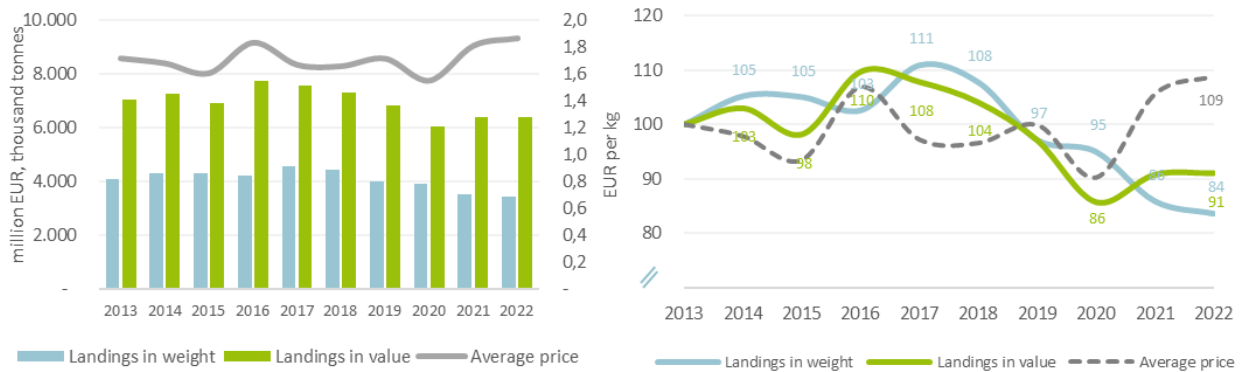
Data source: MS data submissions under the 2024Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Trends exclude Greece for time-series consistency.

Top species and average landed prices

Atlantic herring, at 455 000 tonnes, continued to be the most landed species (in weight) by the EU fleet in 2022, followed by European sprat (348 163 tonnes), blue whiting (234 553 tonnes), skipjack, Atlantic mackerel and European pilchard. In terms of volumes landed, eight species account for more than half of the volume landed by all Union vessels (51.2%).

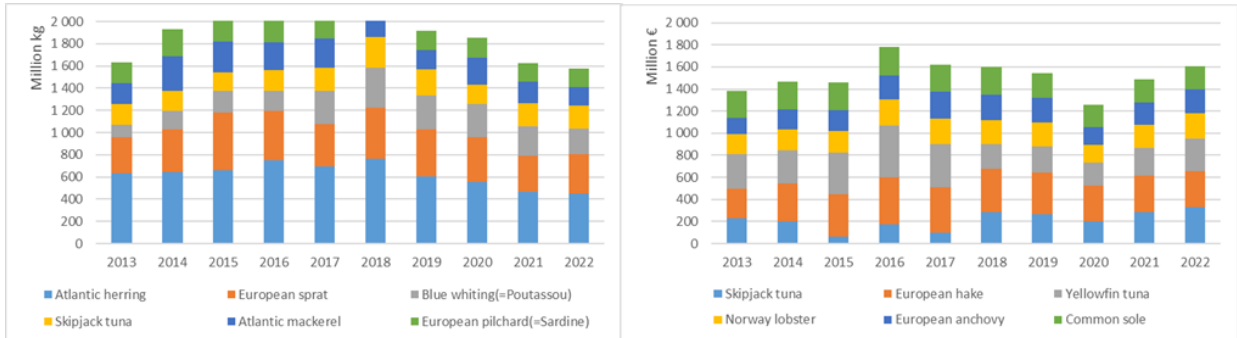**Figure 2.6.** Trends for the top six species landed in weight and in value

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Skipjack tuna at EUR 331 million, was the top species landed in value, followed by European hake, yellowfin tuna, Norway lobster and European anchovy. Those six species account for almost a quarter of the value landed by European vessels in 2022.

Of the top 6 landed species, only European sprat increased in weight between 2021 and 2022 (+6.5%), while the other three reduced. Overall, of the top six landed species in weight the total landings were reduced compared to 2021 (-3%).

Contrary to volumes or landed values, most of the species in the European top six have seen their average price increased in 2022, compared to 2021. The overall increase was 12.7% for the average price of the top six species in terms of value (Figure 2.7 and Figure 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 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Figure 2.8. Variations in average price of the top species landed in weight and/or value (based on 2013=1)
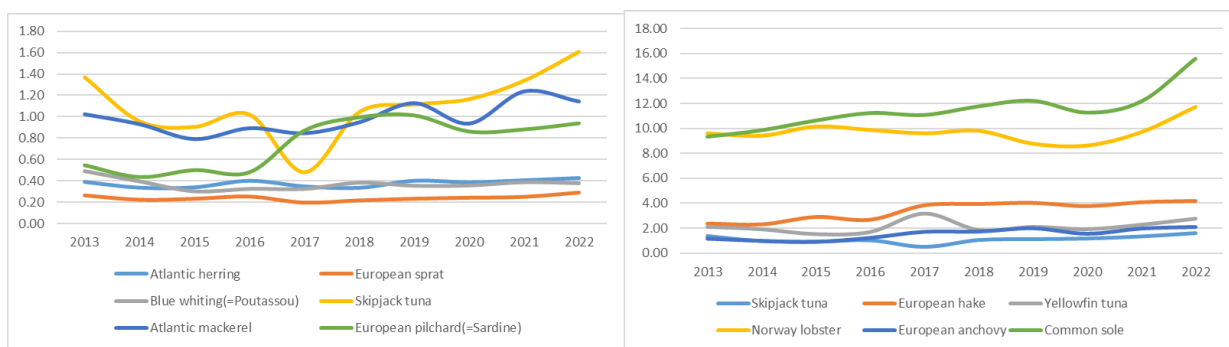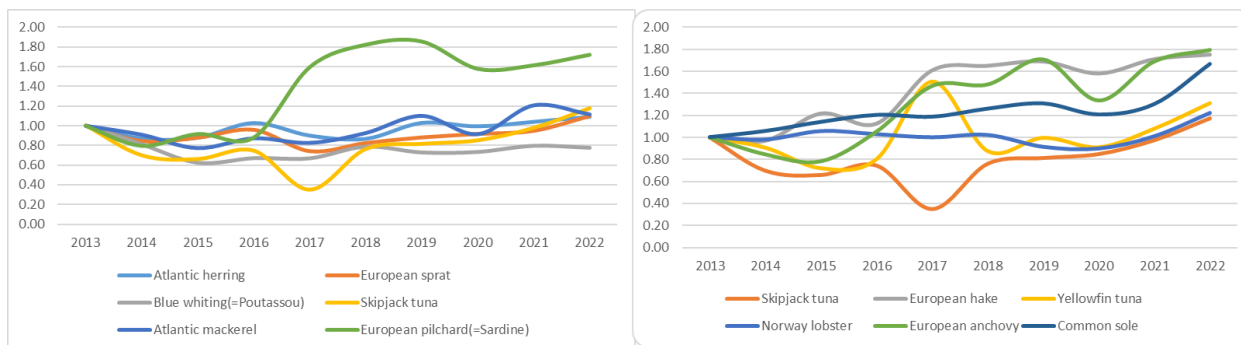

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Landings per unit of effort

Landings weight per DaS and landings value per DaS are used as proxies of LPUE and VPUE. However, the values and trends of these two proxies should be considered with caution and only as indicative, as no effort standardisation has been performed. Variations may result from many factors such as seasonal and locational characteristics, fishers' skills, 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 932 kg and EUR 1 739 per DaS in 2022, respectively. An increase of 3.3% and 6.4% compared to 2021, respectively (Figure 2.9).

Figure 2.9. Trends and variations on landings per unit of effort (days-at-sea) by weight (LPUE) and value (VPUE) (based on 2013=100)
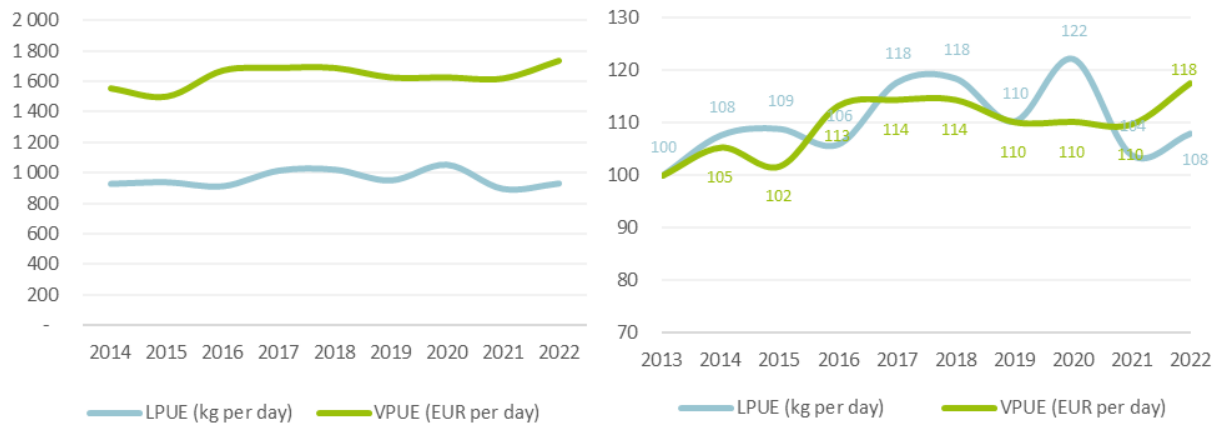

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Income and costs

In 2022 the total revenue[5] generated by the EU fishing fleet was EUR 6.6 billion (active vessels, excluding Greece). Total costs amounted to EUR 6 billion, 91% of the revenue generated (Figure 2.10).

Of the revenue generated, 97% was obtained from the sale of fish (EUR 6.4 billion) and EUR 209 million from non-fishing income. Additionally, the fleet received EUR 138 million in operating subsidies and EUR 25 million in income from leasing out quota and other fishing rights (Figure 2.10). The operating subsidies increased by 68% compared to 2021.

Of the costs incurred by the fleet in 2022, 92% consisted of operating costs[6] (EUR 5.5 billion) and 8% of capital costs (EUR 450 million).

The main operating costs were labour costs (33% of total costs: EUR 2 billion in personnel costs and EUR 216 million in unpaid labour), other variable costs (14% of total costs: EUR 865 million), and fuel costs (EUR 1.4 million: 24% of total costs). It should be noted that energy costs increased over the last 2 years, by 29% in 2021 and by 44% in 2022.

Also, other costs linked to production amounted to EUR 1.06 billion: EUR 540 million in repair and maintenance and EUR 524 in other non-variable costs.

Revenue remained relatively stable between 2013 and 2017, oscillating around EUR 7.3 billion, yet demonstrates a gradual increase over the 5-year period. In contrast, revenue decreased in years 2019 and 2020, while in 2021 it increases by 6% and in 2022 by 1% although not reaching the values observed for 2019.

Total costs[7] mirrored revenue trends, remaining relatively stable between 2013 and 2019 oscillating around EUR 6.5 billion. Total costs decreased sharply by 10% in 2020 compared to 2019

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[5] Direct income subsidies and income from leasing out fishing rights are excluded from the economic analyses.

[6] Total operating costs include: crew wage costs, unpaid labour, energy costs, other variable costs, repair costs, other non-variable costs.

[7] 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).

in response to the outbreak of the pandemic. Total costs recovered in 2021 to EUR 6 billion, increasing by 5% compared to 2020, and remained stable in 2022.

Figure 2.10. Trends on main income and costs items
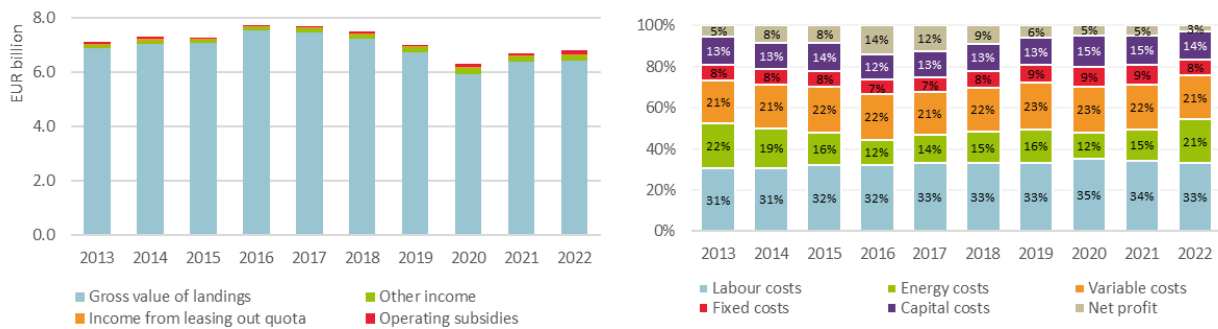
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Trends exclude Greece for time-series consistency.

Figure 2.11. Trends on costs as a percentage of revenue
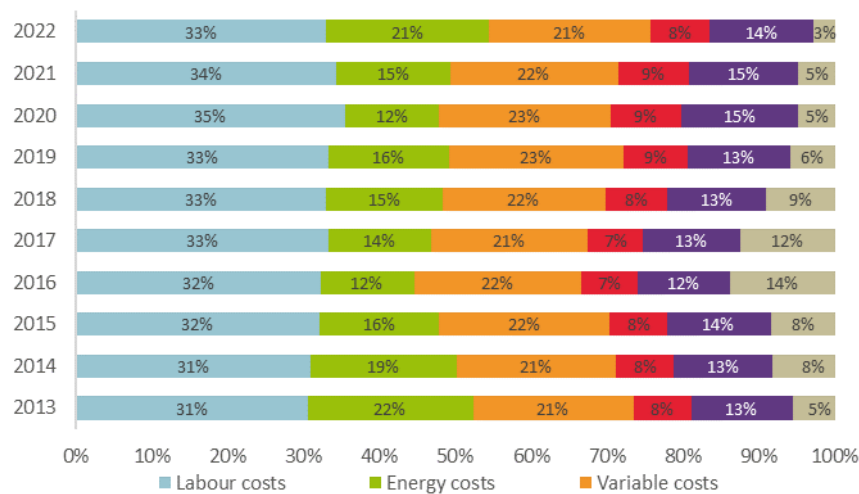
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Trends exclude Greece for time-series consistency.

The distribution of costs remained more or less stable over the period 2013 to 2022 with personnel costs attributing the most to total costs at 33% on average each year, followed by energy costs which contributed 16% to total costs on average and other variable costs contributing 15%.

The stability in costs in 2022 hide an increase in energy costs (44%) offset by a decrease of all other costs, particularly by capital costs (-30%) and fixed costs (-14%). The labour costs decreased by 3% (Figure 2.12).

At EUR 2 billion, Spain generated almost a third (32%) of the total EU fleet revenue, followed by France (EUR 1.5 billion, 22%) and Italy (EUR 764 million, 12%).

Figure 2.12. Variations on main income and costs items (based on 2013=100)

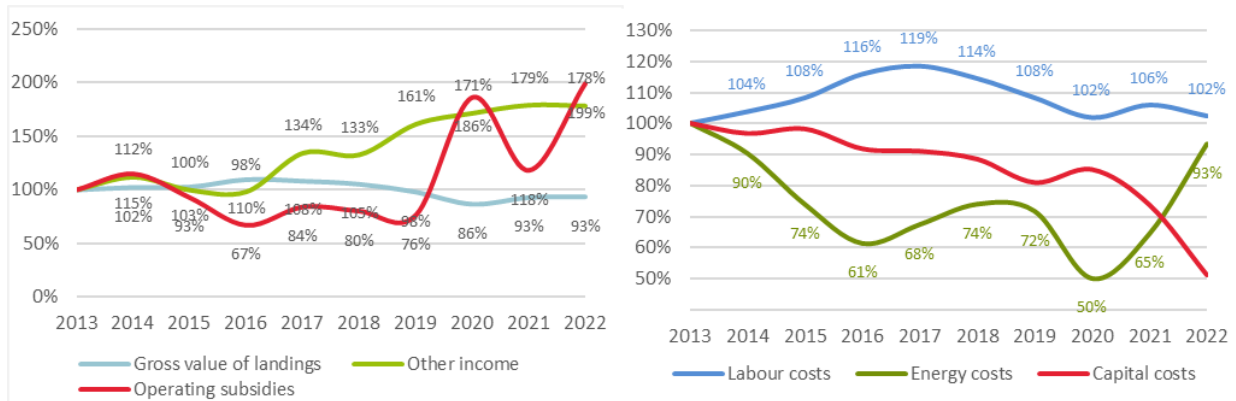Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Trends exclude Greece for time-series consistency.

Over the period 2013 to 2022, average fuel prices changed considerably. In 2013, average fuel prices began to fall, hitting a low in 2016 and rising steadily again in 2017. Average fuel prices fell sharply in 2020 compared to 2019 and remained low until mid-2021 when they began to rise again. As expenditure on fuel represents a considerable proportion of operational costs for the EU fleet, profitability of the fleet is sensitive to changes in price of marine fuel and fluctuations in fuel prices have a significant impact on its performance. Energy costs as a percentage of revenue in 2020 (13.4% of revenue) are significantly lower than those recorded in 2022 (almost 24%), close to that of 2013.

2.4 Economic Performance Indicators

Situation in 2022

The GVA, gross profit, and net profit (excluding subsidies) generated by the EU fishing fleet in 2022 were EUR 3.3 billion (–7% decrease compared to 2021), EUR 1.1 billion (–14%), and EUR 180 million (–41.3%), respectively. Trends excluding Greece are shown in Figure 2.13.

In relative terms, GVA to revenue was 49.4%. 16.4% of revenue was retained as gross profit; after deducting capital costs, 1.3% of revenue was retained as net profit. The methodology used to calculate capital values can, however, have a major impact on the net results presented, which should therefore be treated with caution. As depictured in Figure 2.13 and Figure 2.15, results follow a continuously decreasing trend from 2016 to 2022 with a marginal increase in 2021.

Figure 2.13. Trends on revenue and profit for the EU active fleet
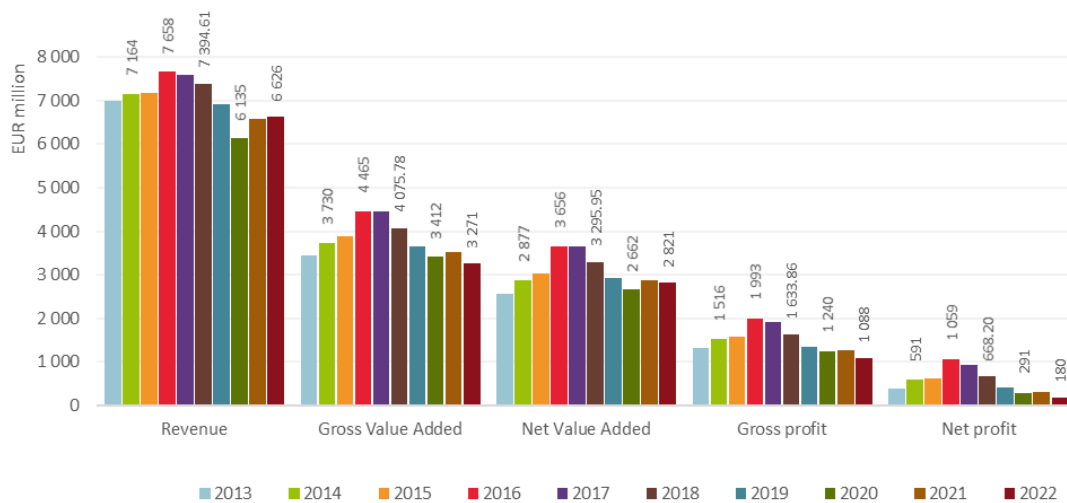
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Figure 2.14. Trends on revenue and profit margins for the EU active fleet
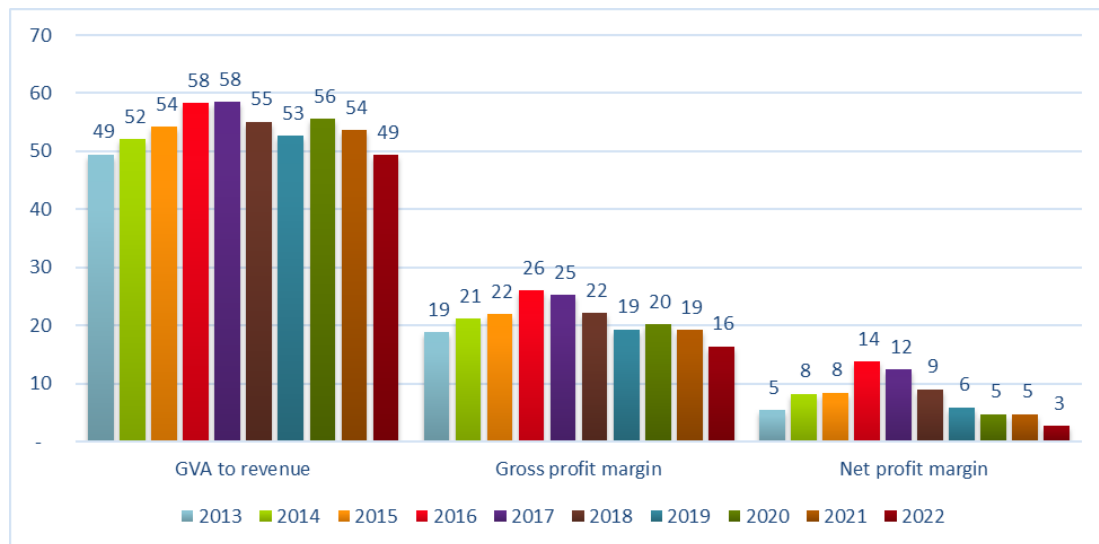
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

Figure 2.15. Variations on revenue and profits for the EU active fleet (based on 2013=100)
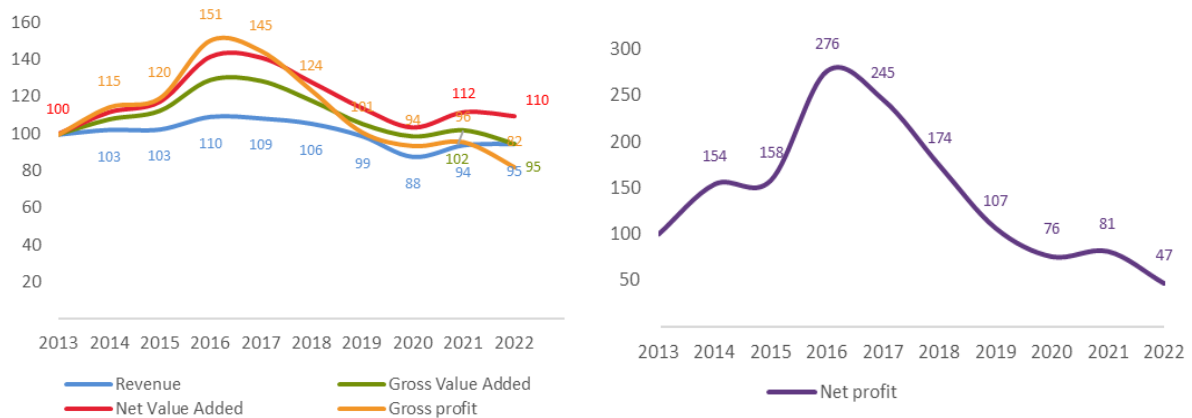
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Trends exclude Greece for time-series consistency.

An analysis of the 2022 economic performance by Member State revealed a mixed picture.

No Member State suffered gross losses, while several generated net losses. The methodology used to calculate capital values can, however, have a major impact on the net results presented–

Looking at all Member States, including Greece, the Spanish fleet generated by far the highest revenue of the total EU fleet (EUR 2.1 billion, +7.2% compared to 2021), GVA (EUR 1.0 billion, remained stable), gross profit (EUR 321.5 million, +12.3%), and net profit (EUR 179.9 million, +18.7%).

The French fleet generated almost EUR 1.5 billion (+5.9%) in revenue and EUR 716 million in GVA (+2.7%), followed by the Italian fleet, with EUR 764 million (–19%) in revenue and EUR 445 million in GVA (–14%).

Gross profit margins vary widely between Member States, from 3% to 80%.

Capital value and investments

In 2022, the EU fleet had an estimated consumption of the fixed capital value of EUR 773 million (including Greece, or for active vessels). In-year investments amounted to EUR 1.3 billion, a 72.6% increase compared to 2021. This significant increase is explained in particular by the sharp rise in investment in the Danish fishing fleet between 2021 and 2022 (+328%). The French fleet had the highest consumption of fixed capital value, amounting to some EUR 176 million in 2022, followed by Italy (EUR 154 million), Spain (EUR 119 million), and Denmark (EUR 106 million). Depending on the methodologies used (PIM method in particular), the impact on economic results can be significant, and comparisons between Member States should be made with caution.

2.5   Labour and capital productivity and efficiency

Labour productivity of the EU fishing fleets has generally increased since 2013 up to 2018 (excluding Greece). Year 2022 saw a slight decrease by 1.6% compared to 2021 (Figure 2.16).

However, in 2022, labour productivity was estimated at EUR 50 034. The Danish fleet is reporting the highest level (EUR 276 492), followed by the Belgian fleet (EUR 179 793) and the German fleet (EUR 97 942). Capital productivity, measured as the RoFTA, was estimated at 5% for the EU fishing fleets in 2022 (strong decrease by -30% compared to 2021).

Labour and capital productivity by scale of fishing activity

Labour productivity in the SSCF is estimated at EUR 30 338 per FTE, similar to that of 2020 and 2021. These three years for this indicator are the highest for the period 2013-2022, exceeding the 30 000 level.

Labour productivity in the LSF is estimated at EUR 59 881 per FTE, stable compared to the previous year (0.3%). Labour productivity in the DWF varies considerably since 2013 and decreased by -16% compared to 2021, after an increased by 37% between 2020 and 2021.

The capital productivity for the DWF continue to decline since 2016, with a decrease by −9% in 2022 compared to 2021. On the other hand, for the LSF the ratio (RoFTA) remained the level before 2020 (around 17%).

Figure 2.16. Trends on labour (GVA per FTE) and capital productivity (RoFTA) for the EU fleet
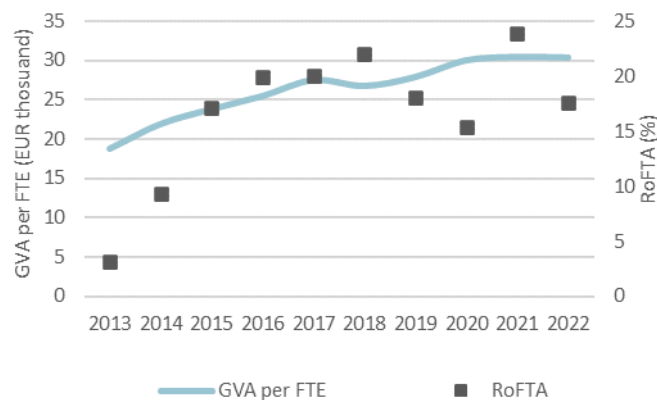
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

2.6   Energy use – fuel efficiency, intensity and break even calculations

Recent energy costs increase is imposing an economic burden in the financial profitability of the EU fishing fleet. Therefore, and as requested by the ToRs, the AER 2024 is providing calculations of the fuel intensity, efficiency and break-even price of fuel.

Marine fuel oil prices fluctuated through the years. Where from 2015 until the end of 2019 price levels were high with fluctuations between 0.30 euro/litre and 0.59 euro/litre, in the spring of 2020 it was at 10 year lowest levels (0.27 euro/litre). However, from October 2020 the fuel price steadily increased, until June 2022 to levels never observed in the time series (1.15 euro/litre). From this month the real price has steadily reduce, although in 2022 the average value was still well above the average value of the series (0.96 euro/litre), and above of any observation. In 2023 the average value reduced to 0.67 euro/litre, a value similar to the average of the first three months of 2024 (Figure 2.17).

Figure 2.17. Fluctuations of the average marine fuel oil prices (in euro) for EU-27.

 Data source: EUMOFA database. All monetary values have been adjusted for inflation; constant prices (2022).

For the total EU fleet, the average fuel costs per DaS was EUR 294 in 2022, an increase of 54.5% compared to 2021. The average fuel consumption was in total around 315 litre/DaS in 2022, a 5.6% decrease from 2021. The total average fuel consumption per landed tonne was 447 litre in 2022 (10.6% less than in 2022). Price of fuel was 0.93 euro/litre (63.7% higher than in 2021).

Fuel efficiency and intensity

As requested by the ToRs fuel usage will be measured in two ways for all EU fishing fleets:

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 (%).

All these indicators are made for the data provided for the year 2022, and as the whole report the base year is the year 2022. The values are provided by segment at national level and can be found in each national chapter for a selection of fleet segments and as an average at Member State level. Furthermore, based on the analysis made of fuel intensity, the EWG decided not to provide any further aggregation, neither by fishing operation nor by fishing technology.

Fuel price break even calculations

The break-even is the point at which total cost and total revenue are equal, meaning there is no loss or gain. Considering the fuel used by the EU fishing fleet in its activity, the fuel price break-even is the fuel price that makes total revenues and total costs, equal.

The revenues considered are the gross value of landings and other income as reported by the Member States in 2024 economic data call. For the costs, and as requested by the ToRs two different options are considered depending on if the short term or long-term break-even point is considered.

For the short term, the costs considered are the personal costs, value of unpaid labour, energy costs, repair & maintenance costs, other variable costs and other non-variable costs. The difference between the revenues considered and these costs, respond precisely to the Gross Profit indicator.

For the long term, to the Gross Profit the consumption of fixed capital (depreciation) is additionally considered. It should be noted that this does not correspond to the net profit, because this last should be account also for the capital cost. However, it has been excluded because it is based on variables such as the interest rates that are changing rapidly and because the Asset Value is not provided for all the fleet segments and/or not calculated using the same methodology. For the sake of this report, the Gross Profit minus the consumption of fixed capital will be named the operational profits.

All these calculations are made for the data provided for the year 2022, and as the whole report the base year is the year 2022. The measurement units are euro/litre. The values are provided by segment at national level and can be found in each national chapter for a selection of fleet segments and as an average at Member State level. Furthermore, based on the analysis made of fuel intensity during the AER 2023 (ref), the EWG decided not to provide any further aggregation, neither by fishing operation nor by fishing technology.

Short term break even fuel price

Based on the above definitions the short-term break-even fuel price (STBEFP) is calculated as:

STBEFP = (Gross Profit-Energy Cost)/Energy Consumption

Long term break even fuel price

Based on the above definitions the long-term break-even fuel price (LTBEFP) is calculated as:

LTBEFP = (Operational Profit-Energy Cost)/Energy Consumption.

Energy use by scale of fishing activity

For the total EU SSCF, and including Greece, the average fuel cost was 38 euro/DaS. An increase of 25.21% compared to 2021. The average fuel consumption was in total around 35 litre/DaS in 2022, a 7.1% decrease from 2021. The total average fuel consumption per landed tonne was 537 litre in 2022 (9.5% less than in 2021). Price of fuel was 1.07 euro/litre (34.7% lower than in 2021).

For the total EU LSF, the average fuel costs per DaS were EUR689. An increase of 46.2% compared to 2021. The average fuel consumption was, in total around 764 litre/DaS in 2022, a 9.3% decrease from 2021. The total average fuel consumption per landed tonne was 453 litre in 2021 (11.5% less than in 2021). Price of fuel was 0.90 euro/litre (61.2% higher than in 2021).

Table 2.7. Fuel price, energy efficiency, energy intensity, short- and long-term break-even revenue by supra region and fishing technique.

Supra region	Fishing technology	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
MBS	DFN	1.15	0.54	-0.13	25%	1 784
	DRB	0.98	4.44	3.48	11%	363
	DTS	0.91	1.23	0.83	39%	3 107
	FPO	0.94	3.52	3.07	12%	964
	HOK	0.99	1.85	1.13	20%	1 686
	MGO	0.71	7.90	7.45	10%	779
	PG	1.23	3.08	2.50	25%	541
	PGO	1.08	2.15	0.22	10%	1 249
	PGP	1.09	3.41	2.05	14%	1 100
	PMP	0.83	2.16	1.74	10%	652
	PS	0.94	4.18	3.36	11%	234
	TBB	1.03	1.11	0.68	44%	2 607
	TM	1.00	5.96	5.32	13%	363
NAO	DFN	0.91	2.33	1.61	10%	511
	DRB	0.91	2.13	1.53	12%	227
	DTS	0.90	1.26	0.86	27%	710
	FPO	1.03	3.89	3.04	8%	389
	HOK	0.93	2.16	1.64	13%	532
	MGO	1.11	4.73	2.92	7%	329
	MGP	0.91	2.20	1.75	14%	295
	PG	1.39	1.56	-0.57	14%	124
	PGP	0.95	2.04	1.64	14%	699
	PMP	1.01	2.00	1.43	9%	206
	PS	0.91	2.43	1.89	10%	143
	TBB	0.88	1.10	0.92	34%	1 533
	TM	0.92	1.93	0.88	21%	109
OFR	DFN	0.96	1.82	1.09	12%	469
	DTS	1.05	1.27	1.13	32%	514
	FPO	0.78	1.72	0.68	10%	1 501
	HOK	1.00	1.72	1.49	24%	730
	PGP	0.87	1.93	1.30	12%	1 407
	PS	0.97	1.61	1.07	24%	453
	TM	0.84	1.19	1.00	30%	379
Total		0.93	1.62	1.13	22%	467

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

For the total EU DWF, the average fuel costs per DaS were EUR 4724. An increase of 79.8% compared to 2021. The average fuel consumption was in total around 4 786 litre/DaS in 2022, a 6.7% decrease from 2021. The total average fuel consumption per landed tonne was 455 litre in 2022 (6.9% less than in 2021). Price of fuel was 0.99 euro/litre (92.7% lower than in 2021).

Figure 2.18. Energy consumed per landed tonne and fuel efficiency at EU-27 level and by scale of activity
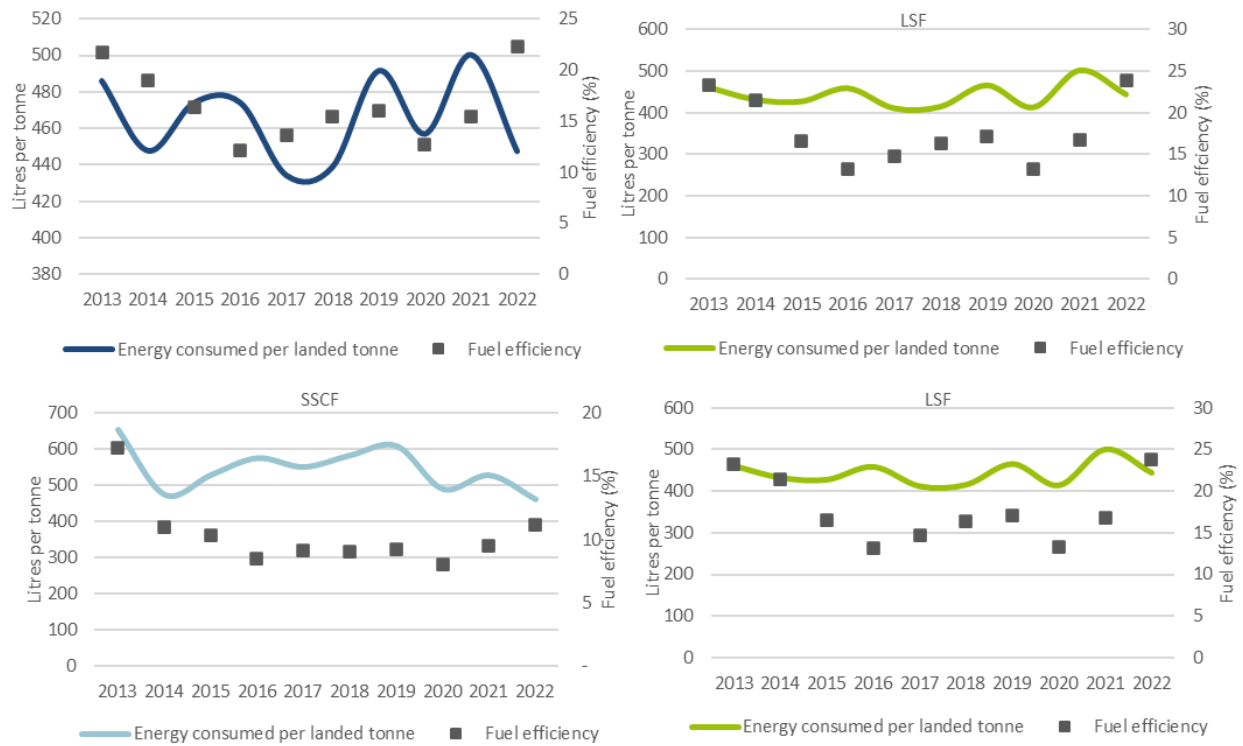
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022).

2.7   EU Small-Scale Coastal Fleet (SSCF)

Introduction

This section provides a summary of the main findings for the EU SSCF and by main fishing region. There are no EU small-scale vessels operating in the NAFO area, consequently, this region is not included in the analyses. Within the Other Fishing Region (OFR), French Guiana, Guadeloupe, the Canary Islands, Madeira, Azores, Martinique, la Réunion, and Mayotte were considered. Furthermore, the trend analyses refer just to the period 2018-2022 for which complete set of data (including Greek data) is available. For Malta, the latest available data from 2021 were used as Malta did not provide data for 2022.

The definition for Small-Scale Coastal Fleet is determined in Regulation (EU) 2021/1139 of 7 July 2021, which establishes the European Maritime, Fisheries and Aquaculture Fund and amends Regulation (EU) 2017/1004:

Small-scale coastal fishing' means fishing activities carried out by:

(a) Marine and inland fishing vessels of an overall length of less than 12 metres and not using towed gear, as defined in point (1) of Article 2 of Council Regulation (EC) No 1967/2006; or

(b) Fishers on foot, including shellfish gatherers.

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;

- Several associations and cooperatives of small-scale fishers are present with the aim to improve their strength in the supply chain;

- Use of multiple fishing gears by the same vessel;

- 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, size grade and shorter fish supply chain.

- Importance to Coastal Communities: the small-scale coastal fleet plays a significant role in supporting coastal communities, providing employment opportunities and contributing to local economies. These fishers often have strong cultural and social ties to their communities, passing down traditional fishing knowledge from generation to generation;

- Sustainable Practices: many small-scale coastal fishers adhere to sustainable fishing practices to preserve fish stocks and maintain the ecological balance of coastal areas. They often prioritize selective fishing techniques, avoiding overfished species, and minimizing bycatch (unintended catch of non-target species).

Key findings for 2022 and recent trends

The EU small-scale coastal fleet (SSCF) totalled 40 083 active vessels in 2022, employing 59 694 fishers. This implies that the SSCF comprised 76% of the active fleet and 53% of the engaged crew.

Fleet capacity and landings

The value of landings by the SSCF represented 19% of all EU landings in 2022. The number of vessels of the SSCF is 76% from the EU active fishing fleet, however, in terms of GTs, they represent the 10%. There was a general decline in landings in value for both SSCF (-6%) and LSF (-11%) categories from 2018 to 2022. Vessel tonnage also decrease for SSCF and LSF in the period 2018-2022 for 5% and 4%, respectively (Figure 2.19).

The differences between SSCF and LSF are driven by many factors such as gear selectivity, operating costs, selling price, indebtedness, level of dependency on overfished stocks, etc. but also on the opportunities and abilities of adapting to the global crisis that has significantly affected fisheries and the market for fishery products in recent years.

The European Union's Small-Scale Coastal Fisheries (SSCF) value of landings is heavily influenced by the Mediterranean region, which accounts for 41% of the total value. The second most significant region is the Southern Western waters, responsible for 33% of the SSCF landings' value.

The value of landings in the EU for the Small-Scale Coastal Fisheries (SSCF) shows distinct trends across different regions from 2018 to 2022. In the Baltic region, there has been a consistent decline, dropping from EUR 58 million in 2018 to EUR 37 million in 2022, indicating a reduction of about 36%. This downward trend is mirrored in the Black Sea, where the value decreased by half from EUR 6 million to EUR 3 million over the same period.

The Mediterranean region, traditionally a significant area for fisheries, saw a notable decrease from EUR 577 million in 2018 to EUR 405 million in 2022, reflecting a 30% decline. The North Sea and Eastern Arctic experienced a similar downward trajectory, with values falling from EUR 35 million in 2018 to EUR 23 million in 2022, a 34% reduction.

Figure 2.19. Trends on the landings in value and vessel tonnage for the SSCF and LSF
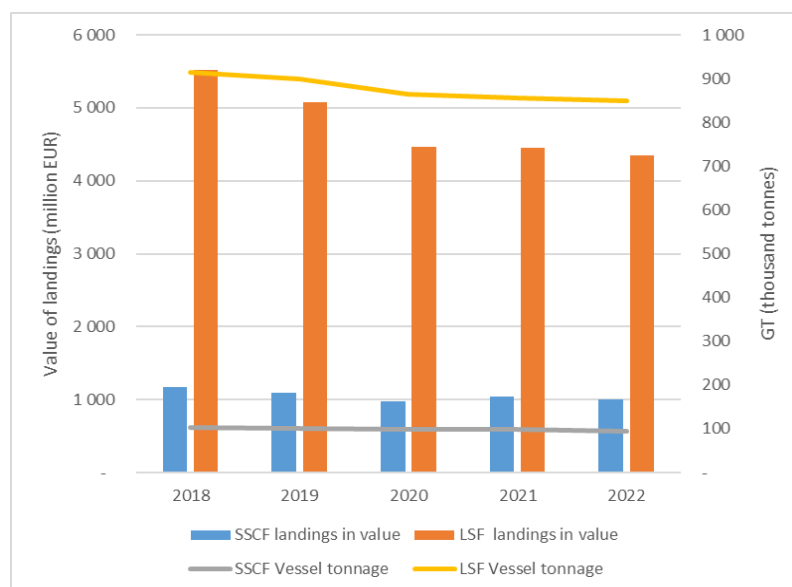
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

North-Western waters displayed some fluctuation. Starting at EUR 130 million in 2018, there was a dip to EUR 108 million in 2020, followed by a slight recovery to EUR 137 million by 2022, suggesting a complex dynamic in this region. Other fishing regions experienced modest variability, with values slightly increasing from EUR 52 million in 2018 to EUR 56 million in 2022, despite a peak at EUR 59 million in 2020.

Contrary to the general trend of decline, the SWW region exhibited stability and growth. Starting at EUR 308 million in 2018, the value of landings increased to EUR 330 million by 2022, indicating resilience and slight growth over the five-year period. Overall, while most regions showed a decline in the value of landings, the Southern Western waters stood out with a positive trend.

These variations across regions could be influenced by factors such as fish stock availability, regulatory changes, market demands, and environmental conditions (Figure 2.20).

Figure 2.20. Trends on landings in value for the SSCF by main fishing region

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

SSCF in North-Western waters achieved the highest value of landings per vessel (around EUR 108 000 per year), followed by SSCF vessels operating in SWW with EUR 50 000 (Figure 2.21).

Figure 2.21. Landings in value per vessel in the SSCF by main fishing region in 2022
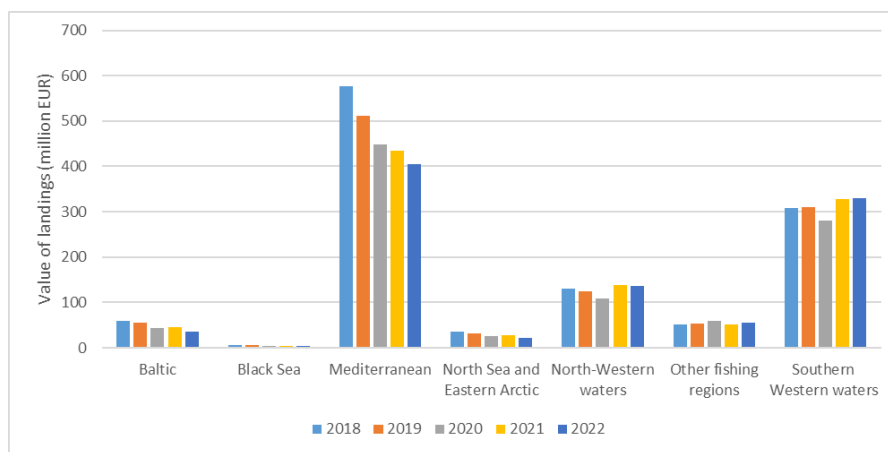

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Employment and labour costs

The number of employees in the SSCF (59 694) represents 53% of the total EU engaged crew and 43% (29 409) of all FTEs. Total employed decreased by 5% and FTE by 16% in 2022 compared to average 2018-2021.

The Mediterranean generates the highest number of FTEs, followed by the SWW and Baltic. On the other hand, the Baltic and Mediterranean regions experienced the most significant reductions in FTEs among all EU regions between 2018 and 2022, with decreases of 22% and 20%, respectively (Figure 2.22).

Figure 2.22. Trends on FTE in numbers for the SSCF by main fishing region

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The crew wages and unpaid labour costs in SCCF were estimated at EUR 345 million and EUR 162 million, respectively, in 2022. The total labour costs (crew wages and unpaid labour) reduced by 3% relative to average 2018-2021 in line with the decrease in overall employment.
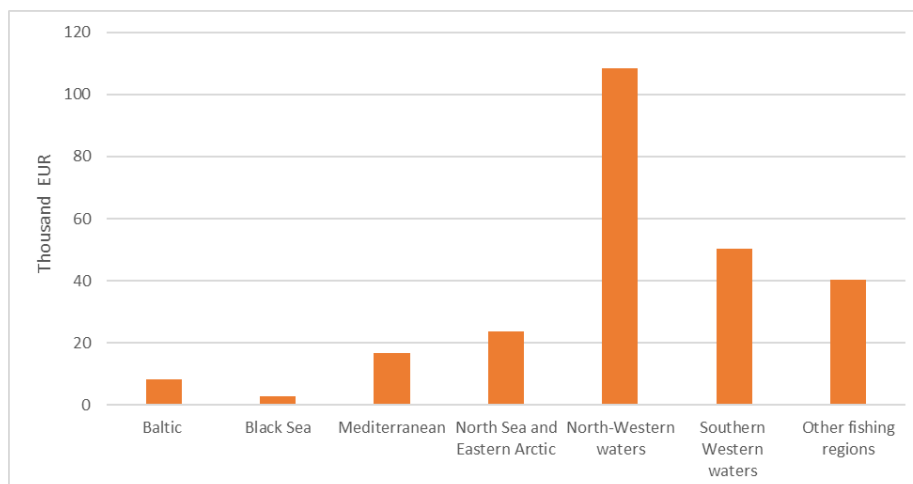
Figure 2.23. Trends on labour cost per FTE for the SSCF by main fishing region
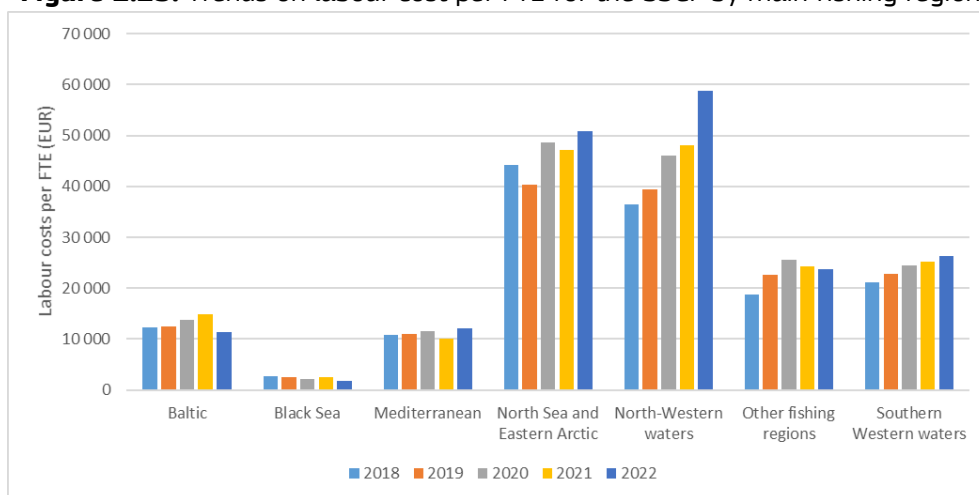
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Annual average labour cost per FTE in 2022 in the SSCF was estimated at around EUR 25 000 and it increased by 3% relative to 2021. The highest labour cost per FTE was achieved in NWW (EUR 58 830) and in the NSEA (EUR 50 888). This contrasts with the average value of regions with

lowest value of labour cost: Black Sea (EUR 1 846), the Baltic (EUR 11 396) and the Mediterranean (EUR 12 022) (Figure 2.23).

Economic performance

Figure 2.24 displays a comparison between the SSCF and LSF in terms of GVA generated by the fleets. The Gross Value Added (GVA) for Small-Scale Coastal Fisheries (SSCF) and Large-Scale Fisheries (LSF) in the EU shows distinct trends from 2018 to 2022. For SSCF, the total GVA decreased from EUR 828 million in 2018 to a low of EUR 675 million in 2020 before recovering slightly to EUR 686 million in 2022. On average, from 2018 to 2021, the total GVA for SSCF was approximately EUR 761.5 million, making the 2022 value lower than this average by about 10%.

For LSF, the total GVA also followed a downward trend, starting at EUR 3 100 million in 2018 and falling consistently to EUR 2 302 million in 2022. The average total GVA for LSF from 2018 to 2021 was around EUR 2 747 million. The 2022 value represents a decline of roughly 16% compared to this average.

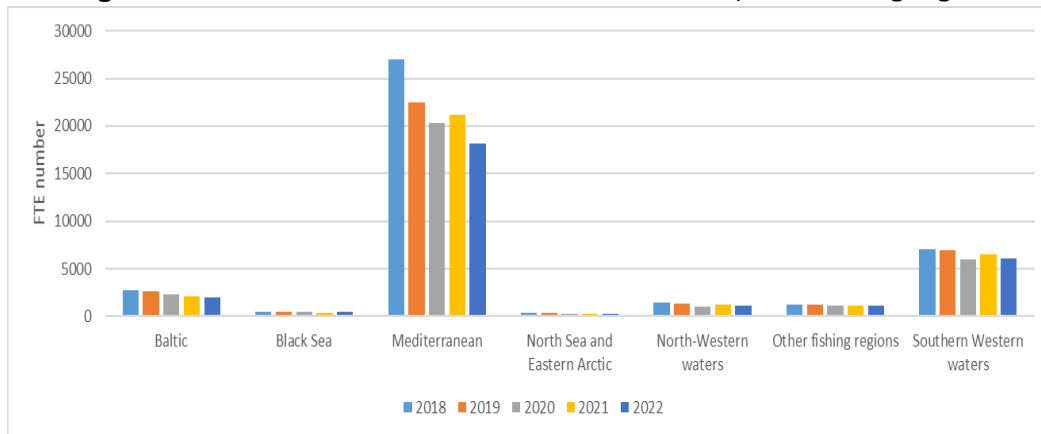**Figure 2.24.** Trends of GVA and GVA per vessel for the SSCF and LSF
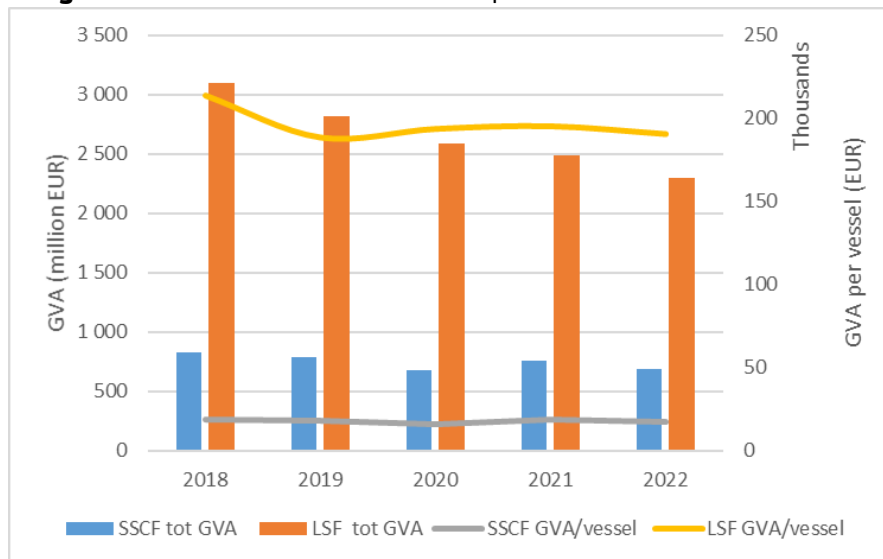
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

When considering the GVA per vessel, SSCF shows a fluctuating pattern. It began at approximately EUR 18 404 per vessel in 2018, dipped to about EUR 15 905 in 2020, and then saw a slight increase to EUR 17 114 per vessel in 2022. The average GVA per vessel for SSCF from 2018 to 2021 was around EUR 17 256, indicating that the 2022 value is slightly below this average by about 1%.

For LSF, the GVA per vessel started at approximately EUR 213 882 in 2018, decreased to about EUR 188 626 in 2019, and then fluctuated slightly, reaching EUR 190 689 in 2022. The average GVA per vessel for LSF from 2018 to 2021 was approximately EUR 197 423. The 2022 value is about 3% lower than this average.

Overall, both SSCF and LSF have experienced declines in both total GVA and GVA per vessel over the period, with SSCF showing some recovery in 2021, which did not persist into 2022. The LSF sector has seen a more consistent decline across the years. The values in 2022 for both sectors are lower

than their respective averages from 2018 to 2021, highlighting ongoing challenges in maintaining economic value within the EU fisheries sector (Figure 2.24).

The GVA per FTE in SSCF across various regions, displays differing trends from 2018 to 2022. In the Baltic region, the GVA per FTE in 2022 was EUR 11 014, which is higher compared to the average of EUR 10 306 from 2018 to 2021, indicating an improvement.

For the Black Sea, the GVA per FTE dropped significantly to EUR 5 299 in 2022, much lower than the average of EUR 8 689 over the previous four years, showing a marked decline.

In the Mediterranean, the GVA per FTE in 2022 was EUR 15 698, which is slightly below the average of EUR 15 799 from 2018 to 2021, suggesting relative stability but with a minor decrease.

The NSEA region saw the GVA per FTE decrease to EUR 59 004 in 2022, lower than the average of EUR 64 673 from 2018 to 2021, indicating a notable decline.

For NWW, the GVA per FTE in 2022 was EUR 75 458, which is significantly higher than the average of EUR 68 865 from the preceding years, showing an increase in economic efficiency.

In other fishing regions, the GVA per FTE in 2022 was EUR 31 189, compared to an average of EUR 29 641 from 2018 to 2021, indicating a positive trend.

Finally, the SWW experienced an increase in GVA per FTE to EUR 39 145 in 2022, higher than the average of EUR 34 824 from 2018 to 2021, showing continuous growth.

While some regions like the NWW and SWW show improvement, others such as the Black Sea and NSEA have experienced declines in GVA per FTE in 2022 compared to their four-year averages (Figure 2.25).

The GVA per vessel in various regions shows diverse trends from 2018 to 2022. In the Baltic region, the GVA per vessel in 2022 was EUR 4 960, which is about 10% lower compared to the average for the period 2018-2021.

For the Black Sea, the GVA per vessel in 2022 was EUR 1 950, significantly lower by approximately 44% compared to the average over the same period.

The Mediterranean region had a GVA per vessel of EUR 11 904 in 2022, which is around 14% lower than the average from 2018 to 2021.

The NSEA saw a GVA per vessel of EUR 12 720 in 2022, which is about 36% lower than the four-year average.

For the NWW, the GVA per vessel in 2022 was EUR 68 965, slightly lower by 1% compared to the average from 2018 to 2021.

Other fishing regions had a GVA per vessel of EUR 25 534 in 2022, which is very close to the average 2018-2021, reflecting stability.

The SWW experienced a GVA per vessel of EUR 36 150 in 2022, which is approximately 7% higher than the average from 2018 to 2021.

The first three regions regarding GVA per vessel in 2022 are NWW (EUR 68 965), SWW (EUR 36 150), and other fishing regions (EUR 25 534). These regions lead in economic efficiency per vessel, with the NWW significantly ahead of the others (Figure 2.25).

Figure 2.25. Trends on average GVA per FTE (up) and GVA per vessel (down) for the SSCF by fishing region
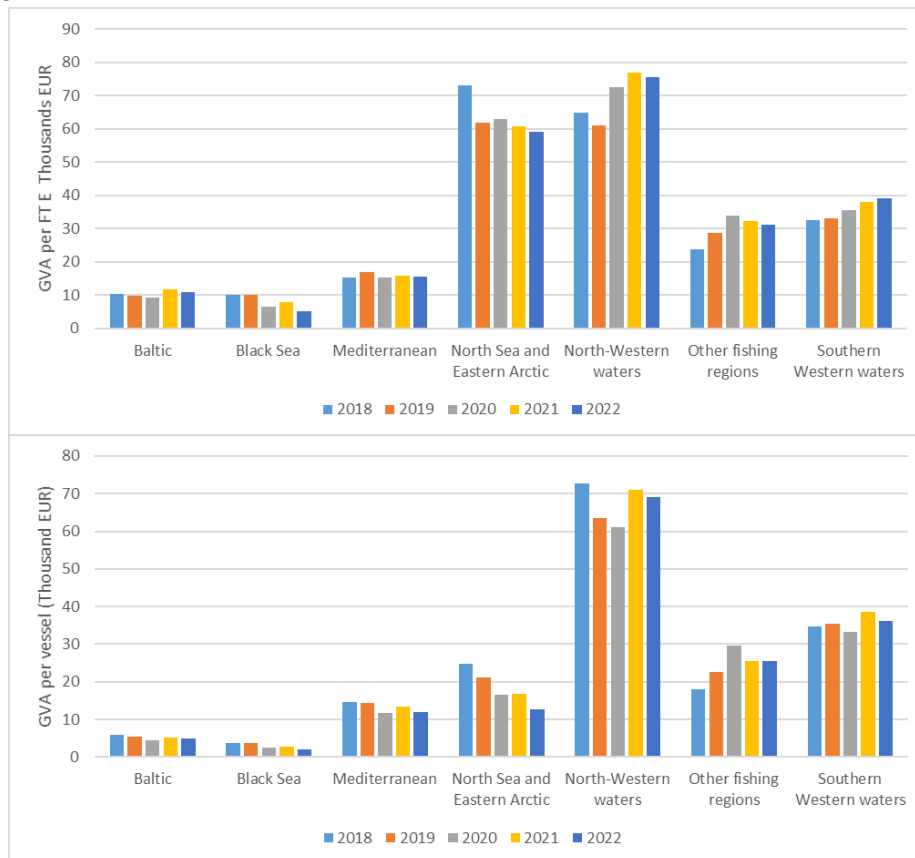
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Fishers in SSCF are mostly self-employed. In this case, the owner returns include the emolument for labour as well as that from the capital invested (in the form of the vessel and other physical capital) in the fishing activity. Net value added (NVA) thus shows how much money actually remains for fishers after paying all the expenses (including consumption of fixed capital). The average NVA per FTE across all regions in 2022 is EUR 26 998, which represents an increase of approximately 5% compared to the average of EUR 25 751 during the period 2018-2021.

The Net Value Added (NVA) per Full-Time Equivalent (FTE) in various EU fishing regions shows diverse trends from 2018 to 2022. In the Baltic region, the NVA per FTE increased to EUR 6 493 in 2022, which is higher compared to previous years, indicating an upward trend and recovery from the 2018-2021 average.

The Black Sea saw a significant decline in NVA per FTE to EUR 5 083 in 2022, much lower than the 2018-2021 average, reflecting a notable decrease in economic performance.

In the Mediterranean region, the NVA per FTE in 2022 was EUR 12 494, which is slightly below the average for the previous four years, indicating stability with a minor decrease.

The NSEA region experienced a continuous decline, with the NVA per FTE falling to EUR 38 741 in 2022, well below the 2018-2021 average, showing a significant downward trend.

The NWW region, however, saw an increase in NVA per FTE, reaching EUR 64 308 in 2022, which is significantly higher than the average from 2018 to 2021, indicating improved economic performance.

Other fishing regions had an NVA per FTE of EUR 26 253 in 2022, aligning closely with the average from the previous four years, showing relative stability.

Lastly, the SWW region displayed a steady increase in NVA per FTE, rising to EUR 35 613 in 2022, which is above the 2018–2021 average, indicating continuous growth in economic value (Figure 2.26).

Figure 2.26. Trends on average NVA per vessel and per FTE for the SSCF by main fishing region
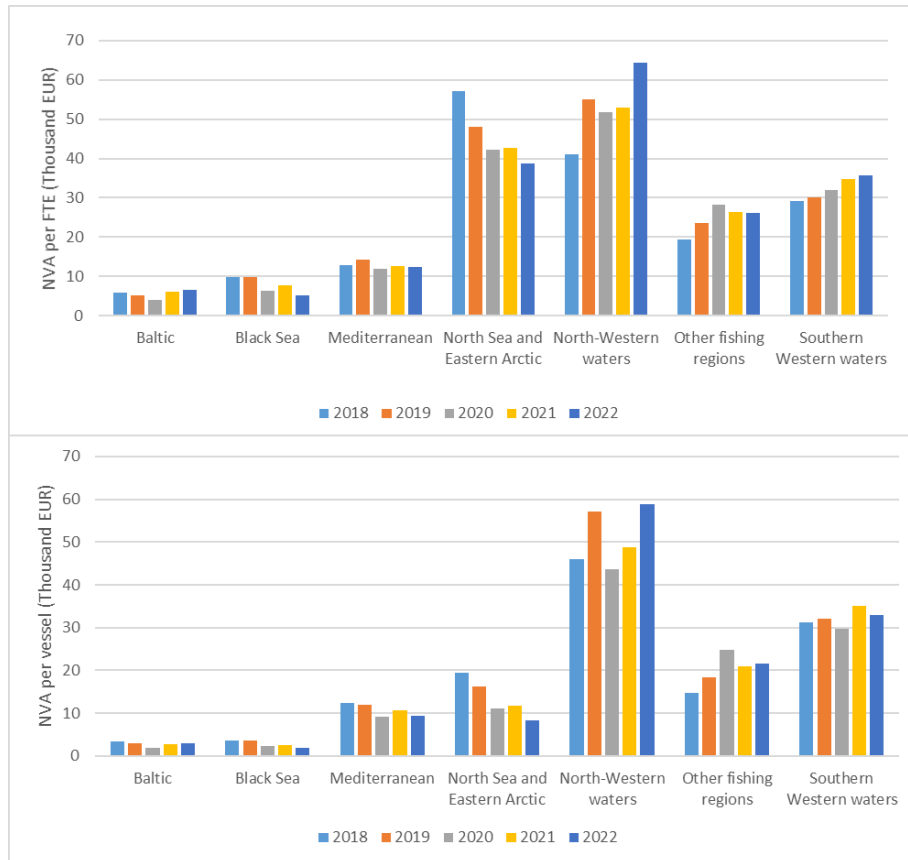
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The trends in Net Value Added (NVA) per vessel across various EU fishing regions from 2018 to 2022 show varied patterns.

In the Baltic region, the NVA per vessel saw a dip in the middle years but showed some recovery by 2022.

The Black Sea region experienced a consistent decline in NVA per vessel over the five years, indicating worsening economic performance.

In the Mediterranean, there was a significant drop in NVA per vessel from 2018, with some fluctuations, but it remained relatively stable in the later years.

The NSEA region saw a continuous decline in NVA per vessel, with a notable drop in 2022 compared to earlier years.

The NWW region showed a remarkable increase in NVA per vessel, particularly in the later years, indicating strong economic growth.

Other fishing regions experienced an overall upward trend in NVA per vessel, despite some fluctuations, showing an improvement in economic value.

The SWW region exhibited stability with slight growth, maintaining a relatively high NVA per vessel throughout the period, indicating steady economic performance (Figure 2.26).

Gross and net profits generated by SSCF in 2022 have reached pre-pandemic levels, recovering these variables from the abrupt decline that occurred in 2020.

Analysing the net profit data across various fishing regions from 2018 to 2022, there are notable trends and fluctuations. When comparing the average net profit from 2018 to 2021 with the figures for 2022, a general pattern emerges.

The Black Sea region experienced a slight decline from an average of around EUR 2.65 million to EUR 2.11 million. The Mediterranean region saw a dramatic increase in profit in 2021 but fell substantially in 2022, down from an average of EUR 45.25 million to EUR 25 million. The NSEA region improved slightly, moving from a negative average of around -EUR 1.07 million to -EUR 0.05 million. The NWW region experienced a decline from an average of EUR 13.44 million to EUR 10.35 million. The Other fishing regions improved from an average of EUR 2.23 million to EUR 3.96 million, and the SWW region, maintained stability with a slight increase from an average of EUR 53.20 million to EUR 63.62 million.

Figure 2.27. Trends on gross (up) and net profit (down) for the SSCF by fishing region
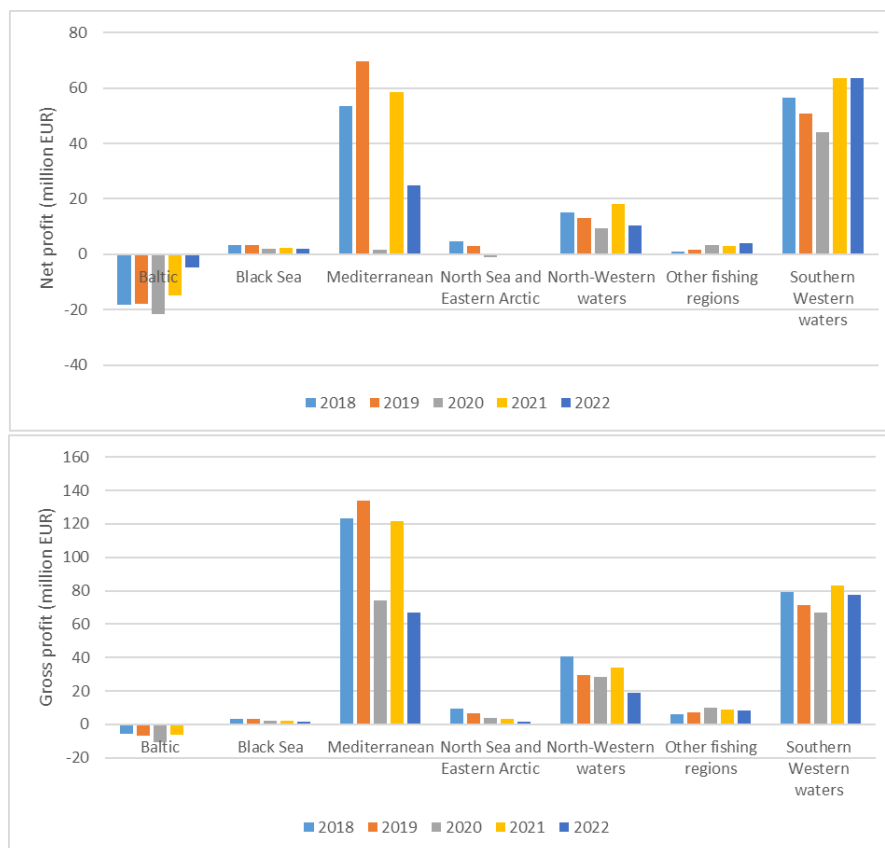
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Figure 2.28 shows the average gross and net profit per vessel for SSCF. The highest values of both indicators are recorded in NWW and SWW. However, the biggest difference between the two

indicators can be observed in the Mediterranean, NSEA, and the Baltic regions which may imply to higher Depreciation costs and Opportunity cost of capital compared to other regions.

Figure 2.28. Average gross and net profit per vessel for the SSCF by fishing region in 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The gross and net profit margin in a small-scale fishing fleet can vary depending on several factors, such as the type of fishing activities, operational costs, market conditions, and the efficienc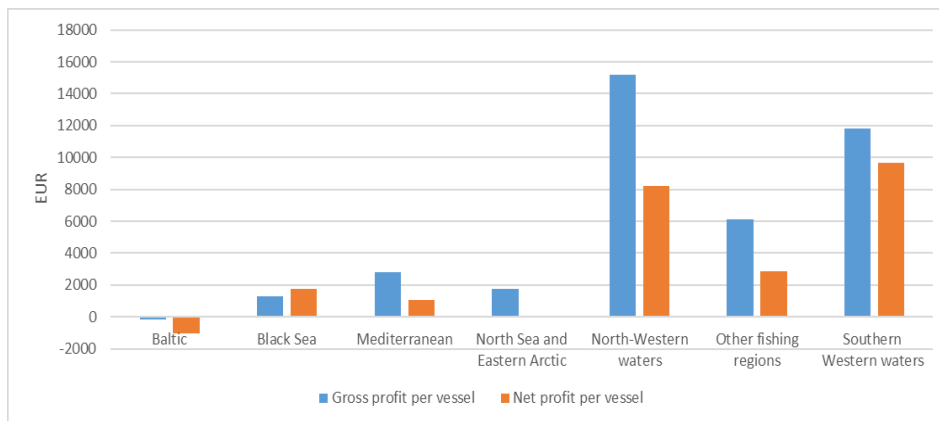y of the fleet management. There is a large heterogeneity among regions as far as the SSCF profit margins is concerned. However, most of the fishing regions have generated positive Gross profit margins over the period analysed, except the Baltic Sea region's fleet (hitting a record low in 2020) and NSEA which has fluctuated between losses and profits. In 2022, the Mediterranean also experienced a significant decline, transitioning from a positive value in the period 2018-2021 to a negative value.

The net profit margin data from 2018 to 2022 shows notable trends and fluctuations across various fishing regions. The Baltic consistently recorded significant negative margins, although there was some improvement in 2022. The Black Sea region showed volatility with positive margins in some years and a sharp decline in 2021. The Mediterranean had consistently negative margins, with a notable decline in 2022. The NSEA showed significant negative margins, briefly turning positive in 2021 before dropping again in 2022. The NWW had positive margins for most of the period but turned negative in 2022. The "Other fishing regions" consistently posted negative margins with slight improvements over time. In contrast, the SWW consistently showed positive margins, increasing steadily throughout the period. (Figure 2.29).

The term "other income" in the context of small-scale EU fishing fleets refers to additional revenue sources beyond the primary fishing activities. These fleets engage in various non-fishing activities to supplement their earnings. Common examples include diversification activities such as ecotourism, recreational fishing charters, support activities for aquaculture plants, etc. Small-scale fleets may also receive financial support through grants, subsidies, or assistance programs aimed at promoting sustainable fishing practices, fleet modernization, or capacity building. Additionally, these fleets may participate in scientific research projects or offer consultancy services related to fisheries management, marine conservation, or environmental impact assessments, thereby generating income. Providing training and educational programs for aspiring fishers, fishery technicians, or marine conservationists, is another avenue for earning income by leveraging the fleet's knowledge and expertise.

These various sources of other income highlight the adaptive and entrepreneurial nature of small-scale EU fishing fleets, enabling them to diversify their revenue streams beyond traditional fishing activities. This diversification can contribute to their economic resilience and sustainability in the face of changing market conditions and regulatory frameworks.

Figure 2.29. Trends on gross and net profit margin for the SSCF by fishing region

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).
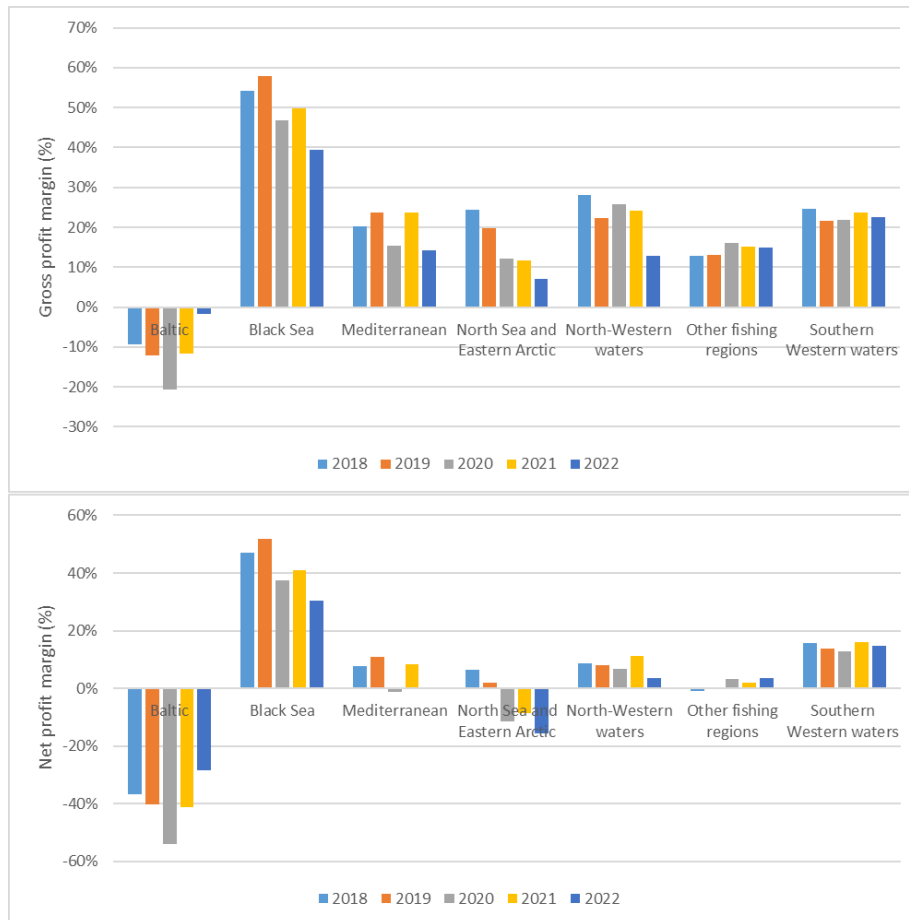
Figure 2.30 displays "Other income" in million Euro from various European fishing regions from 2018 to 2022. The Mediterranean region consistently has the highest other income, peaking at EUR 50.7 million in 2021, while other regions such as the Baltic, Black Sea, NSEA, NWW, other fishing regions, and SWW show significantly lower income levels. There are notable fluctuations in income within each region over the years, with some regions experiencing spikes, such as the North-Western waters in 2022.

The Mediterranean's dominance in other income can be attributed to several factors. The region has the largest SSCF in the EU, which often engages in value-added activities like tourism (recreational fishing and fishing tours), significantly contributing to other income. Its status as a major tourist destination enhances income through marine-related tourism activities, including boat tours, diving, and maritime festivals. The rich cultural heritage of the Mediterranean linked to the sea supports these income-generating activities. COVID-19 crisis and consequently a decline in tourism revenues may be one of reasons for lower values of other incomes in 2020, especially in the Mediterranean.

Figure 2.30. Other income for the SSCF by fishing region
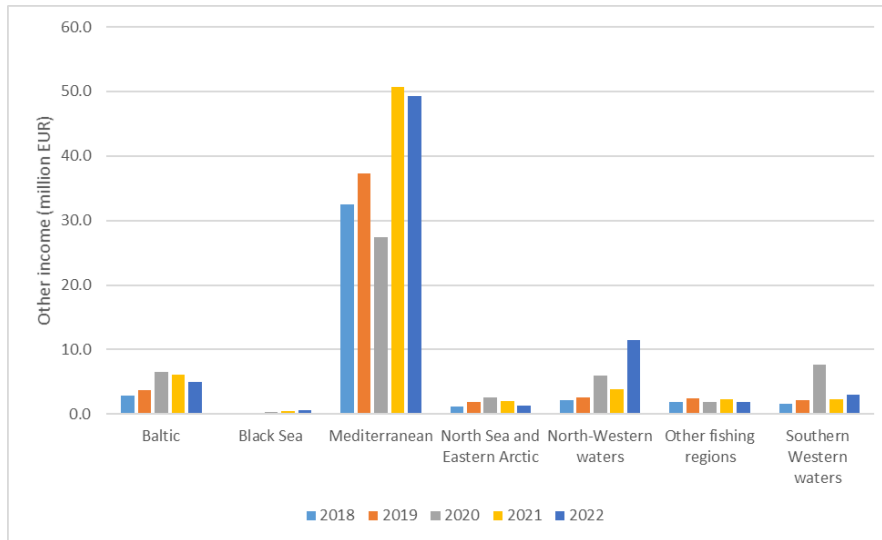
Figure 2.31 outlines the percentage share of other income in the total income per vessel for various EU fishing regions, alongside the value of landings per vessel. The Mediterranean region, despite having the highest absolute other income, shows that other income constitutes 12% of its total income, with landings making up the remaining 88%. Regions such as the Black Sea and Baltic have a higher share of other income at 19% and 14%, respectively, indicating a more diversified income stream compared to their counterparts. In contrast, regions like the SWW and other fishing regions rely heavily on landing income, with other income constituting only 1% and 3% of their total income, respectively. The NSEA, and NWW also have relatively low shares of other income at 6% and 8%, respectively, highlighting their primary reliance on landing income.

Figure 2.31. Share of Other income in landing income per vessel for the SSCF by fishing region in 2022

Operating subsidies are financial support provided to small-scale fishing fleets to promote sustainable practices, fleet modernization, and capacity building. Other income refers to revenue generated from non-fishing activities. There may be a correlation between operating subsidies and

other income, as subsidies can enable fleets to invest in income-generating activities such as diversification, research, or training.

The data highlights the regions with the highest value of operating subsidies per vessel in small-scale fishing fleets. NWW, SWW and the Baltic region stand out as the regions receiving significant financial support. These subsidies indicate a recognition of the importance of supporting fishing activities, promoting sustainability, and ensuring economic viability.

The Mediterranean region, with the highest other income per vessel at EUR 2 055, also receives significant subsidies per vessel at EUR 990, suggesting a balanced support structure between direct earnings and governmental aid. Conversely, the NWW stands out with an exceptionally high other income per vessel at EUR 9 137, coupled with substantial subsidies per vessel at EUR 3 417, indicating a heavy reliance on both diverse income sources and substantial government support.

Regions like the Baltic and Black Sea have lower other incomes per vessel at EUR 1 126 and EUR 518, respectively, with the Baltic receiving relatively high subsidies (EUR 1 066) compared to the Black Sea (EUR 199). This disparity suggests that the Baltic region compensates lower direct earnings with higher subsidies. The NSEA, along with other fishing regions, show moderate other incomes per vessel (EUR 1 321 and EUR 1 392, respectively) and relatively lower subsidies (EUR 296 and EUR 997, respectively), indicating a lesser dependency on government aid compared to their total income.

The SWW region has the lowest other income per vessel at EUR 464 but relatively high subsidies at EUR 1 025, indicating that governmental support plays a crucial role in the economic viability of vessels in this area. Overall, there appears to be a varying degree of correlation between other income and subsidies across the regions, with some regions showing a balance between both, while others rely more heavily on subsidies to offset lower other incomes (Figure 2.32).
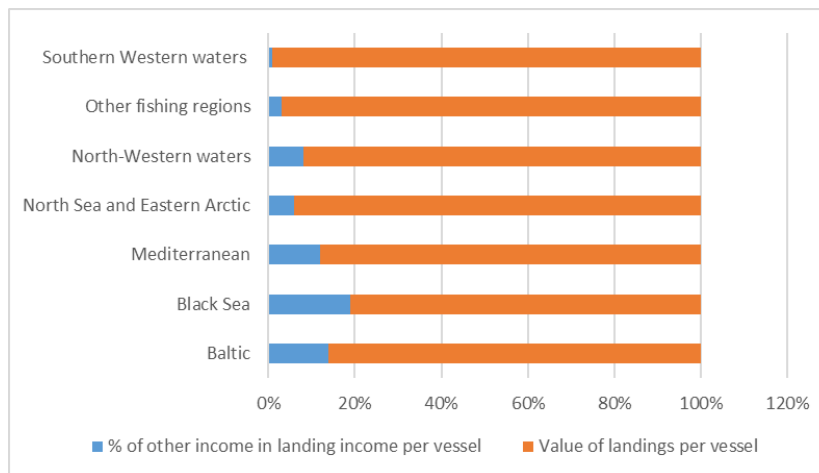
Figure 2.32. Other income and operating subsidies per vessel for the SSCF by fishing region in 2022
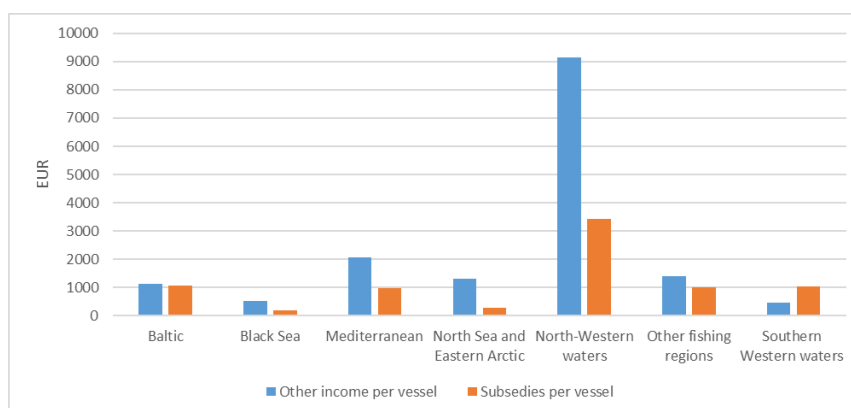
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance by length class

Vessel length class refers to the categorization of fishing vessels based on their size. In the EU small-scale coastal fishing sector, six vessel length classes have been identified: VL00-06 (Black Sea and Mediterranean), VL00-08 (Baltic and NSEA), VL00-10 (Baltic, NSEA NWW, Other fishing regions and SWW), VL06-12 (Black Sea, Mediterranean and SWW), VL08-12 (Baltic and NSEA) and VL10-12 (Baltic, NSEA, NWW, Other fishing regions and SWW). These length classes encompass a

spectrum of vessel sizes commonly encountered in coastal waters, reflecting the diversity of fishing practices and species targeted by the small-scale fleet.

Figure 2.33 shows the distribution of fishing vessels by length class across different EU regions. The Mediterranean region has the highest number of vessels, with 9 002 in the VL00-06 class and 15 007 in the VL06-12 class, reflecting its significant small-scale coastal fleet. The Baltic region has a substantial number of vessels in the VL00-08 and VL06-12 classes, with 3 459 and 995 vessels, respectively. The Black Sea region shows a considerable number of vessels in the VL00-06 class (451) and a large number in the VL06-12 class (771). The NSEA region have a smaller number of vessels, with notable counts in the VL00-08 and VL10-12 classes, totalling 855 and 90 vessels, respectively. The NWW region had 979 vessels in the VL00-10 class and 281 in the VL10-12 class, indicating a moderate fleet size with a mix of small and medium vessels. Other fishing regions reported 1 329 vessels in the VL00-10 class and 63 in the VL10-12 class. The SWW region had 5 912 vessels in the VL00-06 class and 653 in the VL10-12 class (Figure 2.33).

Figure 2.33. Number of vessels by length class for the SSCF by fishing region in 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Among the available data, the three length classes with the highest number of employees are identified. The Mediterranean region stands out with the VL06-12 length class, employing 22 545 persons. This indicates a substantial workforce within this length class, highlighting its importance in terms of employment within the SSCF sector. In the SWW, the VL00-10 length class has the second-highest employment rate, employing 11 768 persons. Finally, the Mediterranean region shows a significant number of employees also in the VL00-06 length class, totalling 10 423 persons (Figure 2.34).

The value of landings in the EU SSCF sector varies across regions and length classes. In the Mediterranean, the VL00-06 class contributes EUR 71 083 thousand and the VL06-12 class contributes EUR 334 005 thousand. The SWW also show substantial values, with the VL00-10 class at EUR 234 039 thousand and the VL10-12 class at EUR 96 176 thousand. In the Baltic, the VL00-08 class contributes EUR 20 525 thousand and the VL08-12 class adds EUR 15 758 thousand. The NWW region is notable for its high values in the VL00-10 class (EUR 61 203 thousand) and the VL10-12 class (EUR 75 344 thousand). The NSEA region show significant values in the VL00-10 class (EUR 15 290 thousand) and the VL10-12 class (EUR 6 824 thousand), while other fishing regions report EUR 52 463 thousand in the VL00-10 class. The Black Sea, with smaller values, primarily relies on the VL00-06 class (EUR 491 thousand) and the VL06-12 class (EUR 2 857 thousand) (Figure 2.35).

Figure 2.34. Employment by length class for the SSCF by fishing region in 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).
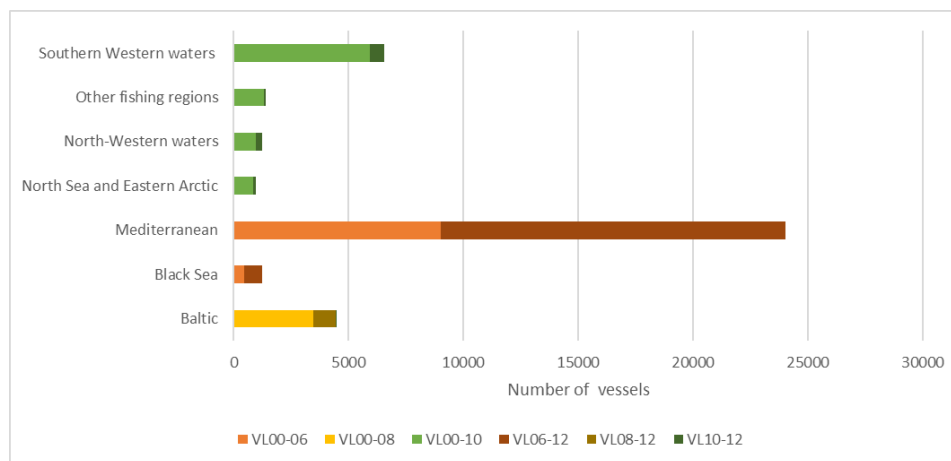
Figure 2.35. Value of landings by length class for the SSCF by fishing region in 2022
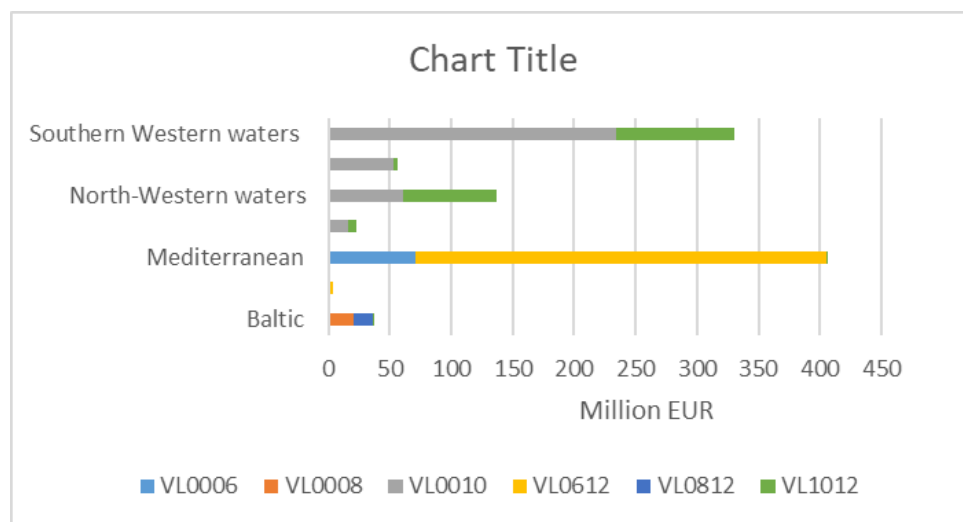
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Among the analysed length classes, the VL00-10 segment stands out with the highest landing value, amounting to EUR 363 012. Despite having a lower value of landings per vessel, the large number of vessels in this class contributes significantly to the overall landing value.

The Mediterranean VL06-12 class follows closely behind, with 15 780 vessels generating a substantial landing value of EUR 336 889. Although the value of landings per vessel is not the highest, the sheer number of vessels compensates for it.

The VL10-12 segment exhibits the highest value of landings per vessel, reaching EUR 166 702. This finding indicates that larger vessels within this size range contribute the highest economic value in terms of landings. The value of landings per vessel in VL00-10 amounts to EUR 39 990. Although lower than the VL10-12 segment, it still represents a substantial economic value per vessel. Lastly, the third highest value of landings per vessel reach VL06-12 segment with EUR 21 350 per vessel (Figure 2.36).

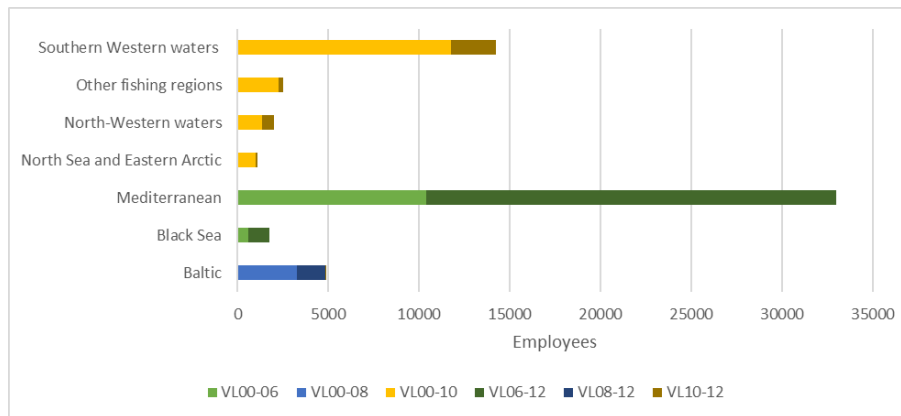**Figure 2.36.** Value of landings by length class for the EU SSCF in 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The provided data presents the gross value added (GVA) for different fishing regions, indicating the economic value generated within each region and length class. Among the regions, the Mediterranean exhibits the highest overall GVA. Specifically, in the VL06-12 length class, it contributes approximately EUR 227 million, while in the VL00-06 length class, it has a GVA of around EUR 59 million. Following the Mediterranean, the SWW region displays the second-highest GVA. In the VL00-10 length class, it contributes approximately EUR 169 million, and in the VL10-12 length class, it adds approximately EUR 68 million to the overall GVA (Figure 2.37).

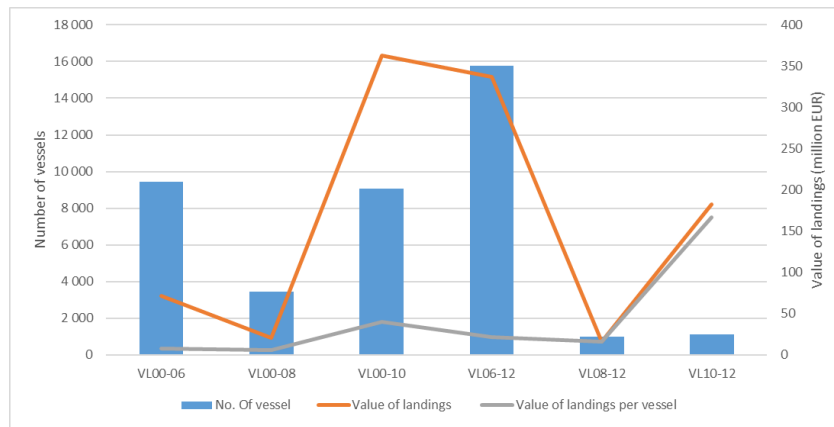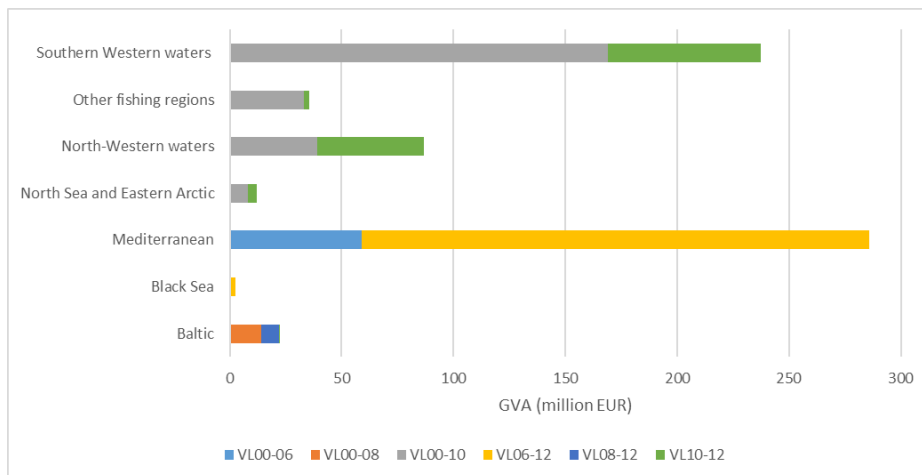**Figure 2.37.** GVA by length class for the SSCF by fishing region in 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

2.8   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 – Saint-Martin, Guadeloupe, Martinique, French Guiana, Mayotte, La Reunion –, and; one Spanish territory – Canary Islands –; and two Portuguese autonomous regions – Azores and Madeira –.

In 2022, the number of active vessels was 2 587, although in some regions, significant parts of the registered fleet were inactive. Most of the OMR fleet is small scale and labour intensive with 93% of the vessels under 12 metres LOA. Vessels over 12 metres operate mainly in Canaries Islands, Azores and Madeira, La Réunion and to lesser extent in French Guiana.

Total engaged crew was 6 675 (2.6 per vessel on average) for 3 488 FTEs. Total days at sea (DaS) were around 190 000 for an energy consumption of 21.9 million litres (115 litres/DaS). Energy consumption average figures were 1.5 kg and 7.1 euro of fish landed per litre of fuel consumed but with heterogeneous situations between OMRs and segments. In 2022, landings from the OMR fleets combined amounted to 33 566 tonnes valued at EUR 155.5 million. Average price was 4.6 euro/kg. GVA and NVA were EUR 104.0 million (63% of total revenue) and EUR 89.0 million, respectively. Gross profit and net profit were estimated to EUR 29.0 million and EUR 10.9 million. These figures do not consider operating subsidies which may change segments performance (see below). In 2022, GVA per crewmember was EUR 15 579 and GVA per FTE was EUR 29 811.

In 2022, 1 439 vessels and 2 744 engaged crew were active in the French OMR (1.9 per vessel on average) compared to 579 vessels and 2 494 engaged crew in the Portuguese OMRs (4.3 per vessel), 569 vessels and 1 437 engaged for the Spanish OMR (2.5 per vessel). With EUR 69.2 million and 9 916 tonnes (7.0 euro/kg average price), French OMR fleets accounted for 45% of the landings in value and 30% in weight, followed by the Portuguese OMR fleets with EUR 57.2 million and 15 303 tonnes (3.7 euro/kg) representing 37% of the total OMR value and 46% in weight. For Canaries islands, the value of landings was EUR 29.1 million for 8 348 tonnes (3.5 euro/kg average price) representing 25% and 19% of the total OMR in weight and value. In most cases, landings are sold to local markets but in some regions, a significant part of the landings are exported (Reunion).

In 2022, GVA was estimated to EUR 41.8 million (40%), EUR 36.4 million (35%) and EUR 25.8 million (25%) for the French, Portuguese and Spanish OMRs, respectively. Despite the overall net profits per country/region being positive, French Guiana, Guadeloupe, Martinique, Reunion, Mayotte, and Madeira recorded negative net profits. Operating subsidies including EMFAF compensation costs programs have to be considered because they may have an influence in viability of segments. These subsidies increased from EUR 2.5 million in 2017 to a maximum of EUR 6.9 million in 2019 to reach EUR 5.1 million in 2022.

In 2022, operating subsidies represented 3.0% of OMR total revenue but with significant differences between Member States and OMR. They represented 2.6% of revenue in Portuguese OMRs but with lower levels compared to previous years, 6.9% in Canaries islands and only 2.3% for the French OMR. These subsidies may have a significant impact on profitability of the segments.

OMR active vessels declined by -23% between 2013 and 2022 (Canary Islands and Mayotte excluded) and by -14% between 2017 and 2021 for the whole OMR fleet (total eight OMR). However, a stabilization has been observed since 2020. Engaged crew and DaS followed quite the same mid-term trend with however, significant differences between OMRs (see below). Energy consumption did not reduce as such, suggesting that vessels who left the fleet or became non active were consuming little fuel.

Even if the live weight of landings fluctuated over the period, with a significant drop in 2020 due to COVID-19 crisis, total six OMR's (French Guiana, Guadeloupe, Martinique, Reunion, Madeira, and Azores) landings in weight show no significant trend. Average total weight was around 25 400 tonnes over the 2013-2022 period (36 300 tonnes for the eight OMR between 2017-2022). For these six regions, increases in the total gross value of landings (+7%), revenue (+8%) and GVA (+6%) were observed. Gross and net profit indicators showed a positive trend until 2019, declined significantly in 2020 but did not recover to previous values in 2021 and 2022. If Canaries Islands and Mayotte are included, the trends for the total eight OMRs are more contrasting. GVA trend was stable since 2018 and the contribution of these regions to total gross and net profit was limited. Beyond these global changes, several drivers may explain these evolutions (exit of non-active or less active vessels, decommissioning schemes, resource evolution, operating subsidies, etc.) at either OMR or segments levels.

2.9   Large-Scale Fleet (LSF)

The EU large-scale fleet (LSF) comprises all fishing vessels over 12 metres using static gears and all fishing vessels using towed gears operating predominately in EU waters. It encompassed 12 503 vessels in 2022 and employed 53 516 fishers, representing 23.7% and 44.7% of the total active EU fleet, respectively.

This fleet contributed 73% in landings and 65% to the value of these landings of the total EU fleet. The LSF was profitable in 2022 but GVA reduced a 7.3% compared to 2021, gross and net profit reduced by 13% and 14% compared to 2021, respectively.

In 2022 this segment accounted for 44.7% of the employment (53 516 jobs) and 51.5% of the FTE (39 055) of the EU fishing fleet.

GVA was estimated at around EUR 2.3 billion (67% of the EU total) and gross profit at around EUR 756 million (67% of the EU total). Estimated net profit was EUR 76 million (68% of the EU total). Compared to 2021, gross profit and net profit in LSF decreased by 13% and 44%, respectively.

Labour productivity (GVA per FTE) was estimated at EUR 58 900 a similar value as in 2021. On average, the salary of FTE in the EU LSF in 2021 was EUR 39 600 per year. All productivity indicators have decreased significantly throughout 2015-2021 and compared to 2021, driven by the sharp increase in the fuel costs (39% higher than in 2021).

LSF fleet segments below 12 metres length

The EWG 24-07 analyzed the number of vessels that although classified under LSF (because they use active gears and therefore, they do not belong to SSCF) their length was below the 12 metres. In 2022 4 223 vessels fell in this category, which represents the 24% of the LSF number of vessels. This is especially relevant for Croatia for which the 58% of the vessels under LSF are below 12 metres, France with 40%, Sweeden (34%), Spain (29%) and Ireland (26%).

In terms of fishing technologies, dreggers (45%) and Demersal trawlers and/or demersal seiners (25%) account for the majority of them. Of the 4 223 vessels, 78% of them belong to the NAO supra-region while 21% to MBS.

2.10 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. In 2022, there were 244 vessels representing 0.5% of the EU active fleet and 1.1% of the effort (fishing days). However, it carries out 21% of all the landings of the EU in weight (715 000 tonnes) and 20% in value (EUR 1 295 million).

Regarding flag states, the EU Distant Water Fleet Spain has 82% of the total number of vessels, followed by France (9%), Portugal (5%), Lithuania (2%), Italy (1%) and Poland (with one vessel).

In terms of capacity, the active vessels of distant water fleet show a capacity of 258 700 GT (21.5% of total) or 351 600 kW (7.9% of total). In 2022, the trend in the number of DWF vessels has reversed and gone up with respect to previous years. There was a solid downward trend from 288 in 2013 to 242 in 2021, a reduction of 15.3%. However, in 2022 the number increased in two units (244). This does not correlates with the level of catches and landings, which has increased by 3% in the period 2013-2022.

Regarding employment, the DWF accounts for 5% of the employment (6 500 jobs) and 10% of the FTE (7 400) of the EU fishing fleet.

In 2022, GVA was estimated at around EUR 405 million (12% of the EU total). Gross profit at around EUR 166 million (15% of the EU total) and estimated net profit was EUR 31 million (15% of the EU total). In terms of comparisons, GVA decreased by 9.7%, compared to 2021, while gross profit decreased on 13.2% and net profit decreased 56.4%.

Labour productivity (GVA per FTE) was estimated at EUR 55 000. On average, the salary of FTE in the EU DWF in 2022 was EUR 32 400 per year (13% lower than in 2021). All productivity indicators have decreased throughout 2013 to 2022. In relative terms, this amounted to a 33.1% GVA to revenue (down from 39.1% in 2021), 13.6% gross profit margin (down from 16.7% in 2021) and a 2.5% net profit margin (down from 6.2% in 2021).

2.11 Main drivers and trends affecting the economic performance of the EU fleet

Summary of main trends on economic performance

After continuous growth of the economic performance of the EU fishing (excluding Greece and United Kingdom) fleet in 2009-2016, a declining trend of profitability from 2017 to 2020 was observed. Although, 2021 seemed to be a break in this downward trend, at least if this year in isolation is considered, the impact of the fuel cost increase observed in 2022 made this year the worst in terms of profitability indicators of the whole time series.

In fact, different factors will have varying levels of impact on different fleets. However, a main factor stands out in 2022, the Ukrainian-Russian war. Other 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

- An increase in landings by weight for certain species (i.e., European lobster, Atlantic scallop).

- An overall increase in the value of landings by 5% in the region.

- Fish prices for certain species (e.g. Norway Lobster, Atlantic Scallop, and Monkfish) increased in 2022.

- Recovery of some stocks, e.g., the biomass of most herring stocks has increased, and the Northern hake stock continues to follow a positive trend.

- Following the UK's departure from the EU (Brexit), the EU-UK Trade and Cooperation Agreement (TCA) sets out the terms under which the EU and the UK can determine their individual rights to catch fish in their respective waters. Under the agreement, 25% of the EU's fishing rights in UK waters are to be transferred progressively to the United Kingdom's fleets between 2021 and 2026. The UK waters are a significant fishing area for both the French and Irish fleets but particularly the Irish as 98% of their effort (DaS) occurs in the NWW. Subsequently, the most direct effects were expected for the pelagic fleets of Ireland and France due to the reduction of the EU-27 share in TACs of Atlantic mackerel (e.g. -26% for the Irish fleet) and herring. In addition, the Irish demersal fleet saw quota reductions for Norway Lobster of -14%. The impact of the TCA was evident in 2022 with an overall decrease in landed weight by -10% across the region, particularly for pelagic species.

- Fish prices for certain species decreased in 2022 (e.g. European Mackerel, Blue Whiting, European Hake).

- In 2022, energy costs increased sharply by 44% in the NWW reflecting the spiralling fuel prices that year. The two main fleets operating in the NWW, France and Ireland, saw increases of 50% and 58% respectively in terms of energy costs. This had a detrimental effect on the overall performance of the NWW fleet.

- The TCA which entered into force on 1 May 2021 between the UK and the EU includes the objective of cooperating with a view to ensuring that fishing activities for shared stocks in their waters are environmentally sustainable in the long term and contribute to achieving economic and social benefits, and requires the Parties to hold consultations annually to agree the total

allowable catches (TACs) for the following year for the stocks listed in Annex 35 to the TCA. The agreement established the parties (UK and EU) share of the Total Allowable Catch (TAC) for 124 stocks of common interest, including changes to the shares in each of the years 2021 to 2025 and 2026 onwards. These TAC changes include 55 stocks where the United Kingdom share has increased and the total share available to the EU has reduced accordingly. This has had an impact on many remaining EU Member States operating in the NWW, and particularly for Ireland and France. A series of meetings took place between November and December 2021 to consult on fishing opportunities for 2022 in accordance with Article 498 (Fishing Opportunities) of the TCA. The results of these negotiations were documented in Annex 1 of 21 December 2021: fisheries consultations between the UK and the EU for 2022.

- Regulation (EU) 2019/472 of the European Parliament and of the Council of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks– This regulation covers a range of demersal species and deep-sea stocks fished primarily by the Irish and French fleets and also by the other Member States that typically operate in the NWW.

Baltic Sea

- In 2022, TAC for most herring stocks decreased considerably: Central herring –45% (53 653 tonnes), Western herring –50% (–788 tonnes). As herring has been an important part of the catch of Baltic fishing fleet, these substantial quota cuts had a substantially negative– effect on the economic performance.

- The cod stocks both in the Eastern and Western part of the Baltic Sea are in critical condition. The commercial cod fishing was significantly reduced in 2019 and direct fisheries on cod were not permitted in 2020-2023, except for small-scale fisheries on the Western cod stock. The cod catches are allowed only as an unavoidable by-catch. Eastern cod quota remained at 595 tonnes in 2022 (after –92% in 2020 and –70% in 2021) while Western cod quota was cut 88% to just 489 tonnes. Altogether, this is an ongoing threat to a considerable part of the regional fleet. ICES expects that the cod stock most probably will remain in a dire condition in the middle-term.

- The main basin salmon quota was down –32% to 63 811 fish in 2022.

- 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.

- In some areas the increasing population of seals has been reported as substantial problem when performing fisheries using passive gears. Damage to both gear and fish has been experienced, thus resulting in the cessation of certain fisheries.

- The quota for Baltic sprat increased 13% in 2022. It is a commercially important species, but only for few specialised fleets. Baltic herring stocks with a TAC increase were Gulf of Riga herring (47 697 tonnes, +21%) and Bothnian herring (+71% to 111 345 tonnes), A TAC increase applied also to Gulf of Finland salmon (+6%) as well as plaice (+25% to 9 050 tonnes).

- 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 obligation (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 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. However, as the poor status of several important stocks has a negative impact on the balance indicators, several fleet segments in the Baltic are regarded not in balance and, hence, do not qualify for this kind of support.

North Western Waters

- An increase in landings by weight for certain species (i.e., European lobster, Atlantic scallop).

- An overall increase in the value of landings by 5% in the region.

- Fish prices for certain species (e.g. Norway Lobster, Atlantic Scallop, and Monkfish) increased in 2022.

- Recovery of some stocks, e.g., the biomass of most herring stocks has increased, and the Northern hake stock continues to follow a positive trend.

- Following the UK's departure from the EU (Brexit), the EU-UK Trade and Cooperation Agreement (TCA) sets out the terms under which the EU and the UK can determine their individual rights to catch fish in their respective waters. Under the agreement, 25% of the EU's fishing rights in UK waters are to be transferred progressively to the United Kingdom's fleets between 2021 and 2026. The UK waters are a significant fishing area for both the French and Irish fleets but particularly the Irish as 98% of their effort (DaS) occurs in the NWW. Subsequently, the most direct effects were expected for the pelagic fleets of Ireland and France due to the reduction of the EU-27 share in TACs of Atlantic mackerel (e.g. -26% for the Irish fleet) and herring. In addition, the Irish demersal fleet saw quota reductions for Norway Lobster of -14%. The impact of the TCA was evident in 2022 with an overall decrease in landed weight by -10% across the region, particularly for pelagic species.

- Fish prices for certain species decreased in 2022 (e.g. European mackerel, blue whiting or European hake).

- In 2022, energy costs increased sharply by 44% in the NWW reflecting the spiralling fuel prices that year. The two main fleets operating in the NWW, France and Ireland, saw increases of 50% and 58% respectively in terms of energy costs. This had a detrimental effect on the overall performance of the NWW fleet.

- The Irish fleet experienced a severe deterioration in economic performance in 2022 compared to 2021. This deterioration was somewhat offset by EUR 23.9 million in operating subsidies financed under the Brexit Adjustment Reserve (BAR) fund and EMFAF grant assistance. However, the income from direct subsidies is not factored into gross profit or net profit calculations for 2022 for Ireland in this report and this has impacted the overall performance of the NWW fleet.

South Western Waters

- MSY (Art. 4), in order to take account of the complexity of managing mixed fisheries, which are particularly present in south-western waters. In this sense, the setting of fishing opportunities could not exceed the value of the TAC associated with the median FMSY for all stocks.

- TACs variations for a number of stocks, e.g., blue whiting and hake.

- All the ICCAT recommendations formalising the exploitation rule for northern albacore provide for a dual objective of precautionary management of the stock (60% probability of green zone Kobe diagram, recovery) and maximising catches, over the long term and on average.

- The landing obligation creates an incentive to develop more selective fishing gear and reduce unwanted catches, while on the other hand, the lack of quota for some species caught in mixed fisheries forces the premature closure of some fisheries (the "choke effect").

- The variation of the prices for the main species such as blue whiting, Atlantic horse mackerel and chub mackerel, albacore or octopus.

- Increase in fuel prices resulting in higher energy costs, especially for pelagic fisheries.

Mediterranean Sea

- Overexploitation: the most updated stock assessment shows some little improvements in the exploitation rates; nevertheless, many stocks are still fished outside biologically sustainable limits, even if for some of them (e.g. blue and red shrimp), a decreasing trend in exploitation is detected (FAO, 2023).

- Energy crisis: The significant market disruption caused by soaring energy prices and the general economic environment with the increase in inflation largely impacted the overall economic performance of the Mediterranean fleet. Specifically, because of the increase in fuel costs, the fleet limited fishing activity to counterbalance the increase in fuel costs, but this has also produced effects in terms of production.

- Energy efficiency: Energy costs as a percentage of revenue in 2022 (24% of revenue) are higher than those recorded in 2021 (around 19%). This is substantially due to the increase in the fuel price and in parallel to a low level of investment in less energy-intensive fishing gear and equipment.

- The marine resources and ecosystems of this region have come under increasing pressure in recent years, driven by diversification and intensification of marine and maritime activities. In addition, competition between EU fishing vessels and vessels from other countries that do not have to follow EU legislation is perceived to be growing by fishers.

- The fishing sector is becoming less significant from economic and social perspective at the local level. In 2022, the number of active vessels decreased by 3% compared to 2021, leading to a loss of more than 600 job positions. The decrease in overall time spent at sea has caused a severe reduction in the number of FTE positions, declining by more than 4 200 units.

- Furthermore, factors such as the high average age of fishers (>70% of fishers older than 40 years for countries with the highest number of fishers, e.g., Italy and Greece), the difficulty in attracting the younger generations, the shortage of workforce, poor working conditions, and low

wages continued to severely affect the fishery sector in the region (NISEA, 2023 and AGRERI, 2024).

- Higher average prices: in 2022, a general increasing trend in average prices has been registered. Looking at single species, besides the standard market effect on prices due to the decrease in the landed volume (supply) of some species (e.g. anchovies, pilchards and deep-water rose shrimps), other factors appear to be key in the valorisation of supply. The role of Producer Organizations has improved in recent years, with the adoption of initiatives aimed at improving the control of the supply as well as at adding value to landings. For the giant red shrimps, introducing innovative market strategies, including the implementation of labelling and certification schemes, helped the demersal trawlers add value to the fishery product. Similar initiatives are underway for deep-water rose shrimps and some large pelagic.

- Increase in the bluefin tuna price: Market dynamics resulted in an increase of +19% in the 2022 average price for this species (11.37 euro/kg, the highest price since 2016), which remained, in terms of value, the top species in the region (an increase of 13% in the landings value compared to 2021).

- The status of certain stocks has improved in the last few years, even if the achievement of long-term sustainable utilisation of the resource is still far from the majority of the exploited stocks (STECF, 2023).

Black Sea

- Additional increase in the turbot quota for both Bulgaria and Romania in the last three years, together with a management plan for third countries fishing in the Black Sea;

- The stable average prices for some important species with significant landings, such as sea snails, and maintaining the average prices for the other species;

- The sea snail stock in GSA 29 is fished near FMSY, which means that fishing vessels and processing plants utilising this species could continue to provide employment in the region;

- Keeping the trend with almost stable fuel costs at the regional level is directly connected with energy costs, which remain the major percentage of the expenses.

- The weather conditions in the Black Sea, including strong winds and large temperature differences between winter and summer, significantly affected fishing activities by the SSCF, which led to a reduction of the DaS and value of landings and, of course, a negative impact on 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 trend of a stable level of days-at-sea is leading to the relevant stable energy costs.

- The Black Sea fishery is highly dependent on very few valuable species. In terms of landing weight and value, the sea snail is the most profitable species, and according to the most recent available consideration from 2022, its stock in the Black Sea was considered to be around reference biological points. Sprat, which is usually the second most important fishery, is evaluated as sustainably exploited;

- The GFCM 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.

OMR

- Most OMRs are islands and geographically far from sources of supply. These constraints generate, for fishers' additional costs compared to mainland. Compensation scheme for the additional costs were established and funded by EMFAF but the returns and benefits for local fishers seems to be limited in scope in Guadeloupe, Martinique and French Guiana.

- The increase in the cost of capital is considered as a main issue for fleet renewal and access to fisheries for newcomers in most of the OMRs. Fuel price is also one of the main factors affecting the performance of the segments, especially the most dependent. Major increases in fuel price and more generally inputs (gears, engines) were reported for 2022 with potential effort reduction. Compensation measures for fuel price increases have been established Portuguese, Spanish and French OMRs for 2022 and 2023. In Portugal, the aids have been granted according to fleet segment and length categories when in Spain GT categories have been used. In France, the system changed over a time wit at first discount at pump and secondly a unique direct additional aid per litre of fuel consumed.

- The landing prices have increased over the last years for Canaries islands, but this trend is not similar in other regions like Guadeloupe or Martinique where the importation and competition from seafood from international markets is high.

- In some OMRs, the lack of suitable infrastructures for vessels operations including landings create dis-incentives to enter or to continue to operate in the sector. In most OMRs, the fleets faced the lack of incentives to attract young fishers to the sector with contrasted situation between islands, unemployment or lack of labour. Additionally, this issue is reinforced by the lack training for the fishers at local level and administrative digitalization constraints.

- The variations in TACs and quotas of key species are one of the main factors affecting the performance of the fleets mainly in Canaries Islands, Madeira and Azores. In Guadeloupe, the Conch fishery was closed for the season 2020-2021 with impact on dependent vessels. If fisheries are regulated through technical measures (gear regulation, species mesh size), the lack of access regulations to fisheries (e.g. licences) is source of internal competition and increased cost of operation within the SSCF sector in most of the French OMRs. The funding of Moored Fishing Aggregating devices and their management is also a key driver of and fisheries and fleet evolution in the OMR where they are used (Mayotte, Reunion, Guadeloupe and Martinique).

- In most OMRs, competition with recreational fishing and illegal fishing (foreign or/and local) is particularly high for the small-scale segments. The situation is critical in French Guiana EEZ with IUU neighbouring fleets. Poaching fish activities also reduce the market availability affecting also the price in some regions. In the Atlantic Ocean and the Indian Ocean, OMRs fleets harvest the same stocks as large-scale fleets especially on large pelagic species. Projects of windfarms in Canaries may also impact the fishery sector.

- Marine ecosystems and fishing activity in the OMRs are subject to the occurrence of extreme events (hurricanes or storms) or change in the environment (vase amazon, algae) with impact on gears and harbour infrastructures. Since 2011, massive Sargassum algae inflows (stranded and floating blankets) in the Caribbean led to massive changes in the pelagic and coastal ecosystems with impacts on the fishing stocks. Fishing activity in Guadeloupe, Martinique and to a less extent French Guiana are regularly impacted by these events (difficulties to operate vessels and fishing gears).

- The sustainability of the fishing sector is also threatened by the quality of habitats environment dependent on coastal development and agriculture. Permanent pollution of coastal habitats by pesticide (Chlordecone) used by agriculture led to the ban of coastal fishing areas in Guadeloupe and Martinique.

NAFO

- All the EU fleets presented a good economic performance from 2019 to 2022. In terms of volume of landings in weight, it showed oscillations between 35 000 and 40 000 tonnes in live weight and EUR 100 million in value of landings. This is higher than the period 2013-2018, where catch was closer to the region of 30 000 tonnes. The main reason can be attributed to the increase of landing on both quota (Atlantic redfishes) and non-quota (silver hake) species. It is worthwhile to note that substantial increase of landings of silver hake in 2021 and 2022 in the region of 6 000 tonnes compared to previous years where it was generally lower than 500 tonnes). Regarding value of landings, the years 2020 and 2022 showed a relatively stable trend around EUR 95 million, which is higher than the historical period 2013-2019 and 2021 where it has oscillated between EUR 80 and EUR 90 million.

- The economic performance of the fleets is driven and conditioned on the value of key commercial species caught by the Spanish and Portuguese demersal trawlers. Despite its recent high volume of landings, silver hake shows a remarkably lower value of EUR per kilo than other species caught such as Greenland halibut or Atlantic Redfish. The value for silver hake was of 1.3 and 1.8 euro/kg for 2021 and 2022, in comparison with 3.0 and 3.8 euro/kg for Greenland halibut and 1.8 and 2.3 euro/kg for Atlantic redfishes. In years 2016 and 2017, the total value of landings reached a peak of EUR 97 million due to the higher value of first sale reached by Atlantic redfish of 2.69 and 3 euro/kg, respectively.

- Changes in fuel prices might have also impacted the profitability.

- After the steep fall of gross and net profitability in 2021, attributable to the high non-variable and variable costs (partly associated to COVID-19 related measures) and to low average price of catches (1.94 euro/kg), in 2022 these parameters have recovered considerably. This is partly explained by the rise of the average price, which in 2021 had reached the lowest value of the whole period 2013-2022, and partly to the gradual return to normality after the pandemic period.

- Capacity, effort, and landings in weight have decreased in general since 2013 although it seems to be quite stable and even slightly increasing in recent years. This seems to be consistent with the adaptive fishing strategies and business plans of the concerned fleets due to lower availability of fishing opportunities in the convention area, particularly for Cod, Redfish, and Northern Prawns. In recent years, demersal fishing trawlers targeting cod and redfish have increased their annual level of catch either in other species within the NAFO RA (e.g. silver hake) or fishing grounds such as the North-East Atlantic (FAO 27) or the South-West Atlantic (FAO 41), targeting other demersal species. This factor could partially explain the overall decrease in days at sea in the area.

- The general downward trend in FTE, intensified in 2020 due to measures taken during the pandemic, has been reversed in 2021 and 2022, due to the growth of this parameter. This decreasing tendency might be partially linked to the modernisation of vessels and mechanisation of processing activities at sea, together with a rotation system of the employed full-time staff on several fishing trips.

- The annual wages have experienced remarkable fluctuations depending on the year. This might be linked to the number of fishing trips where the crew is hired. Portugal seems to show high fluctuations on average wages depending on the year with a decreasing trend in the last five years, from a peak of EUR 73 140 in 2017 down to EUR 40 421 in 2021, with a recovery in 2022 of up to EUR 69 663. Spain shows a more stable range of wages at a lower level (although on an upward trend since 2019, which has made it overtake Portugal in 2021). In 2022, Spanish annual wage was EUR 85 606. The generally lower amounts could be also explained in the way the fixed salary is reported without considering in kind contributions or bonus linked to catch. Germany has the highest wages although there are significant differences between years, being 2021 the lowest of the last decade, with EUR 106 748. In 2022, it rose to EUR 130 680.

- The witch flounder 3NO stock was reopened in 2015, following many years with no directed fishery. This may positively affect the Baltic States which have historical rights to fish it but have a negative effect for Spanish and Portuguese vessels as they could keep on board by-catches for this fishery while it was on moratoria (up to 5% of total catch), and with the reopening they will be forced to discard any catch of this species.

- The HCR for Greenland halibut was adopted at the NAFO Annual Meeting in September 2017 stemming from the new Management Strategy Evaluation, implemented in 2018 with a TAC of 17 500 tonnes. It continues applying and it has contributed to provide a stable framework allowing to adapted fishing strategies and planning for concerned operators.

- On 1 January 2021, the United Kingdom withdrew the EU, becoming an independent coastal state. This involved renegotiating the country's membership of regional fisheries management organisations in which it was integrated as an EU member. On 3 April 2020, the United Kingdom notified the European Commission of its intention to express its consent, in its own capacity, to be bound by five international agreements establishing five regional fisheries management organisations including NAFO, intended to be applied during the transition period, in the area of the Union's exclusive external competence on fisheries. As a result, the UK joined NAFO as a new independent member in September 2020, becoming NAFO's 13th contracting party. In 2022, the quota of UK for 3M cod was 373 tonnes and transferred out all this quota to Norway (187 tonnes) and to the Faroe Islands (186 tonnes) as part of bilateral quota transfer deals. For 2024, the quota assigned to UK for 3M cod is 1 091 tonnes (compared to the 5 586 tonnes attributed to the EU).

ICCAT

- Current management measures in force such as the 72 days closure for FADs (Fish Aggregating Devices) from 1 January to 31 March in the Atlantic Ocean are having a negative impact in terms of fleet activity and level of catch of French and Spanish purse seine active vessels in ICCAT RA. It has created already effort displacements to Indian Ocean and, to a less extent, the Pacific Ocean. A reduction of the FAD closure is not foreseen in the short term, given that it is still difficult for SCRS to evaluate its impact in the last 3 years and disaggregate the effect of these closures from the global pandemic.

- The general trend of energy price for the distant water fleet has increased considerably in 2022, going up from 0.57 to 0.98 euro/litre. This has had an impact on variable operational costs.

-   Regarding shortfin mako, the restrictions imposed by ICCAT for vessels to catch and retain on board, tranship or land North Atlantic shortfin mako. Stringent trade measures derived from the application of the inclusion of shortfin mako under CITES Appendix 2 with documentation requirements coupled with increases in observer coverage have already caused a noticeable decrease in landings from this area reported by Spanish and Portuguese surface longliners. This might have also a perverse effect of an increase of fishing pressure on other target species (such as blue shark or swordfish) and displacement of effort to other areas (Indian and Pacific Ocean).

-   In terms of commercial aspects, Spanish and Portuguese surface longliners witnessed falls in demand in target countries (Italy, Brazil, Senegal, etc.) for swordfish and frozen sharks in the period 2020-2022 due to COVID-19 sanitary requirements so a substantial part of their landings has been temporarily stored in freezing facilities in Galicia (Vigo, A Guarda, Marín) or Portugal (Viana do Castelo, Porto).

-   EU tuna purse seiners saw a drop in the sale prices due to competition on frozen tuna and tuna loins purchased by EU processors from non-EU countries (mainly China) because of the new regulation setting autonomous tariff quotas (ATQs) for certain fishery products for the years 2021-2023, for which they can import 30 000 tonnes each year from non-EU countries at a reduced or zero-duty tariff.

IOTC

-   The Spanish and French purse seiners above 40 metres LOA show both a high degree of dependency in this area. The Spanish purse seine fleet degree of dependency is above 67% in terms of value of landings looking at the last three years analysed (2020-2022); while the French purse seiners degree of dependency is above 60% for the same period. This confirms that the Indian Ocean is currently the main fishing ground for both fleet segments followed by the Atlantic Ocean, where they have over 20% of their value of landings. There is also one Italian purse seiner above 40 metres consistently showing a 100% dependency in this fishing ground for the last years.

-   There is an overall increase in the purse seiner fleet growth and benefits, which can be partly explained due to a higher value of first sale for the main tropical tuna species and swordfish (price per kilo). However, the profitability between the Spanish and the French tuna purse seine vessels appears to be very uneven. Despite operating under similar conditions and with similar numbers in the region (14 Spanish vessels and 11 French), the Spanish PS vessels land more than double (148 000 tonnes vs 66 400 tonnes) in weight and triple in value (EUR 335 vs EUR 106 million) than the French ones.

-   The entire French tuna purse seiner fleet segment (including activity in the three oceans) showed a gross profit of EUR 7.7 million but a net profit of -EUR 10 million. According to economic data collected, the three main cost items in 2022 were energy costs, crew wages, and non-variable costs. They represented 35.8%, 30.6% and 17.0% of the total income in 2022, respectively.

-   During COVID-19 in 2020, the EU purse seine companies supported increased operational costs to tackle the health crisis: crews had to be put in quarantine at hotels before going onboard, vessels were put in quarantine at port due to positive COVID-19 cases onboard, increases in expenses for the purchase of individual protection equipment and the chartering of planes to

conduct crew changes when passenger flights were disrupted or temporally suspended. This continued in 2021 and 2022, with related increase in variable costs.

- Yellowfin tuna's quota in the Indian Ocean, implemented since 2017, has had an impact on purse seine fishing activity. The EU adopted catch limits assigned to purse seine fleet from Italy, France and Spain. The implementation of the catch limits by each Member State imposed more stringent management to reduce in average 17% of the catch from the period 2014-2016. If it is considered the EU catch for the reference year (2014), the effective reduction by EU flag states differed markedly, with Spain assigned the highest reduction, at 21%, while such reduction was at 4% for the French fleet (Italy had no activity in 2014). In 2019 the Spanish government also implemented a limit on total tropical tuna catch that reduced fishing opportunities for the Spanish fleet since that year, while such arrangement does not exist for other fleets. The IOTC also imposed enhanced reporting and control obligations coupled with a reduction in the ratio of one supply vessels for two purse seiners. This ratio was then revised to two supply vessels for five 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 in recent years caught in higher quantities than in the past. Skipjack has a lower market value then yellowfin and bigeye, resulting in lower profit margins in overall terms.

- Regarding catch data reporting, divergences have been noted between different sources, e.g., the 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.

- Regarding estimate of total catch, including target species and non-target species (by-catch and discards), there are data deficiencies and gaps that need to be addressed. 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 systematically. This ends up in a rough estimation of nominal discards. There is a need to fill this gap to improve knowledge in particular for sensitive species such as turtles or silky sharks.

- Regarding fishing effort, more information is needed in the way it is accounted for and reported for all gears in the IOTC area. Overfishing and IUU fishing by non-EU fleets undermines conservation and management of tuna stocks and puts in risk the future economic viability of the fishery for the EU fleet, due to the deterioration of the stock and a decrease of quotas due to the lack of level playing field between all concerned CPCs.

- Overall, the reduction of purse seiner's fishing opportunities is already creating negative socio-economic consequences 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.

CECAF

- The EU has currently 13 SFPA protocols with third countries, of which 10 are tuna agreements and three are mixed. The EU has in force bilateral Sustainable Fisheries Partnership Agreements (SFPA) with the following CECAF countries: Cabo Verde, Ivory Coast, Sao Tomé e Principe, Gabon,

Senegal, The Gambia, Mauritania. It also has "dormant" agreements with Guinea Equatorial, Liberia and Morocco.

- At present, three out of the four protocols embedded in multi-species agreements with partner countries in the West African region, i.e. Morocco, Senegal (tuna SFPA with hake component) and Guinea Bissau, are either dormant, not operational or have expired so the EU distant water fleet cannot fish there due to the exclusivity clause.

- The Morocco agreement expired in July 2023 and is pending of resolution from the ECJ on the sovereignty dispute between Morocco and Western Sahara (rulings T-344/19 and T-356/19) for part of the waters where there are important fishing grounds where EU fishing vessels have quota. The agreement is currently dormant, and the EU is waiting for the final ruling before deciding how to proceed forward. The agreement which expired in 2023 had a total budget of EUR 208 million for 4 years which allowed 128 vessels of 10 Members States to fish within the Moroccan EEZ and Western Sahara.

- On May 2024, the SFPA with Cabo Verde expired. The last protocol implementing the agreement entered into force on 20 May 2019 following the expiration of the previous protocol in December 2018.This is part of the tuna network fisheries agreements in West Africa and used to include 69 EU vessels from Spain, Portugal and France with a financial contribution of EUR 550 000 per year in the first two years of application of the protocol and of €EUR 500 000 per year in the last two years.

- On June 2024, the SFPA with Guinea Bissau expired. This is a multi-species agreement covering tuna as well as cephalopods, shrimps, demersal species and small pelagics. The agreement is also part of the tuna network of fisheries agreements in West Africa. Despite the renewal was agreed in May 2024, it is foreseen that it will take 4-6 months to enter into force and complete the necessary legislative procedures for its conclusions including ratification from the EU side. This leads to a stand-by process that has a direct affectation to more than 20 Spanish distant water fleet vessels (mostly from Spain) which were actively fishing under the agreement as well as others from Portugal, Italy, Lithuania, Latvia or Poland. The reason being that they are obliged to interrupt their fishing activities and not fish within the EEZ of Bissau under any interim private arrangement due to the EU exclusivity clause.

- The SFPA with Senegal is currently in limited operation due to bureaucratic problems associated with the implementation of the protocol. Furthermore, this country received in May 2024 the yellow card as non-cooperating country with IUU fishing due to lack of effective monitoring, control and surveillance of their own flagged vessels as well as controls in ports to landings from foreign vessels, undermining fishing products traceability and catch certification schemes. This country has currently 45 EU vessels operating in their waters, of whose 29 are Spanish including longliners, shrimp trawlers and demersal trawlers. A potential red card in the future might mean a trade ban to import in the EU fishing products caught in Senegalese waters by any operators, including EU vessels. There is one specific fleet segment that could be affected as they are highly dependent on this country, the Spanish and French tuna pole and line vessels relying on live bait that is only available in Senegal and supplied by artisanal fleets. The interruption of this agreement could finally affect logistic hubs, as there is currently a regular shipping line for cargo between Dakar and Las Palmas.

- On 1 July 2024, the latest tuna protocol signed with Côte d'Ivoire expired. This fisheries agreement allows EU vessels mainly from Spain, Portugal and France to fish in the Ivorian waters and is part of the tuna network fisheries agreements in West Africa. The protocol covers

the period 2018-2024 and provides fishing opportunities for 36 European vessels (28 tuna seiners and 8 surface longliners) with a financial contribution of EUR 1.5 million euros (682 000 per year) for a reference tonnage of 5 500 tonnes per year and support for the development of Côte d'Ivoire's sectoral fisheries policy.

NEAFC

- NEAFC has adopted several restrictive measures regarding fishing in its waters. These limitations are of two types: those applied to areas and those applied to species. The objective of these measures is to protect vulnerable marine ecosystems, thus there are closures of Hatton Rockall and the closed area of Haddock, closure of Blue Ling (seasonal, South Iceland) and 13 areas defined as existing bottom fishing areas.

- Regarding the closures applied to species, the following list refers to the characteristics of the regulatory measures adopted by NEAFC that are still in force (2023):

- Recommendation on Conservation and Management Measure for Deep Sea Chimaeras in the NEAFC Regulatory Area: This measure shall be in force from 1 January 2020 to 31 December 2023.

- Recommendation on Conservation and Management Measures for Deep Sea Rays (*Rajiformes*) in the NEAFC Regulatory Area: This measure shall be in force from 1 January 2020 to 31 December 2023. For the purposes of this Recommendation, 'deep sea rays' means the species round skate (*Raja fyllae*), Arctic skate (*Raja hyperborea*), and Norwegian skate (*Raja nidarosiensis*).

- Recommendation on Conservation and Management Measures for Deep Sea Sharks in the NEAFC Regulatory Area: This measure shall be in force from 1 January 2020 to 31 December 2023.

- Recommendation on Conservation and Management Measures for Basking Shark (*Cetorhinus maximus*) in the NEAFC Regulatory Area: This measure shall remain in force from 1 January 2020 until 31 December 2023. Under this measure, each contracting party shall prohibit fishing of basking shark.

- Recommendation on Conservation and Management Measures for Porbeagle (*Lamna Nasus*) in the NEAFC Regulatory Area: This measure shall remain in force from 1 January 2020 until 31 December 2023. Under this measure, each contracting party shall prohibit fishing of porbeagle.

- Recommendation on Conservation and Management Measures for orange roughy in the NEAFC Regulatory Area: This measure shall be in force until 31 December 2024. Under this measure, each contracting party shall prohibit fishing of Orange roughy (*Hoplostethus atlanticus*).

2.12 Assessment for 2023 and outlook for 2024 and beyond

Nowcast for 2023 and 2024

The nowcast results for 2023 and 2024 are provided throughout each of the chapters for the main analyses (also in Tables 2.2-2.6). This section summarises the performance of the EU-27 fleet in 2023 and 2024 based on nowcasting and preliminary data (where available). The EWG 24-07 notes that the nowcasting is only based on the number of vessels, fuel prices, and general fish prices. For the Northeast Atlantic, the nowcasting is also based on TACs, stock biomass (for 2023), and fish prices for each TAC species. As 2022 is the base year for the nowcasts, the results are strongly related to the economic performance in this year. The nowcasting methodology does not consider possible strategic changes in fleet behaviour based on optimising the trips (e.g. performing shorter trips when fuel prices are higher or staying in port - not fishing – if fuel prices are particularly high. Furthermore, the methodology does not consider biological effects such as phytoplacton episodes that have affected the activity of some fleets in the Mediterranean. The full nowcasting methodology is included in the annex at the end of this report.

Nowcast for 2023

- The results anticipate a 3% decrease in landed weight in 2023 compared to 2022. With a slight fall in fish prices (real), there is a 9% decrease in landed value.

- On the cost side, a 14% decrease is anticipated, driven largely by a 31% decrease in fuel costs and the price of fuel has fallen from a decade long high in 2022.

- Overall, the change in economic performance is anticipated to slightly improve in 2023 across most metrics including GVA (3%), gross profit (29%), and net profit (244%). This improvement is from a record low year in 2022 and most indicators remain below a decadal average. The number of vessels and employment continue a long-term and steady decline.

- In terms of profitability, the gross profit margin reaches a level of 23% and the net profit margin 10%.

- Key drivers of these results are fewer fishing opportunities (decrease in income and variable costs) fuel prices (decrease in variable costs), vessel decommissioning (decrease in fixed costs), and in some Member States improving efficiency (increase in catch per day at sea).

Nowcast for 2024

- The results anticipate a 3.1% increase in landed weight in 2024 compared to 2022 (6% compared to 2023). This effect is compounded by lower fish prices, leading to an anticipated -2.4% in landed value compared to 2022 (although 7% higher compared to 2023).

- On the cost side, a 11% decrease is anticipated, driven largely by a continuation of lower fuel costs and lower fixed costs from vessel decommissioning (particularly from larger fleet segments).

- Overall, the change in economic performance is anticipated to moderately improve in 2024 across most metrics including GVA (16% compared to 2022, 12% compared to 2023), gross profit (12% compared to 2022, 18% compared to 2023), and net profit (56% compared to 2022, 53% compared to 2023). This year-on-year improvement brings these indicators close to

their decadal average. The number of vessels and employment continue a long-term and steady decline.

- In terms of profitability, the gross profit margin reaches a level of 25% and the net profit margin 13%.

- Key drivers of these results are vessel decommissioning (decrease in fixed costs), the continued lower fuel prices (decrease in all costs), and rising fish prices (increase in income), particularly for pelagic species. The change in fishing opportunities varies significantly by Member States and fleet segments.

Nowcast by Member State

- Table 2.8 provides the main results for 2023 and 2024 and a comparison with 2022.

- By Member State, results for 2023 anticipate that all Member States improved their profitability (net profit) compared to 2022 except Lithuania, Latvia, the Netherlands and Slovenia.

- Belgium, Germany, Greece, Ireland and the Netherlands are projected to have negative profits in in 2023

- Results for 2024 anticipate that all Member States will record positive gross profits. However, in net terms all those that performed negatively in 2023 will remain negative in 2024.

Nowcast by type of fishery

- With a similar capacity in number of vessels, the SSCF value of ladings is expected to decrease by 12%, and although the high decrease in fuel costs (-33%), GVA is projected to be reduced by 11%. However, gross and net profits are expected to improve by 4% and 24%, respectively in 2023. For 2024, a recovery of the situation, compared to 2022 and to 2023 is expected. Values of the main profitability indicators will recover to those observed in 2021.

- For the LSF the situation is similar, value of ladings is expected to decrease by 8%. However, the high decrease in fuel costs (-31%), will improve all the profitability indicators in 2023. GVA is projected to be increased by 6% and gross and net profits are expected to improve by 33% and 500%, respectively in 2023. For 2024, an improvement of the situation, compared to 2022 and to 2023 is expected, although energy cost will increase by a 2% compared to 2022. Values of the main profitability indicators will recover to those observed in the period 2016-2018.

- For the DWF and in 2023 the situation is expected to be similar to the LSF. However, in this case a drop in terms of number of vessels and capacity in general is expected. However, the improvement in the economic situation caused by the decrease in fuel costs (-31%) will cause an improvement of all the profitability indicators. Considering the GVA, gross and net profits, they will be increased by 13%, 39% and 250%, respectively in 2023. For 2024 the situation is projected to be improved compared to 2022 but if compared to 2023 all the economic indicators will be worsened.

Outlook for 2024 and beyond

The EU Fisheries sector was hit strongly by the COVID-19 pandemic with the restrictive measures adopted in March and April 2020.In 2020, the COVID-19 affected the EU fleet in all fishing activities SSCF, LSF, and the DWF of almost all Member States, even if the economic impact on fisheries was heterogeneous by region.

Table 2.8. Main results for the EU-27 by Member State fleet for 2022 and nowcasts for 2023 and 2024

MS	Gross Value Added (EUR million)			% diff 2023-2022	% diff 2024-2023	Gross profit (EUR million)			% diff 2023-2022	% diff 2024-2023	Net profit (EUR million)			% diff 2023-2022	% diff 2024-2023	GVA to revenue (%)			% diff 2023-2022	% diff 2024-2023	Gross profit margin (%)			% diff 2023-2022	% diff 2024-2023	Net profit margin (%)			% diff 2023-2022	% diff 2024-2023
	2022	2023	2024	2022	2023	2022	2023	2024	2022	2023	2022	2023	2024	2022	2023	2022	2023	2024	2022	2023	2022	2023	2024	2022	2023	2022	2023	2024	2022	2023
BEL	40.1	39.9	44.3	-1%	11%	5.0	8.3	12.5	66%	51%	-8.9	-4.8	0.2	46%	104%	40	44	49	10%	11%	5	9	14	84%	50%	-8.9	-5.4	0.2	40%	104%
BGR	2.4	4.0	4.0	67%	-1%	0.9	2.7	2.8	196%	1%	0.1	2.0	2.0	1714%	-1%	46	66	66	44%	0%	18	45	46	156%	2%	2.2	33.8	33.8	1467%	0%
CYP	2.4	2.9	2.8	21%	-5%	0.7	1.1	1.0	64%	-8%	-1.5	-0.8	-1.1	42%	-25%	36	45	43	24%	-5%	10	17	15	68%	-8%	-21.8	-12.9	-16.1	41%	-25%
DEU	74.8	80.2	99.0	7%	23%	8.7	20.0	33.3	130%	67%	-35.6	-20.2	-5.6	43%	72%	37	43	47	14%	12%	4	11	16	145%	51%	-17.8	-10.7	-2.7	40%	75%
DNK	245.5	255.5	437.9	4%	71%	131.7	163.2	289.5	24%	77%	-2.6	62.6	185.0	2471%	195%	60	60	73	1%	21%	32	39	48	20%	25%	-0.6	14.8	30.9	2397%	109%
ESP	1 023.7	958.0	1 107.8	-6%	16%	321.5	382.2	418.9	19%	10%	186.1	263.2	287.7	41%	9%	49	52	54	7%	3%	15	21	20	36%	-2%	8.9	14.4	14.0	62%	-2%
EST	8.9	13.4	11.8	52%	-13%	3.4	6.8	5.8	102%	-15%	0.5	4.1	3.1	695%	-25%	54	68	66	26%	-4%	21	35	33	68%	-7%	3.2	21.1	17.4	562%	-18%
FIN	15.9	18.2	16.0	14%	-12%	7.7	9.9	8.9	28%	-10%	-2.8	-0.4	-1.7	86%	-342%	43	51	50	17%	-1%	21	28	28	31%	1%	-7.7	-1.1	-5.3	86%	-397%
FRA	715.7	822.8	842.0	15%	2%	166.0	277.0	303.4	67%	10%	-34.3	109.5	146.9	419%	34%	49	57	59	17%	3%	11	19	21	69%	10%	-2.4	7.6	10.3	424%	35%
GRC	120.7	81.6	80.2	-32%	-2%	8.7	0.1	2.1	-99%	1576%	-31.3	-37.4	-37.3		0%	44	44	44	0%	-1%	3	0	1	-98%	1592%	-11.4	-20.2	-20.3		-1%
HRV	64.6	62.9	60.5	-3%	-4%	31.4	31.0	33.0	-1%	7%	11.0	13.3	14.9	21%	12%	59	63	63	7%	1%	29	31	35	8%	11%	10.0	13.3	15.6	33%	17%
IRL	136.1	130.3	142.9	-4%	10%	16.3	23.1	26.5	41%	15%	-34.7	-27.8	-21.0	20%	24%	44	45	48	4%	6%	5	8	9	54%	11%	-11.1	-9.7	-7.1	13%	27%
ITA	445.5	474.6	473.8	7%	0%	220.2	255.3	256.8	16%	1%	67.3	112.0	102.7	66%	-8%	58	65	64	11%	-1%	29	35	34	21%	-1%	8.8	15.2	13.8	73%	-9%
LTU	22.0	18.0	8.7	-18%	-52%	12.2	8.2	0.2	-33%	-97%	2.2	0.4	-7.8	-82%	-2099%	19	19	10	-2%	-46%	11	9	0	-19%	-97%	1.9	0.4	-9.1	-78%	-2345%
LVA	13.8	12.4	13.4	-10%	8%	8.9	7.8	8.6	-12%	10%	8.3	7.3	8.2	-12%	12%	63	61	66	-3%	7%	41	39	42	-5%	9%	38.4	36.2	40.4	-6%	11%
MLT	9.9	10.6	10.8	7%	2%	4.7	5.2	5.6	12%	7%	1.8	2.2	2.4	20%	12%	65	69	70	6%	1%	31	34	36	11%	6%	11.7	14.0	15.6	20%	12%
NLD	130.8	100.9	172.7	-23%	71%	28.6	23.7	77.6	-17%	228%	-3.6	-8.0	51.7	-125%	743%	35	36	52	2%	45%	8	8	23	9%	179%	-1.0	-2.8	15.6	-198%	647%
POL	20.2	26.6	21.7	31%	-19%	2.7	7.6	6.0	178%	-21%	-4.2	0.9	-0.7	120%	-178%	54	66	63	22%	-4%	7	19	18	158%	-7%	-11.2	2.1	-2.0	119%	-192%
PRT	240.1	277.7	279.0	16%	0%	83.1	116.8	119.2	40%	2%	25.7	63.3	67.6	146%	7%	55	62	63	14%	1%	19	26	27	38%	3%	5.9	14.2	14.1	142%	8%
ROU	2.2	2.2	1.9	0%	-13%	1.5	1.5	1.4	-1%	-11%	1.0	1.0	0.9	0%	-12%	56	59	60	6%	0%	39	41	42	5%	3%	26.2	27.9	28.1	7%	1%
SVN	4.2	4.1	4.2	-2%	4%	3.9	3.8	4.0	-2%	5%	3.7	3.6	3.8	-2%	5%	87	89	89	2%	0%	81	82	83	2%	1%	78.0	79.5	80.3	2%	1%
SWE	52.4	73.2	78.8	40%	8%	28.9	49.6	56.0	71%	13%	0.1	34.6	41.4		20%	46	63	65	37%	4%	25	43	46	68%	9%	0.1	29.8	34.4		15%
EU 27	3 392	3 470	3 914	2%	13%	1097	1 405	1673	28%	19%	148	581	844	291%	45%															

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/ACS(2024)); All monetary values adjusted for inflation; constant prices (2022). Nowcast for 2022 and 2023.

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. In 2021, the measures designed to contain the spread of the virus, especially through measures aimed to reduce social interactions, including lockdowns, and travel restrictions were continued in order to fight the pandemic.

The effect of increase of interest rates are expected to have a big influence. Although the investments in 2021 hit a record in 2021 the evolution of the interest rates are clearly driven to reduce the inflation rates. This obviously has an impact on the cost of capital and on the investments in the years with high interest rates (i.e. 2023 and 2024).

Fish prices

According to OECD–FAO (2021), fish prices are expected to remain high relative to historic levels and continue to grow in nominal terms. In regard to the EU Fish Market 2021 report produced by EUMOFA from 2019 to 2020, households' expenditure on fishery and aquaculture products grew by a remarkable 17%, which was much higher than the 2.1% inflation of prices for these products. This increasing trend was confirmed by Europanel, Kantar and Gfk data on household consumption of fresh fish in the EU's largest consuming countries. The data showed an increase of 7% in value and 4% in volume from 2019 to 2020. This increase was most likely due to the closings in the HoReCa sector due to the COVID-19 pandemic, and the consequent increase in at-home consumption.

In 2021, the prices of crude oil have trended upward toward the 2019 level while in 2022 these have recorded values never observed. Taking into consideration that energy costs are one of the main costs for the EU fishing fleet, and that general prices also increase, is expected fish prices to increase. The projection model results show that fish prices in 2021 were 1.51 euro/kg which represents an 8% increase compared to the same period of 2020 when the value was 1.4 euro/kg. Furthermore, in 2022, the model predicts prices for 2022, 19% and 10% higher than those in 2020 and 2021, respectively (1.66 euro/tonne).

However, in 2023 and in 2024, fish prices in real terms are not expected to increase, furthermore, the other way around. The reason for that is the high levels of inflations at EU level, which is affecting not only the real value of what is sold, but the purchase power of EU citizens.

Fuel prices

Marine fuel oil prices fluctuated through the years. Where in 2013 price levels were high with fluctuations between 0.60 euro/litre and 0.68 euro/litre, in the spring of 2020 it was at 10 year lowest levels (0.25 euro/litre) (Figure 2.17). However, in mid 2021 and especially in the last trimester of 2022 fuel prices started to rise until the start of the Ukraine-Russia conflict. After that (February 2022) this increase has speed up, reaching levels never observed in the time series. 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. However, in this context of energy prices fluctuations, to perform any prediction upwards or downwards, is complex.

Overall assessment for 2024

The first half of the year 2024, from the macroeconomic perspective, is a combination of high inflation rates, high real increase in ex-vessel prices a stable (compared to 2023, but much lower than in 2022). Therefore, a recovery of the situation is expected, with overall values close to 2021, and much improved compared to 2022. However, the EWG 23-07 warms that any projection's robustness depends on the stability of the markets. Since the year 2020, markets have been far from stable. In particular the COVID-19, the Brexit and the war in Ukraine make any projection difficult to make. In the AER 2022 it was projected an overall gross and net profits for the EU fleet, results obtained in this AER 2024, estimates no negative profits. The reason behind this is that at the time of producing the AER (July), the statistics on fuel prices are available until May that year, and by procedure we extend this fuel cost to the rest of the remaining year. If the situation changes, as it did in the second half of the 2022, the nowcast can overestimate the costs as occurred when producing the nowcast in the AER 2024.

3   EU Regional Analysis

3.1   Introduction

The main fishing grounds for the EU fishing fleet are located 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 1 of this 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)

- 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

- Distant Water Fleet (DWF) – NAFO, ICCAT, IOTC, CECAF and NEAFC

Note: Due to explicit data and methodological limitations (see Annex), 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.

3.2 North Sea & Eastern Arctic

3.2.1 Regional Details

The North Sea & Eastern Arctic region (NSEA), as defined for this report, comprises ICES areas 27.1, 27.2, 27.3a, 27.4, 27.5, and 27.7d. The analysis includes reported landings from 10 Member States' fleets: Belgium, Denmark, Germany, France, Ireland, Lithuania, the Netherlands, Portugal, Spain, and Sweden. 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, Sweden, the Netherlands, Belgium, and to some extent Germany). Other important demersal species include Atlantic cod (Spain, Germany, Denmark, and France) and European plaice (the Netherlands, Denmark and Belgium). Furthermore, a number of these fleets also target pelagic species such as Atlantic mackerel and Atlantic herring (Denmark, the Netherlands, Germany, and Sweden). As, for confidentiality reasons, not all data were provided for the German pelagic trawlers, but from 2021 onwards a complete dataset of the pelagic trawlers was provided. Four high-seas Polish vessels were not included in the analysis. Trends and absolute regional figures should therefore be interpreted and considered with care.

None of the Member States' fleets are entirely dependent on the region for their fishing activity, yet based on the value of landings in 2022, the NSEA is a very important fishing region for the Netherlands (84% of total landings), Denmark (83%), Germany (71%), Sweden (68%) and Belgium (26%) (Figure 3.1).

Figure 3.1. Importance of the NSEA for MS fisheries in landings weight and value, 2022
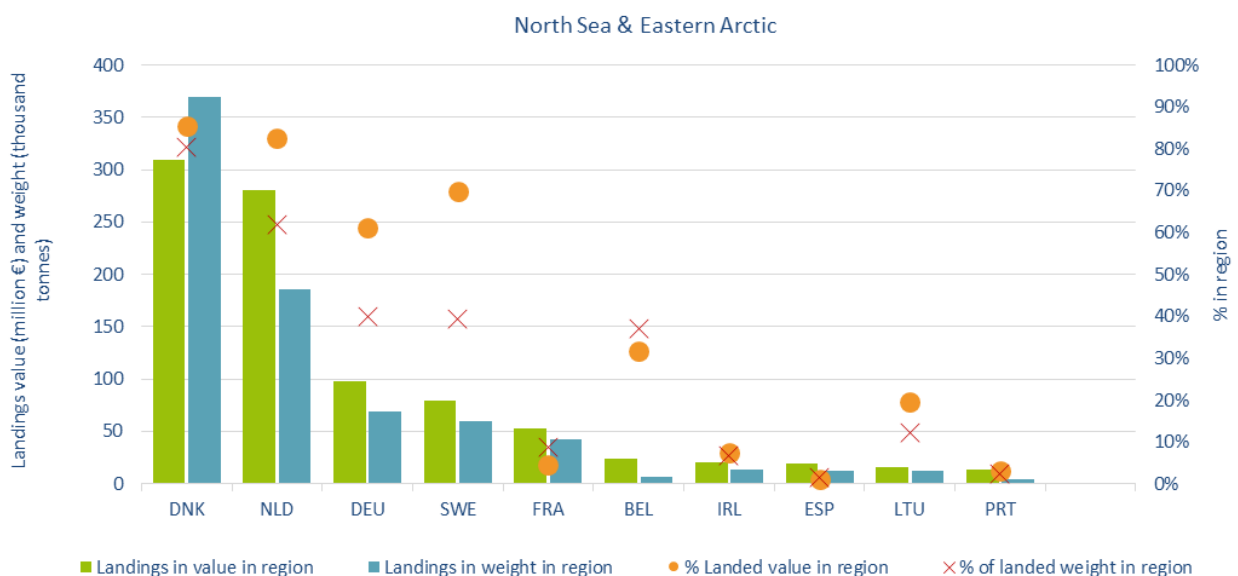
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Two main players dominate the seascape of this region. In 2022, the Danish fleet was the most important in terms of both landed weight (about 357 000 tonnes) and landed value (EUR 333 million). Furthermore, the Dutch fleet is also an important contributor (193 000 tonnes and EUR 320 million). The landings of the French, German, Swedish, and Belgian fleets are considerably lower. The region itself is of major importance for these national fleets (Figure 3.1). In terms of importance, 84% of the value of landings of the Dutch fleet comes from this region, for the Danish

fleet it was 83%, for the German fleet 71%, for the Swedish fleet 68%, for the Belgian fleet 26% and for the French fleet only 4%.

In terms of landed weight, Denmark caught 78% of its landings in the NSEA region, followed by the Netherlands (65%), Germany (56%), Sweden (37%) and Belgium (30%). The pelagic fisheries influence these ratios to a large extent. Large volumes of sand eel are caught by the Danish fleet, although it is not a high-value species. The sand eel quota and landings vary significantly from year to year.

Although the share of the number of small-scale vessels is nearly half (47%) of the total fleet and the effort is less than a quarter (18%) 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, 2022

Data source: MS data submissions under the 2024Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).
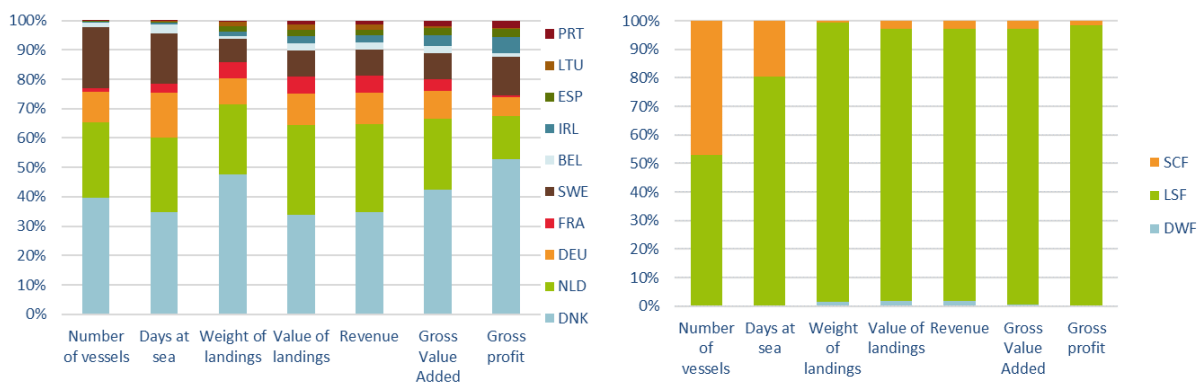
3.2.2 Overview of the main results for EU fleets in the NSEA

Fishing effort, landings, and prices

The total fishing effort in 2022 was with 166 000 days at sea (DaS) around 10% lower than in 2021 (183 000) and 15% lower than the average of the period 2013-2021. The volume of landings was around 1% higher (792 000 tonnes in 2022) (Figure 3.3), but 27% lower than the average between 2013 and 2021. With an increase in fish prices of on average 9% (to 1.31 euro/kg), the total value of landings in 2022 was at EUR 1 035 million 10% higher than in 2021. However, this was still around 4% lower than the average of 2013-2021.

The prices of North Sea fish have been fluctuating over the last couple of years. The price for common shrimp was particularly high in 2016 and 2017 (6.61 and 6.50 euro/kg, respectively). Between 2018 and 2021 it recovered to relatively stable prices between 2.50 and 3.50 euro/kg. In 2022, the price rose again by 28% to 4.92 euro/kg, while the landings in volume increased by 3% (to 27 000 tonnes). Prices for herring decreased by 2% in 2022 (0.53 euro/kg) while the landings in volume increased by 19% (to 261 000 tonnes). For mackerel, both the prices and the landings in volume decreased (-17% and -8%, respectively, to 1.03 euro/kg and 72 000 tonnes). Cod prices were 28% higher (2.86 euro/kg), while the volume of landings dropped by 3% (to 33 000 tonnes). Fuel prices in 2022 increased by 73% to 0.89 euro/litre, which was an all-time high. For comparison, in 2020 the fuel price was still 0.39 euro/litre. 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
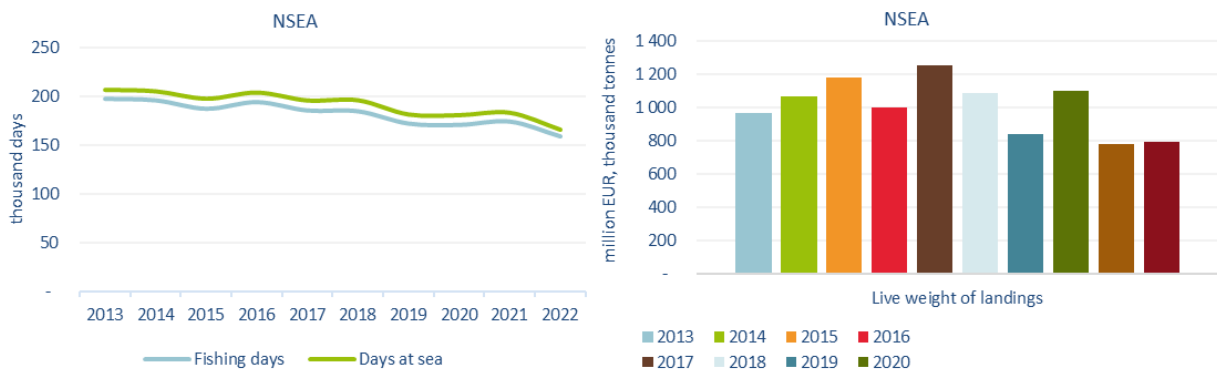
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024))

Employment, wages and, labour productivity

Employment measured in terms of FTE was rather stable between 2013 and 2018 at 4 200 to 4 600 FTE. Since 2019 it has been decreasing and in 2022 employment reached the lowest point at almost 3 500 FTE. The main contributors to employment are the Netherlands (34%), Denmark (23%) and Sweden (15%). Compared to the average between 2013 and 2021, employment for the whole region was around 16% lower in 2022.

Wages per FTE remained stable in the LSF from 2021 to 2022. There was a trend between 2013 and 2021 where the wages per FTE increased by 21% (Figure 3.4). In 2022, the average wage in the LSF was estimated at roughly EUR 76 000. In the SSCF there was a slight decreasing trend (15%) between 2013 and 2021. Between 2021 and 2022 the average wage per FTE decreased by 24%, to EUR 10 335.

The productivity (GVA/FTE) of the LSF and SSCF fluctuated between 2013 and 2021 without a clear trend. For the LSF, the productivity in 2022 was slightly lower than in 2021 (-3%) and lower than the average of the period 2013-2018 (-9%). For the SSCF, labour productivity measured in GVA per FTE in 2022 was slightly lower than in 2021 6%, and considerably lower than average in 2013-2018 (-16%).

Figure 3.4. Trends on average wage per FTE and GVA per FTE by fishing activity for MS fleets operating in the NSEA
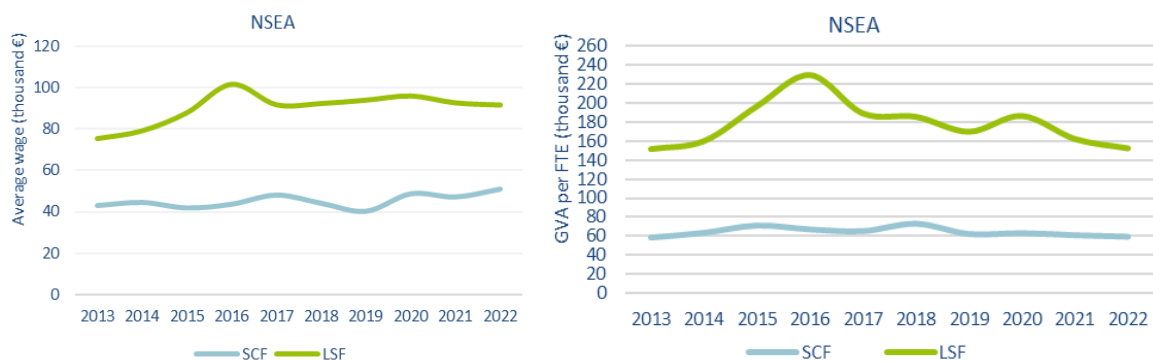
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

The revenue generated by the NSEA fleet in 2022 was estimated at EUR 1 069 million, a decrease of around 1% compared to 2021.

GVA produced by the fleets covered in the analysis was estimated at EUR 487 million in 2022, representing an overall decrease of about 10% compared to 2021. The fleets made about EUR 187 million in gross profit, an estimated 19% decrease compared to 2021 (Figure 3.5).

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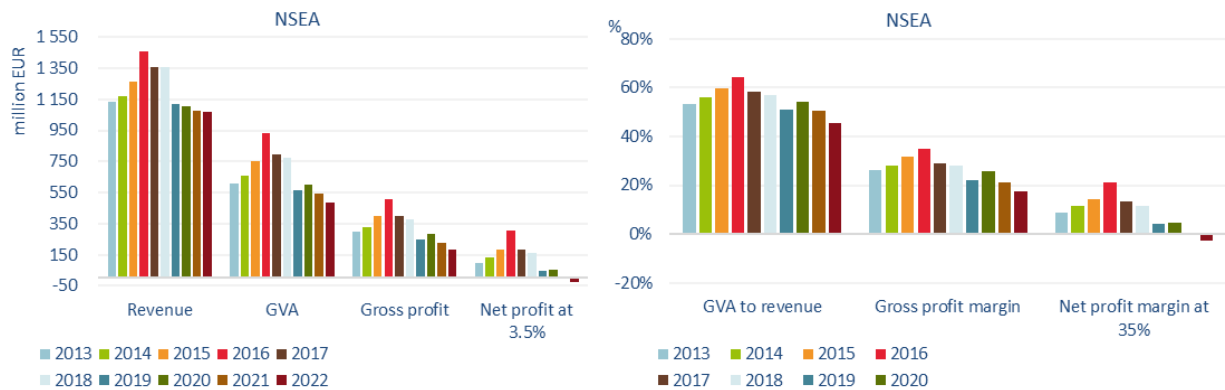

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.2.3 Trends by Member State fleet

Fleet capacity and employment

EU fleets operating in NSEA in 2022 numbered 2 026 vessels, an increase of about 1% from 2021. Slightly less than half of these vessels are in the SSCF (47%). The Danish NSEA fleet comprised the largest in number (854 active vessels), accounting for 42% of the total reported for the region (Figure 3.6).

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 2024 Fleet Economic data call (MARE/A3/AC(2024)).

Fishing effort

The effort followed the fleet capacity development, with a relatively stable phase between 2013 and 2018 (196 000 – 207 000 DaS). In 2019 it decreased by 8% and remained at that level until

2021. In 2022, it decreased further by another 10% to 166 000 DaS. This decrease was for the largest part attributed to the Dutch and Danish fleet (86% of the decrease in DaS). Between 2014 and 2020 there has been a trend in increasing fuel consumption. In 2021, it remained relatively stable (-1%), and in 2022 it decreased considerably by 17% to the lowest point since 2014 (305 million litres) (Figure 3.7).

Around 18% of the DaS were undertaken by SSCF. Danish and Swedish small-scale vessels accounted for 40% and 50% of this effort, respectively. LSF accounted for most of the remaining 80% of the DaS. Denmark (32%), the Netherlands (28%), Germany (17%), and Sweden (14%) were the most active nations with respect to DaS 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 2024 Fleet Economic data call (MARE/A3/AC(2024).

Landings and top species

In 2020, landings in weight increased sharply by about 30% compared to 2019, comparable to the landed weight in 2018, but decreased again in 2021 (-29%) to the lowest value since 2013. In 2022 it increased, but only slightly, by 2% (to 792 000 tonnes). The value of the landings decreased by 17% from 2018 to 2019 and remained stable after that, despite the higher landings in weight in 2020, and the lower landings in weight in 2021. In 2022 the value of landings was EUR 1 034 million (Figure 3.8).

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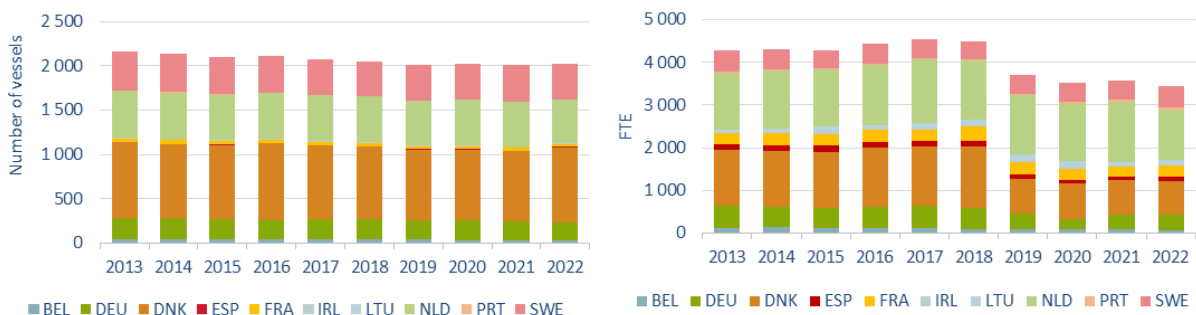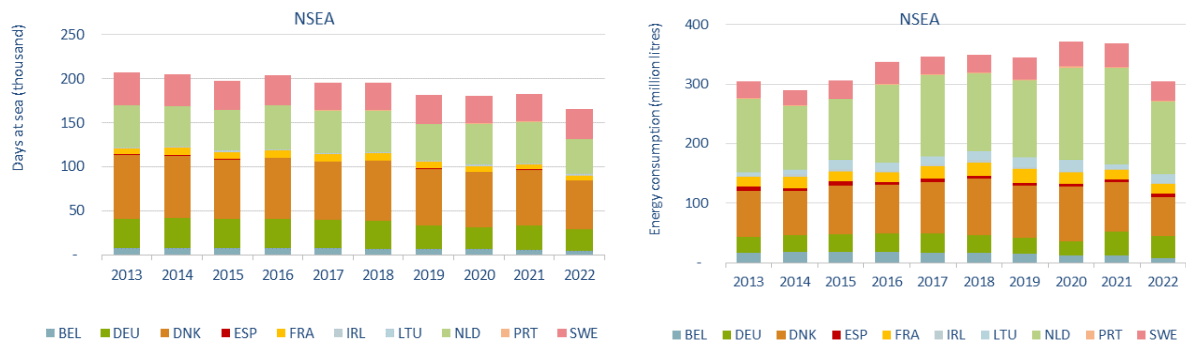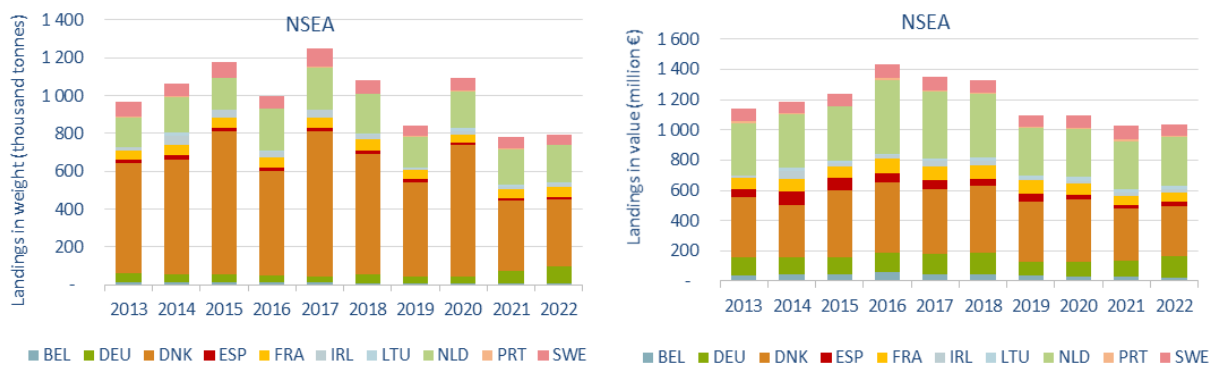

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

In 2022 Atlantic herring (261 000 tonnes, +19% compared to 2021) and European sprat (89 000 tonnes, +11%) were the most important species in terms of weight. Landings of sand eel (85 000 tonnes; –2%), Atlantic mackerel (72 000 tonnes; –8%) and common shrimp (28 000 tonnes; +3%) were the next most important species in terms of weight (Figure 3.9).

In terms of value, the most important species in 2022 were: Atlantic herring (EUR 139 million, +17% compared to 2021), common shrimp (EUR 135 million, +41%), Atlantic cod (EUR 95 million, +24%), Norway lobster (EUR 83 million, +15%), and common sole (EUR 75 million, –9%) (Figure 3.9). Furthermore, the value of sand eel decreased noticeably (–30%), despite that the weight of landings only decreased by 2%.

Figure 3.9. Top 10 species in landed weight and value from the NSEA, 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

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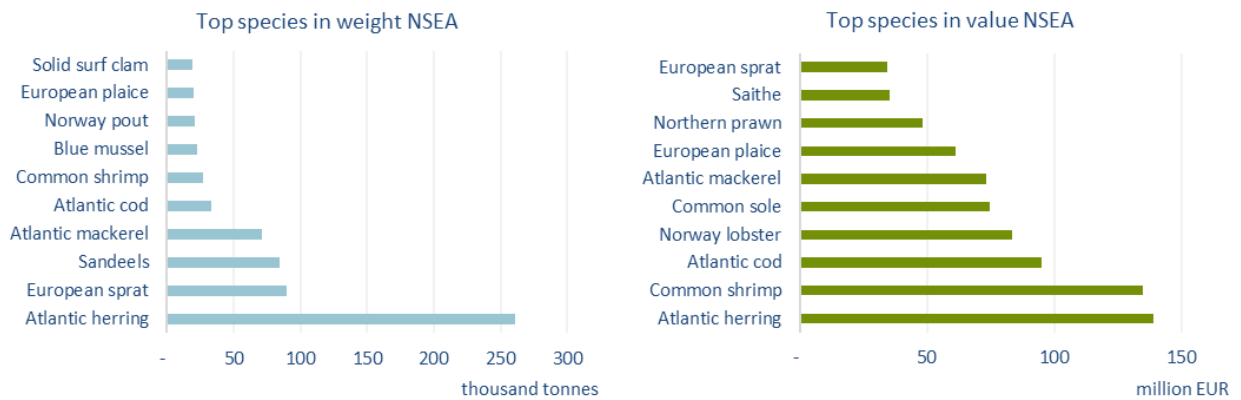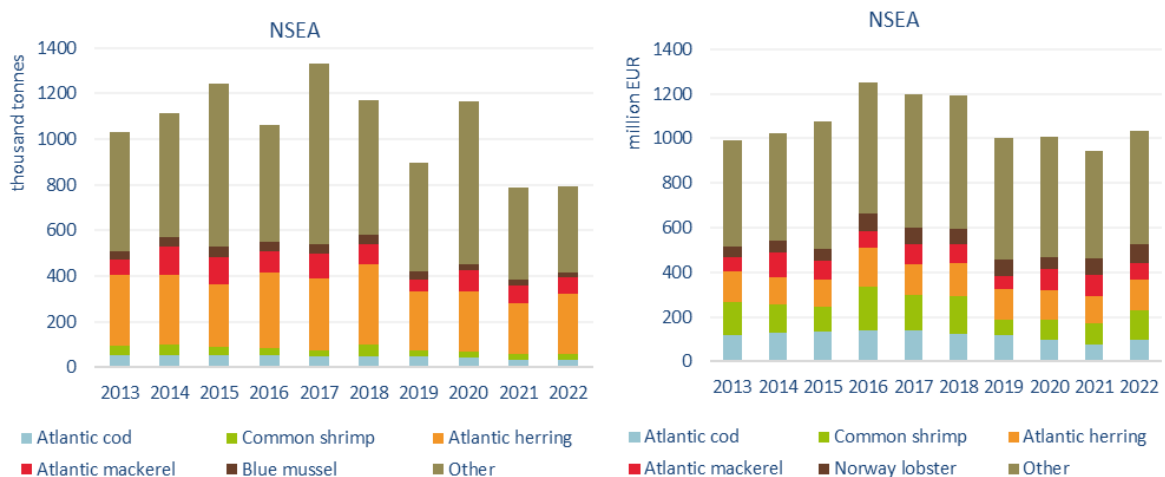

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

The revenue generated by the EU-27 NSEA fleet in 2022 was estimated at EUR 1 069 million, 32% of which was provided by Denmark (EUR 341 million), 29% by the Netherlands (EUR 308 million), and 13% by Germany (EUR 142 million).

Although total revenue remained about stable (–1%) between 2021 and 2022 some differences between countries can be noticed when comparing 2022 to 2021. Member States that had a noticeable decrease in revenue were Denmark (–EUR 26 million; –7%), the Netherlands (–EUR 23 million; –7%), and Sweden (EUR –17 million; –18%). Member States with a noticeable increase in revenue were Spain (EUR 38 million; +196%) and Germany (EUR 24 million; +21%).

GVA produced by the fleet covered in the analysis was estimated at EUR 480 million in 2022. This represented an overall decrease of 8% compared to the GVA generated in 2021. The fleets made EUR 187 million in gross profit a 19% decrease compared to 2021. The net profit, however, was negative, with –EUR 27 million.

By fishing activity, the SSCF generated EUR 24 million in revenue in 2022, a 22% decrease relative to 2021, while the LSF generated EUR 1 016 million in revenue, a decrease of 1% from 2021.

Figure 3.11. Trends on revenue and profit (GVA, gross profit, and net profit) for MS fleets operating in the NSEA
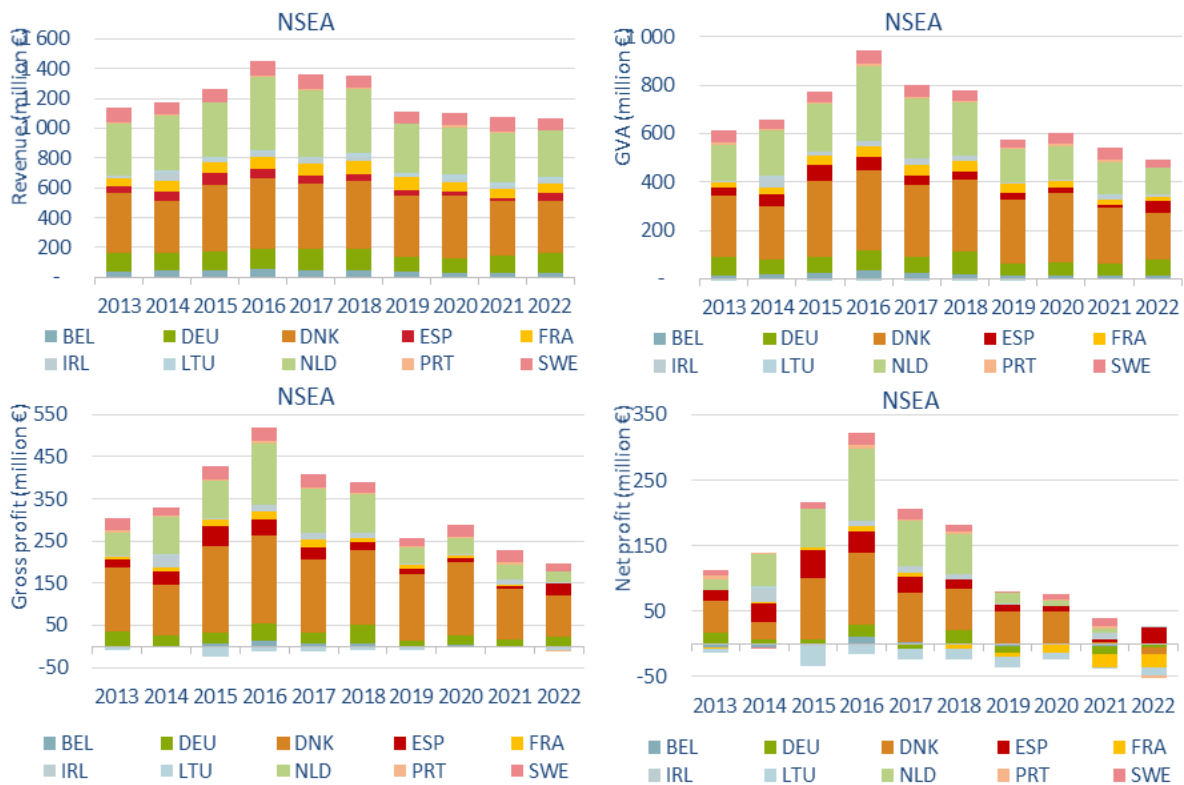
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.2.4 Main factors affecting the performance of the fleet

Factors that may have contributed to the overall situation include:

- The uncertain situation concerning TACs as a result of Brexit at the beginning of 2021 and lacking agreements with the United Kingdom. The quotas of important demersal species were set to 25% of the quota for 2020 in the first quarter of 2021. For pelagic species like North-East Atlantic mackerel, horse mackerel, and blue whiting, the quotas were set to 45–60% for the first quarter of the year because of the seasonality of catches. In 2025 there will be a renegotiation with the UK about the quotas.

- Later in 2021, the EU agreed with the UK about the total TAC for important and shared species. The UK claimed a larger share of the TAC. 25% of the value of the fishing quotas of the EU landings in UK waters was transferred to the UK which gradually reduces fishing opportunities for EU fleets from 2021 to 2025. Most of the transfer has happened in 2021 (60%) and 2022 (70%), and the remainder will be transferred in 2023 (92%) and in 2024 (100%). Brexit therefore has reshaped fisheries relations with consequences for some EU fleets operating in the North Sea but also in the English Channel, Irish Sea, and the Atlantic Ocean. Fish stocks in the North Sea have become shared stocks with the UK, which must now also be jointly managed. Access for EU vessels to UK waters is now subject to licenses delivered by UK authorities. The quota reduction in value for the EU will mainly affect France, Ireland, and the Netherlands, but also Denmark, Germany, Spain, and Belgium, and to a lesser extent Sweden, Poland, Portugal, Estonia, Lithuania and Latvia.

- Negotiations between the EU and Norway, the Faroe Islands, and Iceland about TAC shares (mainly for blue whiting and mackerel) have led to unfavourable development of EU TAC shares and landings.

- A decrease in landings of (flat)fish. Landings of Common sole, for instance, decreased by 37% compared to 2021.

- Vertical integration leading to shifts in ownership stopped in 2021.

Factors that may hamper economic performance in the future include:

- The implementation of the ban on the pulse fishing technique (mid-2021) resulted in increasing fuel costs and decreasing net profits in flatfish fisheries.

- Ongoing quota adjustment as a consequence of UK leaving the EU since 2021 will have a substantial negative impact on pelagic (herring) as well as flatfish (common sole and plaice) fishing performance in the region.

- In the Netherlands, the BAR (Brexit Adjustment Regulation) has come into effect for fishers to stop fishing activities. As a result of fewer fishing opportunities, for flatfish, 51 vessels were decommissioned in 2023. Because of this cut in capacity, it is expected that the remaining (flatfish)segment will not be able to produce enough fish in the coming years, and that quota will be underexploited.

- The catchability of flatfish is going down and it is not known what the cause is.

- The quota of common sole has severely decreased for some countries, like the Netherlands. From 2021 to 2023 the Dutch sole quota decreased by 58%, and in 2024 it decreased by another 61% compared to 2023. A large part of the value of landings by the Dutch fleet comes from sole (17%), so the cut in quota will have considerable effects on the economic performance. Additionally, sole is often caught together with plaice. It is therefore likely that the plaice catches will also go down as a consequence of the reduction in sole quota. Hence, the effect on the economic performance will be even higher (8% of the landings value of the Dutch fleet is generated by plaice).

- Innovation and progress in the energy transition is hampering because of a lack of R&D and solutions that can be implemented.

Regulation and Fisheries management in the region

The management plans in force in 2022 that impacted the North Sea/Eastern Arctic included:

- Conservation of fisheries resources and the protection of marine ecosystems through technical measures. These technical measures are partly related to fishing gear. One of the technical measures that has a strong impact in particular for the Dutch fleet (and to a lesser extent for the Belgian and German fleet), is the pulse ban. Fishing with electric pulse trawl was prohibited in all Union waters as of 1 July 2021 (Regulation EU 2019/1241). The use of the electric pulse trawl remained possible under certain strict conditions during a transitional period until June 30th, 2021. Usage of the pulse trawl (as an alternative to the beam trawl) led to less fuel use, less bycatch and benthos catch, higher profits, less surface area swept, less sediment disturbance, and minimal harmful effects on most marine species, with no observed biogeochemical impacts (Rijnsdorp et al., 2024).

- Long-term plans for cod stocks and the fisheries exploiting those stocks (Council Regulation (EC) No 1342/2008). The effort controls of the cod recovery zone were repealed in November 2016 by the EU Parliament and Council Regulation No 2016/2094. This is a long-term plan and as it was already implemented in 2016, it will have a slight impact on 2022 results.

- A multiannual plan for demersal stocks (e.g. cod, haddock, sole, plaice, saithe, etc.) in the North Sea and the fisheries (Regulation EU 2018/973) exploiting those stocks, specifying details of the implementation of the landing obligation in the North Sea and repealing Council Regulations (EC) No 676/2007 and (EC) No 1342/2008.

- A multiannual plan for certain demersal stocks fished in the Western Waters and adjacent waters (Regulation 2019/472 of the European Parliament and of the Council).

- Fishing opportunities available in EU waters and, to EU vessels, in certain non-EU waters (Council Regulation (EU) No 40/2013 of Jan 21, 2013), including European Union and Norway bilateral fisheries arrangements.

- Other EU and national legislation that may affect the economic performance of the fleets operating in the North Sea include marine protected areas and spatial management issues, like:

  - Wind farms: in particular the expansion of wind farm areas will have a strong effect on fishing opportunities. This process has been accelerated due to recent political developments. Wind farm areas are in general closed for fishing and thus further limit the areas left for fishing. Moreover, the installation and operation of wind farms will have an impact on the marine fauna.

  - NOx emission: the Dutch (mainly shrimp-) vessels fishing near the Dutch coastline are obliged to install a scrubber before October 1st of 2023 to bring the NOx emission down to a very limited quantity. Nevertheless, the permits for fishing shrimp after 2024 are still pending. Before the beginning of 2025, a decision should be made by the Dutch government whether the shrimp fleet will be allowed to fish in Natura 2000 (N2000) areas along the Dutch coastal areas and in the Wadden Sea. This uncertainty is a real threat to the existence of this part (a large part) of the Dutch active fleet. Almost 70% of the number of vessels in the Dutch cutter fleet are shrimp vessels.

  - Closed areas: from 2023 January 1st, the Dutch government did not issue permits for bottom trawling (shrimp fishery) in N2000 areas which are along the Dutch coastline. From

a formal point of view, fisheries in N2000 areas are not allowed by law at the moment. A temporary permit (a derogation) is given until the end of 2024 before it is known whether the government can grant a permit for shrimp fisheries in these areas or not. A juridical procedure is running now. The Dutch shrimp fishery depends heavily on these areas.

Status of important stocks

At the overall level, the majority of the stocks in the NSEA experience a fishing pressure below F_{MSY} (ICES, 2022). The estimations for the spawning stocks of flatfish are good, but recruitment is lower than expected. Additionally, it is noteworthy that the uptake of flatfish quota has been very low in the last few years. Fishers have stated for some time that they are not able to catch the allowed quantities. Hence, they consider the flatfish stocks less abundant than estimated by ICES.

Atlantic herring, haddock, saithe, hake, and Norway lobster in the North Sea are all managed at biomass levels compatible with producing the MSY. However, not all Norway lobster stocks have an MSY analytical target. Yet, some Norway lobster, hake, and plaice stocks have a high spawning-stock biomass (SSB). According to ICES advice, the plaice stock's spawning stock biomass continues to develop favourably under the current management plan, which has not changed in recent years (ICES 2023). As stock variability for MSY and SSB has increased in recent years, close attention needs to be paid to MSY and SSB for each stock, and only careful general conclusions should be made.

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 but TAC has gone up slightly in 2023.

Brown shrimp (*Crangon crangon*) is the third most important species in value landed from the NSEA. There is no TAC regime for this species. There is a PAP (Productie en Aanvoer Plan/Production and Landings Plan) for this species in the Netherlands which includes harvest control rules and measures that can be taken to regulate the weekly fishing effort. The PAP qualifies shrimp fisheries to fish under a sustainability certificate (MSC) since 2017.

TAC development of main species

Figure 3.12 shows the EU TACs for 2013 to 2023 for some pelagic and demersal species. It should be noted that in some cases the TAC areas are not limited to the NSEA and include adjacent waters. Figures for herring, cod, common sole, and Norway lobster comprise more than one stock. It has to be pointed out that up to 2020 figures include the United Kingdom quota, hence numbers from 2021 onwards are by default lower as United Kingdom shares are no longer contained. Without pointing out particular stocks, it is evident that EU quotas in the region have decreased considerably in recent years, especially for the demersal sector.

Sand eel quota has been decreasing strongly since 2013 onwards. Mackerel quota was increased in 2020 but has shown a strong decrease since then, now stabilising towards 2023. Herring quota has been decreasing slightly since 2018. Cod and saithe quotas show a constantly decreasing trend. Norway lobster, sole, and haddock show a stable or slightly increasing trend in recent years, with especially Norway lobster showing an increase in quota towards 2023.

Figure 3.12. TACs pre-uplift for demersal species (left) and major pelagic species (right)
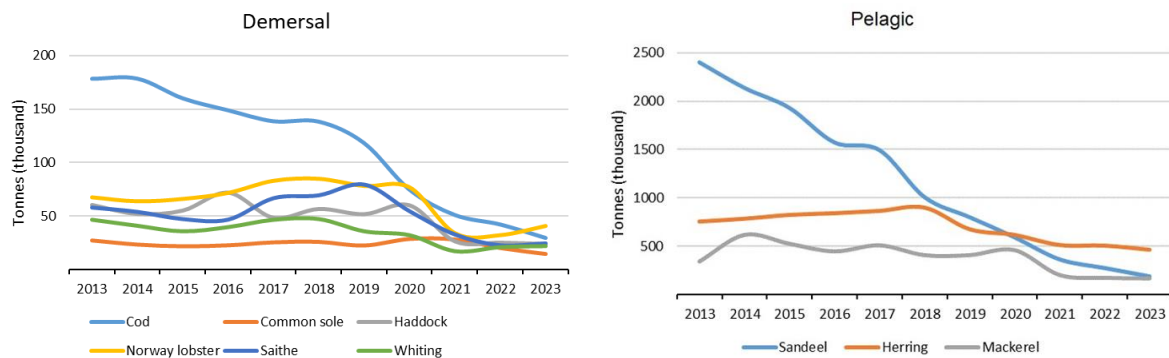
Source: Calculated based on EU TAC dataset provide to the EWG 24-07.

Landing obligation

As in 2020, in 2022 the economic impact of the implemented LO was hard to observe due to many exemptions of the discard ban for certain species in the North Sea. In the North Sea discard plan, a number of exemptions from the LO were granted for the duration of the Delegated Regulation. In 2023 Member States again have to indicate whether fisheries can implement the LO and have to submit additional scientific information supporting the exemption for STECF to assess the provided scientific information.

According to Ullrich (2018), the 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. According to the 2021 ICES mixed fisheries considerations (ICES 2021), cod might become a choke species for several fleets in 2022 and further.

3.2.5 Description of relevant fisheries in the region

The most important LSF segments in 2022 were the Danish pelagic trawlers over 40 metres based on revenue (EUR 116 million), followed by the Dutch beam trawlers over 40m (EUR 100 million) and the Dutch beam trawlers of 18-24m (EUR 72 million). The most important fleets in terms of GVA are the German demersal trawlers over 40m and the Irish demersal trawlers of 24-40m.

### Small-scale coastal fleet

SSCF from six Member States operated in NSEA in 2022. Of these, the Danish fleet, consisting of 492 vessels and employing 70 FTEs, generated the highest revenue (EUR 10.3 million), followed by Sweden (EUR 9.2 million). In terms of net profit, only the Netherlands and Germany had positive results (EUR 0.6 million and EUR 0.1 million, respectively). The Danish fleet had the biggest net loss (-EUR 3.9 million). In the NSEA region, Danish SSCF contributed 24% of total active vessels, 2% of FTE, and 1% of revenues. The Swedish SSCF, with 275 vessels generated revenue of EUR 9 million, but a negative net profit of -EUR 0.3 million. Overall, the SSCF segment was not profitable in 2022 (net profit of -EUR 3.7 million), just like in 2020 and 2021 (-EUR 3.4 million and -EUR 2.6 million, respectively).

The most profitable in terms of gross profit in 2022 were the SSCF fleets of Sweden and The Netherlands with EUR 1.8 million and EUR 1.5 million, respectively. In terms of net profit, the fleet of Denmark made a negative result of -EUR 1.6 million. 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 6% of total FTE in the region.

Landings were valued at EUR 23 million in 2022. The most important species for SSCF in 2022 in weight were edible crab (518 tonnes, +13% compared to 2021), Atlantic herring 455 tonnes, –59%), Atlantic mackerel (382 tonnes, –63%), and Atlantic cod (341 tonnes, –20%). In value, the top species in 2022 were Norway lobster (EUR 5.2 million, –11% compared to 2021), European lobster (EUR 2.6 million, +12%), and edible crab (EUR 2.4 million, +41%) (Figure 3.13).

Figure 3.13. Top 10 species landed in weight and value by MS SSCF operating in the NSEA, 2022
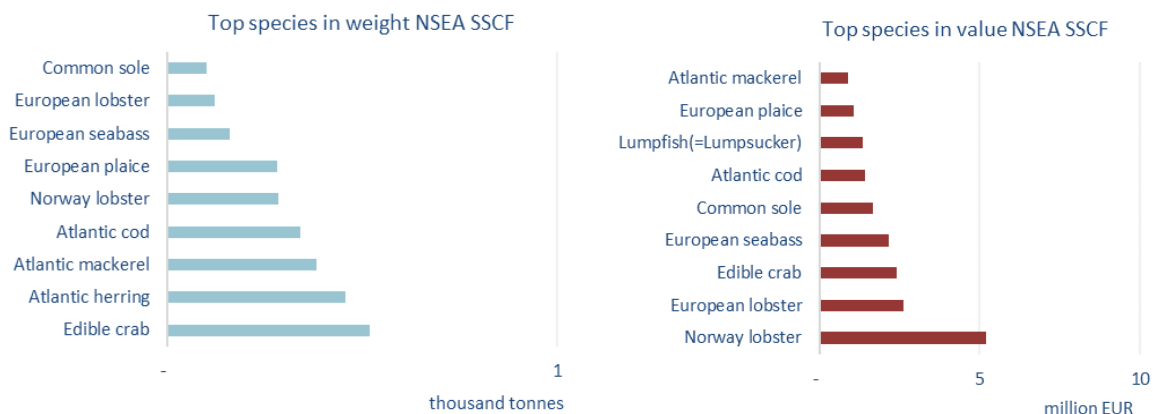
Data source: MS data submissions under the 2023 Fleet Economic data call (MARE/A3/AC(2023)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.14. Trends in landings of the top species landed in weight and value by MS SSCF operating in the NSEA
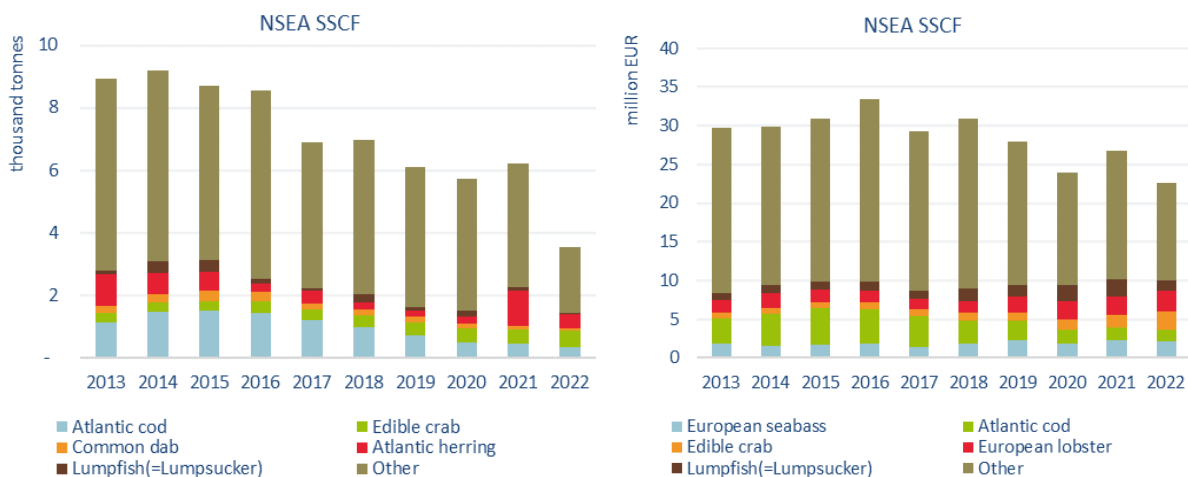
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Large-scale fishery

Nine Member States LSF were operating in the NSEA totalling 1 069 vessels in 2022. The Netherlands, Denmark, Germany, and Sweden had the largest number of active vessels contributing 94% of the total active LSF vessels in the region.

The Danish and Dutch LSF, consisting of 362 and 322 vessels, respectively, generated the highest revenue (EUR 331 million and EUR 304 million, respectively), followed by the German LSF (EUR 142 million).

Overall, the LSF had a gross profit of EUR 193 million in 2022, which was 15% lower than in 2021. The highest contributor to the gross profit was Denmark with EUR 101 million. Spain, the Netherlands, Germany, and Sweden had relatively similar gross profits of EUR 27 million, EUR 22 million, EUR 21 million and EUR 17 million, respectively. The GVA of all countries together was EUR 77 million, which was 11% lower than in 2021. Only the Spanish and to a lesser extent the Irish fleet had positive net profitability of EUR 25 and EUR 1 million, respectively. All other countries had a negative net profit, with the lowest net profit in France (–EUR 21 million), Denmark (–EUR 8 million), and Portugal and Denmark (both –EUR 3 million). In all countries together, the net profit was –EUR 12 million.

Total employment for the LSF was highest for the Netherlands and Denmark totalling 1 155 (–13% compared to 2021) and 722 (–3%), respectively. While the SSCF demonstrates a difference between the total number employed and total FTE (1 124 and 206, respectively) for all Member States, the LSF figures for total employed and FTE are closer (3 690 and 3 138, respectively), indicating the high level of FTE in this segment.

Landings were valued at EUR 986 million in 2022. The Danish and Dutch LSF contributed to 33% and 32% of the landings value in the region. In terms of weight, the most important species for the LSF in the region in 2022 were Atlantic herring (260 000 tonnes, +20% compared to 2021), European sprat (89 000 tonnes, +11%), and sand eels (85 000 tonnes, –2%). Species that were caught substantially less than in 2021 were Norway pout (21 000 tonnes, –50%) and European plaice (20 000 tonnes, –31%). In value, the top species were Atlantic herring (193 000 tonnes, +17% compared to 2021), Common shrimp (135 000 tonnes, +41% compared to 2021), and Atlantic cod (93 000 tonnes, +24% compared to 2021).

Figure 3.15. Top 10 species landed in weight and value by MS LSF operating in the NSEA, 2022
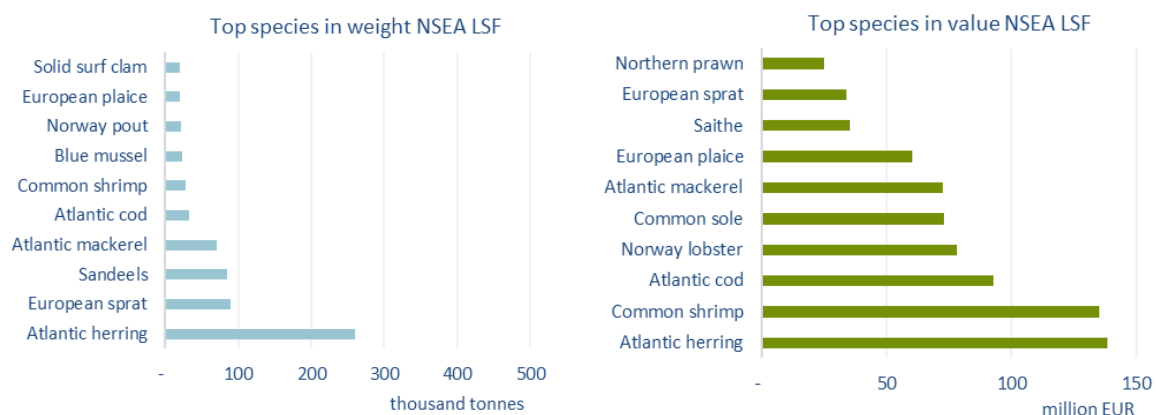
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Three Spanish demersal trawlers and two Lithuanian vessels engaged in demersal fisheries are active 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 Figure 3.15 and Figure 3.16, but as these are small the main species would not, in any case, be amongst the top 10 species.

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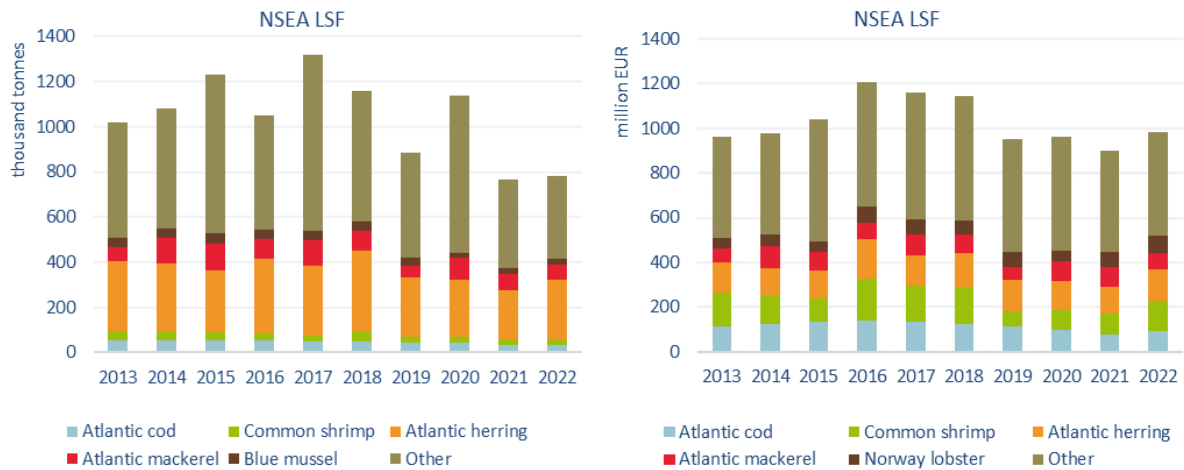

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Pelagic fishery

The pelagic fishery operates in the North Sea and the Eastern Arctic but also the Northeast Atlantic, NWW, and SWW. Member States involved are, in order of importance, Denmark, The Netherlands, Sweden, Germany, France, 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 sand eel, European sprat, and some volume of Atlantic herring. Sand eel 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, sand eel, 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 Dutch pelagic fleet in the NSEA consists of large (freezer) trawlers (from 60 to over 100 metres). These vessels mainly target Atlantic herring, Atlantic mackerel, and, to a lesser extent, horse mackerel and blue whiting. The fishery is for human consumption and not directed for industrial purposes. All these species are under an ITQ regime and overall managed by the international organisation called the Pelagic Freezer-trawler Association (PFA).

The German pelagic fishery consists of large freezer trawlers and medium-sized trawlers targeting Atlantic herring and Atlantic mackerel. Pelagic trawlers of about 30 metres perform a seasonal fishery on sand eel. The data of these vessels were now included in the analysis therefore impacting the German data slightly.

For Sweden, major amounts of Atlantic herring and sand eel are also fished and are more important in terms of the 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.

For the small amount of Irish pelagic fisheries in the area, the most important species is Atlantic mackerel followed by Herring.

Demersal roundfish and Nephrops (Norway lobster) fishery

Important target species are cod, Norway lobster, haddock, saithe, and hake. Haddock and hake were fished close to or below F_{MSY}, cod fisheries were still above F_{MSY} in 2020, while saithe was above F_{MSY} only in 2020. The cod recovery plan in the North Sea had not yet fulfilled assessment experts' expectations on the improvement of the stock status over the past years.

The Danish demersal roundfish fishery targets cod, haddock, and saithe. A broad range of vessel segments are involved in that fishery. Moreover, the Danish fleet is the largest fleet according to the value of landings in the Norway lobster fishery in the North Sea, and also in relation to the cod fishery.

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 Norway lobster fishery has gained importance for some vessels it remains of minor importance overall.

The Dutch so-called demersal roundfish fishery vessels target cod and Norway lobster, but this fishery is of minor importance in the total national context. Turbot and plaice are bycatch, and the vessels contribute to the overall revenues. The vessels are medium-sized with a length of 24-30 metres. The species are all landed fresh and exported to markets in France, Italy, and Spain.

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

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

Belgium has a very small demersal fishing fleet with fishing rights targeting primarily Norway lobster and European plaice. Ireland also has some minor catches and landings of Norway lobster in the area.

Lithuanian and Polish vessels perform fisheries targeting Northern prawn.

Flatfish fishery (plaice and sole)

The main Member States that took part in the flatfish fishery in 2022 were the Netherlands, Denmark, Belgium, Germany and France. Important target species were, common sole, European plaice and, at a lower level, turbot and brill. There is much uncertainty about the stock size of common sole. In 2022, it was estimated that the spawning stock biomass (SSB) was one of the highest since the start of the time series in 1957. In 2023, this was corrected, and it was estimated that the SSB was below MSY $B_{trigger}$ and between B_{pa} and B_{lim}. Overall, the performance in terms of gross profit of most flatfish beam trawl fleets was slightly positive in 2022. However, since 2016 there has been a decreasing trend in terms of landed weight and value and therefore lower economic performance. It is expected that economic performance in the future will be zero or negative.

The Netherlands is by far the most active country in the flatfish fishery, mainly carried out by large beam trawlers in the southern North Sea (ICES Division 4c). Until June 2021 using the pulse trawl technique and after that the tickler chains technique. In 2018 almost all EU-permitted 'pulse fisheries exemptions' were used in Dutch fleets, resulting in considerable fuel savings (40-50% less compared to conventional beam trawling with tickler chains). Common sole is a very important species due to its high prices. When the pulse was allowed, the fishery was very profitable. After the ban, profits have decreased, and it is expected that the fishery will experience net losses in the coming years. Furthermore, developments in innovation have slowed down and R&D is almost zero.

The plaice stock biomass is at a very high level again, but the fishing industry did not profit very much from it. The quota for this species was not fully exploited. The catchability of this species dropped, and the stocks have likely moved from their original living grounds to more Northern areas.

The Danish fleet targets flatfish mainly using otter trawls in ICES Division 3a and Area 4. Common sole catches are rather low whereas plaice is a target species in some fisheries. In the cod and Norway lobster fisheries, plaice is bycatch.

For Belgian beam trawlers, flatfish is a major species in the southern North Sea. Where the Dutch used pulse gear, the Belgian beam trawlers used the more traditional beam trawl gear, although they have made different technical adjustments in order to reduce fuel consumption. In the Belgian beam trawl fleet there were newly built vessels ordered in 2019 that entered the fleet starting 2020 till 2022. Most of these vessels are aimed at saving fuel consumption and energy costs.

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 fish for shrimp in 2022 were the Netherlands, Germany, Denmark, and Belgium. The fishery is carried out by smaller beam trawlers (mainly below 24 metres). Considerable catches are made in coastal areas (almost all N2000 areas) of the southern North Sea and in the Wadden Sea. Overall, the performance of the participating fleets was deteriorating. In 2022 prices went up (+36%). Dutch and German catches account for 92% of the total volume of shrimp. Some German vessels operate under Dutch ownership, and some Dutch vessels switch between flatfish and shrimp fishery.

3.3   Baltic Sea

3.3.1   Regional Details

The Baltic Sea covers ICES divisions 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 northeast by the Gulf of Finland, and in the east by the Gulf of Riga. For simplicity, hereafter the EU vessels operating in these areas are referred to as the EU Baltic Sea fleet or fisheries.

Eight Member States were involved in Baltic Sea fisheries in 2022: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden (Figure 3.17). 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 Polish, Finnish, Estonian and Latvian 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 (DWFs) are not included in the analysis for reasons of confidentiality. On the other hand, the Lithuanian low dependency rate is due to the DWF operating in other areas. Some Danish and Swedish vessels operate in both the Baltic and North Sea fishing regions, while German vessels operating in the Baltic usually do not switch to the North Sea.

In 2022, the Polish fleet was the most important fleet in terms of both landed value (EUR 36 million) and landed weight (110 000 tonnes) (Figure 3.17).

Some of the time series are influenced by the fact that for 2021 economic data were available also for the German pelagic fleet. For value and weight of landings this has been the case for the entire time series, but all other data were not contained in the dataset before.

Figure 3.17. Importance of the Baltic Sea region for MS fleets in terms of landings in weight and value, 2022
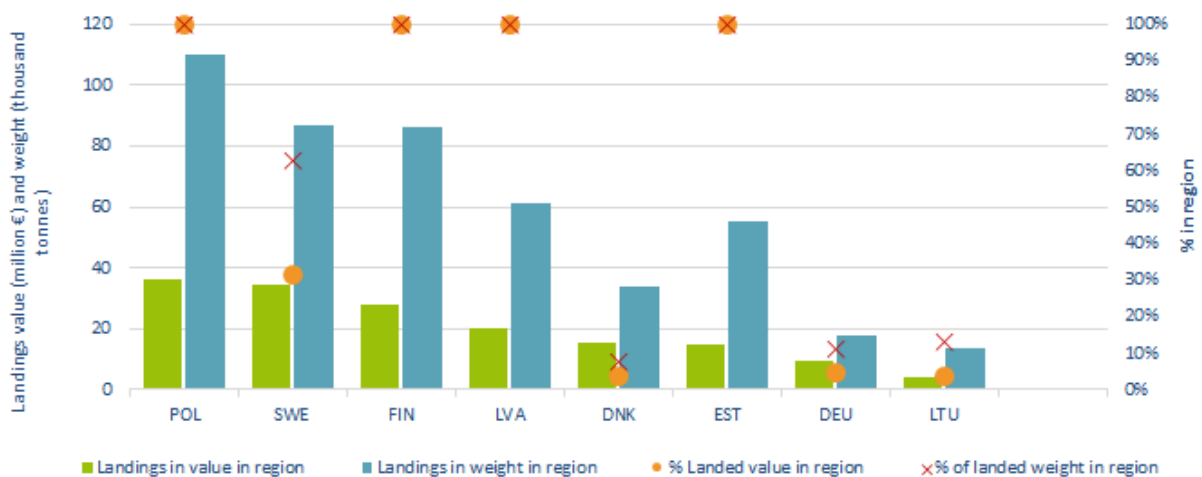
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.18. Share by MS and fishing activity fleets operating in the Baltic Sea, 2022
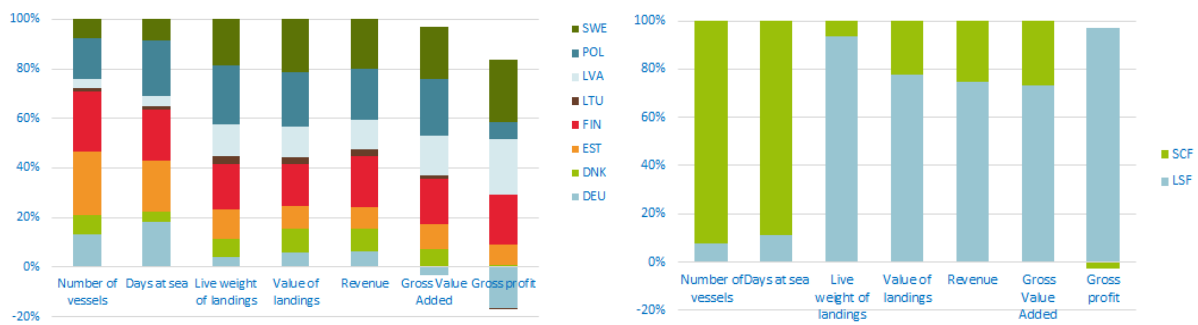
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.3.2 Overview of the main results for EU Baltic Sea fleet

Fishing effort and landings

The EU Baltic Sea fleets spent 267 000 days-at-sea in 2022 (8% less than in 2021). Generally, the effort variables show a decreasing trend all over the time series starting with 2013. The weight and value of landings were approximately 465 000 tonnes and EUR 163 million. Landings (by weight) from the Baltic increased slightly from 2013 to 2018. However, from 2019 to 2022, the weight of landings decreased by 26%. The value of landings decreased significantly in 2014 (due to slump in the price for small pelagic species) and, after slight recovery in 2015, is on a constant decrease. In 2022, the value of landings decreased again by 9% (Figure 3.19).

Figure 3.19. Trends on effort and landings for MS fleets operating in the Baltic Sea region
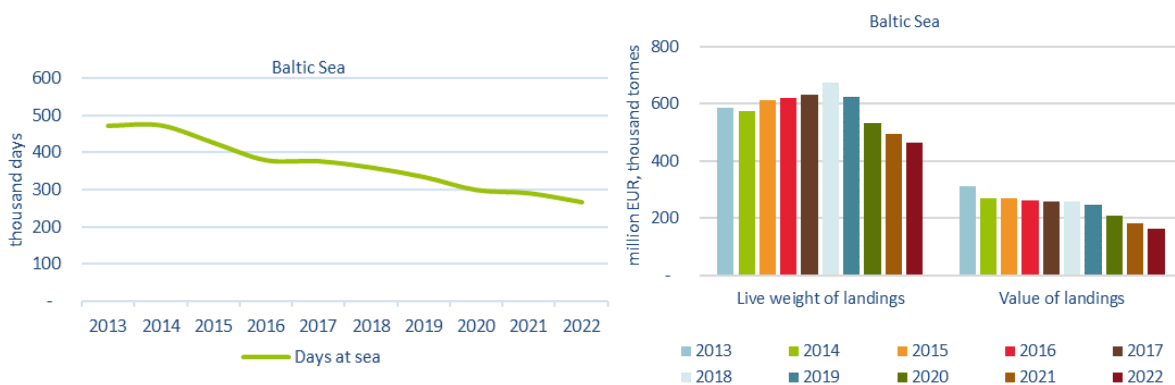

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Employment, wages and labour productivity

For the SSCF, the overall average wage per FTE decreased considerably by 23% in 2022 compared to 2021, thus being EUR 11 400 in 2022 (Figure 3.20). Average wages per FTE in the LSF decreased by 62% to EUR 27 600 from 2021 to 2022.

The overall labour productivity (GVA/FTE) for the SSCF decreased 7% in 2022 compared to 2021 being EUR 11 000 in 2021. The overall labour productivity (GVA/FTE) for the LSF decreased 12% to a level of EUR 50 200 (Figure 3.20).

Figure 3.20. 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 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

The value of landings generated by the EU Baltic Sea fleet in 2022 was estimated at almost EUR 163 million, a substantial decrease of 9% compared to 2021.

The GVA produced in 2022 was around EUR 82 million and compared to 2021, decreased by 14%. The fleets operating in the region made generated about EUR 22.3 million in gross profit, an 8% decline from the previous year profits record. Net loss amounted to –EUR 18.4 in 2022 after a loss of –EUR 22.7 in 2021 (Figure 3.21).

Figure 3.21. Trends on revenue and profits for MS fleets operating in the Baltic Sea
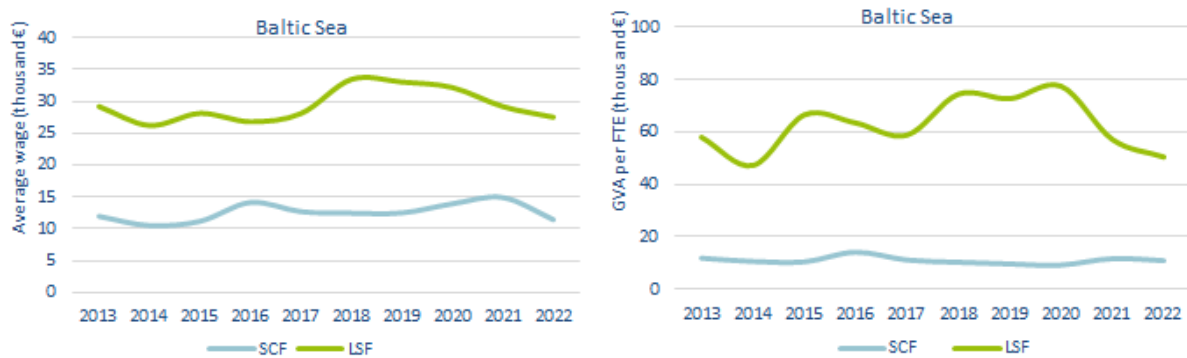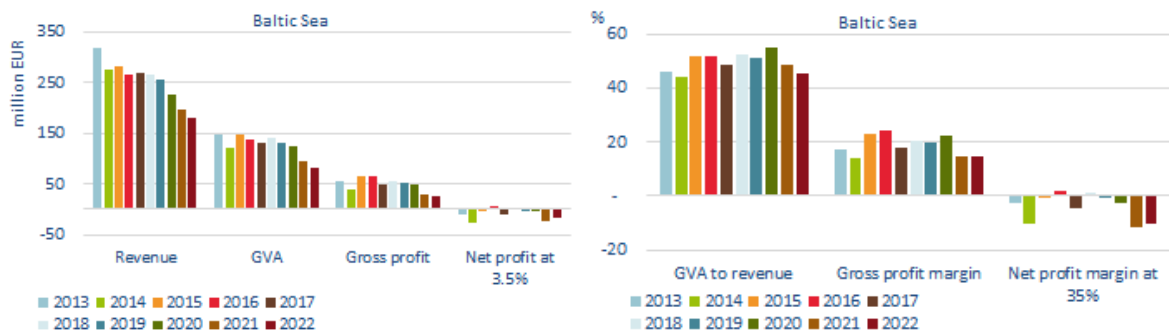

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.3.3 Trends by Member State fleet

Fleet capacity and employment

Member State fleets operating in the Baltic Sea collectively numbered around 4 831 active vessels in 2022 (5% less compared to 2021 or 15% less compared to long term average). The Latvian fleet declined the most 24% or 26%, respectively year to year or 2022 compared to long term average. Total employment in the region amounted only to 3 206 FTE in 2022, 4% reduction compared to 2021. Compared to long term average the total employment on board of vessels operating in Baltic Sea decreased by 25% (Figure 3.22). Employment in Denmark declined the most, by 67%, over the

long term, following by Germany (-50%) and Latvia (-46%). The largest fleet belonged to Estonia 1 243 vessels (26% of the total) following by Finland –1162 vessels (24%)- and Poland 797 vessels (16%).

The capacity of the fleet was reduced by 5% in 2022 and amounted to 54 000 GT with the largest share made up of Polish fleet – 27% (14 780 GT) followed by Finnish –17% (8 989 GT). The largest decline of GT during 2021-2022 was observed in Finnish and Latvian fleet, 13% and 8%, respectively, while capacity of Danish fleet increased by 15%. The capacity of the Baltic fleet was 12% lower in 2022 compared to long term average. In the long term, the Latvian fleet decreased the most significantly (by 29%) following by Poland – 25% and Finland – 22%. On the other hand, capacity of the German fleet increased by 30%.

The dominance of SSCF fisheries in the region indicates predominantly part-time nature of employment mostly represented by Estonian and Finnish fleets with average 0.15 and 0.10 FTE per person employed, respectively. SSCF contributed as much as 62.7% of the total FTE employment on the Baltic in 2022. Employment, measured in terms of FTE, showed a decreasing trend over the period (2013-2022). SSCF FTE decreased by 24% in 2022 compared to long term average while LSF 26% only. In 2022 (compared to 2021) the largest reductions in the SSCF employment were observed in Latvian (-63%), Danish (-44%) and Estonian (-24%) fleets, while in Polish and Finish fleets the employment increased by 5% and 11%, respectively.

Figure 3.22. Trends on the number of vessels and employment in FTE for MS fleets operating in the Baltic Sea
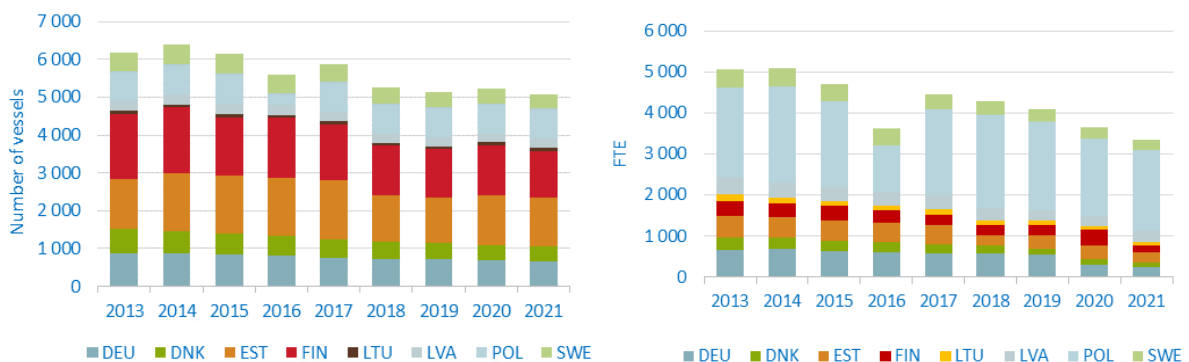
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024))

Fishing effort

The EU Baltic Sea fleets spent 267 000 DaS in 2022, an 8% decrease compared to 2021 (or 30% decrease compared to the 2013-2021 period) and reached the lowest level since 2013 (Figure 3.23). In 2020 the decline in fishing effort was under conditions of COVID-19 lockdown in 2021-2022 it may be attributed to reduced herring and sprat catch possibility as well as continued closure of direct cod fishing. The biggest decline of fishing effort was observed in Danish, Lithuanian and Latvian fleets, 30% and 19%, respectively. Vessels from Finland, Poland and Estonia had the highest effort, accounting for 64% of total DaS (or about 20% each) in the region because of the small-scale fleet dominance in these Member States. In terms of relative changes, the Danish effort had decreased the most. In 2022 it was 55% smaller compared to 2013-2021 average.

In 2021, the Baltic Sea fleet consumed of 63.6 million litres of estimated fuel value, in 2022 it decreased to 45.7 million litres (-28%). The Finnish fleet achieved the highest fuel savings – fuel

consumption by the Finnish fleet decreased by 57% in 2022 compared to 2021, and by 45% compared to the long-term average.

Figure 3.23. Trends on effort (in days-at-sea) and energy consumption for MS fleets operating in the Baltic Sea

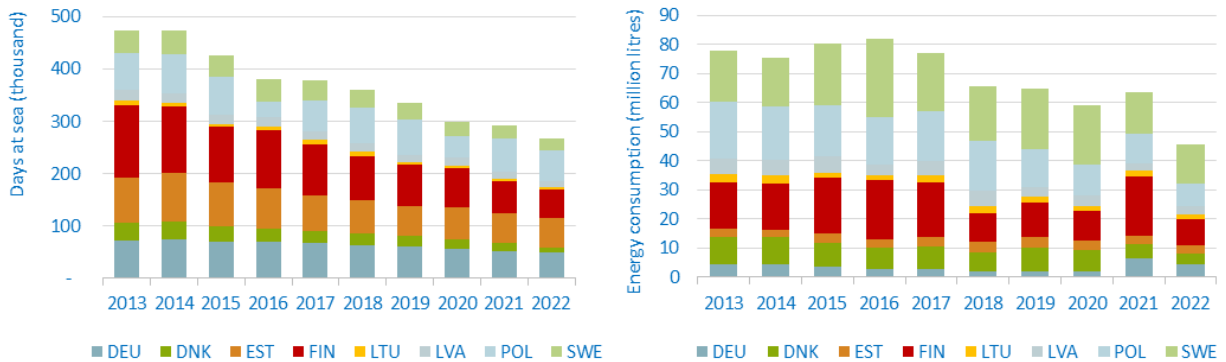Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024))

Landings and top species

The weight and value of landings was 465 000 tonnes and EUR 162.9 million in 2022 with 6% and 9% decline in comparison to 2021, respectively or 35% and 22% compared to long term average. Value of landings decreased in all countries except for Latvia, where remained unchanged. Landings value decline the most in Lithuania (-20%) following by Denmark (-16%) and Estonia (13%).

In terms of landed weight, Poland (109 700 tonnes), Sweden (86 600 tonnes) and Finland (86 400 tonnes) were the leading Member States, accounting for 61% of total weight landed from the Baltic. Poland (EUR 36.1 million), Sweden (EUR 34.7 million), Finland (EUR 28.1 million) and Latvia (EUR 19.9 million) collectively accounted for around 73% of the total value of landings in 2022.

Figure 3.24. Trends on landings in weight and value for MS fleets operating in the Baltic Sea
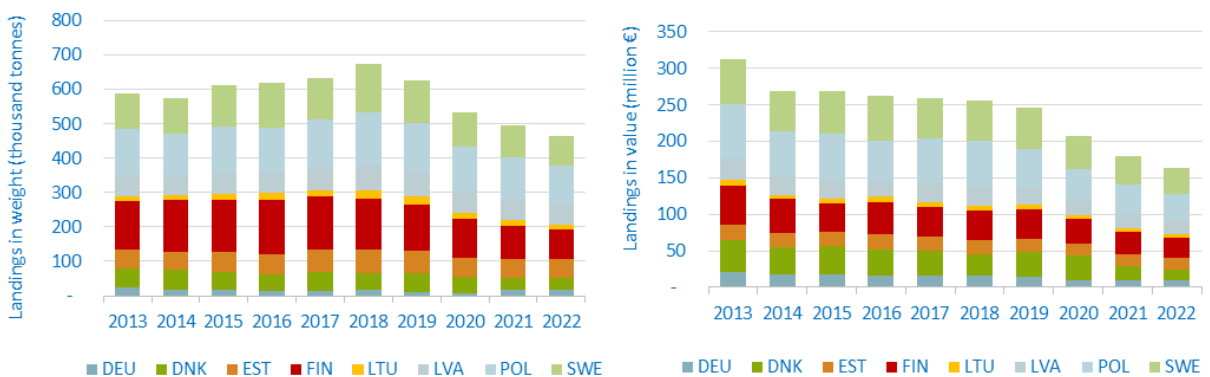
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the most important species (by weight of landings) were European sprat (249 700 tonnes, 54% of the total landed weight), Atlantic herring (178 100 tonnes) accounting for 38% of the total landed weight. Both species together made up over 90% of the total Baltic landings in 2022 (Figure 3.25). European sprat generated the highest value (EUR 63.7 million), representing 39% of the

landed value), followed by Atlantic herring (EUR 48.0 million, 29% of the landed value) (Figure 3.25).

Figure 3.25. Top 10 species in landed weight and value by MS fleets operating in the Baltic Sea, 2021

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.26. Trends on landings of the top six species in landed value for MS fleets operating in the Baltic Sea
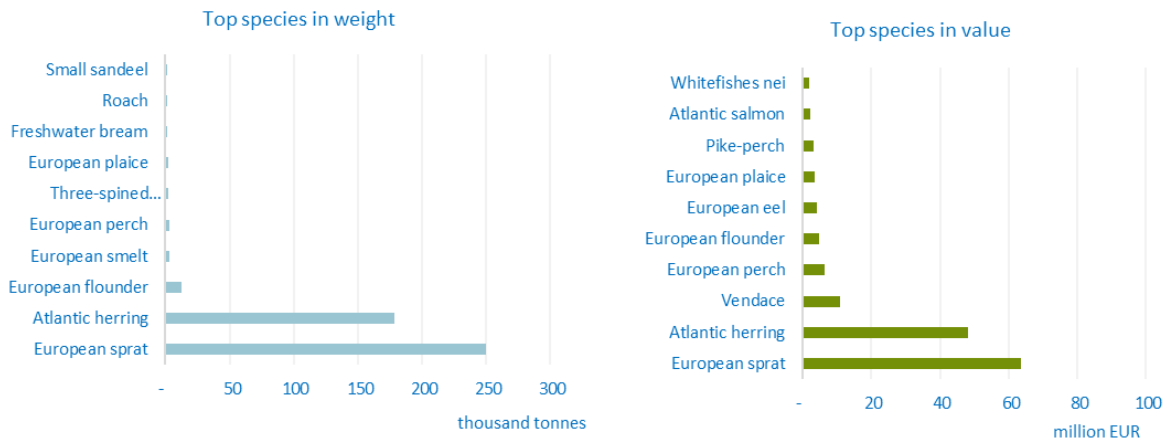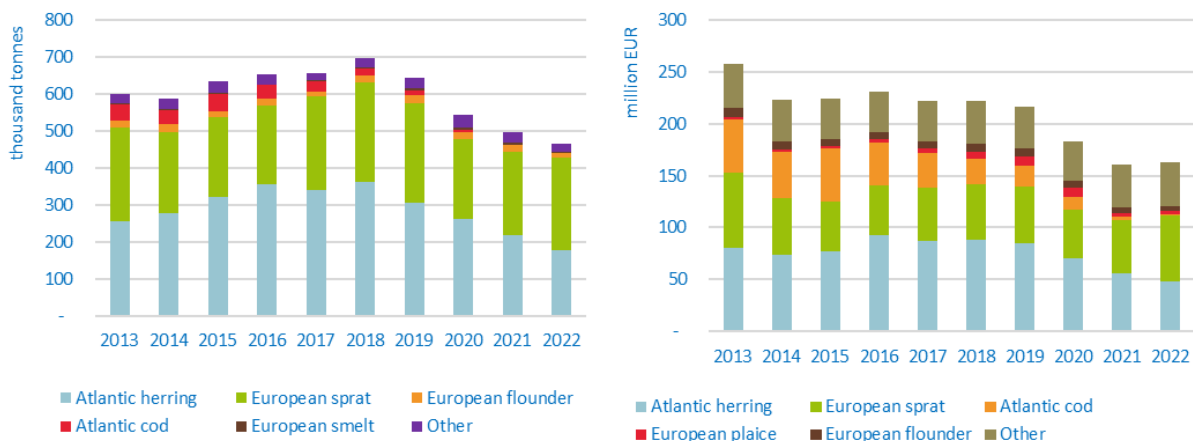

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Atlantic cod landings value decreased as much as 99% in 2022 compared to the 2013-2021 long term average. The total landed weight and value of Baltic herring declined by 41%. On the other hand, landings of European sprat, another economically important species for the Baltic fishing fleet, increased by 10% in 2022 compared to the 2013-2021 long term average (Figure 3.26).

Economic performance

The profitability of the Baltic fleet decreased in 2022, however gross profit remained positive. The fleet generated EUR 26.9 million gross profit in 2022 compared to EUR 18.4 million in 2021 (-8%). Two MS reported negative gross profitability, Germany (-EUR 6.4 million) and Lithuania (-EUR 15 000). Danish fleet produced gross losses in 2021 in 2022 managed to improve profitability and

generated a positive outcome – EUR 256 000. Gross profit of the Latvian fleet only improved significantly in 2022 from EUR 6.8 million to EUR 8.8 million in 2022, slightly improvement was observed for Poland (+4%). The profitability of other countries deteriorated.

The net profit of the EU Baltic fleet was highly negative and amounted to EUR 18.4 million, compared to EUR 22.7 million. Three countries reported positive net profit i.e. Latvia EUR 8.3 million, Sweden EUR 0.8 million and Estonia EUR 0.5 million. Germany and Denmark experienced again highest net losses in the region (Figure 3.27).

The revenue generated in 2022 was EUR 181.5 million with a decrease of 8% compared to 2021 or 31% decline compared to 2013–2022 average. Three Member States accounted for over 60% of all revenues: Sweden (EUR 36.0 million), Poland (EUR 37.4 million) and Finland (EUR 36.7 million).

The GVA generated by the Baltic fleet in 2022 was EUR 82.2 million, a 14% decline compared to 2021 GVA (EUR 96.0 million). The indicator deteriorated heavily again and remained negative for the German fleet from GVA of EUR 1.3 million in 2021 to EUR 2.7 million. The Polish fleet produced the highest GAV of EUR 20.2 million – 1% decrease compared to 2021. GVA of Lithuanian, Estonian Swedish and Danish fleets decreased by 35%, 24%, 23% and 22%, respectively. Latvia was the only country for which GVA increased in 2022 (+11%).

Increased energy costs (+35%) and lower landings revenues (–9%) caused by central herring TAC reduction by –45%) were two main reasons that negatively affected profitability of the Baltic fisheries in 2022.

Figure 3.27. Trends on revenue and profits for MS fleets operating in the Baltic Sea region
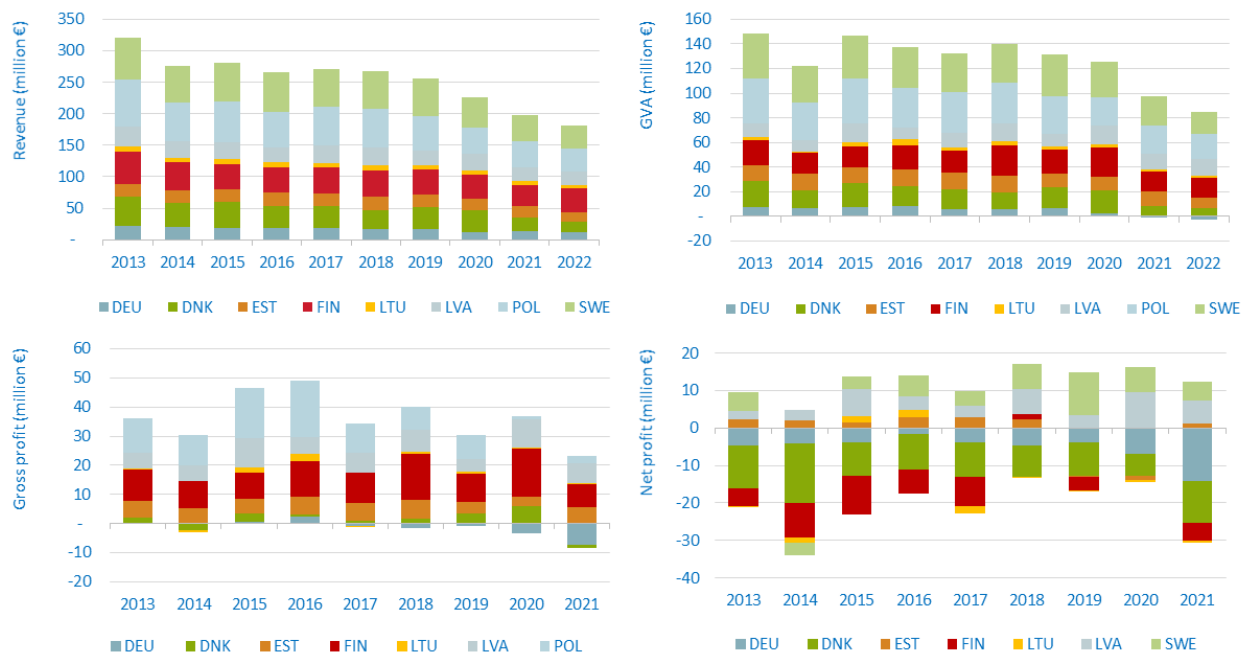
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.3.4 Main factors affecting the performance of the fleet

The major factors that may have negatively influenced economic performance:

–   In 2022, TAC for most herring stocks decreased considerably: Central herring -45% (53 653 tonnes), Western herring -50% (-788 tonnes). As herring has been an important part of the catch of Baltic fishing fleet, these substantial quota cuts had a substantially negative- effect on the economic performance.

–   The cod stocks both in the Eastern and Western part of the Baltic Sea are in critical condition. The commercial cod fishing was significantly reduced in 2019 and direct fisheries on cod were not permitted in 2020-2023, except for small-scale fisheries on the Western cod stock. The cod catches are allowed only as an unavoidable by-catch. Eastern cod quota remained at 595 tonnes in 2022 (after -92% in 2020 and -70% in 2021) while Western cod quota was cut 88% to just 489 tonnes. Altogether, this is an ongoing threat to a considerable part of the regional fleet. ICES expects that the cod stock most probably will remain in a dire condition in the middle-term.

–   The main basin salmon quota was down -32% to 63 811 fish in 2022.

  –   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.

  –   In some areas the increasing population of seals has been reported as substantial problem when performing fisheries using passive gears. Damage to both gear and fish has been experienced, thus resulting in the cessation of certain fisheries.

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

  –   The quota for Baltic sprat increased 13% in 2022. It is a commercially important species, but only for few specialised fleets. Baltic herring stocks with a TAC increase were Gulf of Riga herring (47 697 tonnes, +21%) and Bothnian herring (+71% to 111 345 tonnes), A TAC increase applied also to Gulf of Finland salmon (+6%) as well as plaice (+25% to 9 050 tonnes).

  –   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 obligation (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 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. However, as the poor status of several important stocks has a negative impact on the balance indicators, several fleet segments in the Baltic are regarded not in balance and, hence, do not qualify for this kind of support.

Regulation and fisheries management in the region

A multiannual plan for the stocks of Western Baltic cod (ICES divisions 22-24), Eastern Baltic cod (ICES division 25-32) Central Baltic herring (ICES divisions 25-29 and 32), Western Baltic herring (ICES division 22-24), Gulf of Riga herring (ICES division 28.1), Gulf of Bothnia herring (ICES division 30-31) and Baltic sprat (ICES division 22-32) was adopted by European Parliament and the Council on 6 July 2016 (Regulation (EU) 2016/1139). The plan shall contribute to the achievement of the objectives of the common fisheries policy in particular by applying the precautionary approach to fisheries management and shall aim to ensure that exploitation of living marine biological resources restores and maintains populations of harvested species above levels which can produce MSY. The plan shall also contribute to the elimination of discards by avoiding and reducing unwanted catches, and to the implementation of the Landing Obligation (LO). The plan was last amended in November 2020 (Regulation (EU) 2020/1781) by adding details for the implementation of the landing obligation in the Union waters of the Baltic Sea for Atlantic salmon (*Salmo salar*) in ICES Subdivisions 22-32 and open possibility for fishing capacity reduction for vessels that targeted Eastern Baltic cod, Western Baltic cod and Western Baltic herring.

Council Regulation (EU) 2021/1888 fixed the fishing opportunities for certain fish stocks applicable in the Baltic Sea for 2022.

The LO has been in force since 1 January 2015 for pelagic and demersal fisheries in the Baltic Sea. Regulation (EU) 2018/306[8] aims to progressively eliminate discards for Baltic Sea cod and plaice fisheries through the introduction of a landing obligation.

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 include 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, or to use bottom-set gillnets, entangling nets and trammel nets for some species. To optimise exploitation patterns and to provide protection for juveniles and spawning aggregations of marine biological resources, Regulation (EU) 2019/1241[9] on the conservation of fisheries resources and the protection of marine ecosystems through technical measures was established. Some of the objectives are to minimise incidental catch of sensitive marine species and potential negative impacts of fishing on marine habitats.

The European eel recovery plan (Regulation (EU) 1100/2007) 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 comprise technical conservation measures, including mesh size, minimum landing size, by-catch limitations as well as periods and areas closed for fishing.

The work also is underway on protected areas determination in the Baltic Sea with the aim to protect valuable marine and coastal habitats. Involvement of fishers in fisheries management in protected areas could ensure sustainability of marine resources in the long term.

The Baltic Sea coastal and inland fisheries are mainly regulated by each Member State in the region through their national legislation. While coastal fisheries are managed nationally, fisheries advice is provided by the ICES and the STECF. The key species in Baltic Sea are cod, herring, sprat, salmon,

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[8] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R0306.
[9] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1241.

and plaice and these fisheries are all managed using TACs. Flounder and freshwater species are not managed through TACs and can regionally play a certain role for specialised fishers.

TAC development of main species

Atlantic cod, Atlantic herring, European sprat, Atlantic salmon and plaice are the main species in the Baltic Sea which are managed by TAC. Cod is managed by two stocks, Eastern and Western cod. Herring is managed by four stocks: Western, Central, Bothnian and Gulf of Riga herring. Salmon is managed by two stocks, Gulf of Finland and main basin salmon.

Figure 3.28 provides the development of catches for the TAC species herring, cod, and sprat in the Baltic Sea. Overall, the decrease in catches of herring and cod over time is evident.

Figure 3.28. Reported catches for the important TACs species herring, sprat, and cod in the Baltic Sea region, 2016-2022
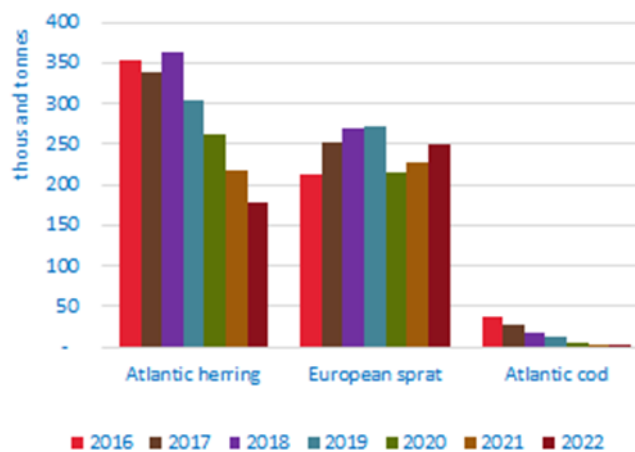
Data source: Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)

The TACs set for 2022 were as follows:

- Western Baltic herring   788 tonnes (-50%).
- Bothnian herring   111 345 tonnes (+71%).
- Central herring   53 653 tonnes (-45%).
- Gulf of Riga herring   47 697 tonnes (+21%).
- Eastern Baltic cod   595 tonnes (unchanged, bycatch only).
- Western Baltic cod   489 tonnes (-88%, bycatch only).
- Main basin salmon   63 811 fish (-32%).
- Gulf of Finland salmon   9 455 fish (+6%).
- Plaice   9 050 tonnes (+25%).
- Sprat   251 943 tonnes (+13%).

The time series of these stocks, including 2023 and 2024 data, is shown in Figure 3.29. While sprat, Gulf of Riga herring and plaice show a stable or slightly increasing trend over the years, the dramatic decrease of TACs for Western and Eastern cod as well as for Western and Central herring is evident.

Figure 3.29. EU TACs for the main Baltic stocks 2013–2024
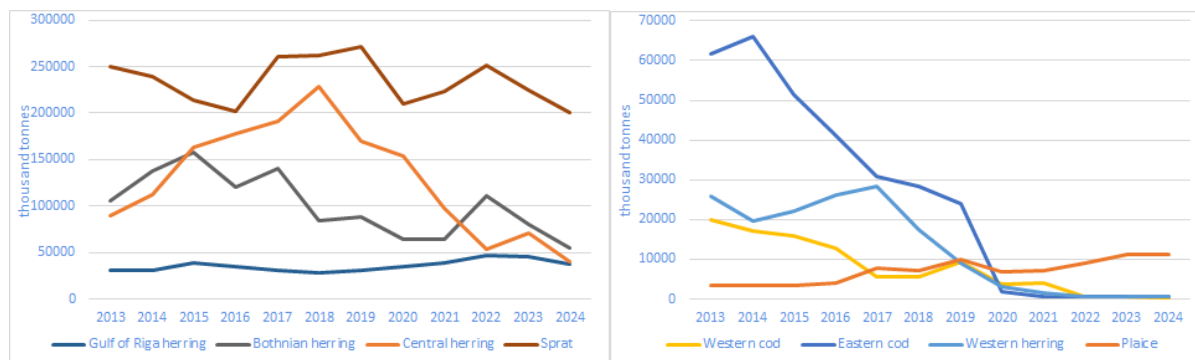
Data source: EWG 24-07 produced.

Status of important stocks

In ICES subdivisions 20 to 24, the stock of Western Baltic herring (*Clupea harengus*) has slightly increased but is still only 59% of the limit reference point for the spawning stock biomass (B_{lim}), below which it is possible that reproductive capacity might be reduced. Recruitment remains at historically low levels. ICES therefore published zero-catch advice for Western Baltic herring for several consecutive years. Since 2019, ICES has been able to base its precautionary advice on a more data-rich assessment for the Eastern Baltic Cod (*Gadus morhua*) stock. ICES estimates that the biomass of the Eastern Baltic cod stock continues to be below B_{lim} and has hardly increased since 2021. ICES therefore published zero-catch advice for Eastern Baltic cod for several consecutive years. Scientific estimates have indicated for several years that the spawning stock biomass of Western Baltic Cod (*Gadus morhua*) cod was below the reference point (Btrigger). In 2021, ICES conducted an in-depth assessment revealing that for more than 10 years, the biomass of the Western Baltic cod stock had been mostly below Blim. ICES downgraded further its advice to precautionary advice due to continued uncertainties, indicating the stock has been below Blim for most of the past 15 years and was at a historic low in 2022. Consequently, ICES advises keeping the targeted fisheries closed and closing recreational fisheries for Western Baltic cod. In 2020, ICES estimated that the biomass of Central Baltic Herring (*Clupea harengus*) had fallen below Btrigger, and in 2021 it had come close to B_{lim}. In 2022, ICES estimated that the biomass had increased but remained below Btrigger. The stock relied on the 2019 year class only, and the estimation of its strength has varied substantially since 2020. There is a probability that the biomass will remain below B_{lim} in 2025. Consequently, ICES advised fixing the fishing opportunities in the lower FMSY range and setting a spawning closure for fisheries using pelagic trawl. As regards Sprat (*Sprattus sprattus*), ICES estimates that while the biomass is above Btrigger, there has been no strong recruitment since 2014. Moreover, ICES estimates that recruitment in 2021 and 2022 was historically low.

3.3.5 Description of relevant fisheries in the region

Small-scale coastal fleet

Socio-economic aspects determine the importance of the Baltic SSCF. In 2022, as much as 92% of the total number of Baltic Sea vessels belonged to that fleet amounted to 4 463 (-5% compared to 2021). The total number of people employed onboard the small-scale vessels amounted to about 4 842 fishers (no change compared to 2021) or 2 009 FTE (3% less compared to 2021). In 2022, SSCF contributed 77% (or 63% in FTE) of the total employment in the Baltic Sea.

The fleet accounts for 7% of weight and 22% of the landed value from the Baltic Sea. Revenue generated by the SSCF in 2021 was EUR 45.4 million, 15% less compared to 2021.

In 2022, the SSCF generated a gross value added of EUR 22.1 million (EUR 24.5 million in 2021). The overall profitability of the SSCF remained negative in 2022. However, it improved substantially compared to 2021. The fleet produced net losses of EUR 12.9 million in 2022 compared to net losses of EUR 21.9 million in 2021. The negative net profit margin amounted to -28.5% and improved from -41.3% in 2021. GVA per FTE indicator deteriorated from EUR 11 794 per FTE to EUR 11 014 per FTE (-7%).

Atlantic herring (47%), European smelt (7%) and European perch (8%) are the three most important species in terms of landings weight (Figure 3.30). The species composition of SSCF landings has changed over the past ten years. Atlantic cod is no longer the most important one in terms of revenues. That has been a result of the deteriorated stock status of both cod stocks (Eastern and Western Baltic). As a consequence, a closure of cod fisheries has been imposed in 2019 (July 22) for ICES subdivisions 24, 25 and 26 of the Baltic Sea (except for bycatches allowed under the quota system), with some derogation (possibility to fish in shallow waters) given to vessels less than 12 metres LOA. The contribution of Atlantic cod in total revenues of SSCF has decreased from 37% in 2008 to 14% in 2016 and dropped again to 0.4% only in 2022. On the other hand, the share of the European smelt for example, in the total revenues, has raised from 3% to 7% between 2013 and 2022.

Figure 3.30. Top 10 species landed in weight and value by the SSCF operating in the Baltic Sea, 2022
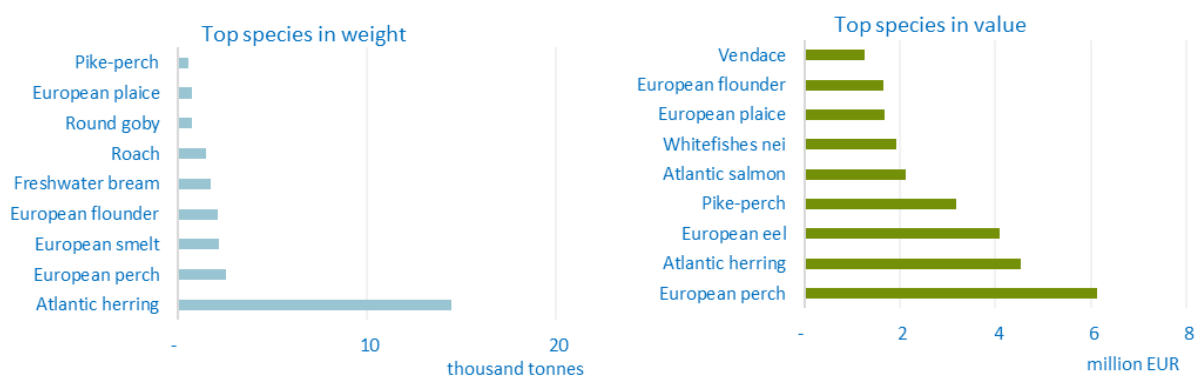
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.31. Trends in landings of the top species landed in weight and value by the SSCF operating in the Baltic Sea
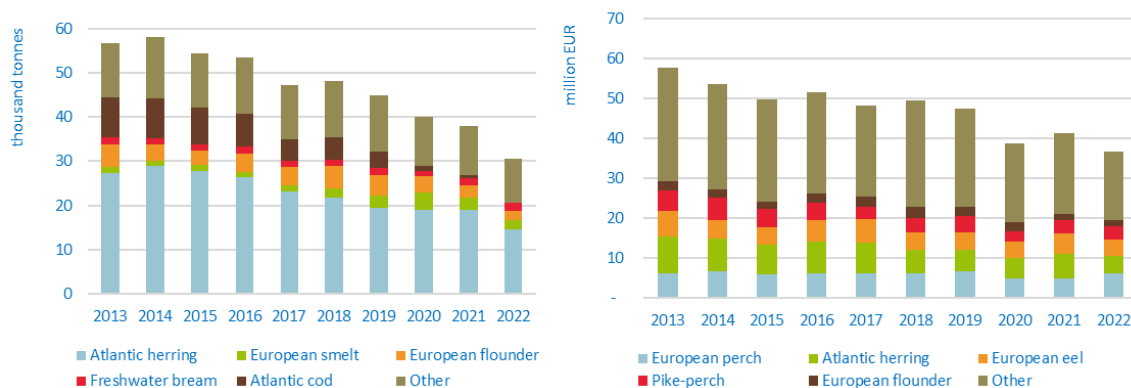
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

The deteriorated status of Baltic cod and herring stocks has affected Danish, Swedish and German coastal fisheries the most. Between 2013 and 2022, the landings value of Danish SSCF decreased by 47%, followed by Sweden (−43%), Germany (−39%). On the other side revenues of Estonia SSCF increased by 2%. In case of Estonia the increase was caused by higher herring landings. The share of Estonian SSCF value of landings in the total value of the Baltic SSCF increased in the 2013–2021 period from 10% to 14%. Total Danish fish landings weight was 75% lower in 2022 compared to long term average. The landings decreased by 67% and 66% in Germany and Sweden respectively. Latvia (EUR 0.8 million) and Finland (EUR 0.3 million) were the only Member States that generated net profits. Poland (−EUR 6.1 million), Denmark (−EUR 1.4 million, Germany (−EUR 3.2 million) and Sweden (−EUR 3.0 million) were countries that reported the highest gross losses.

Large-scale fleet

In 2022, the LSF in the Baltic consisted of 369 vessels (no change compared to 2021). Value of fish landed by the fleet in 2022 amounted to EUR 126.4 million, 6% less compared to 2021. Gross profit generated by LSF was positive but decreased by 22%, net profit was negative −EUR 5.5 million compared to −EUR 0.7 million in 2021. Decreased landings value and increased energy costs (+39%) were the main drivers for the deteriorated profitability of the fleet. The number of people employed continued its decreasing trend in 2022 (−9% both FTE and total jobs). The GVA/revenue indicator deteriorated compared to 2021 (from 50% to 544%), GVA itself decreased to EUR 60.1 million (−16%).

European sprat (EUR 50.7 million), Atlantic herring (EUR 50.5 million), and vendace (EUR 6.2 million) were the three most important species in terms of landings value in 2021, collectively making up over 80% of total landings revenues in 2022 (Figure 3.32). The fishing pattern of the fleet landings has changed significantly over the last years (2013–2022), thus disfavouring demersal species. The value of Atlantic cod landings decreased by 80% and its contribution to total revenues of the LSF decreased from 19% in 2013 to 0.3% in 2022. In the same period, the contribution of Atlantic herring and European sprat to revenues increased from 35% and 37% in 2013 to 34% and 50% in 2022 (Figure 3.33).

Poland, Latvia and Finland were the three most important countries in terms of LSF value of landings, accounting for 30%, 20% and 20%, respectively, of the total LSF landings in 2022. The LSF net profit in 2022 decreased significantly compared to 2021 from EUR 0.7 million to EUR 5.5

million. Total GVA of the fleet decreased to EUR 60.1.3 million (–16%), average GVA per FTE deteriorated by 12% from EUR 57 million to EUR 50.2 million. The Swedish LSF fleet continued to be the most profitable in the region (EUR 11.6 million gross profit) followed by the Latvian (EUR 7.9 million) and Polish fleet (EUR 6.8 million). German LSF fleet, as the only one, produced negative gross profit (–EUR 4.6 million) in 2022.

Labour and energy costs were the two most important items in the costs structure, both changed compared to 2021. Labour costs decreased –10% while energy costs increased as much as 39%.

Figure 3.32. Top 10 species landed in weight (left) and value (right) by LSF operating in the Baltic Sea, 2022.
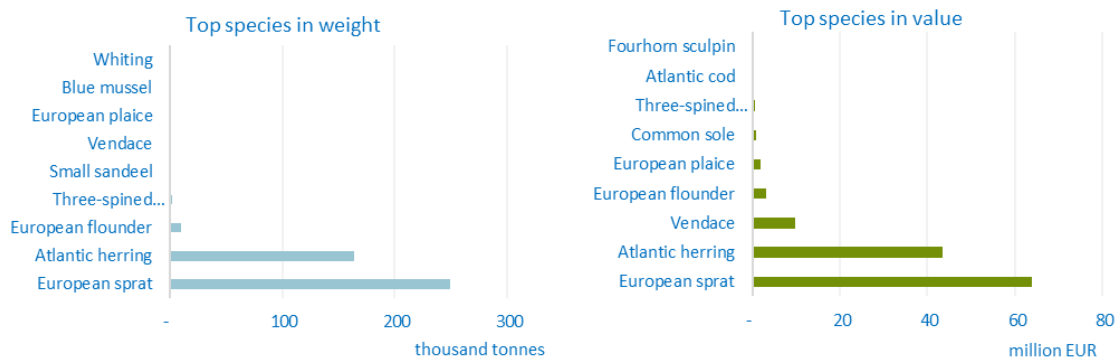
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.33. Trends in landings of the top species landed in weight and value by the LSF operating in the Baltic Sea
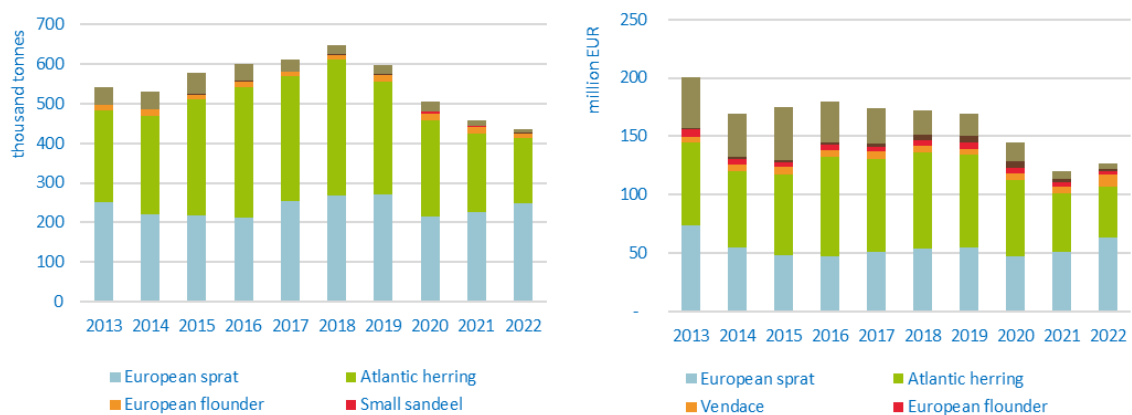
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.3.6 Performance by fleet segment

There were 58 fleet segments operating in the Baltic Sea in 2022 (52 in 2021). Segments using passive gears (PG, PGP and DFN) dominated the fleet accounting for 90% (4 345 units) of the total number of vessels, followed by pelagic trawlers (TM, 219 vessels) and FPO (116 vessels). Pelagic trawlers dominated the output contributing to 54% of the total value, followed by demersal trawlers segments (23%) and vessels using passive gears (22%) (Figure 3.34). Pelagic trawlers produced the highest gross profit (EUR 18.6million compared to EUR 21.8 million in 2021), followed

by DTS (EUR 9.3 million after EUR 14.2 million in 2021). Though the economic performance of the passive gear segments improved overall, so the result become positive (EUR 0.5 million in 2022 compared to –EUR 3.4 million in 2021). Net profits of vessels using TM remained negative (–EUR 3.5 million in 2022 compared to –EUR 3.0 million in 2021). Segments using passive gears produced –EUR 9.2 million net losses (–EUR 15.2 million in 2021). One important reason for the net losses of smaller vessels (using passive gears) was the estimated opportunity cost of unpaid labour. For the fleet segments below 12 metres, and to a certain extent for the 12-18 m segments, the estimated cost of labour may be high in proportion to the catch value, making the gross profit negative.

Figure 3.34. Top ten most profitable and top ten least (gross) profitable fleet segments operating in the Baltic Sea, 2021-2022 (EUR million).
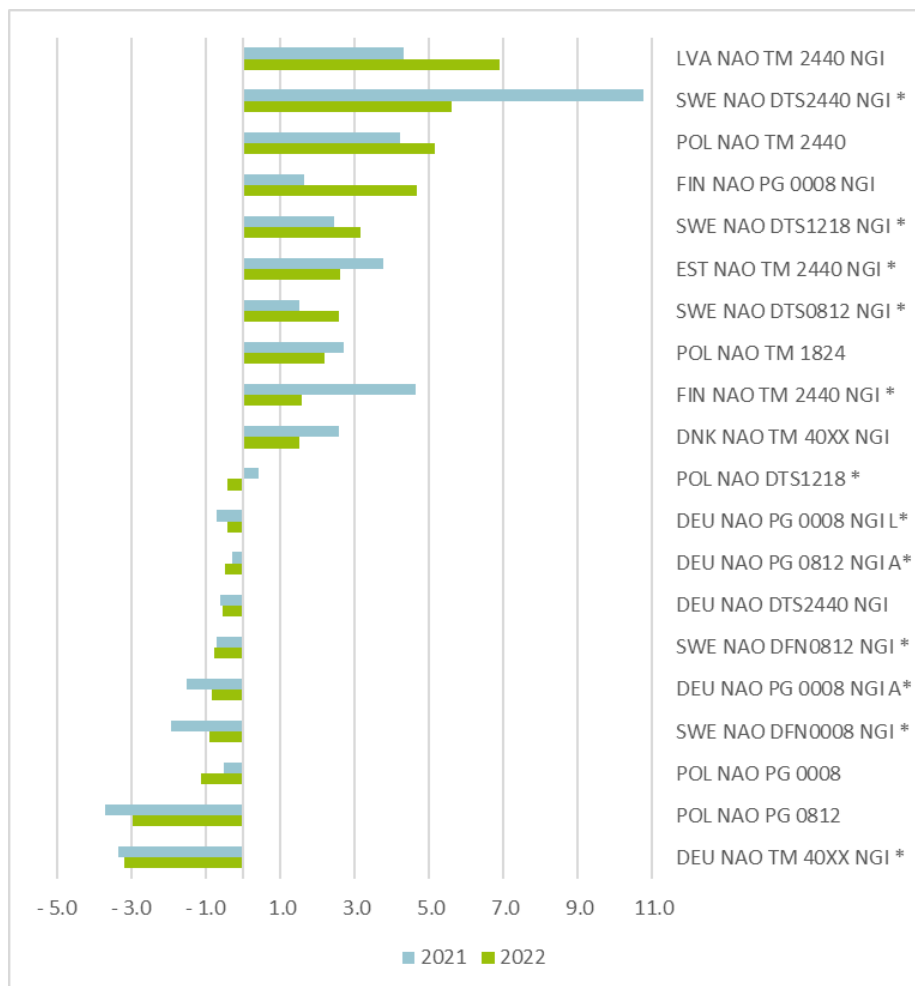

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Segments using passive gears deployed the highest effort with 267 000 fishing days in 2022 (–8.4% compared to 2021) followed by TM with 17 700 days (no significant change compared to 2021) and DTS with 8 900 days (8% increase compared to 2021).

Of the 58 fleet segments operating in the Baltic (52 fleet segments in 2021), 25 made positive gross profits in 2022 (26 in 2021). From the top 10 most profitable segments 5 belonged to pelagic trawlers, 3 to demersal trawlers and one to passive gear vessels below 8 metres (FIN PG0008). Similar to 2021, the 10 least profitable segments were dominated by SSCF segments out of which 7 belonged to either PG, or DFN, two to DTS and one to TM.

At the fleet segment level, Latvian 24-40m pelagic trawlers (52 vessels) generated the highest gross profit (EUR 6.9 million), following by Swedish 24-40m demersal trawlers and seiners segment kept (EUR 5.6 million), followed by the Polish 24-40m pelagic trawlers segment (EUR 5.2 million), Finnish small-scale PG 0008 segment (EUR 4.7 million in 2022). The reason for successful fishery performed by the Swedish 24-40m demersal trawlers and seiners could be that the segment is fishing also (half by half) in North Sea waters, thus being more flexible while using quotas in both management areas. Two pelagic Latvian and Polish segments benefited increased small pelagic prices (especially European sprat).

Deteriorated economic indicators of the segments were caused by two factors – reduced catch opportunities (ongoing substantial quota cuts, e.g. Central herring, or lowest overall levels, e.g. cod) and increased fuel costs.

3.4   North Western Waters

3.4.1   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.

Historically, the Member States fishing in the NWW were Belgium, Denmark, France, Germany, Ireland, Lithuania, the Netherlands, Portugal, Spain, and Sweden. In 2022, nine Member States operated in the region (all but Sweden) and the main fleets were from France and Ireland. Spain, the Netherlands, Belgium, Denmark, Germany, Lithuania, and Portugal also conducted part of their fishing overall activity in the NWW (Figure 3.35).

Based on the value of landings, in 2022 the Irish and French fleets had the highest level of landings in the NWW. However, Ireland had the highest total percentage of national landed value from the region at 91% indicating their high dependency on this area (98% of the days-at-sea -DaS- take place in these waters). Belgium at 61% (up from 54% in 2021) and France, at 32% also have a high dependence on the area in terms of DaS. While Ireland and Belgium have the highest dependency in terms of landed weight in the region, Ireland and France had the highest share of fishing in 2022 (Figure 3.36). It is worth noting that from 2021 onwards, data for the German pelagic trawler fleet operating the NWW are included in the report for the first time which represents a break in the time series.

Figure 3.35. Importance of the North Western Waters for MS fleets in terms of landings in weight and value, 2022
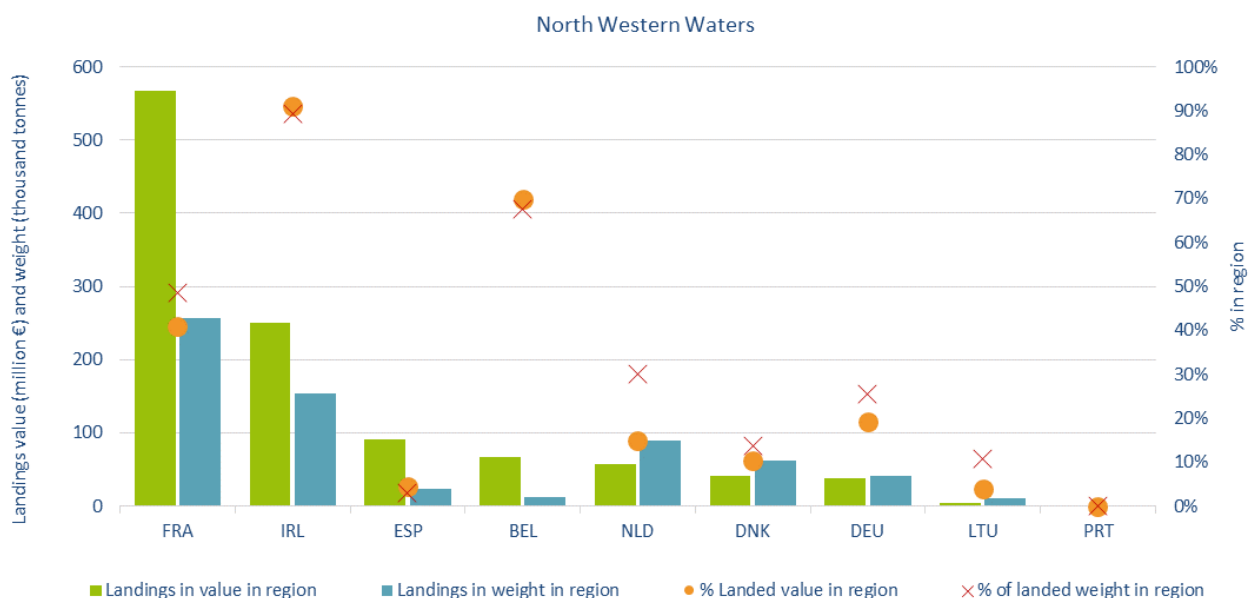
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.36. Share by MS fleet and fishing activity in NWW, 2022
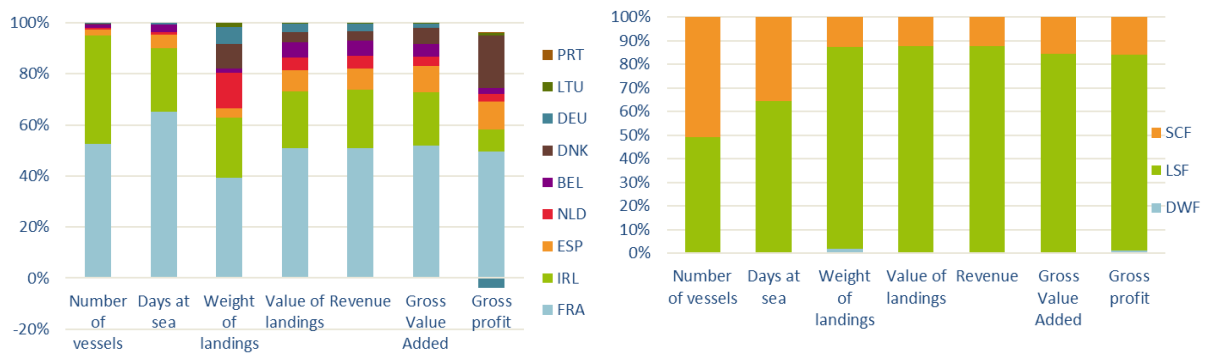
Data source: MS data submissions under the 2023 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

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

Fishing effort and landings

Fishing effort has demonstrated a stable trend between 2013 and 2019, followed by a marked difference in 2020 with a −11% reduction in DaS linked to COVID-19 restrictions. There was an increase of 6% in DaS in 2021 compared to 2020. However, in 2022 there was a decrease of −2% to 273 513 DaS and down −6% from pre-COVID-19 levels in 2019 of 291 220 DaS. The total landings in weight decreased by −9% to 652 300 tonnes in 2022 compared to 2021. The highest value of landings was observed in 2018 (EUR 1.22 billion) followed by decreases each year until 2020 (EUR 1.01 billion). This was followed by a 7% increase in 2021 to EUR 1.13 billion. In 2022, there was a decrease in value of landings of −2% reflecting decreases in landings by weight and DaS bringing the total value to EUR 1.11 billion. While Belgium (26%) and France (1%) experienced increases in value of landings in 2022, six Member States experienced decreases: Ireland (−11%), Spain (−11%), the Netherlands (−11%), Germany (−9%), Lithuania (−61%) and Portugal (−59%).

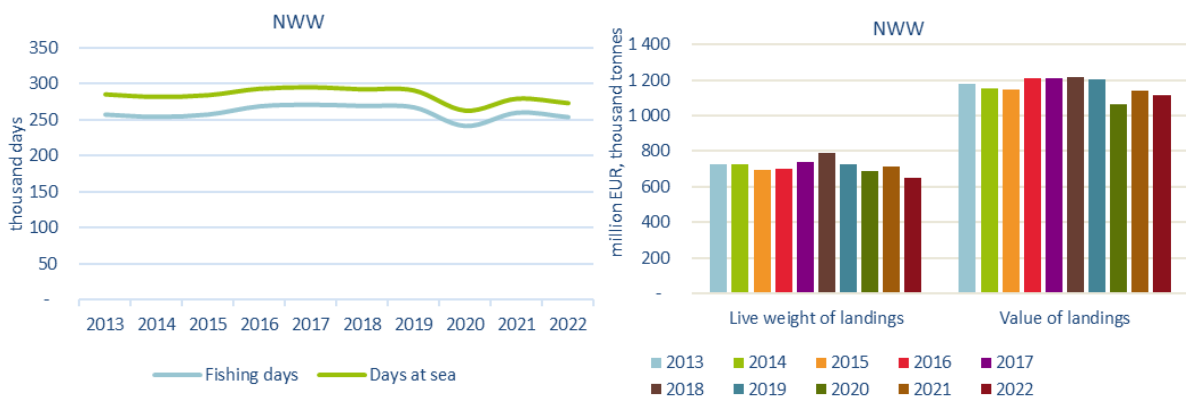**Figure 3.37.** Trends on effort and landings for MS fleets operating in NWW

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Employment, wages, and labour productivity

Total employment in this region in 2022 was estimated at 7 854 with the number of FTE employees at 5 719, a decrease of -4% in terms of FTE from 2021. The most important fleets in terms of overall employment correlate to those fisheries that have the highest dependency on this area. In 2022, France had the highest level of total employment with 2 719 FTE, followed by Ireland with 1 507 FTE and Spain with 1 032 FTE. These three Member States combined, represented 92% of all FTE employees in the region in 2022.

Total employment for the LSF is highest for France, Ireland and Spain totalling 2 934, 1 453 and 964, respectively, reflecting the high number of active LSF vessels from these Member States. The LSF total employment number has fluctuated between 2013 and 2022 and decreased on average by -8% in that period.

Total employment in the SSCF was estimated at 2 009 in 2022 and the numbers have fluctuated between 2013 and 2022 with a peak of 2 333 jobs in 2016. Similar to the LSF, total employed for the SSCF was highest for France (1 140), and Ireland (869) reflecting their high number of SSCF vessels All Member States operating a SSCF in the region demonstrates a marked difference between the numbers of total employed and total FTE indicating that many of those employed in the SSCF are part-time or casual workers.

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 except for Spain which demonstrates a higher level of FTE than total employment which can be explained by the fact that one FTE is equivalent to 1 800 hours (one working day), but in Spain fishers are working 2 000 hours which results in higher FTE than total engaged crew.

The overall average wage per FTE for the SSCF increased by 22% in 2022 to a value of EUR 58 800. For the LSF, the average wage per FTE increased by 5% to a value of EUR 80 600 (Figure 3.38).

Figure 3.38. Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in NWW
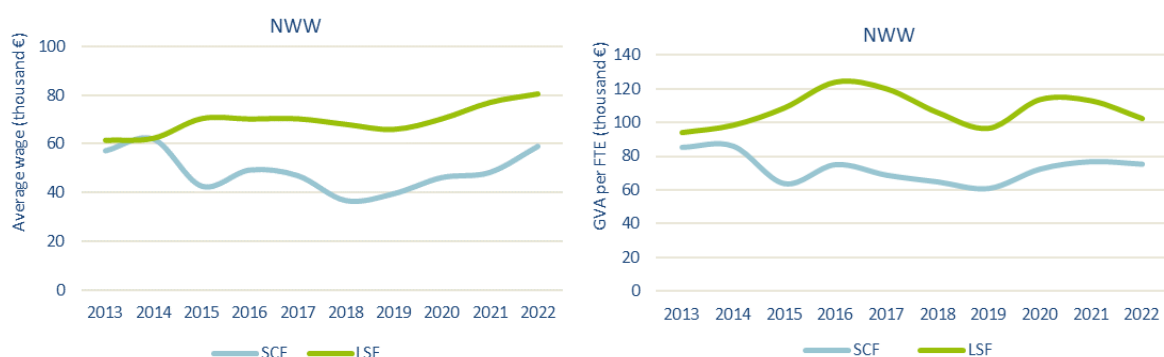
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

The revenue (income from landings and other income) generated by the NWW fleet in 2022 was estimated at EUR 1.18 billion, representing 17% of the total revenue of the overall EU fleet. This represents a marginal decrease in revenue of −0.1% from 2021. GVA was estimated at EUR 555

million, representing a decrease of -12% compared to the previous year and down −27% from a peak of EUR 752.8 million in 2016. The fleet achieved a gross profit of EUR 119.6 million, a significant decrease of -42% compared to 2021 (EUR 206.7 million). The net profit at -EUR 39.7 million decreased by -384% compared to EUR 14 million in 2021 (Figure 3.39).

In 2022, energy costs increased sharply by 55% reflecting spiralling fuel costs linked to the war in Ukraine and rising inflation levels. This had a significant negative impact on the economic performance of the NWW fleet. Fuel consumption decreased by -12% from 2021 reflecting a decrease in effort that year potentially linked to changes in fishing patterns as a result of increased fuel costs.

Figure 3.39. Trends on revenue and profits for MS fleets operating in NWW

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).
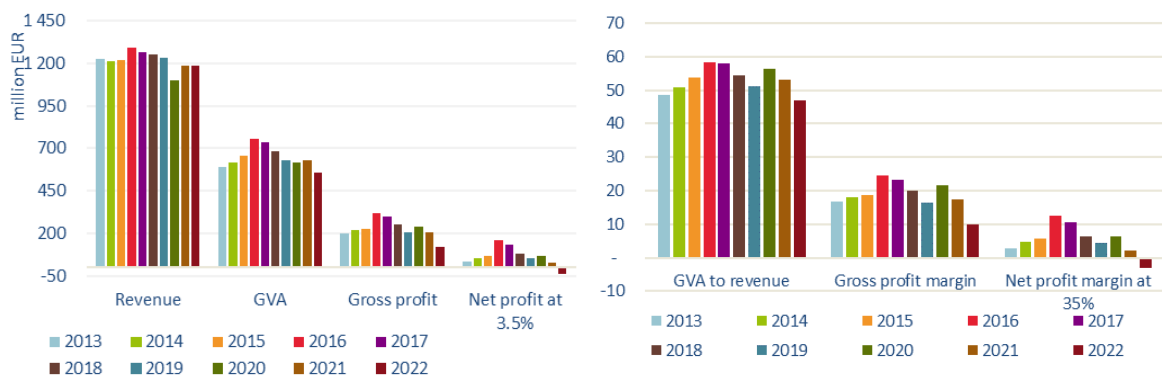
3.4.3 Trends by Member State fleet

Fleet capacity and employment

The eight Member States fleets operating in the NWW in 2022 collectively numbered over 2 484 active vessels in 2022, an increase of 2% from 2021. The French and Irish fleets combined contributed 95% of the total of vessels in 2022. The number of vessels has remained relativity stable in the last decade even excluding the United Kingdom over the entire time series. An increase in vessel numbers was recorded in 2015 accounted predominantly by Ireland but this is an artefact of better data reporting that allowed vessels, especially in the SSCF, to be assigned to a fishing region (Figure 3.40).

The highest FTE levels in recent years was 7 045 FTE in 2019. In 2022, employment in the region was estimated at 5 711 FTE, a -3% decrease from 2021 (and down -19% from pre-COVID-19 numbers in 2019). The French fleet contributes to 48% of the total FTE, with a total number of 2 719 FTE in 2022, followed by the Irish (26%) and Spanish (19%) fleets. In terms of trends, employment in the region followed the increase of fleet capacity from 2013 to 2019 reaching a peak of 7 045 FTE, followed by a -17% decrease in 2020 to 5 820 FTE, a 2% increase in 2021 to 5 942 FTE and a -4% decrease in 2022 to 5 719.

Figure 3.40. Trends on the number of vessels and employment (in FTE) for MS fleets operating in NWW
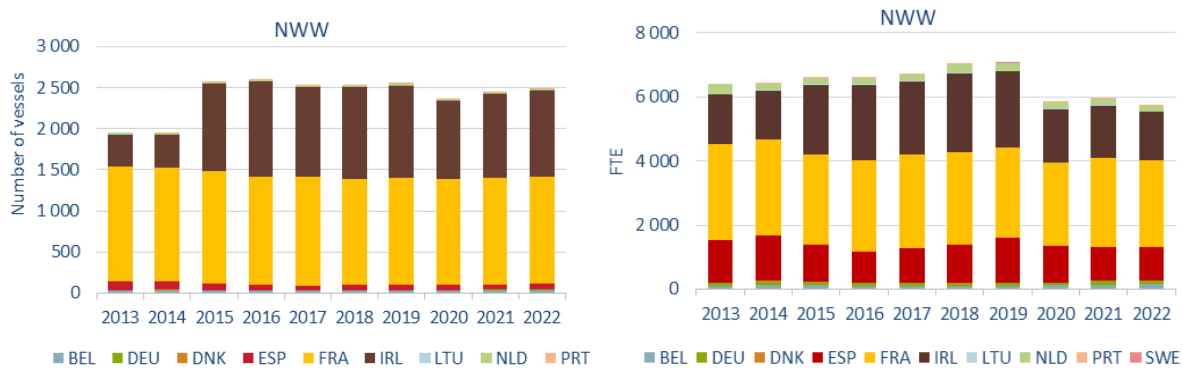
Fishing effort

The EU NWW fleet spent over 273 517 DaS in 2022 corresponding to a –2% decrease from 2021. French and Irish fleets represented the majority of effort in the region (90% of total) in 2022. It must be noted that Ireland had partial effort data for some fleet segments less than 10 metres LOA and only for the years 2013 to 2020, so conclusions regarding effort need to be taken with caution as Ireland's effort is underestimated for its less than 10 metres segments (Figure 3.41).

Figure 3.41. Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in NWW
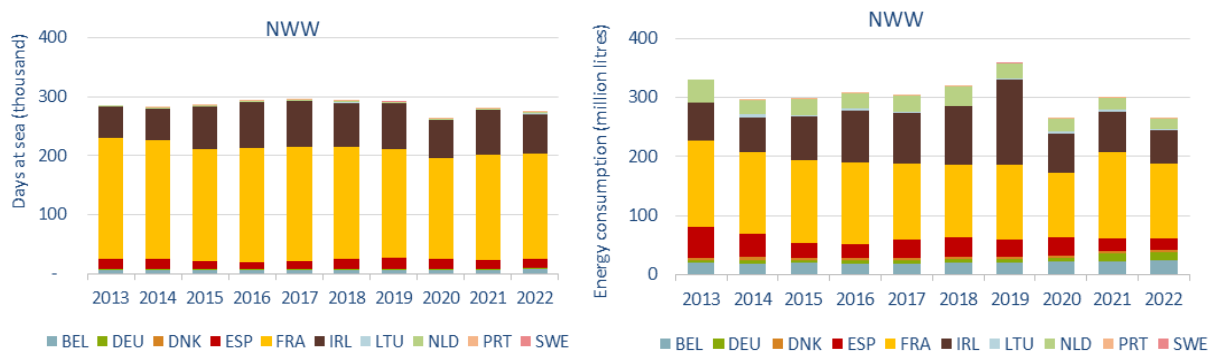
Energy consumption for the EU NWW fleet amounted to 183 million litres in 2022, a –12% decrease from 2021. 70% of this was consumed by the French and Irish fleets alone. Spanish, Belgium, and Dutch fleets combined contributed to 24% of the total energy consumption, due to the dominance of the LSF activity for these Member States in that region.

In terms of trends, fishing effort and energy consumption followed a similar trend from 2013 to 2019 followed in 2020 by a decrease of –10% in effort (DaS) and –26% in energy consumption linked to COVID-19 restrictions. In 2021, effort and energy consumption increased by 6% and 13%, respectively reflecting the easing of COVID-19 restrictions. Effort and energy consumption decreased again in 2022 by –2% and –12%, respectively. In 2022, the fishing effort (DaS) for the French fleet increased only marginally by 0.3% while there was a decrease of –13% in energy consumption compared to 2021. For the Irish fleet, there was a decrease of –10% of effort (DaS) and a corresponding decrease (–17%) in energy consumption.

Landings and top species

The weight and value of landings amounted to over 673 800 tonnes and EUR 1.13 billion, respectively in 2022, a decrease of -10% and increase of 5% from 2021. In terms of landed weight, the French, Irish, Dutch, Danish and German were the top five leading national fleets, together accounting for 90% of the total weight landed (Figure 3.42).

The French and Irish fleets contributed 50% and 22% respectively of the total NWW fleet landed value in 2022. Spain (8%), Belgium (6%) and the Netherlands (5%) contributed in a minor way to the overall landed value.

At a NWW fleet level, landings weight and value had variations over the period 2013-2022 with peaks of 787 200 tonnes and EUR 1.22 billion, respectively in 2018. At a Member State fleet level, French landings have fluctuated vastly from 2013 to 2022 demonstrating an overall -6% decrease in weight and -4% in value. Irish landings have shown an overall downward trend with decreases of -29% in weight and -6% in value in the same period. Spanish landings have also followed a decreasing trend by approximately -43% in weight and -36% in value. Conversely, Belgium landings increased 4% by weight and 37% by value between 2013 to 2022. There was a significant increase between 2021 and 2022 with Belgian landings by weight increasing by 17% and landings by value increasing by 26% from EUR 53 million to EUR 67 million (26%).

In 2022, the two main species landed in terms of weight were small pelagic species including blue whiting, and Atlantic mackerel representing 43% of all landings by weight in the region (Figure 3.43). The top 10 species in value included Atlantic scallop and European Hake (these two combined represented 21% of total value) and also a range of other species like pelagic (mainly large in landed weight) or species with high price values: Atlantic mackerel, blue whiting, Norway lobster, European lobster, Monkfish, common sole, whelk, and common cuttlefish.
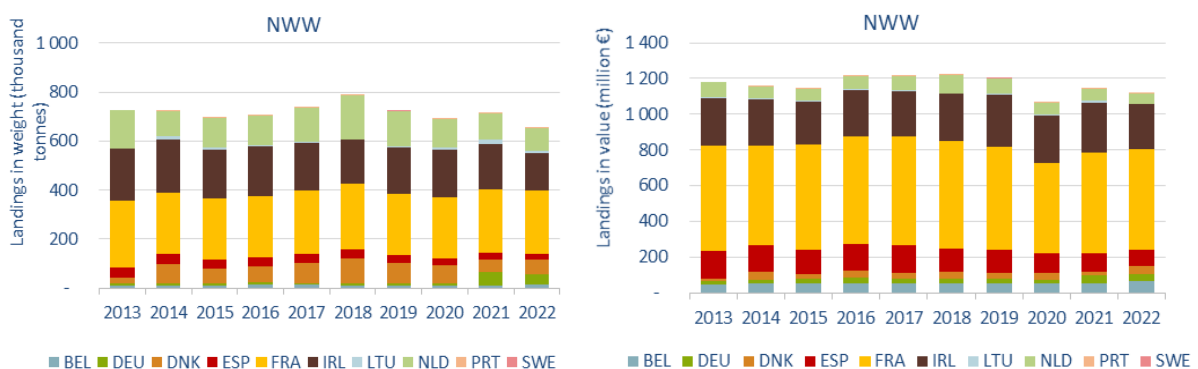
Figure 3.42. Trends on landings in weight and value from MS fleets operating in NWW

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

The availability of top species, through TACs, quotas and fish market prices, are key drivers for the performance of the NWW fleets. In terms of the share in landed values of crustaceans, Ireland dominates Norway lobster and edible crab. France dominates Atlantic scallop and whelk landings by value. Ireland and France dominate Atlantic mackerel landing values. Spain and France dominate the share in landed values of European hake, while common sole continues to be dominated by Belgium and France.

Figure 3.43. Top 10 species in landed weight and value for MS fleets operating in NWW, 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Temporal trends in the value and weight of landings have been significantly influenced by fluctuations in TAC and quotas for blue whiting, Atlantic mackerel and European hake (Figure 3.44).

Figure 3.44. Trends on landings of the top six species landed value for MS fleets operating in NWW
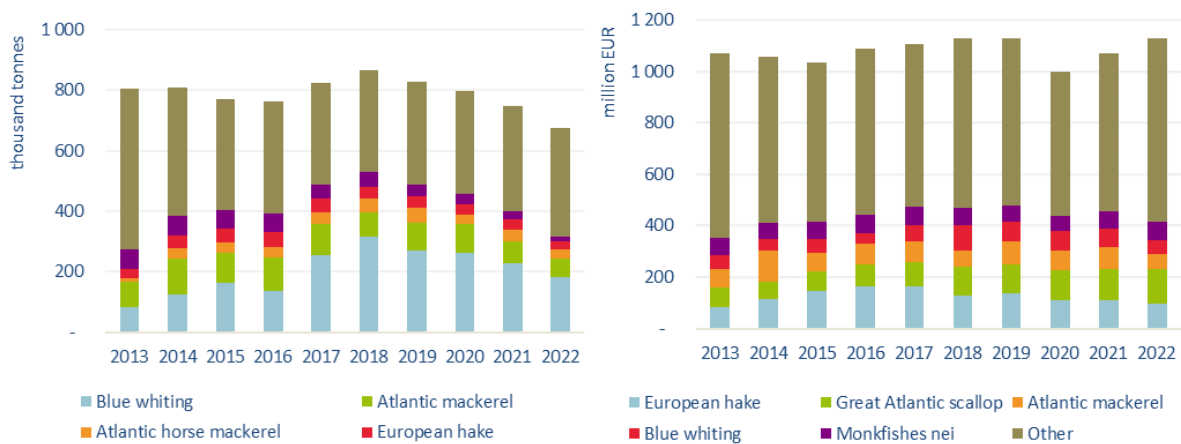
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Blue whiting landings fluctuated between 2013 and 2022 with the landed weight and value peaking in 2018 to 315 000 tonnes and EUR 99.7 million. From 2018 to 2022, landings by weight decreased on average by –42% and value, by –46%.

Atlantic mackerel landings have also fluctuated since 2013. From 2013 to 2014, landings by weight increased by 45% from 82 400 tonnes to 119 500 tonnes while landings by value increased by 76% from EUR 69.2 million to EUR 118.7 million. Landings by weight decreased by –32% on average between 2014 and 2018, followed by another increase (20%) from 2018 to 2020. From 2020 to 2022, Atlantic mackerel landings decreased on average by –38% by weight to 60 000 tonnes and –28% by value to EUR 57.2, the lowest landed weight and value between 2013 to 2022.

Great Atlantic scallop landings by weight decreased by –10% from 2013 to 2016 and then increased significantly on average by 67% from 2016 to 2022 as TAC increased during the same period. In terms of value, Great Atlantic scallop landings decreased by –10% in value from 2013 to

2014. This was followed by a significant increase of 94% on average between 2014 and 2022, reaching the highest value of EUR 135.5 million in 2022.

European hake landed weight had a significant increasing trend from 2013 to 2016 (61%) to a peak of 51 300 tonnes. This was followed by a ~46% decrease on average between 2016 and 2022 to 27 900 tonnes in 2022, the lowest weight landed during this period. The landed value of European hake reached its highest value in 2017 at EUR 164.8 million up by 99% compared to the value in 2013 (EUR 83 million) followed by a decreasing trend (~41%) to EUR 97 million in 2022.

Economic performance

The revenue generated by the NWW fleet covered in the analysis in 2022 was estimated at EUR 1.18 billion with 82% produced by three Member States fleets: France (EUR 602 million), Ireland (EUR 272 million) and Spain (EUR 99 million) (Figure 3.45). Total revenue for the region was stable compared to 2021. However, there were variations in term of economic results for the Member States that fished in NWW in 2022. Negative performances in some, have been offset by positive performance in others. Only three Member States achieved an increase in revenue from 2021 to 2022: Denmark (59%), Belgium (27%) and France (4%).

GVA was estimated at EUR 555 million in 2022. This represented a decrease of ~12% compared to 2021. All Member States experienced a decrease in GVA, except for Belgium (+1%). Between 2021 and 2022, energy consumption decreased by ~12%, while energy costs rose by 55%. A sharp increase in operating costs (and particularly energy costs) contributed to the overall reduction in GVA in the region.
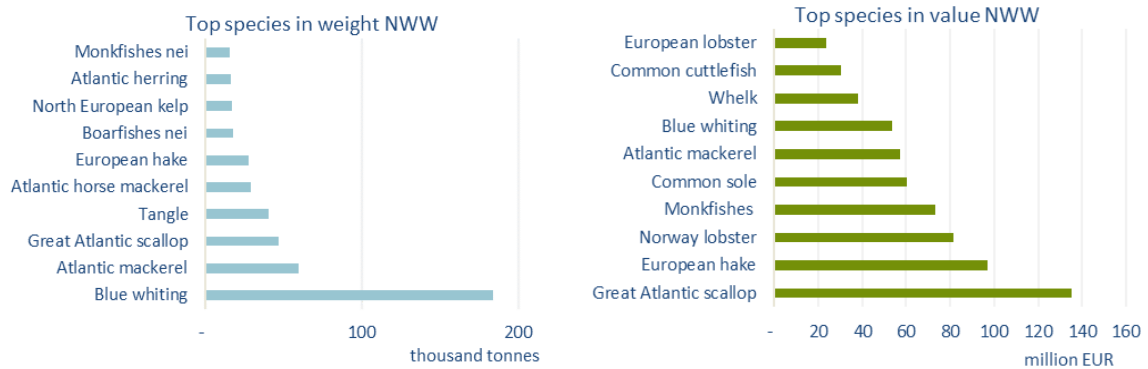
Figure 3.45. Trends on revenue and profit for MS fleets operating in NWW
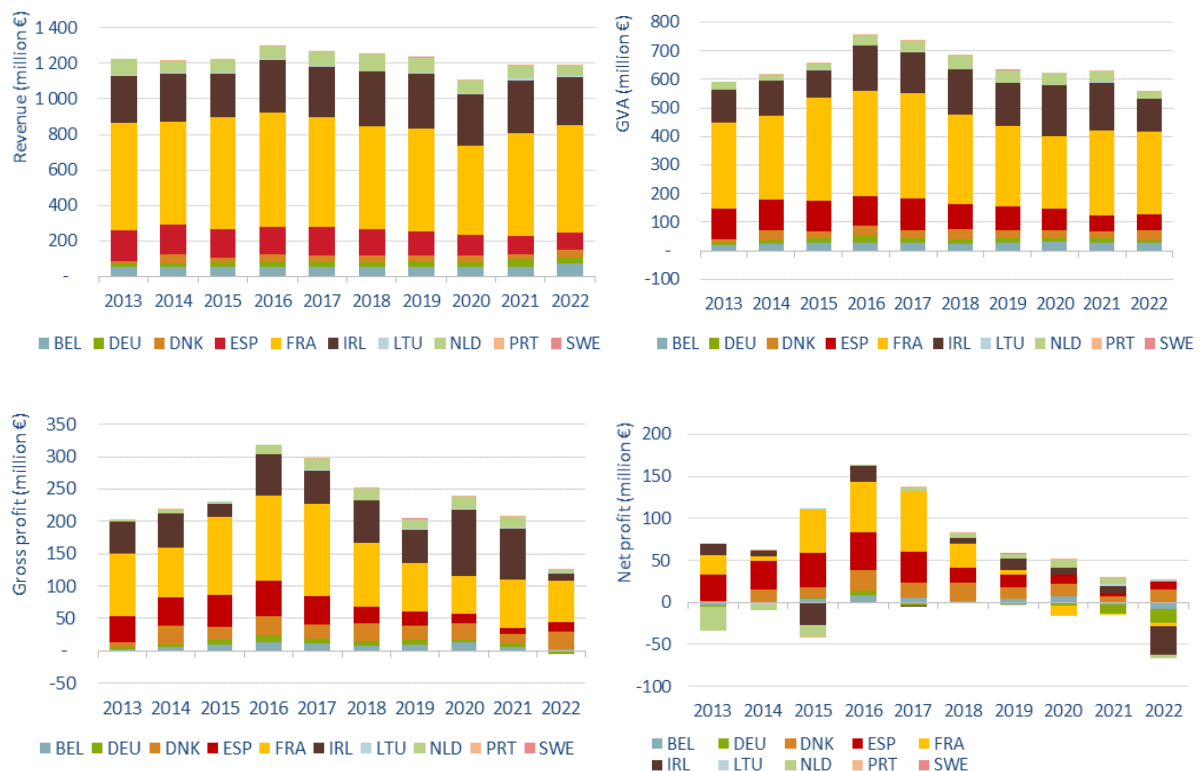
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

The NWW fleet earned EUR 120 million in gross profit in 2022, a decrease of –42% compared to 2021. Only Denmark and Spain had an increase in gross profit, respectively 64% and 54%. France (EUR 64 million), Denmark (EUR 27 million) and Spain (EUR 14 million) accounted for 88% of the total gross profit in 2022, noting that Germany had a negative gross profit (–EUR 5 million). Due to rising inflation and spiralling fuel costs, the economic performance of the NWW fleet decreased sharply in 2022. Net profit was negative for the first time for the NWW fleet (–EUR 38 million). Member States most affected by this fall in net profit were Ireland (–EUR 32.5 million), Germany (–EUR 17 million), Belgium (–EUR 7 million), France (–EUR 4 million) and the Netherlands (–EUR 3 million). Conversely, Denmark and Spain had increases in net profit to EUR 15 million and EUR 10 million, respectively.

The temporal variation in total annual revenue is primarily linked to annual fluctuations in TACs, quotas, fish prices, and fuel prices. This was compounded by decreases in the weight of landings by –9% and value of landings by –2% in 2022.

3.4.4 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:

- An increase in landings by weight for certain species (i.e., European lobster, Atlantic scallop).

- An overall increase in the value of landings by 5% in the region.

- Fish prices for certain species (e.g. Norway Lobster, Atlantic Scallop, Monkfish) increased in 2022.

- Recovery of some stocks, e.g., the biomass of most herring stocks has increased, and the Northern hake stock continues to follow a positive trend.

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

- Following the UK's departure from the EU (Brexit), the EU–UK Trade and Cooperation Agreement (TCA) sets out the terms under which the EU and the UK can determine their individual rights to catch fish in their respective waters. Under the agreement, 25% of the EU's fishing rights in UK waters are to be transferred progressively to the United Kingdom's fleets between 2021 and 2026. The UK waters are a significant fishing area for both the French and Irish fleets but particularly the Irish as 98% of their effort (DaS) occurs in the NWW. Subsequently, the most direct effects were expected for the pelagic fleets of Ireland and France due to the reduction of the EU–27 share in TACs of Atlantic mackerel (e.g. –26% for the Irish fleet) and herring. In addition, the Irish demersal fleet saw quota reductions for Norway Lobster of –14%. The impact of the TCA was evident in 2022 with an overall decrease in landed weight by –10% across the region, particularly for pelagic species.

- Fish prices for certain species decreased in 2022 (e.g. European mackerel, blue whiting, European hake).

- In 2022, energy costs increased sharply by 44% in the NWW reflecting the spiralling fuel prices that year. The two main fleets operating in the NWW, France and Ireland, saw increases of 50% and 58% respectively in terms of energy costs. This had a detrimental effect on the overall performance of the NWW fleet.

- The Irish fleet experienced a severe deterioration in economic performance in 2022 compared to 2021. This deterioration was somewhat offset by EUR 23.9 million in operating subsidies financed under the Brexit Adjustment Reserve (BAR) fund and EMFAF grant assistance. However, the income from direct subsidies is not factored into gross profit or net profit calculations for 2022 for Ireland in this report and this has impacted the overall performance of the NWW fleet.

Regulation and Fisheries management in the region

- The TCA which entered into force on 1 May 2021 between the UK and the EU includes the objective of cooperating with a view to ensuring that fishing activities for shared stocks in their waters are environmentally sustainable in the long term and contribute to achieving economic and social benefits, and requires the Parties to hold consultations annually to agree the total allowable catches (TACs) for the following year for the stocks listed in Annex 35 to the TCA. The agreement established the parties (UK and EU) share of the Total Allowable Catch (TAC) for 124 stocks of common interest, including changes to the shares in each of the years 2021 to 2025 and 2026 onwards. These TAC changes include 55 stocks where the United Kingdom share has increased and the total share available to the EU has reduced accordingly. This has had an impact on many remaining EU Member States operating in the NWW, and particularly for Ireland and France. A series of meetings took place between November and December 2021 to consult on fishing opportunities for 2022 in accordance with Article 498 (Fishing Opportunities) of the TCA. The results of these negotiations were documented in Annex 1 of 21 December 2021: fisheries consultations between the UK and the EU for 2022.

- Regulation (EU) 2019/472 of the European Parliament and of the Council of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks- This regulation covers a range of demersal species and deep-sea stocks fished primarily by the Irish and French fleets and also by the other Member States that typically operate in the NWW, including for example:

- Norway Lobster (ICES subareas 5, 6, 7) of particular importance to the Irish and French fleets.

- European Hake (ICES subarea 7) of particular importance to the Irish, French and Spanish fleets.

- Cod (ICES divisions 7a, 7e-k) of particular importance to the Irish and French fleets.

- Haddock (ICES divisions 6b, 7a, 7b-k) of particular importance to the Irish and French fleets.

- Whiting (ICES divisions 7b, 7c, 7e-k) of particular importance to the French, Irish and Dutch fleets.

- Megrim (ICES divisions 6b, 7b-k) of particular importance to the Spanish, Irish, French, and Belgian fleets.

- Plaice (ICES divisions 7d, 7e) of particular importance to the Belgian, French, Irish and Dutch fleets.

- Common sole (ICES divisions 7d, 7e, 7f, 7g, 7hm 7j, 7k) of particular importance to the Belgian 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 NWW region, this management plan applies primarily to France.

- Other management measures that may affect economic performance of the fleets operating in the NWW include the EU's Marine Strategy Framework Directive which provides a binding legal obligation to establish marine protected areas (MPAs). It stipulates that spatial protection measures such as MPAs shall be put in place to conserve biodiversity as part of national programmes of measures, to contribute to the achievement of good environmental status.

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 Advice 2022. The ICES Ecoregion for the Celtic Seas, which mostly correlates with the NWW regions indicated that Mean F is now closer to the level that produces maximum sustainable yield (MSY). The fishing mortality of 43 stocks has been evaluated against MSY reference points; of these, 33 stocks are now fished at or below F_{MSY}.

TAC development of main species

Demersal species:

- After a peak in 2019, Hake TAC decreased from 2019 to 2022.

- Common sole TAC decreased in 2022 in all areas of the NWW except in 27.A where TAC has been increasing since 2019.

- Norway lobster TAC in NWW had been quite stable until 2019 since then, TAC decreased each year up to 2022.

- TAC of anglerfish increased by 28% from 2008 to 2019, remained stable in 2020, and then decreased in 2021 by -16%. In 2022, TAC increased by 7%.

Pelagic Species:

- TACs for pelagic species in the Northeast Atlantic region have varied especially for blue whiting and mackerel with very high values in 2005, 2014 and 2018.

- After a peak in 2014, mackerel TAC has been decreasing overall except for 2017 and 2020. These reductions had a negative impact on the overall revenue of the NWW.

- Horse mackerel TAC decreased in the NWW from 2014 to 2015. This reduction impacted the Irish fleet and had a knock-on effect on total revenue and economic indicators. In 2019 TAC increased again, however between 2019 and 2022, TAC has continued to decrease.

- Blue whiting TAC increased each year since 2009, reaching a peak in 2018. This increase positively affected the five most important Member State fleets in the NWW. However, TAC has decreased each year from 2019 to 2022.

3.4.5 Description of relevant fisheries in the region

Small-scale coastal fleet

There were SSCF from two Member States (France and Ireland) operating in the NWW in 2022. While 100% of Irish SSCF fished in the region, SSCF fishing activity by France in the NWW represents only a proportion (46%) of their overall activity, as they were also active in the

Mediterranean Sea and North Sea. In terms of vessel numbers, Ireland had the highest number of active SSCF vessels with 645 and France, with 615 vessels.

Total employment for the SSCF is highest for France totalling 1 140 jobs, followed by Ireland with 869 jobs, reflecting the largest number of their active vessels in the region. These Member States fleets demonstrated a lower FTE figure in comparison with total employed indicating that a large majority of those employed in the SSCF fish part-time or seasonally.

Overall, the SSCF was profitable in 2022, totalling EUR 87 million in GVA and EUR 19 million in gross profit. However, there was a significant difference between the economic performance of the Irish and French fleets, the two key players in this region. While the French SSCF achieved a gross profit of EUR 17.4 million (up 27% from 2021), a gross profit margin of 16% and a net profit of 9%, the Irish SSCF fleet achieved a gross profit of EUR 17.1 million (down −92% on 2021), a gross profit margin of 4% and a negative net profit of −6%.

In terms of main species landed by weight, tangle (28 000 tonnes) and North European kelp (17 000 tonnes) were the top two species. The main species by landed value were whelk and European lobster, valued at EUR 34 million and EUR 20.4 million, respectively.

Figure 3.46. Top 10 species landed by SSCF operating in NWW, 2022
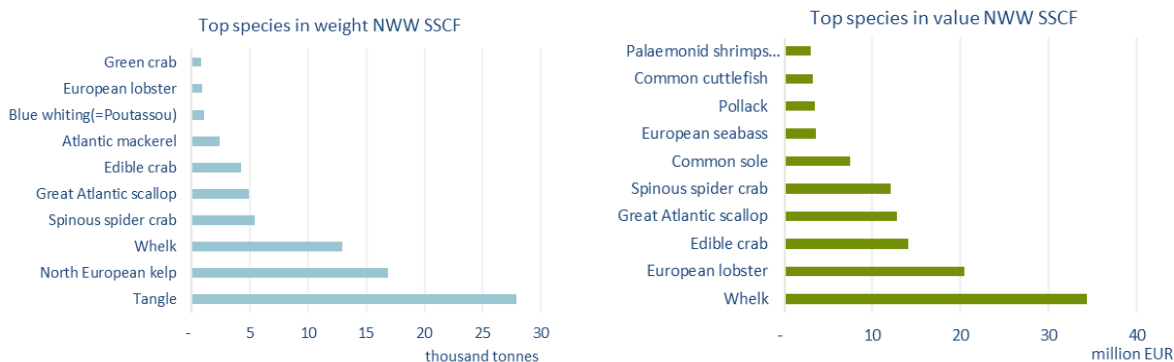
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.47. Trends in landings of top species landed by SSCF operating in NWW
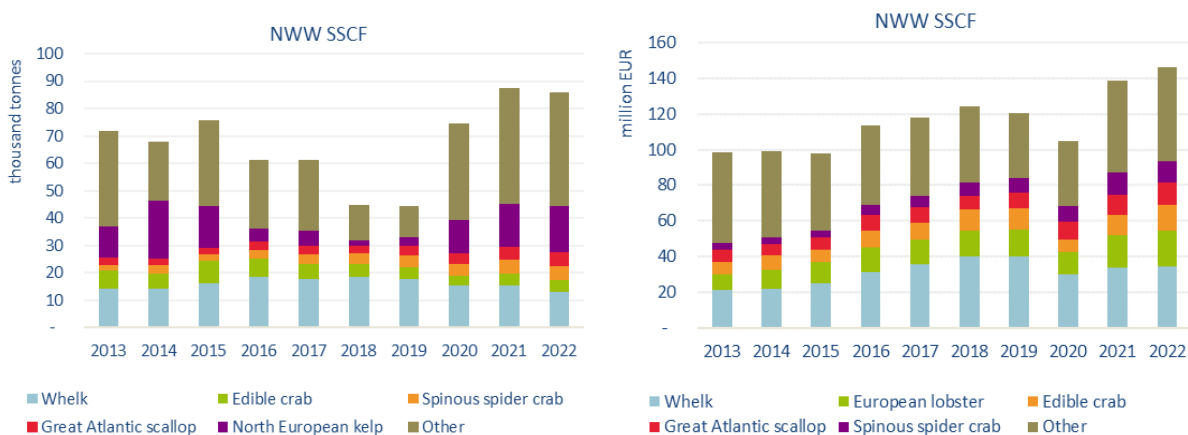
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Large-scale fleet

- In 2022, eight Member States had LSFs operating in the NWW region totalling 1 224 active vessels. France had the largest number with 690 active vessels. However, in terms of dependency, the region is more important for the Irish LSF with 410 vessels or 96% of their LSF active in the NWW. Total employment for the LSF is highest for France totalling 2 933 jobs, reflecting their high number of active vessels in the region, followed by the Irish LSF with 1 453 jobs.

- Overall, the LSF was profitable in 2022, totalling EUR 466 million in GVA and EUR 100 million in gross profit. The French NWW LSF, generated the highest revenue (EUR 494 million), followed by Ireland (EUR 231 million) and Spain (EUR 90 million).

- At a Member State level, all LSF generated gross profits in 2022, except for Germany. Additionally, one DWF Lithuanian fleet was also active in the region in 2022. It should be noted that data on the EU DWF 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.

Figure 3.48. Top 10 species landed by LSF operating in NWW, 2021

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.49. Trends in landings of top species landed by LSF operating in NWW

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

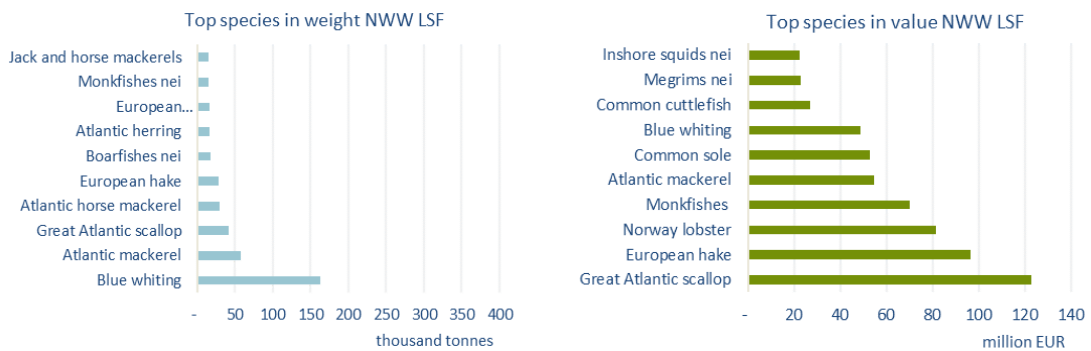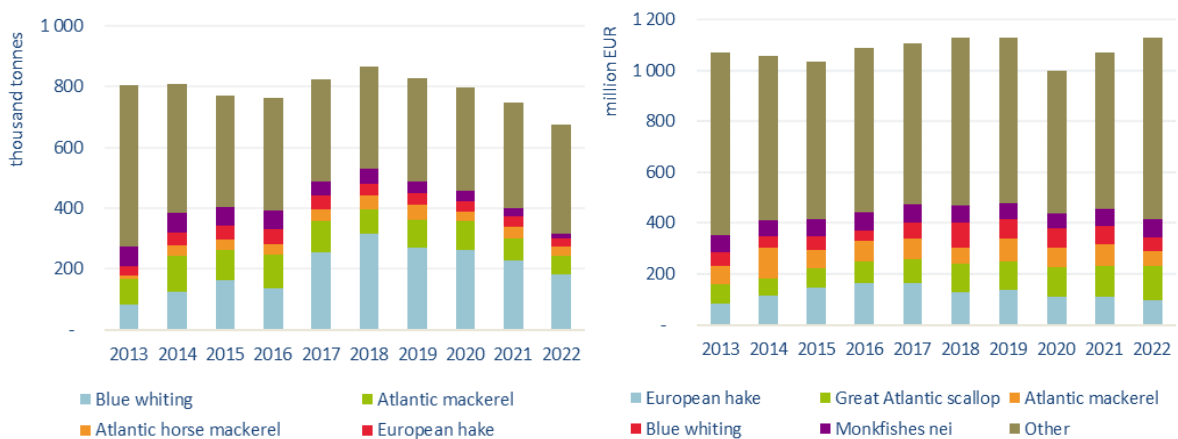- The highest valued species landed by the Irish LSF were Norway lobster and Atlantic mackerel totalling 41% of the total value of landings. These two species had landing values of EUR 108 million.

- In the Netherlands, Germany and Denmark, the most frequently fished species were blue whiting with a total value of EUR 37 million.

- For Spain and France, there was a more diverse landing composition, with European hake playing a key role for both Member States. The top species by landing value for France were Atlantic scallop (22%), monkfish (13%), and European hake (8%).

Performance by fleet segments

- There were an estimated 74 segments operating in the NWW in 2022. At a fleet segment level, the French demersal trawlers 24-40m generated the most revenue in (EUR 111 million), followed by the French demersal trawlers 18-24m (EUR 79 million), followed by the Irish demersal trawlers between (EUR 68 million) and the French dredgers 12–18m (EUR 62 million).

- 21 EU fleet segments from Ireland and France operated for more than 85% of the year in the NWW region, accounting for 56% of the number of vessels, 43% of the total effort (DaS) and 42% of the FTE. Collectively, these resident fleets represented 41% of the landings by value and 33% of landings by weight across LSFs and SSCFs.

- For the four segments with the highest revenue, their economic indicators were as follows:

- The French demersal 24-40m segment achieved a GVA of EUR 33 million, gross profit of –EUR 6 million and GVA per FTE (labour productivity) of EUR 78 000.

- The French demersal 18-24m segment achieved a GVA of EUR 29 million, gross profit of EUR 4 million and GVA per FTE (labour productivity) of EUR 84 500.

- The Irish demersal 24–40m segment achieved a GVA of EUR 25 million, gross profit of EUR 5 million and GVA per FTE (labour productivity) of EUR 92 700.

- The French dredgers 12–18m achieved a GVA of EUR 34 million, gross profit of EUR 10 million and GVA per FTE (labour productivity) of EUR 138 000.

3.5   Southern Western Waters

3.5.1   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, the French, and the Portuguese. Besides those, six more EU fleets operated in the region in 2022: Belgium, Germany, Denmark, Ireland, Lithuania and the Netherlands, but having limited fishing activity in the region (effort share of these MS as a whole was 0.1% and landings were 1.3% in value and 5% in weight of the region totals).

Figure 3.50. Importance of the SWW for MS fleets in terms of landings in weight and value, 2022
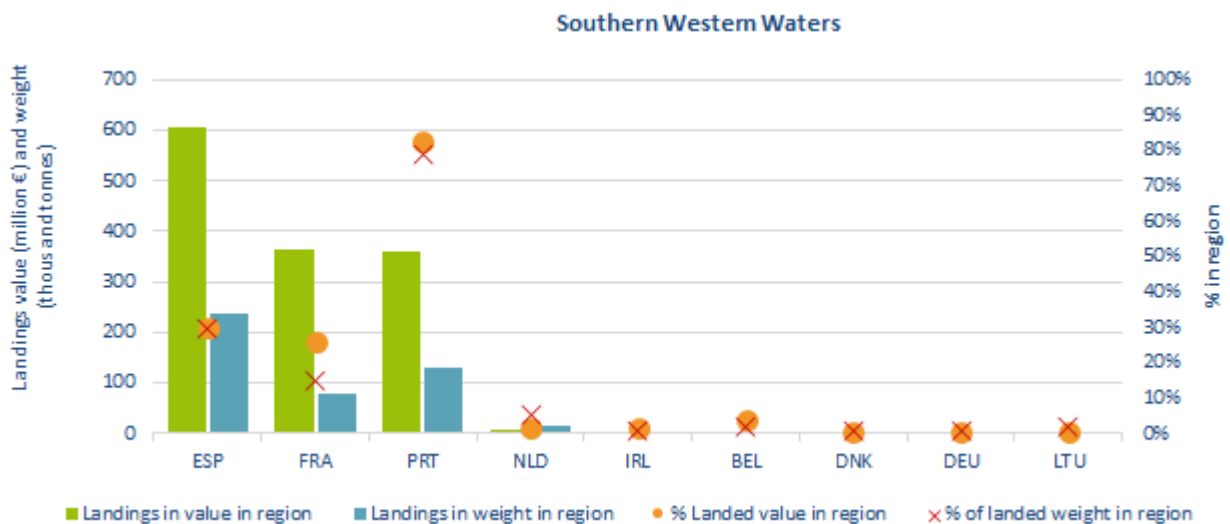
Data source: MS data submissions under the 2024 Fleet Economic data call MARE/A3/ASC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.51. Share of MS fleets and fishing activity in the SWW, 2022
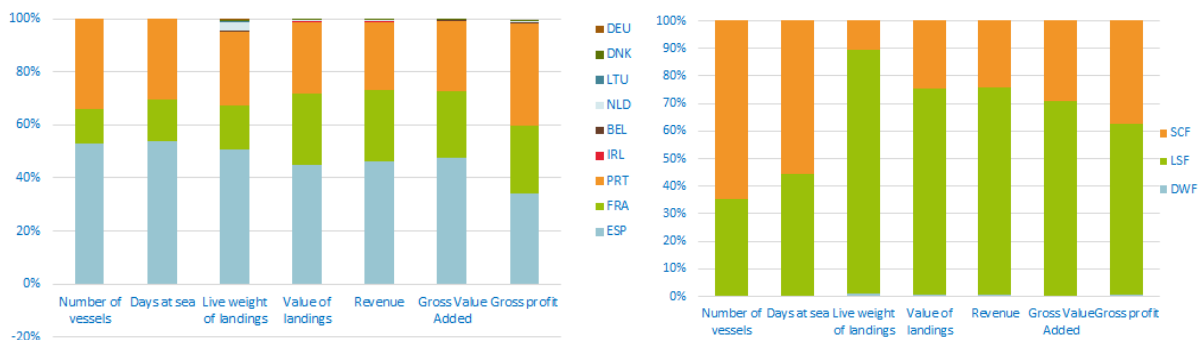
Data source: MS data submissions under the 2024 Fleet Economic data call MARE/A3/ASC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

Based on the value of landings, Spain produced the most from the region, followed by France and Portugal. Spain has the highest percentage of landed weight from the region (51%), followed by Portugal (28%) and France (17%). Portugal is the Member State that most depends on these waters: 98% of the Portuguese fleet effort occur in the SWW, producing 82% and 79% of the total value and weight of landings, respectively).

SSCF dominates in number of vessels (65%) and effort (55%) while the LSF is the main segment in terms of production (88% in weight and 75% in value) (Figure 3.51).

3.5.2 Overview of the main results for EU fleets in the SWW

Fishing effort and landings

Fishing effort had been decreased from 2017 to 2020 at the same time than weight of landings and value of landings. However, in 2021 an increase trend was observed. In 2022, the total weight of landings continued to rise (0.6%), while the effort (days at sea) and the value of landings decreased 1.3% and 1.2%, respectively (Figure 3.52).

The main species landed were European pilchard, blue whiting, Atlantic horse mackerel, Atlantic mackerel and European anchovy. In terms of value, the main species were European hake, octopus, albacore, and anchovy. Among these species, it is particularly important the price as in the case of the octopus, whose landings were 13 333 tonnes and the value of landing reached EUR 105 million (7.9 euro/kg).

Fishing opportunities and prices are major drivers of revenues, but also operational costs, as fuel, whose prices averaged 0.92 euro/litre.

Figure 3.52. Trends on effort and landings for MS fleets operating in the SWW
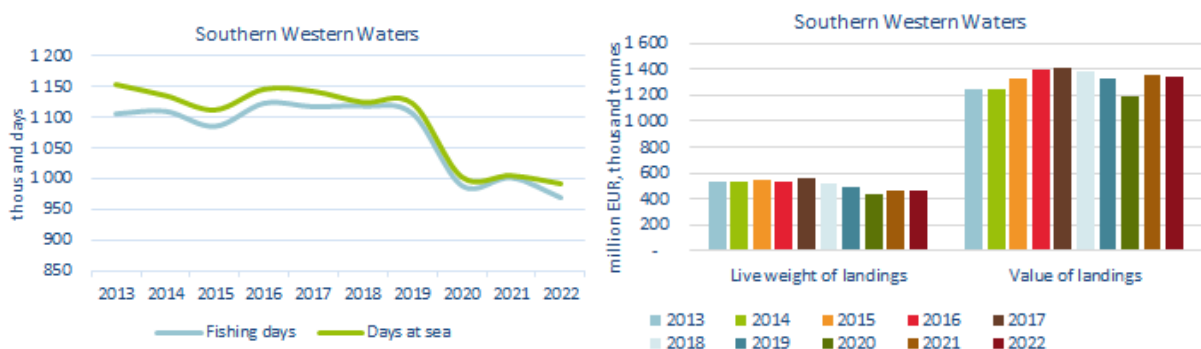
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

Employment, wages and labour productivity

Total employment in the region was estimated at 32 446 fishers and 19 085 FTE, showing the significance of part-time work in this region. Engaged crew has followed a decreasing trend from 2016 to 2020, interrupted in 2021 (engaged crew increased in 2021). However, in 2022 it decreased again (-2%) achieving a level like that of 2020. The fall of the FTE was higher (-7%), showing the decrease in the full-time work. The discrepancy between the decrease in engage crew and in FTE was bigger in Portugal (-10% FTE and -2% jobs) than in Spain (-5% FTE and -2% jobs), which means a greater increase in the importance of part-time fishers in the sector in Portugal.

Average wages per FTE in the SSCF have grown 4% in 2022, being 23% above the average of the period 2013-2021.

The LSF also showed a positive trend from 2013, despite the deterioration in 2019. From then, the average wage increased in 21%. Currently, the LSF salaries are 19% above the average of the period 2013-2021. The difference in salaries between SSCF and LSF has been variable, exceeding 8 000 euros in the last two years (Figure 3.53). The gap between labour productivity (GVA per FTE) in the SSCF and LSF has been narrowing from 2016 to 2021, when the values were closer than ever before. However, in 2022, this difference increased, as the productivity in the LSF grew 11% while in the SSCF only increased 3%.

Figure 3.53. Trends on average wage and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the SWW
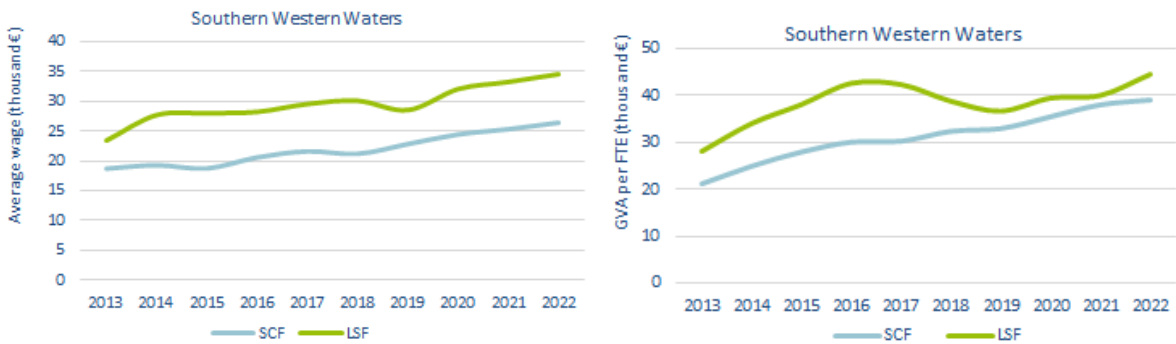
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

In 2022, the fleet operating in the SWW generated over EUR 1.4 billion in revenue, EUR 818 million in GVA and EUR 208 million in gross profits. Overall, revenue and profits have increased since 2020 after experiencing a downward trend from 2016 to 2020. In 2022 the recovery continued with an increase of 4% in revenue. This fleet was profitable in 2022, posting a net profit of over EUR 85 million (6% profit margin) (Figure 3.54).

Figure 3.54. Trends on revenue and profits for MS fleets operating in the SWW.
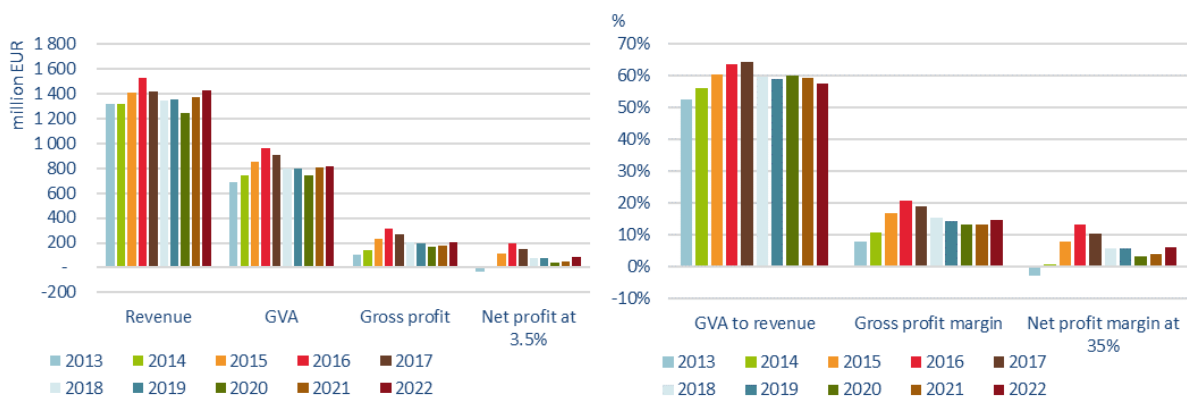
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

The personal costs are the most important expenditure for the fleet operating in the SWW (41%), followed by the energy costs (17%). The cost structure had been relatively constant along the time, but an intensification of the energy costs (+82%) as occurred from to 2020 to 2022. However, this increase is lower if compared in the long term since energy costs are 22% over the average of the period 2013-2020. On the other hand, the personal costs have decreased by 2% since 2021 and when comparing with the 2013-2020 average it has increased by 2%.

Table 3.1. Cost items in the SWW in 2022

Personnel costs	totcrewwage	542.016.271	41%
Value of unpaid labour	totunpaidlab	67.740.524	5%
Energy costs	totenercost	227.741.195	17%
Repair & maintenance costs	totrepcost	106.335.607	8%
Other variable costs	totvarcost	166.078.451	13%
Other non-variable costs	totnovarcost	102.554.979	8%
Consumption of fixed capital	totdepcost	100.561.975	8%
Lease/rental payments for quota	totrightscost	3.625.675	0%
		1.316.654.676	100%

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

3.5.3 Trends by Member State fleet

Fleet capacity and employment

The Member States fleets operating in the SWW collectively numbered almost 10 200 vessels even though Spain, Portugal and France represented 99.9% of the total. The Spanish fleet comprised the largest fleet in number (5 410 active vessels in the region), followed by Portugal (3 440) and France (1 315).

Fleet capacity and employment in the region have followed a general decreasing trend over the analysed period 2013-2021. However, in 2022 this fleet has 27 vessels more, once the Spanish fleet operating in these waters has grown in 88 vessels. The Portuguese fleet has fallen 8% in number of vessels when comparing the year 2022 with the average of 2013-2021, while the Spain has dropped 5%. The FTE of the SWW Spanish fleet is 21% under the average of 2013-2021 while the Portuguese only decreased 12% (Figure 3.55).

In 2022, the employment estimated for the SSW fleet amounted 32 446 jobs corresponding to 19 085 FTE. The most important fleets in terms of overall employment correlate to the same fleets with the highest production in the region. The Spanish fleet employed 52% of the SWW crew (corresponding to 55% FTE), while the Portuguese is responsible for 39% of the jobs (corresponding to 35% FTE), indicating the greater importance of part-time employment in Portuguese fisheries. Together, these two Member States with France covered almost 100% of the employment in the region.

Total employment for the SSCF was highest in Spain and Portugal reflecting their high number of SSCF vessels in the region. The SSCF, for these two Member States, demonstrates a marked difference between the number of totals employed and total FTE indicating that a large number of those employed are part-time employees. Compared to 2021, while in Portugal, the FTE decreased 14% (after the increase of 17% in 2021), in Spain the value kept stable in 2022.

Employment for the LSF is also the highest for Spain and Portugal, 57% and 32% of the LSF FTE, respectively, reflecting the high number of active vessels of these Member States in the region, especially the Spanish fleet. Compared to 2021, after an increased in that year, the FTE decreased 7% in Spain and also in Portugal. LSF figures for engaged crew and FTEs are closer in value in the LSF fleet, indicating a high level of full-time employment.

Figure 3.55. Trends on the number of vessels and employment (in FTE) for MS fleets operating in the SWW.
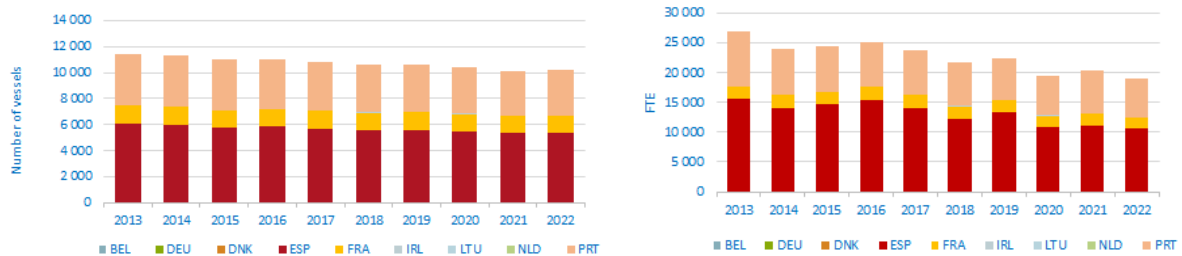
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)

Fishing effort

SWW fleet spent around 992 000 million DaS in 2022, 54% of which were deployed by the Spanish fleet and 30% by the Portuguese fleet (Figure 3.56). It is important to notice that, while the Spanish fleet spent 5% days more fishing in the SWW when comparing to 2021, the Portuguese, have reduced the activity in 9%. The number of DaS per Member State (considering the three main countries in this region) has remained quite constant along the time: the Spanish accounting with 51-56% of the DaS, Portugal with 28-33% and the French with 16%.

Fishing effort has decreased more than the capacity in terms of vessels number, with a 11% decrease in the number of vessels from 2013 and a 14% decrease in DaS. In 2022, there were 1 261 fewer vessels fishing in the region compared to 2013, with the Spanish fleet accounting for half of this decrease. The decreasing trend in vessel number and also in engine power and gross tonnage is expected to continue for the coming years, even though the Spanish fleet slightly increased in 2022.

Energy consumption has also followed a general decreasing trend from 2013 to 2022. From 2021 to 2022, and after the 15% rise in 2021, Portugal reduced its energy consumption by 10%. The Spanish fleet continued its downward trend and reduced the litres of fuel used by 7%, when comparing 2022 to 2021.

Figure 3.56. 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 2024 Fleet Economic data call (MARE/A3/AC(2024)

Landings and top species

The weight and value of landings generated by the SWW fleets amounted to approximately 469 277 tonnes and EUR 1.34 billion, respectively. In terms of landed weight, the Spanish (51% weight, 45% value), the Portuguese (28% weight, 27% value) and French (17% weight, 27% value) were the most important national fleets, and together accounted for over 99% of the total value and 95% of the landing weight.

Although the negative trend from 2017 to 2020, landings in weight have increased by 5% in 2021 compared to 2020, and 1% in 2022 when compared to 2021. Also, the value of landings has been decreasing from 2017 to 2020 but, it had an increase of 14% in 2021 when compared to 2020. In 2022 the value of landings dropped slightly compared to 2021 (–1%), remaining 2% above the 2013–2023 average (Figure 3.57).

Figure 3.57. Trends on landings in weight and value from MS fleets operating in the SWW
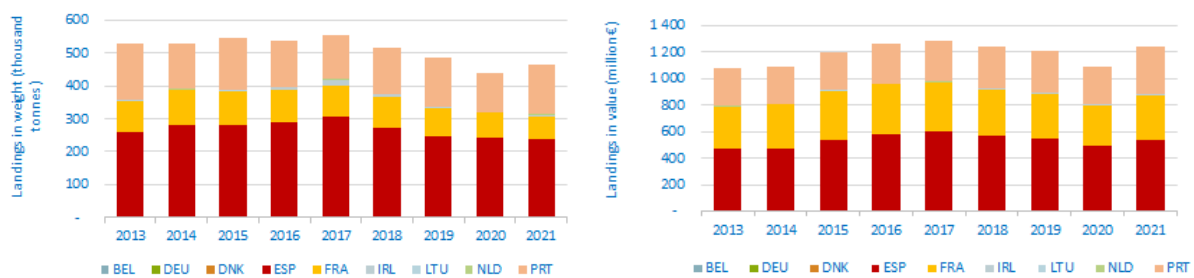
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the main species landed by the SWW fleet in terms of weight were European pilchard (57 279 tonnes), blue whiting (49 530 tonnes), Atlantic horse mackerel (42 220 tonnes), Atlantic mackerel (36 130 tonnes), anchovy (35 613 tonnes) and hake (30 920 tonnes). These species all together represented 54% of the total landings weight in the SWW. In terms of value, European hake was the most important species in 2022 (EUR 112 million), followed by octopus (EUR 105 million), albacore (EUR 90 million), anchovy (EUR 68 million) and European pilchard (EUR 63 million) (Figure 3.58).

Figure 3.58. Top 10 species in landed weight and value for MS fleets operating in the SWW, 2022

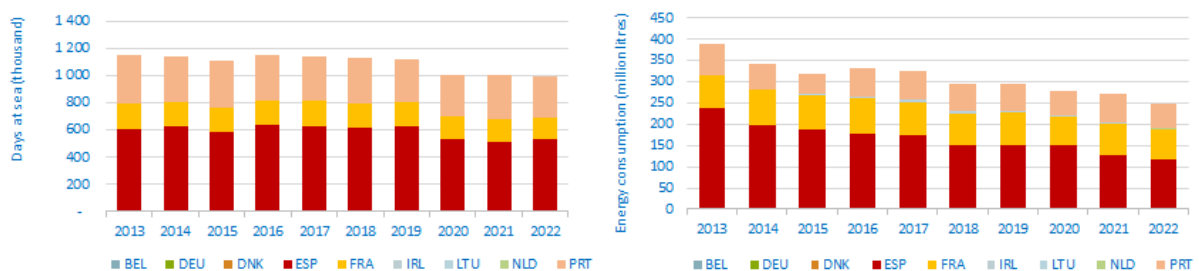Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

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 (94%). Norway lobster, common sole and

European seabass landings values, were dominated by France, with 84%, 79% and 68% of the total, respectively. Albacore landed values were dominated by Spain (78%). Regarding small pelagic fishes, European pilchard landings were led by Portugal (47% share) and Spain (35%). For European anchovy and Atlantic mackerel, Spain was the main Member State dependent on these species with 82% and 80%, respectively. Finally, common octopus is led by the Portuguese (59%) and followed by the Spanish fleet (32%).

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 decrease in 2019 followed by an increase in 2020, which impacted the total value of landings for Member States targeting this species. In 2022 the landing weight rose slightly (2%), but the price increased by 25%. European pilchard (*Sardina pilchardus*) is of particular importance in the region, the biomass of which has been improving over the last years and, consequently, landings from 2020 to 2022 (Figure 3.59).

Figure 3.59 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 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

The revenue generated by the SWW fleet in 2022 was estimated at EUR 1.4 billion. Almost 99% of it was produced by three Member States fleets: Spain (46%), France (27%) and Portugal (25%). Revenue increased by 4% in 2022 in comparison to 2021, being the growth especially important in Spain (11%). In Portugal, the revenue reduced by 7% (Figure 3.60).

The GVA generated amounted to EUR 818 million, an increase of 1% compared to 2021. The GVA increased particularly in the Spanish fleet (+8%), while in the French fleet the increase was around 6% and Portuguese fleet decreased by 14%.

The fleet made EUR 208 million in gross profit, an increase of 17% compared to 2021 being the second year in a row with an increase. By Member State, the Portuguese fleet produced the highest gross profit (EUR 81 million), followed by the Spanish fleet (EUR 72 million) and then the French fleet (EUR 53 million).

Net profit amounted EUR 86 million in 2022, being the Portuguese fleet responsible for 42% of the value, followed by Spanish fleet (39%) and French fleet (22%).
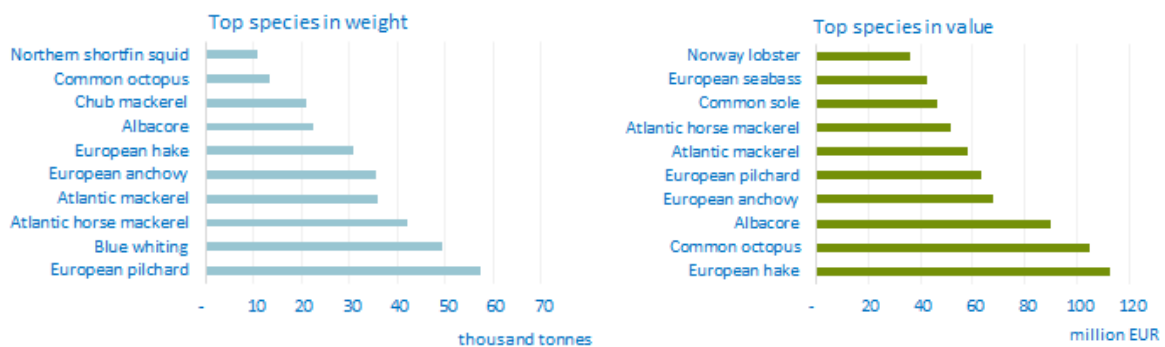
Figure 3.60. Trends on revenue and profit for MS fleets operating in the SWW
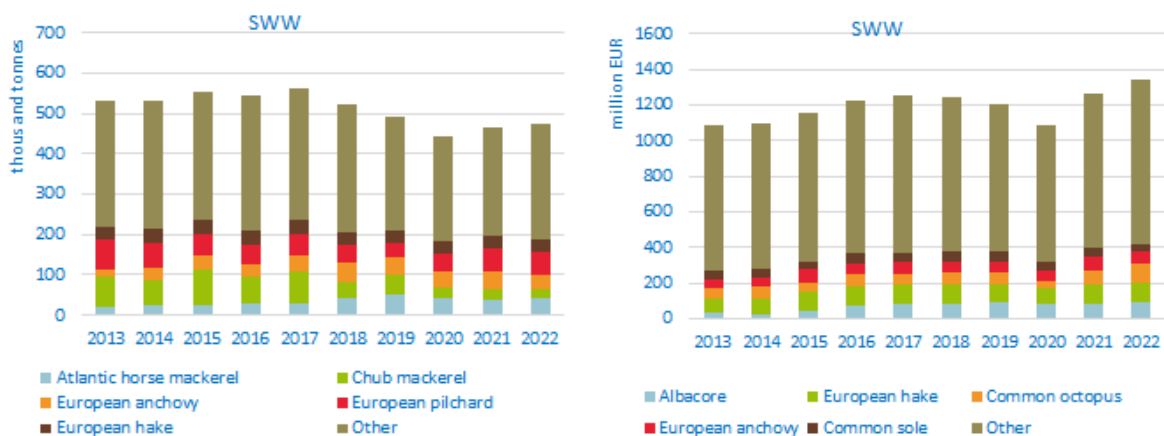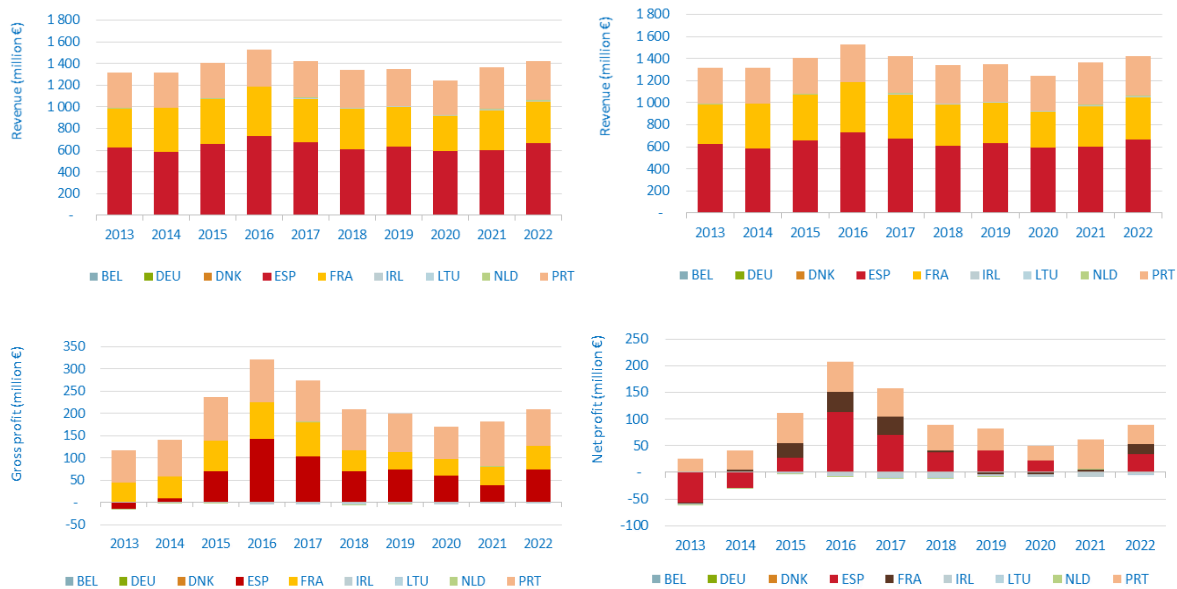

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

3.5.4 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:

- The management plan for western waters was based on the possibility of using catch bands around MSY (Art. 4), in order to take account of the complexity of managing mixed fisheries, which are particularly present in south-western waters. In this sense, the setting of fishing opportunities could not exceed the value of the TAC associated with the median F_{MSY} for all stocks.

- TACs variations for a number of stocks, e.g., blue whiting and hake.

- All the ICCAT recommendations formalising the exploitation rule for northern albacore provide for a dual objective of precautionary management of the stock (60% probability of green zone Kobe diagram, recovery) and maximising catches, over the long term and on average.

- The landing obligation creates an incentive to develop more selective fishing gear and reduce unwanted catches, while on the other hand, the lack of quota for some species caught in mixed fisheries forces the premature closure of some fisheries (the "choke effect").

- The variation of the prices for the main species such as blue whiting, Atlantic horse mackerel and chub mackerel, albacore or octopus.

- Increase in fuel prices resulting in higher energy costs, especially for pelagic fisheries.

Regulation and fisheries management in the region

- Commission Delegated Regulation (EU) 2020/2015 of 21 August 2020 specifying details of the implementation of the landing obligation for certain fisheries in Western Waters for the period 2021-2023

- Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005.

- Regulation (EU) 2019/472 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks.

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, the problems detected in the southern hake (ICES divisions 8c and 9a) assessment in 2020 led ICES to reject the mathematical model with which the stock had been assessed in recent years, and to give management advice based on abundance indices. In 2021, the status of the stock in relation to candidate reference points was unknown, therefore, the precautionary buffer was applied to the ICES 2021 advice. However, this situation improved with the new advice of ICES in 2022, when ICES published advice for the 2023 TACs and quotas with a new assessment model (recovering category 1, the maximum in terms of quality and reliability of the data for ICES), which made it possible to request a revision of the 2022 TAC in the second part of the year, and for 2023 we will have a TAC with this new assessment.

- On the same way a benchmark has been carried out on northern hake, resulting in a new assessment model, which updates the reference points. On average the new assessment estimates a 71% larger stock size over time (ICES, 2022c). The SSB estimates made prior to 2022 include males and females while estimates in this assessment are female only. SSB remains above the MSY $B_{trigger}$, while recent fishing mortalities are now estimated below F_{MSY}.

- 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 these species. The ICES has issued its assessment of a new rebuilding plan for western horse mackerel (*Trachurus trachurus*) in ICES subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k. ICES advises that the evaluated rebuilding plan as proposed by PELAC shows potential to reach the specified target (three consecutive years > B_{pa}) within the time frame specified in the plan (< ten years) and is considered to be precautionary in the long term. The time frame to rebuild the stock is estimated to be two years longer following the rebuilding plan (by 2028) compared to zero catch (by 2026) given current starting conditions. Once rebuilding is achieved, ICES advises that alternative harvest control rules (HCRs) should be examined for long-term management of the fishery to satisfy maximum sustainable yield (MSY) objective.

- Anchovy has two separate stocks, one for ICES Division 9a and another one for ICES sub area 8. The one in Division 9a is divided in two components, for the southern component, the spawning-stock size is below Bpa and Blim. On the other side, the one in ICES area 8 the SSB has been above B_{lim} since 2010, and the year 2020 is assessed as the highest of the historical series. Recruitment has been mostly above the long-term average since 2010, and continues to increase in 2021, after a slight decrease in 2019.Harvest rates have been below the long-term average since the reopening of the fishery in 2010.

- Finally, Iberian sardine (*Sardina pilchardus*) in ICES Divisions 8c and 9a is seriously evolving form a situation clearly outside safe biological limit to be inside those. The biomass of age 1 and older fish (biomass 1+ or B1+) is above MSY $B_{trigger}$. Recruitment in 2019 is the highest since 2004 and above the long-term geometric mean. Fishing mortality has been declining since 2012; however, in 2021 increased being above F_{MSY}. A recovery plan for the Iberian sardine is being implemented for Portugal and Spain jointly, updated in 2021 following the successful implementation of previous ones in terms of the recovery of the stock. In this new plan management of the Iberian sardine stock is expected to be applied till 2026, according to the stock management measures such as an HCR; fishing activities are limited for a maximum of 9 months.

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 Member States, Spain, France and Portugal, relay on a diversified group of species.

Concerning the year 2022, it is important to highlight the following quotas:

Demersal species:

- In 2022, the TAC for southern hake has risen by 70% but the one for northern hake has lowered 20%.

- TAC of common sole showed a small decrease in 2022.

- Norway lobster has some different stocks covering SWW. The stock in ICES Division 8abde has decreased slightly compared to 2021. The stock in ICES 9a (shared by Spain and Portugal) continues to decline in 2021. Due to the analysis of the stock in different functional units (FMUs), ICES maintained its recommendation of applying a precautionary buffer, to limit catches in FMUs 26 (south of Galicia) and 27 (north of Portugal) to a percentage of the TAC and the total amount in FMU 30 (Gulf of Cadiz).

Pelagic Species:

- TAC for mackerel had a peak in 2014 and, from then it has tended to decrease. It is important to notice that due to its wide distribution, this TAC is one for the whole area and it is agreed at the level of Coastal States of NEAFC (this one from 2016 to now). The TAC in 2020 in ICES divisions 8c and 9a for Spain, Portugal and France had an increase of 7%, however in 2022 has decreased again.

- TAC for horse mackerel (*Trachurus trachurus* in Division 9a) has been increasing since 2018.

- TAC for anchovy in ICES area 9 has almost tripled from 2021 to 2022.

- TAC for anchovy in area 8 (shared by France and Spain) has remained stable at 33 000 tonnes since 2019.

- TAC for Iberian sardine in area 8c and 9a has doubled from 2021 to 2022.

- TAC of blue whiting increased each year between 2014 and 2018, then beginning a downward trend until 2022, when the TAC was around 29 003 tonnes. It is also important to point that this TAC is also negotiated at Coastal States, where EU has a high percentage of the total TAC.

3.5.5 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 fleets of this area is different. While 100% of the Portuguese SSCF fished in the area in 2022, it represented 76% of the SSCF fishing activity for Spain and 19% for France. In terms of vessel numbers, Spain and Portugal had the highest number of active SSCF 3 104 and 2 753 vessels, respectively.

Overall, the SSCF was profitable in 2022, totalling EUR 237 million in GVA and EUR 78 million in gross profit. The most profitable in terms of gross and net profit margins was the Portuguese SSCF with 43% and 33%, respectively. In terms of labour productivity, the GVA per FTE varied from EUR 28 517 (Spain) to EUR 119 332 (France), being the Portuguese EUR34 544.

Total employment for the SSCF is highest for Portugal and Spain, totalling 6 709 and 6 306 jobs, respectively, reflecting the high number of active vessels in these Member States. All fleets in the SWW demonstrated a much lower FTE figures than total employed (about 36%-49% of the total jobs) indicating that a large part of those employed in the SSCF are part-time employees. The employment, both in engaged crew and FTE, have been decreasing in the two main countries operating in SWW. In 2021, however, these figures have increased in Portugal: +17% FTE and +4% engaged crew, but in 2022 the values were again close to those of 2020.

The most important species caught by this fleet are the common octopus (22% of the landed value) followed by the European seabass (9%).

Figure 3.61. Top 10 species landed by SSCF operating in the SWW, 2022
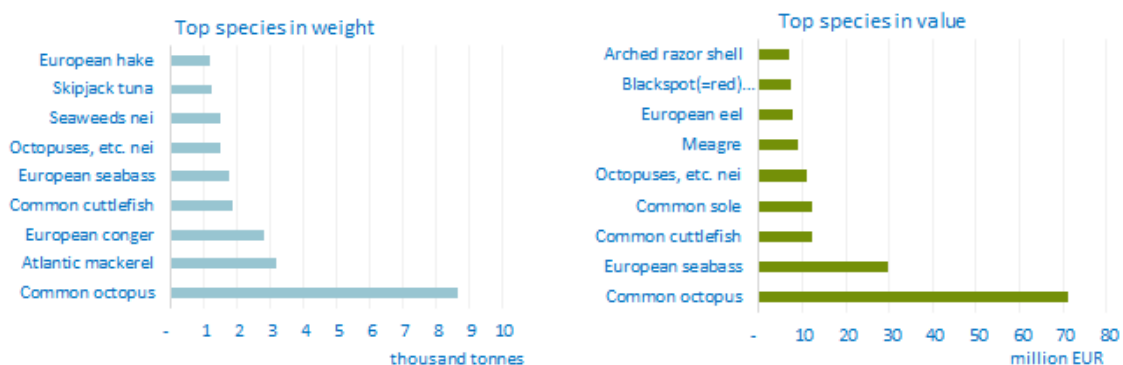
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

The quantities caught in the SWW have been suffering a decreasing trend along the period 2013 to 2020.

Although the slightly increase of 1% in the weight landed in 2021 when compared to 2020, the value recorded in 2021 is 6% under the average 2013-2021. The weight of landings decreased 4% in 2002 compared to 2021. On the contrary, the value of landings increased 8% from 2021 to 2021, reflecting the rise of 12% in the price. In 2022 the value of landing was 30% above the average value from 2013 to 2021. The decrease in the market supply and the rising costs, has conducted to sales price valuation, being the price in 2021 43% above the average price of the period 2013-2021.

Figure 3.62. Trends in landings of top species landed in weight and value by SSCF operating in SWW

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

Large-scale fleet

There were eight Member States LSF operating in SWW totalling 3 603 active vessels. Spain, Portugal and France had the majority of active vessels and together accounted for 99.8% of the total number of vessels in the region.

The LSF was profitable in 2022, totalling EUR 578 million in GVA and EUR 129 million in gross profit. The Spanish LSF was responsible for 46% of the gross profit of the LSF in the SWW region followed by France that contributed with 28% and the Portuguese fleet with 25%. Regarding profitability, the gross and net profit margins were 11% and 5% for the Spanish fleet, 13% and 3% for the French fleet and the Portuguese fleet recorded a 13% gross profit margin, but 1% net losses.

When considering average GVA per vessel, differences are also noticeable; around EUR 227 000 for the French fleet, EUR 193 000 for the Portuguese fleet and EUR 130 000 for the Spanish fleet.

Total employment for the LSF for Spain and Portugal totalled 10 402 and 5 892, respectively, reflecting the high number of active vessels of these two Member States in the region. 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 two categories according to their dependency which is representative of their LSF landings composition in SWW:

- Three Member States had a high dependency on one specie in the region. For the Belgian fleet common sole constituted 88% of value of landings. Albacore represented 99% of the landing value of the Irish fleet. The German fleet targets Atlantic mackerel (89%), Danish fleet targets Atlantic horse mackerel (73%) and Dutch fleet targets blue whiting (85%).

- 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 (14%), hake (12%), anchovy (11%) and Atlantic mackerel (9%). For France, hake (17%), Norway lobster (12%), sole (10%) and cuttlefish (6%). Finally, the main species by landing value for Portugal were sardine (12%), Atlantic horse mackerel (10%), octopus (8%) and Black scabbardfish (6%).

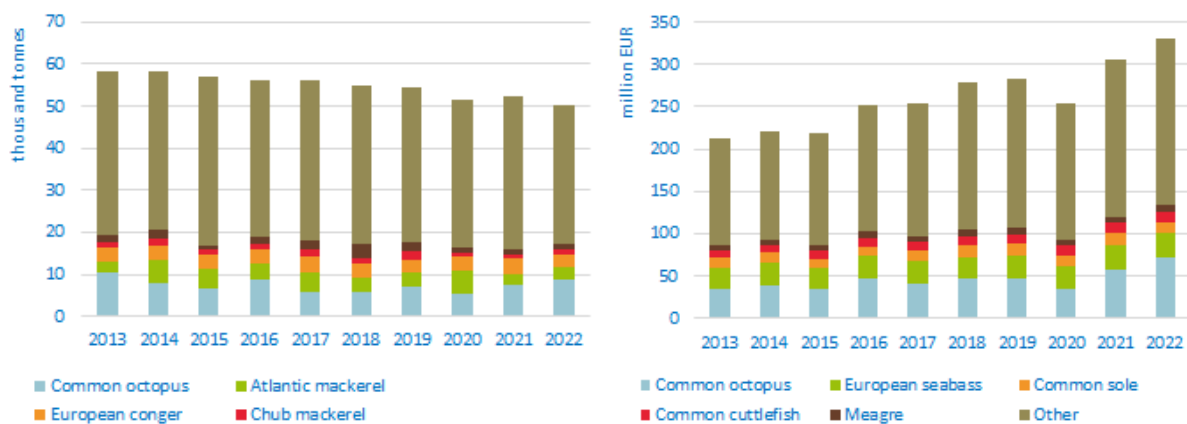**Figure 3.63.** Top 10 species landed by LSF operating in the SWW, 2022
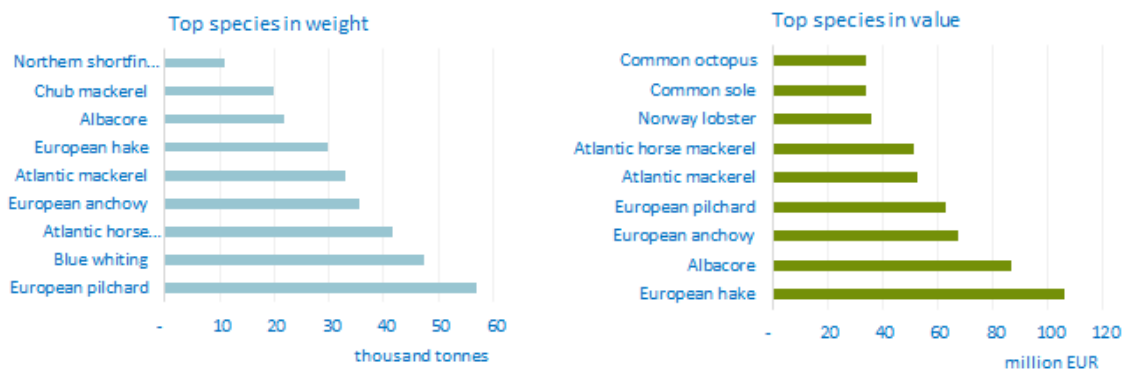
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.64. Trends in landings of top species landed in weight and value by LSF operating in SWW
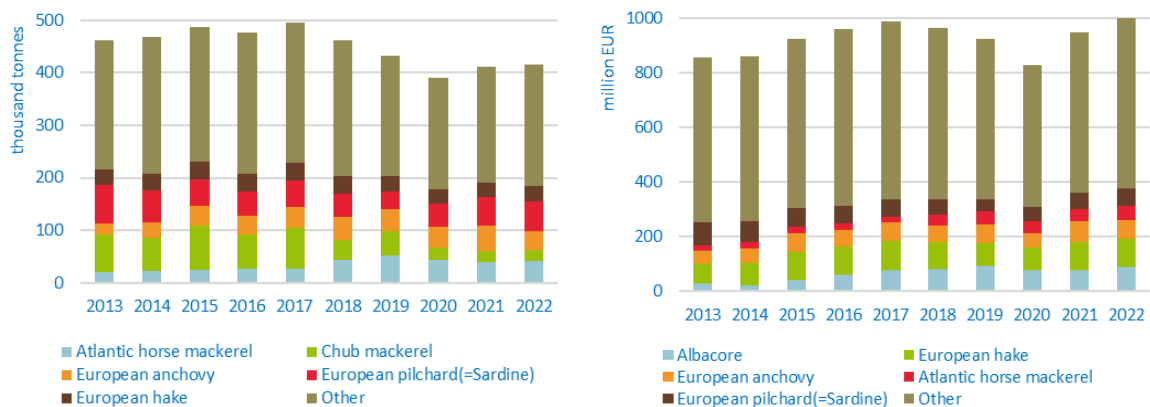
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Additionally, three distant water fleets (Lithuanian, Portuguese and Spanish fleets) had some activity in the region in 2022. 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.

Performance by fleet segments

50 fleet segments, out of the 136 fleet segments identified in the area, represented 85% of the vessels, 84% of the landed weight and 86% of the value generated by fleets in the region in 2022.

At fleet segment level, the Spanish demersal trawlers between 24 and 40 metres generated the most revenue (EUR 90 million), followed by the Spanish vessels using active and passive gears under 10 metres (EUR 78 million), the Spanish vessels using hooks between 24 and 40 metres (EUR 64 million), and the Spanish demersal trawlers between 12 and 18 metres (EUR 55 million).

The segments (in the top 50) with the highest profitability were Portuguese vessels under 10 metres using pots and/or traps (365 vessels achieving 49% overall net profit margin), the Azorean vessels under 10 metres using hooks (292 vessels achieving 36% overall net profit margin) and the Portuguese vessels under 10 metres using polyvalent passive gears only (1 472, achieving 35% overall net profit margin).

Considering labour productivity within the top 50 fleet segments, the first position was occupied by the French pelagic trawlers above 40 metres (825 000 GVA per FTE). However, this is a fleet that has very marginal activity in the SWW. The following are French pelagic trawlers under 10 metres (EUR 171 000 GVA per FTE). Considering the Spanish and Portuguese fleet, it is observed that the most productive fleet segments was the Spanish vessels using hooks between 24 and 40 metres (EUR 77 600 GVA per FTE) followed by the Portuguese vessels using Pots and/or traps trawlers under 10 metres (EUR 65 540 GVA per FTE) and the Spanish purse seiners between 24 and 40 metres (EUR 55 000 GVA per FTE).

In the range of the top 50, there is a wide gap between the most and the least efficient fleets, measured by gross profit margin. The most efficient is the French pelagic trawlers above 40 metres (62% GRPm), being the latter position occupied by the Spanish trawlers above 40 metres (-94% GRPm).

3.6   Mediterranean Sea

3.6.1   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. Most of the fleets of the mentioned Member States depended on the Mediterranean basin for their primary fishery production. Almost all landings by the Cypriot, Croatian, Greek, Italian, Maltese, and Slovenian fleets originated from the region. For Spain and France, the percentage of landings in weight originating from Mediterranean waters was less than 10% and marginal for Portugal (Figure 3.65).

In 2022, the Mediterranean fleet accounted for 42% of all EU vessels and 45% of the EU employment (FTE). It also contributed 9% of the EU landings in weight and 23% in value.

Due to incomplete time series datasets, Greece, one of the main fishing countries in the region, has been included in the trends analysis only since 2018.

Figure 3.65. Importance of the Mediterranean Sea for MS fisheries in terms of landings in weight and value, 2022.
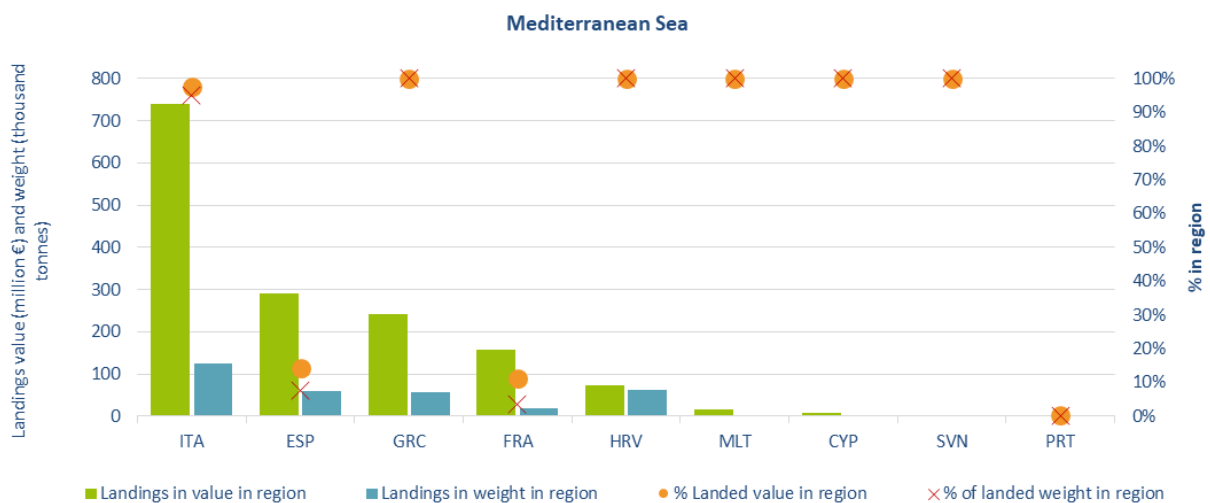
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The Italian and Greek fleets are the main contributors to the number of vessels (32% for each) and days-at-sea (32% and 44%, respectively). The Italian fleet is the dominant fleet in terms of landings (38.5% in weight and 48% in value), revenue (47%), gross value added (48%), and gross profit (33%) (Figure 3.66).

Regarding landed weight, Italy caught 39.1% of the Mediterranean landings, followed by Croatia (18.9%), Spain (18.4%), and Greece (17.5%). In terms of employment, Italy (39.1%), Greece (30.2%), Spain (14.3%), and Croatia (9.7%) accounted for 93% of it.

The economic performance was mostly driven by the LSF, which contributed 73.5% of the Mediterranean landings' value and 85.3% of the landings' weight in 2022. In contrast, 80% of the vessels operating in the region belong to SSCF.

Around 77.8% of the DaS were undertaken by SSCF vessels. LSF accounted for 22.2% of the DaS, of which most were undertaken by the demersal fleet.

The Mediterranean SSCF generated 28.6% of the revenue in 2022, which decreased by 10% compared to 2021. LSF generated EUR 1.16 billion in revenue, which decreased by 4% compared to 2021.

The main SSCF fleet segments, in terms of number of vessels, are the Greek Drift and/or fixed netters 6-12m (4 555 vessels) and the Italian vessels using polyvalent passive gears only 6-12m (4 591 vessels), which combined accounted for 30% of the Mediterranean fleet in 2022.

The main LSF fleet segments are the Italian demersal trawlers between 12-18m, 18-24m, and 24-40m, the Spanish demersal trawlers between 18-24m, and the Greek demersal trawlers 24-40m, which together represented around 29% of total revenue from the area and 7.6% of the fleet covered.

Figure 3.66. Share by MS fleets and fishing activity in the Mediterranean Sea, 2022.
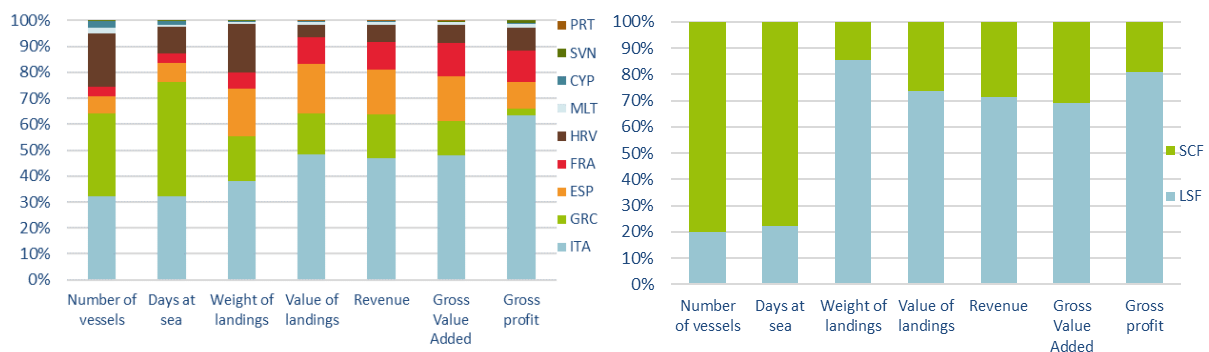
Data source: MS data submissions under DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

3.6.2 Overview of the main results for the EU Mediterranean Sea fleet

Fishing effort and landings

Fishing effort slightly decreased compared to 2021 (Figure 3.67) (3.18 million DaS and 3.23 million fishing days in 2022, including Greece). Landings in weight and value decreased by 1% and 7% between 2021 and 2022. The weight and value of landings were approximately 331 001 tonnes and EUR 1.52 billion in 2022.

Employment, wages and labour productivity

Employment in the Mediterranean fishing fleet was estimated at 56 078 jobs, corresponding to 34 390 FTEs in 2022. Employment (measured as FTE) significantly decreases (-12%) relative to 2021. More than half of the employment is created by the SSCF; 32 968 jobs correspond to more than 58.7% of total jobs, and 18 207 FTEs correspond to almost 52.9% of total FTEs. The average employment per vessel is around 1.8 persons. Additional information on capacity and employment is provided in the trend sections.

Annual average wages and salaries for fishers in the SSCF and LSF were EUR 12 022 and EUR 22 175, respectively, in 2022. Average wages in the LSF decreased by 3% relative to 2021. In the SSCF, average wages increased by 17% compared to 2021 (Figure 3.68).

In LSF, the labour productivity (GVA per FTE) decreased by about 4.4% compared to 2021, estimated at EUR 39 481, while in the SSCF, labour productivity remained at the same level compared to 2021 EUR 15 698.

Figure 3.67. Trends on effort and landings for MS fleets operating in the Mediterranean Sea.
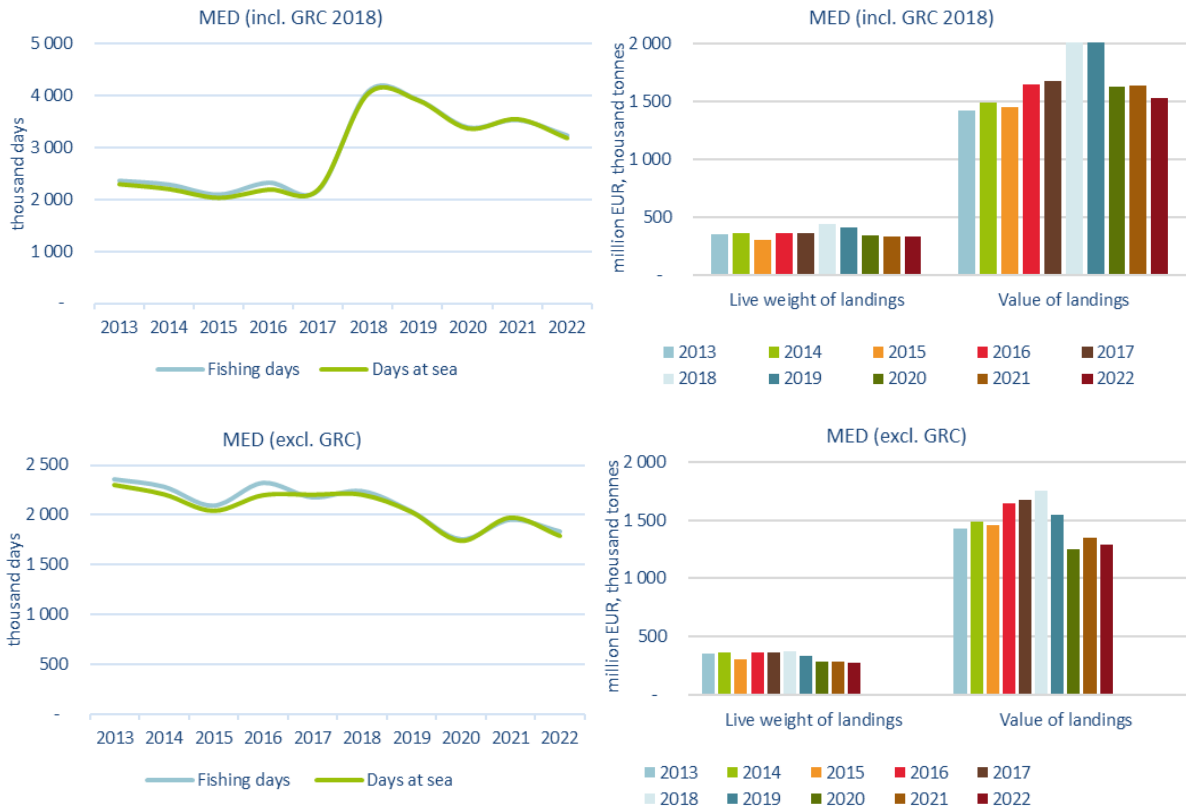
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Including Greece from 2018 and excluding Greece for the whole time series.

Figure 3.68. Trends on average wage (up) and labour productivity (down) by fishing activity for MS fleets operating in the MED
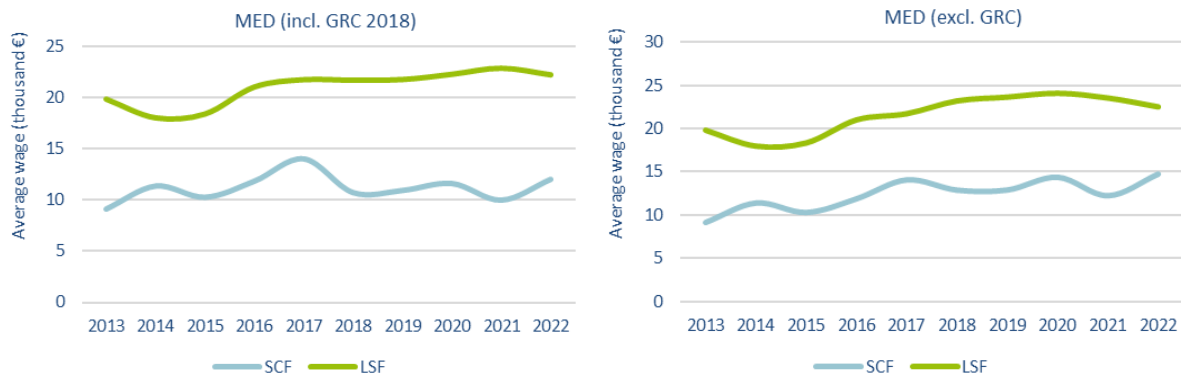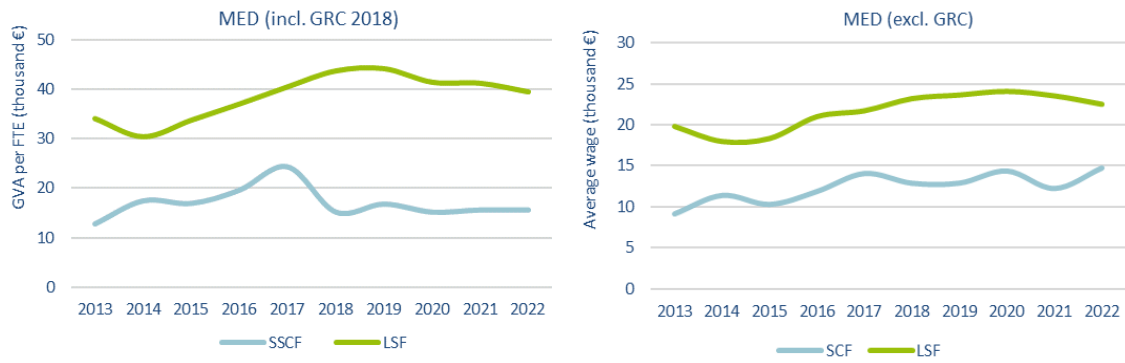
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Including Greece from 2018 and excluding Greece for the whole time series.

Economic performance

In 2022, the economic performance of the Mediterranean fleet followed a decreasing trend. The revenue was estimated at EUR 1.62 billion, decreasing by 6% compared to 2021. GVA produced by the fleets amounted to EUR 0.92 billion. GVA decreased by 14% compared to 2021. The Mediterranean fleets made almost EUR 346 million in gross profit, a decrease of 27% compared to 2021. Finally, the net profit was EUR 94 million (a decrease of 83% compared to 2021). In addition, the gross profit margin decreased by 20%, while the net profit margin decreased by 73% in 2021–2022 (Figure 3.69). GVA to revenue pursued a decrease of 7% in the period mentioned.

Figure 3.69. Trends on revenue, profits and profit margins for MS fleets operating in the MED

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022), including Greece from 2018 and excluding Greece for the whole time series.

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3.6.3 Trends by Member State fleet

Fleet capacity and employment

The Mediterranean fishing fleet numbered 30 006 active vessels. The SSCF comprised 24 009 vessels (80% of the regional fleet). Among them, 32% belonged to the Italian fleet and 32% to the Greek fleet. Total employment was estimated at 56 078 jobs, corresponding to 34 390 FTEs in 2022 (Figure 3.70).

Figure 3.70. 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 DCF 2024 Fleet Economic (MARE/A3/ASC(2024)) Include Greece.

The number of vessels has followed a decreasing trend. Compared to 2021, the number of vessels and FTE decreased by 4% and 12.4%, respectively, in 2022, mostly due to a decrease in the Italian and Greek fleets.

Fishing effort

Fishing activity has gradually decreased over the whole period; following a period of stability from 2013 to 2018, a declining trend is apparent after 2018, and the fewest number of days at sea were reported in 2022 (Figure 3.71).

Figure 3.71. Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the MED
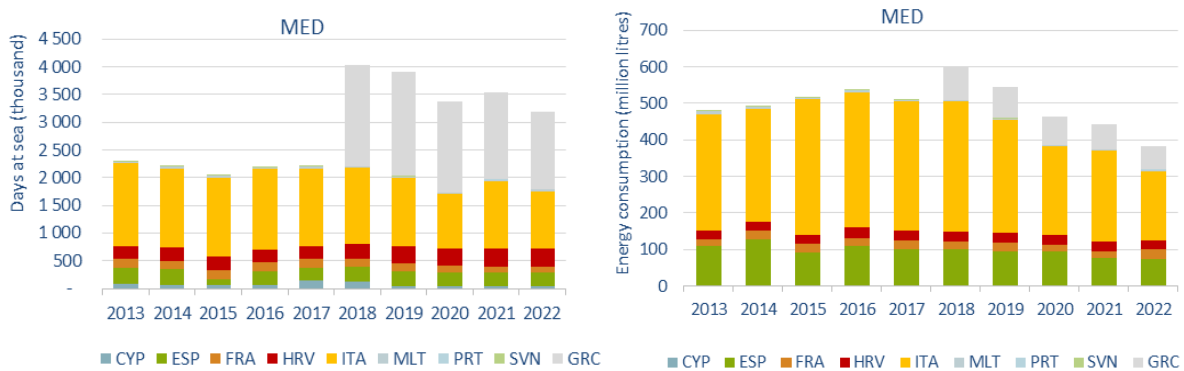
Data source: MS data submissions under the DCF 20243 Fleet Economic (MARE/A3/ASC(2024)). Includes Greece from 2018.

The Mediterranean fleet spent 3.2 million DaS in 2022 (–10% compared to 2021). The Greek fleet accounted for about 44% of the number of days, followed by Italy and Croatia (32% and 10% of the overall activity, respectively). The SSCF accounted for 77.8% of these DaS.

Energy consumption in 2022 (384 million litres) continued to decrease (–13% compared to 2021), mostly due to a 32% decrease in the Italian fleet and a 6% decrease in the Greek fleet.

In 2022, The Italian fleet accounted for half of the region's energy consumption, followed by Spain and Greece, with 19% and 17%, respectively.

Landings and top species

The weight and value of landings generated by the regional fleet in 2022 amounted to approximately 331 008 tonnes (–1% compared to 2021) and EUR 1.53 billion (–7% compared to 2021), respectively.

Regarding landed weight, Italy (125 839 tonnes), Croatia (62 686 tonnes), Spain (60 993 tonnes), Greece (57 771 tonnes), and France (19 515 tonnes) were the leading countries, together accounting for 99% of the total weight and almost 98% of the value of landings from the EU Mediterranean basin.

The Croatian fleet landed 19% of the seafood in weight but only generated 5% of the value, indicating the predominance of low valued species composition of the catch (i.e. small pelagic species). In contrast, the Italian fleet landed 38% of the weight and generated 48% of the value (Figure 3.72).

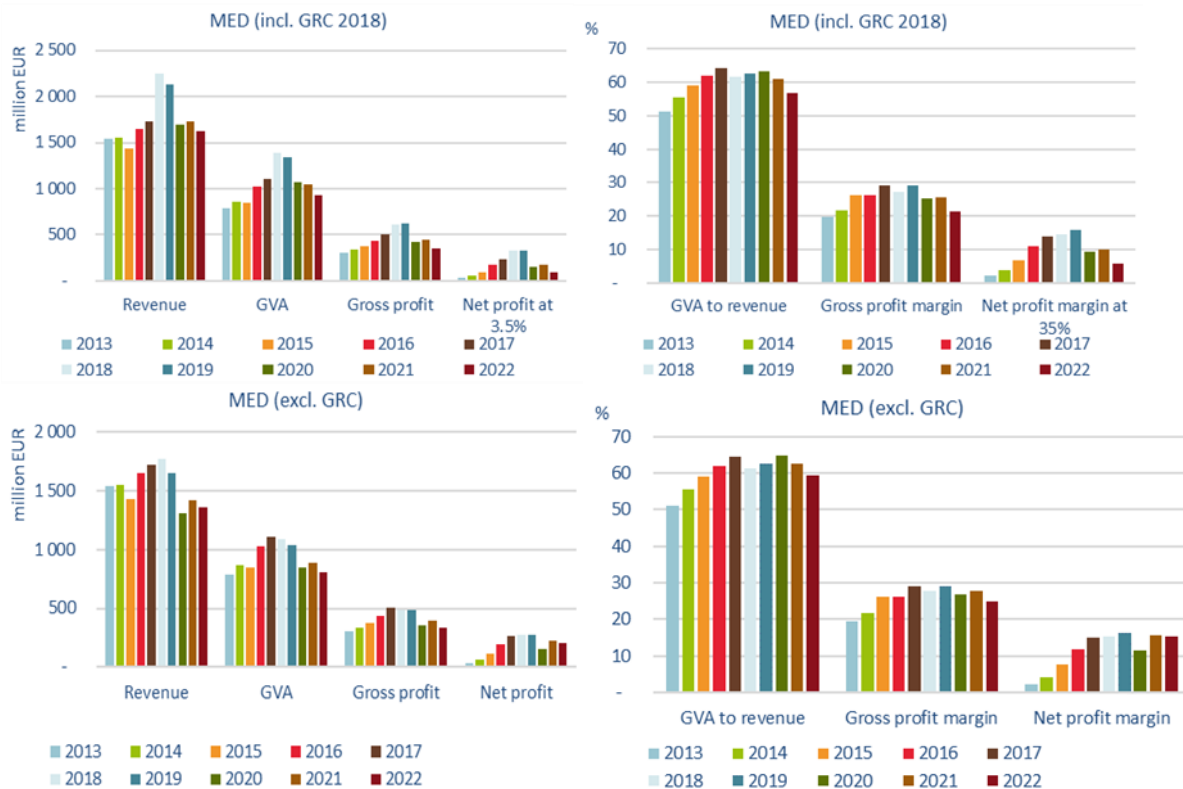**Figure 3.72.** Trends on landings in weight and value by MS fleets operating in the MED
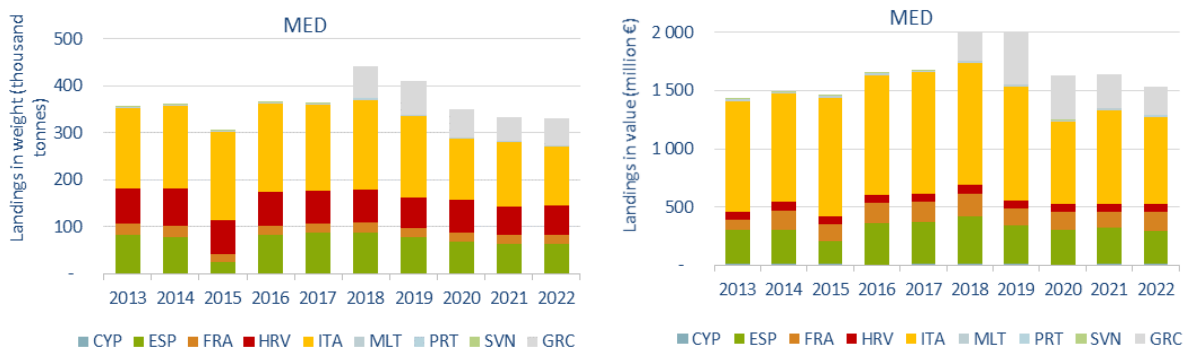
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Includes Greece from 2018.

In 2022, the top five species landed were European pilchard (sardine, 68 697 tonnes), followed by European anchovy (64 223 tonnes), striped Venus (17 270 tonnes), European hake (13 483 tonnes) and Atlantic bluefin tuna (12 828 tonnes).

Considering the value of landing, the commercially most important species were Atlantic bluefin tuna (EUR 145 million), European anchovy (EUR 143 million), European hake (EUR 99 million), deep-water rose shrimp (EUR 69 million), common octopus (EUR 69 million) and European pilchard (sardine, EUR 68 million) (Figure 3.73).

Figure 3.73. Top 10 species in landed weight and value for MS fleets operating in the MED, 2022.
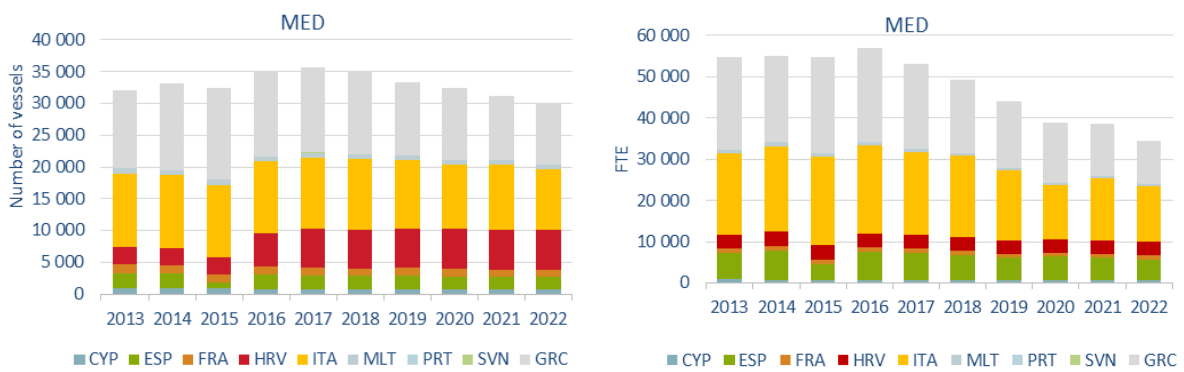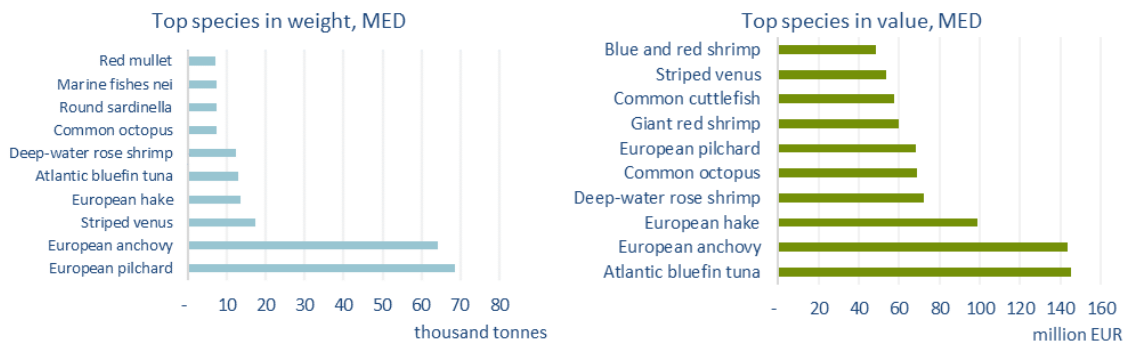

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Includes Greece.

Landings of small pelagic species, sardine and anchovy, have increased until 2018; since 2019, a significant decrease has been registered in weight; landings of sardine and anchovy in 2022 decreased 23% in weight and increased 1% in value compared to the average 2013-2021. The management measures imposed on these stocks in the Adriatic Sea, one of the most important fishing areas for these stocks, had a direct impact on the landings of the fleet segments targeting small pelagic species (i.e. purse seiners in Croatia and mid-water pelagic trawl in Italy). Prices of sardine and anchovy in the Adriatic are mostly determined by the product destination; in Croatia, a large quantity of small pelagic fish is designated for tuna feeding and fish processing industry, whereas in Italy, fresh anchovies are sold for local consumption and to a lesser extent, for export.

The strong increase in the price of anchovies registered in 2021 was not continued in 2022, as the average price of anchovies decreased to 2.23 euro/kg. The decrease in the regional average price of anchovy in 2022 is entirely due to the market effect in Greece; as the landing of anchovy increased by 85% compared to 2021, the price dropped by 41%, resulting in an overall increase in the landed value of anchovy in Greece by 8%.

Figure 3.74. Trends on landings for the top species in landed weight and value for MS fleets operating in the MED
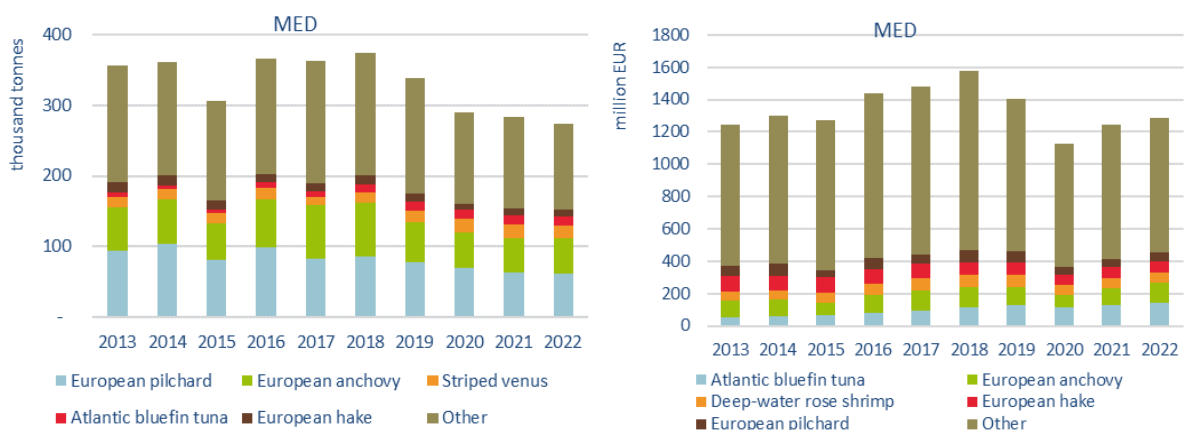
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Excludes Greece.

Economic performance

The revenue (income from landings and other income) generated by the Mediterranean fleet in 2022 was over EUR 1.6 billion, 98% of which was provided by five Member States: Italy (EUR 764 million), Spain (EUR 282 million), Greece (EUR 274 million), France (EUR 171 million) and Croatia (EUR 110 million) (Figure 3.75).

Figure 3.75. Trends on revenue and profits for MS fleets operating in the MED
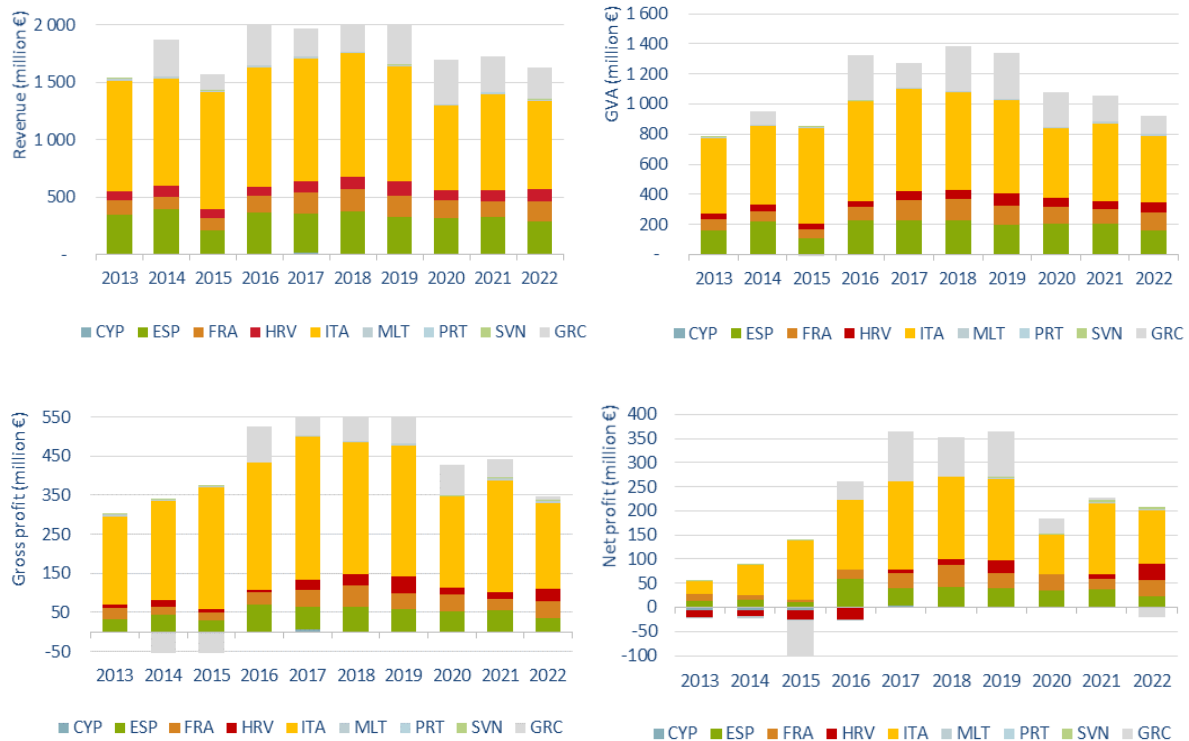
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Includes Greece from 2018.

Revenue decreased by 6% in 2022 compared to 2021; in all the Mediterranean Member States, revenues decreased compared to the previous year, while in France and Croatia, an increase of 24% and 10%, respectively, was registered.

The GVA produced by the Mediterranean fleet covered in the analysis was over EUR 924 million in 2022, a decrease of 12% compared to 2021. The largest decrease in GVA was recorded in Greece and Spain. For France and Croatia, the increase in revenues was also reflected in the GVA, increasing by 19% and 20%, respectively. The fleets operating in the region made almost EUR 347 million in gross profit, an estimated 21% decrease compared to 2021.

The Mediterranean fleet generated total net profits (net amount between profits and losses) in 2022 equal to around EUR 95 million with a decrease of 46% compared to 2021. All Member States reported profits in 2022, except for Cyprus, Greece and Portugal.

3.6.4 Main factors affecting the performance of the fleet

In 2022, the regional fishing fleet's economic performance changed significantly with respect to the previous year; the key factor impacting the ability of the Mediterranean fishing fleet to generate

profit in 2022 was the fuel crisis. The increase in energy prices (due to the Russian-Ukrainian war) had a twofold impact: first of all, a decrease in activity level (e.g. during the first 6 months of 2022, in Italy, fishers strongly reduced the days spent at sea or completely stopping activity) with a direct impact on the volume of landings for some countries (e.g. Italy); secondly, a huge increase in operational costs (due to the increase of fuel costs). In addition, the increasing restrictions imposed in different fishing areas (West Mediterranean, Adriatic Sea and Strait of Sicily) on fishing effort, the implementation of new TACs on demersal species in the West Med (e.g. red shrimps) and the enter in force of several FRAs affected the economic profitability of several fleet segments. For these reasons, the economic performance of the Mediterranean fishing fleet reached the worst level over the last five years in terms of revenues, GVA, gross profit and net profit. A decrease in all the economic indicators is detected both for SSCF and LSF. SSCF registered a loss for the second time over the last 5 years (the first being 2020 because of the COVID-19 pandemic); the negative performance is substantially due to the significant decrease in the DaS and in the income from landings, more consistent than that registered for LSF.

Factors that may have negatively affected the fleet performance in the region are:

- Overexploitation: the most updated stock assessment shows some little improvements in the exploitation rates; nevertheless, many stocks are still fished outside biologically sustainable limits, even if for some of them (e.g. blue and red shrimp), a decreasing trend in exploitation is detected (FAO, 2023).

- Energy crisis: The significant market disruption caused by soaring energy prices and the general economic environment with the increase in inflation largely impacted the overall economic performance of the Mediterranean fleet. Specifically, because of the increase in fuel costs, the fleet limited fishing activity to counterbalance the increase in fuel costs, but this has also produced effects in terms of production.

- Energy efficiency: Energy costs as a percentage of revenue in 2022 (24% of revenue) are higher than those recorded in 2021 (around 19%). This is substantially due to the increase in the fuel price and in parallel to a low level of investment in less energy-intensive fishing gear and equipment.

- The marine resources and ecosystems of this region have come under increasing pressure in recent years, driven by diversification and intensification of marine and maritime activities. In addition, competition between EU fishing vessels and vessels from other countries that do not have to follow EU legislation is perceived to be growing by fishers.

- The fishing sector is becoming less significant from economic and social perspective at the local level. In 2022, the number of active vessels decreased by 3% compared to 2021, leading to a loss of more than 600 job positions. The decrease in overall time spent at sea has caused a severe reduction in the number of FTE positions, declining by more than 4 200 units.

- Furthermore, factors such as the high average age of fishers (>70% of fishers older than 40 years for countries with the highest number of fishers, e.g., Italy and Greece), the difficulty in attracting the younger generations, the shortage of workforce, poor working conditions, and low wages continued to severely affect the fishery sector in the region (NISEA, 2023 and AGRERI, 2024).

Factors that may have contributed to an improved situation include:

- Higher average prices: in 2022, a general increasing trend in average prices has been registered. Looking at single species, besides the standard market effect on prices due to the decrease in the landed volume (supply) of some species (e.g. anchovies, pilchards and deep-water rose shrimps), other factors appear to be key in the valorisation of supply. The role of Producer Organizations has improved in recent years, with the adoption of initiatives aimed at improving the control of the supply as well as at adding value to landings. For the giant red shrimps, introducing innovative market strategies, including the implementation of labelling and certification schemes, helped the demersal trawlers add value to the fishery product. Similar initiatives are underway for deep-water rose shrimps and some large pelagic.

- Increase in the bluefin tuna price: Market dynamics resulted in an increase of +19% in the 2022 average price for this species (11.37 euro/kg, the highest price since 2016), which remained, in terms of value, the top species in the region (an increase of 13% in the landings value compared to 2021).

- The status of certain stocks has improved in the last few years, even if the achievement of long-term sustainable utilisation of the resource is still far from the majority of the exploited stocks (STECF, 2023).

Regulation and fisheries management in the region

The management of Mediterranean fisheries is mainly based on technical measures that control fishing effort by limiting the fleet's capacity and activity. Since 2019, significant advances have been made in terms of managing fisheries resources, with the adoption of several multiannual management plans. According to GFCM (FAO, 2022), multi-annual management Plans (MAPs) and spatial and technical measures are providing tangible results in reducing unsustainable fishing pressure for key species; one of the direct impacts of these MAPs has been the reduction of effort (expressed in DaS) in LSF (-5% in 2022 compared to 2021 and -20% compared to 2018).

As far as demersal fisheries, the key management plans in force concern Adriatic, the Western Mediterranean and the management of key demersal species as blue and red shrimps.

Regarding the Adriatic, the MAP for the key demersal stocks in GSA 17 and 18 (based on Recommendation GFCM/45/2022/8) foresees an effort regime aiming to reach MSY by 2026. This effort regime resulted, in 2022, in a further reduction of around 7.5% (compared to the 2021 effort quota) assigned to fleets active in demersal fisheries in Croatia, Italy, and Slovenia.

In the Western Mediterranean, a MAP for demersal stocks was in place starting in June 2019. It is based on a mix of temporal and permanent closures of fishing areas and an effort regime to achieve MSY by 1 January 2025. In virtue of this plan, a 7% reduction of trawling fishing effort in 2022 has been pursued.

In addition, since 2022, additional MAPs have been implemented for the sustainable exploitation of giant red shrimp and blue and red shrimp stock in the eastern-central Mediterranean (Strait of Sicily and Ionian Sea), stemming from Recommendation GFCM/45/2022/5 and Recommendation GFCM/45/2022/).

Regarding small pelagic stocks, Recommendation GFCM/44/2021/20 established a multiannual management plan for them in the Adriatic Sea; the plan introduced an effort regime in terms of fleet capacity.

Regarding spatial management measures, to date, ten FRAs have been established by the GFCM, including one large deep-water FRA below 1 000 m (Bari Canyon); among these, the Jabuka/Pomo Pit fisheries restricted area, the first to be introduced in 2017, is considered an example of best practice in transnational cooperation and the integration of the views of fishers and stakeholders in the implementation of spatial protection measures. The socio-economic impact of this spatial-based approach should be relevant to the coastal communities; for this reason, fishers have concerns regarding the lack of information on the economic impact of the FRAs.

Status of important stocks

Fishing pressure in the Mediterranean and the Black Sea continues to decrease, and the results in terms of stock status are evident.

The reduction in the percentage of stocks in overexploitation observed since 2014 has continued, decreasing by an additional 15% and reaching 58% in 2021. While more than half the stocks for which validated assessments are available are fished outside biologically sustainable limits and fishing pressure remains twice what is considered sustainable (F/F_{MSY}=2.13), there has been a 31% reduction in this ratio since 2012 and the current ratio represents the lowest in the time series (FAO, 2023).

The stock assessments in the Adriatic, Ionian and Aegean Seas indicate that 8 out of the 14 evaluated stocks are being significantly overfished (among these European hake and Deep-water shrimp in the Adriatic), and 5 are under-exploited. In addition, in 2021, out of these 8 overfished stocks only one is behind transition to F_{MSY} in 2026 (STECF-23-12). In addition, in the Western Mediterranean Sea, the assessments indicate that 10 out of the 20 stocks are being significantly overfished, while 4 stocks are being fished close or at F_{MSY}. For the remaining six stocks, there were no reference points for evaluating stock status concerning F_{MSY} (STECF-23-09).

TAC development of main species

The current management approach to highly migratory species in the Mediterranean concerns bluefin tuna (*Thunnus thynnus*), swordfish (*Xiphias gladius*), and albacore (*Thunnus alalunga*).

The 2018-2020 recovery plan (Recommendation 2017-07) provides an increase of the annual TAC for bluefin tuna stock; the EU quota was increased to 19 360 tonnes in 2020 (121% increase compared to 2014 EU quota) and set at 19 312 tonnes in 2021 and 2022. The fleet segments targeting this stock (purse seiners and longliners) were positively affected by this increase, as already registered in the previous year, as well as by the increase in the average price, the highest over the last 5 years.

A 15-year recovery plan was implemented for swordfish in 2017. A TAC of 6 363 tonnes for swordfish in the Mediterranean was set for 2022 (Council Regulation (EU) 2022/109) and allocated to all EU Mediterranean countries apart from Slovenia, as is the case for bluefin tuna. The TAC has been reduced since 2018 to achieve a reduction of 15% in five years. Swordfish is among the most valuable commercial species in the Mediterranean Sea; the price (9.00 euro/kg) has remained quite stable in the last 3 years.

The pelagic fleet segments operating in the Adriatic Sea had to respect a catch limit for anchovy and sardines set at 91 698 tonnes in 2022, according to Council Regulation (EU) No 2022/110), with 61% of the TAC attributed to Croatia and the remainder 39% to Italy (the indication that the catch for Slovenia should not exceed 300 tonnes is still valid also for 2022). Small pelagic species

are the main resources of the Adriatic Sea, accounting for a large part of the total catches and revenue.

Since 2023, the Mediterranean demersal fleets active in the Strait of Sicily and the Ionian and Levante Sea are subject to new catch limits fixed on the landings of deep-water rose, giant red and blue and red shrimps.

Landing obligation

The landing obligation came into force gradually, starting in 2015, and has been fully implemented since January 2019. In the Mediterranean Sea, all species with an MCRS (minimum conservation reference size) according to part A of annex IX of Regulation 2019/1241 were subject to this LO. Derogations were in force for small-pelagic species and demersal species.

Several past projects in the region aimed to provide more knowledge on selectivity, gear technology, and fleet behaviour in relation to the stocks' status and fleet economic performance in order to minimize discard rates through innovative technologies and fishing practices (e.g., IMPLEMED project).

3.6.5 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 58.8% of the employment (52.9% of the FTE). In 2022, 24 009 small-scale vessels followed a decreasing trend (Greece 29.9%, Italy 21%, and Croatia 17.8%) with a combined gross tonnage of 49 233 GT and total power of 670 959 kW active in the region.

Although the SSCF deployed over 77.8% of the effort (fishing days), these vessels landed only 14.7% by weight and 26.5% by value, following a decrease compared to 2021. The Greek SSCF deploys 40.5% of the effort (fishing days) and follows the Italian SSCF with 21.5%. The average landing weight per fishing day was 19.5 kg for SSCF compared to 400 kg of LSF.

SSCFs are essential from a social point of view. In 2022, 32 968 fishers were directly employed in the Mediterranean SSCF, corresponding to 18 207 FTEs, presenting a significant decrease (17.6%) compared to 2021. Most of them are family-based enterprises. Two Member States represented major employers: Greece with 8 757 FTEs and Italy with 5 536 FTEs. Greece faced a significant decrease (by 21% in FTEs). The annual average wages and salaries in 2022 for fishers in the SSCF were EUR 12 022, and for LSF, they were EUR 22 175. Average wages in SSCF increased by 17%, while for LSF decreased by 3%, relative to 2021. The SSCF in the Mediterranean follows a decreasing trend in terms of active vessels and employment. Moreover, it is crucial to mention the role of women often through unpaid labour that supports the SSCF.

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), Common cuttlefish (mostly Italy, Croatia, Greece, and Spain), Gilthead seabream (mainly France, Italy, Greece, Spain, and Croatia), European hake (mostly Italy, Croatia, Spain, and France), surmullet (mainly Cyprus, Greece, Italy, France, Malta, and Spain), and red mullet (mainly Italy, Spain, France, Greece, and Croatia). The main SSCF fleet segments in terms of vessels are the Greek DFN and HOK, Italian and Croatian PGP, corresponding to more than 60%, and in terms of FTEs, to more than 40%.

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 different marketing channels. In addition, the SSCF generally operates through very short supply chains.

In 2022, SSCF vessels generated 14.7% of the landed weight and 26.5% of the landed value. The landed weight decreased by 6%, while the value decreased by 8% compared to 2021. The total weight landed by the SSCF was 48 million kg. The weight of landings had a decreasing trend for many of the top species in 2022, like marine fishes nei (-73%), European hake (-4%), mullets nei (-4%), common octopus (-2%), changeable nassa (-2%), gilthead seabream (-1%), compared to 2021 with the exemption of surmullet (+11%). The value of landings has also faced a decreasing trend, but some had an increased value, like common octopus (+12%), surmullet (+7%), common cuttlefish (+5%), European hake (+4%), while others went down like gilthead seabream (-16%), European seabass (-8%), and red mullet (-3%). (Figure 3.76).

The Mediterranean SSCF generated 28.6% of the revenue (EUR 466 million) in 2022. GVA was around EUR 285 million (31% of the region), with a gross profit of EUR 66 million (19% of the region) and a net profit (at 3.5%) EUR -1.7 million. The economic performance of SSCF in the Mediterranean faced losses. Labour productivity (GVA per FTE) was EUR 15 697, a slight increase compared to 2021. GVA to revenue reached 61.3%, gross profit margin 14.3%, and net profit margin -0.4%.

Overall, the economic performance of the SSCF had losses with a negative net profit margin in the region. Five of eight Mediterranean SSCF segments provided positive economic performance (Italian, French, Spanish, Croatian, and Slovenian SSCF), while the Greek, Cypriot and Maltese SSCF faced losses. The Italian SSCF generated the highest net profit at EUR 23 million unless the deteriorated performance was faced during the last years.

Figure 3.76. Top 10 species landed by SSCF, 2022.
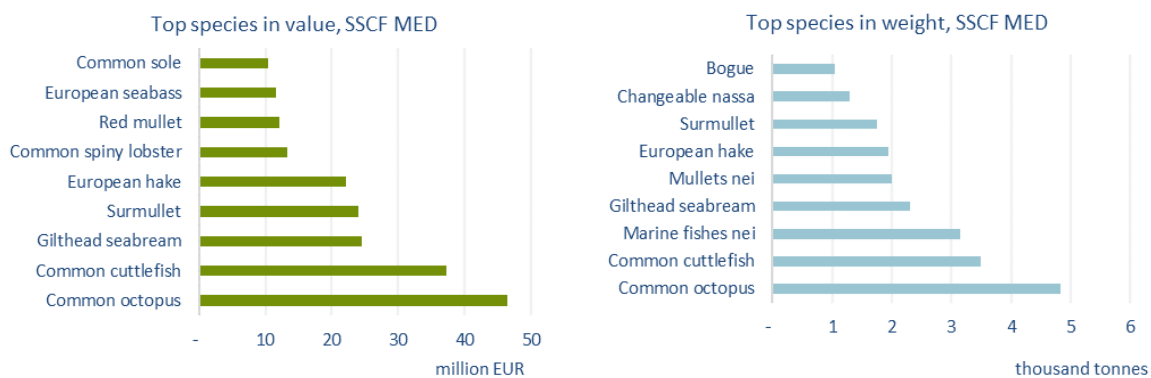
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Includes Greece.

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 usually fish in coastal areas and sometimes illegally sell their catch at low prices.

- The conflict between the small-scale and large-scale fleet.

- Older age profile, if compared with LSF employment: there is a low generational change because small-scale fisheries, less rewarding than large-scale ones, are less attractive.

Figure 3.77. 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 DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Excludes Greece.

Large-scale fleet

In 2022, the LSF fishing in the Mediterranean consisted of 5 997 vessels (20% of the overall Mediterranean fleet), with a total tonnage of 233 971 GT and engine power of 1 090 million kW, representing 82.6% and 61.9%, respectively. Italy, Spain, Croatia, and Greece have the most important fleets in terms of the number of vessels, total tonnage, and engine power. These four Member States also had the region's largest number of active vessels, with 3 339, 956, 839, and 636 active vessels, respectively. Between 2021 and 2022, the number of active vessels decreased by 0.3%.

LSF vessels generated, by far, the highest landed weight (85.3% of the total) and 73.5% of the landed value. The total weight landed by the LSF in 2022 was 282 264 tonnes, which is comparable to 2021. With an estimated revenue of EUR 1.16 billion, these fleets recorded almost EUR 639 million in GVA and a gross profit of EUR 280 million. In addition, GVA to revenue and GVA per FTE reached 55% and EUR 39 481, respectively. In 2022, the economic decline of LSF continued; GVA decreased by 11% and gross profit by 12.6%.

The main fleet segments regarding the number of employees were the Italian demersal trawlers from 12-18m, 18-24m and 24-40m, the Italian dredgers from 12-18m, the Greek purse seiners from 18-24m and demersal trawlers 24-40m and the Spanish demersal trawlers from 18-24m and 24-40m. These segments represented 23% of the overall LSF-FTEs.

Small pelagic species accounted for 47% of the weight of the total landing of the area and 19% of the landings value in 2022. The majority of the catches of sardine were produced by Croatia, Italy, and Greece, while anchovies were mainly landed by the Italian pelagic fleet, followed by the Spanish and Greek fleets.

The overall diversity of the Mediterranean is most prominent in the demersal fishery as the dependence of LSF on some demersal species is evident; European hake, deep-water rose shrimp, giant red shrimp, striped venus, blue and red shrimps, and red mullet combined accounted for 30% and 18% of total landings value and weight, respectively, in 2022. In addition, large pelagic fish, including Atlantic bluefin tuna and swordfish, targeted by authorised purse seiners and pelagic longliners, represented 15% and 6% of the total landings value and weight, respectively (Figure 3.78).

Figure 3.78. Top 10 species landed by MS LSF operating in the MED, 2022
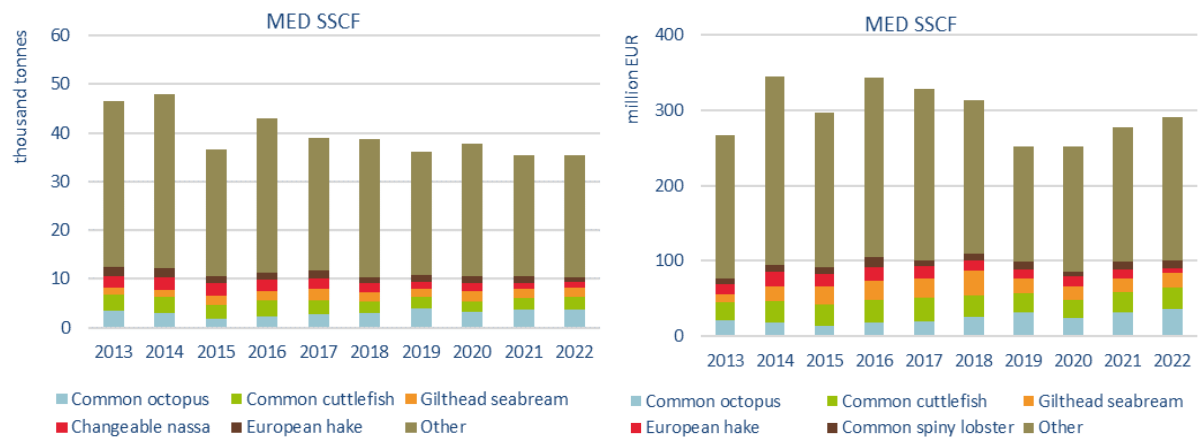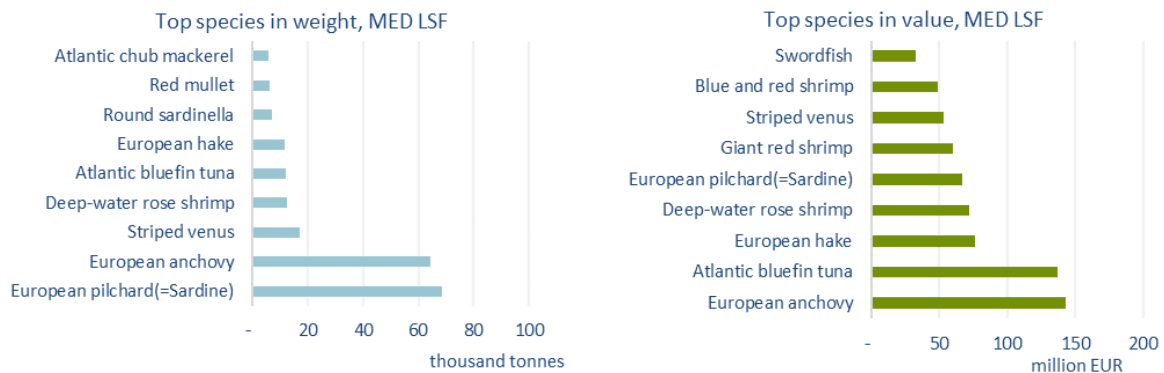

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Includes Greece.

Figure 3.79. Trends on landings for the top species in landed weight and value for MS LSF operating in the MED
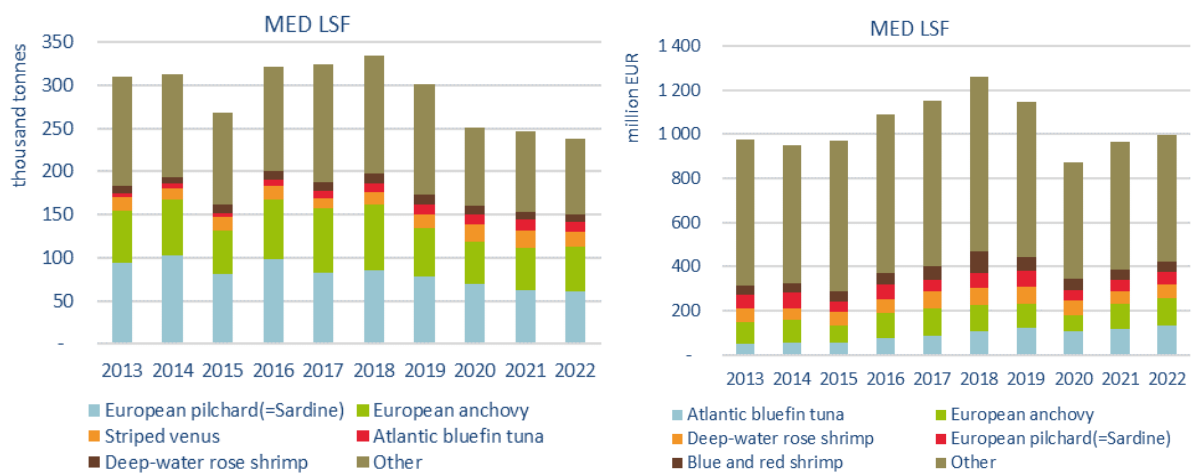
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Excludes Greece.

Mediterranean EU fleets with dependency on ICCAT species

The Mediterranean EU fleets with dependency on ICCAT species have been selected considering those segments over 18 metres with a >=20% landings value dependency on ICCAT major species, Atlantic bluefin tuna and swordfish. (Table 3.2).

In 2022, 130 vessels met the above criteria, 48% more than were selected in 2021 (Figure 3.80), generating 828 FTEs. Compared to 2021, number of ICCAT vessels operating in the Mediterranean increased by 14%.

Table 3.2. Summary of estimated results for the Mediterranean EU ICCAT fleet, highlighting segments with high dependency on activity in the ICCAT RA, 2022.

MS	Fleet segment	Number of vessels	FTE	Revenue (M EUR)	GVA (M EUR)	Gross Profit (M EUR)	Net profit (M EUR)
FRA	FRA MBS PS 2440 NGI *	23	238	71.82	63.97	30.55	30.55
MLT	MLT MBS MGO1824 NGI *	4	5	0.34	0.34	0.34	0.34
CYP	CYP MBS PS 1824 NGI	1		0.00	0.00	0.00	0.00
ESP	ESP MBS PS 2440 NGI *	17	183	18.51	15.51	5.66	5.66
ESP	ESP MBS HOK1824 LLD *	15	71	6.33	1.26	-1.59	-1.64
ITA	ITA MBS HOK1824 NGI *	33	99	6.13	3.74	1.57	1.07
MLT	MLT MBS PS 1824 NGI *	4		3.37	3.37	3.37	3.37
ITA	ITA MBS PS 40XX NGI	10	124	28.19	20.24	14.66	14.33
MLT	MLT MBS HOK1824 NGI *	16	39	1.59	1.59	1.59	1.59
ITA	ITA MBS PS 2440 NGI	7	69	6.36	4.11	2.29	2.25

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.80. Trends on number of vessels and FTEs for the EU Mediterranean ICCAT.
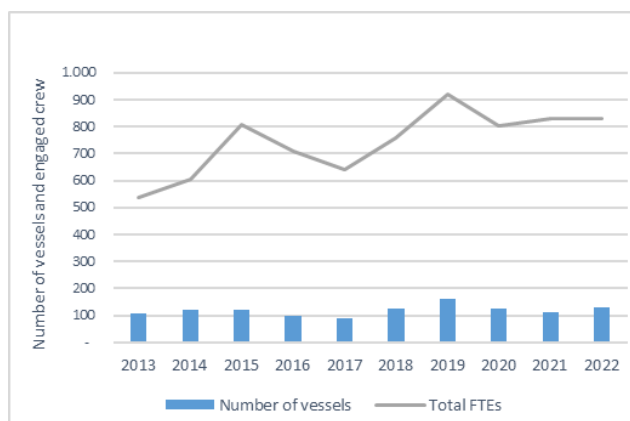
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)).

Figure 3.81. Trends economic indicators for the EU Mediterranean ICCAT combined.
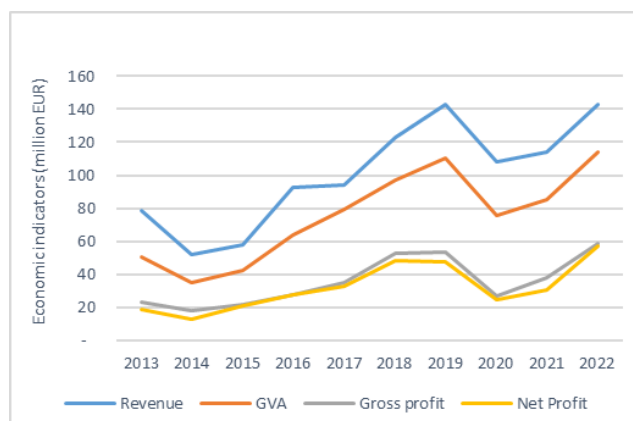
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Purse seines targeting Atlantic bluefin tuna and longliners targeting swordfish are two distinct and significant fishing activities occurring in the Mediterranean. Landings of bluefin tuna have increased over the last few years.

The combined economic indicators show an increasing trend in the period; in 2022 the revenue, GVA, Gross profit, and net profit increased by 25%, 34%, 54% and 89%, respectively, compared to 2021.

3.6.6 Performance by fleet segment

In terms of economic performance, the Mediterranean fleet's demersal trawler and purse seiner segments are the most significant, representing 13% of the number of vessels; 16% of the fishing effort (DaS); 37% of FTEs; 72% of energy consumption. Purse seiners and demersal trawlers generated 57% of the landing value (EUR 875 million); 51% of the GVA (EUR 474 million); and 54% of the gross profit (EUR 187 million). Italy and Spain have the most significant demersal trawlers and purse seiner fleet in terms of number of vessels, landing value, and GVA; followed by Greece and France.

At the fleet segment level, the Italian polyvalent passive gears vessels from 6-12m, with 13% of the number of vessels, generated the highest revenue, EUR 143 million, or 8.8% of the total from the Mediterranean region in 2022. The Italian demersal trawlers from 18-24m followed them in importance with 7.6% of the total revenue produced (EUR 124 million). The Italian demersal trawlers from 12-18m produced 6.3% of the revenue (EUR 103 million), and the Spanish demersal trawlers from 18-24m produced 4.5% of the revenue (EUR 73 million). The same fleet segments also generated the highest GVA, EUR 223 million combined, or 24% of the total GVA generated by the regional fleet.

Purse seiners lead in terms of GVA per vessel. The top two segments, the French purse seiners 24-40m and Italian purse seiners over 40m LoA, amount to EUR 2.8 and EUR 2.1 million GVA per vessel, respectively; a contributing factor in higher economic results in these segments is the inclusion of vessels involved in bluefin tuna fishing operations. These segments also produced the highest value, on average EUR 2.8 million per vessel and high GRP margins, followed by the Spanish purse seiners 24-40m with GVA EUR 0.9 million per vessel and 31% gross profit margin. In contrast, the average GVA per vessel of all Mediterranean segments is EUR 133 233.

Conversely, 30 out of 117 segments with negative gross profit represented 47% of the number of vessels and 33% of the number of jobs (18 726 jobs and 10 376 FTEs). Most of these vessels are included in segments of vessels using passive gears, such as drift and/or fixed netters, pots and traps, hooks and polyvalent passive gears (13 344 vessels).

3.7 Black Sea

3.7.1 Regional Details

The Black Sea region covers FAO fishing area 37.4. Two Member States were involved in the Black Sea fisheries in 2022: Bulgaria and Romania. All landings by the Bulgarian and Romanian fishing fleets originated only from the Black Sea, and both fleets operate mainly in waters under their respective national jurisdictions.

A comprehensive economic analysis, including both coastal Member States fishing fleets, was completed using data on the structure, activity, and production of all vessels collected by Bulgaria and Romania. The data collection program in place includes all economic and social variables. A trend analysis is provided for the period 2013–2022.

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 3.82. Importance of the Black Sea for MS fleets in terms of landings weight and value, 2022
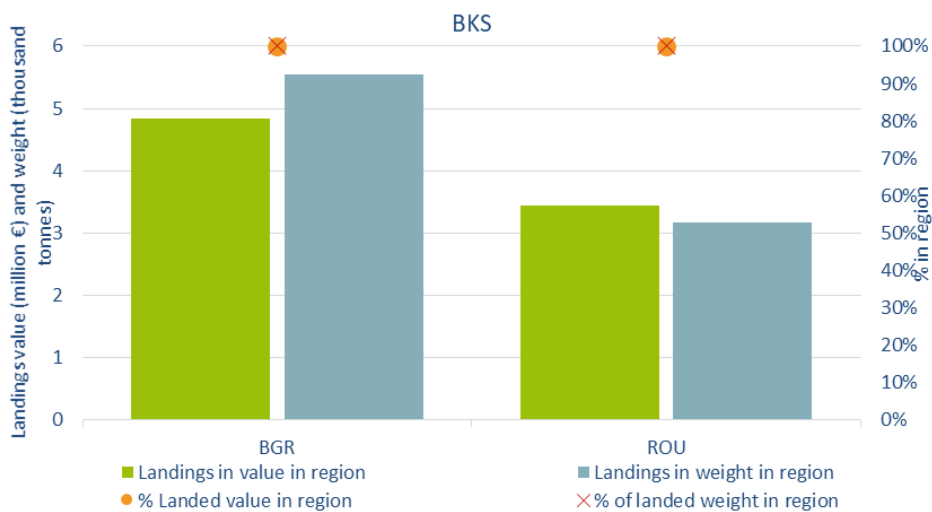
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.83. Share of MS and fishing activity in the Black Sea, 2022
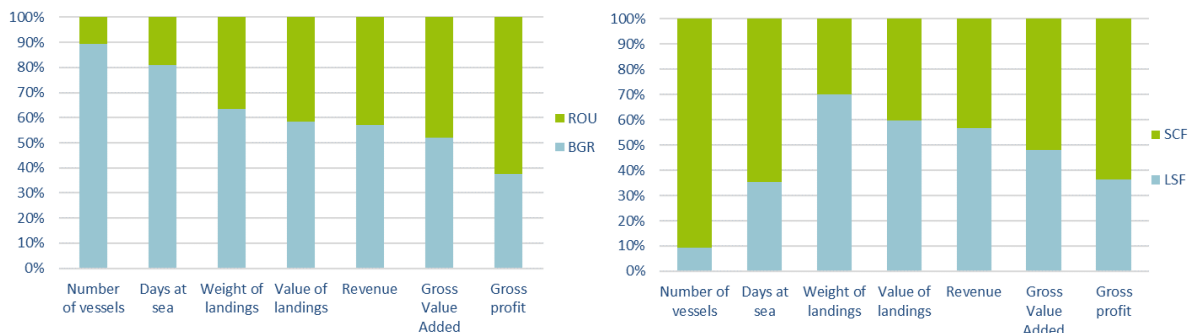
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.7.2 Overview of the main results for EU Black Sea fleet

Fishing effort and landings

Fishing effort in the Black Sea fleet decreased by 19% in 2022, in comparison with 2021. The increase in the number of days-at-sea during the period 2014–2017 corresponds to the gradually growing weight and value of the landings in the same years. Since 2018, the overall picture for landings in terms of weight and value has deteriorated, and even though in 2021 they increased by 13% and 34% compared to 2020, respectively, in 2022 they decreased again, even below levels in 2020, where the situation was worst in the last five years. The decrease in days at sea was one of the main reasons for the decrease in landings in weight in 2022 by 28% compared to 2021 (Figure 3.84).

Figure 3.84. Trends on effort and landings for MS fleets operating in the BKS
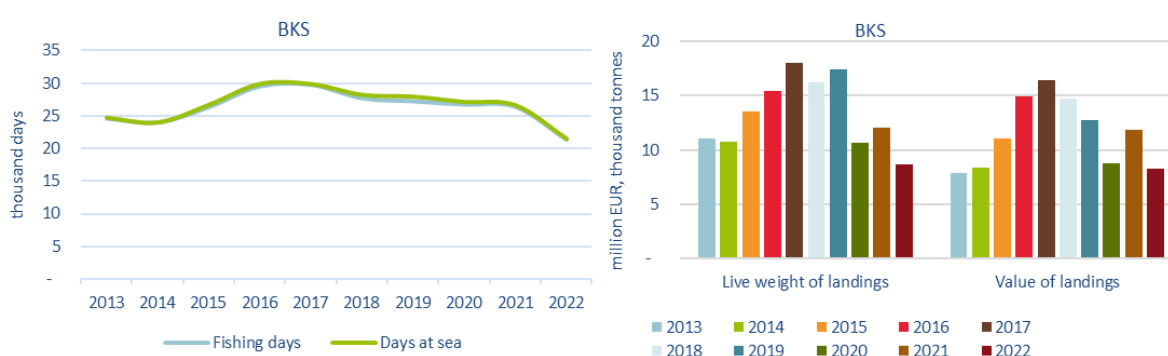
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Employment, wages and labour productivity

In 2022, the average wage per FTE in the SSCF fell by 24% compared to 2021 and by 56% compared to the period 2013–2021.

Wages for the LSF also decreased by 13% in 2022 compared to 2021. The average wage in 2022 was EUR 5 737, 35% lower compared to the highest level observed in 2014. The values of the average wages in 2022 for both LSF and SSCF showed deterioration compared not only to 2021 but also to the period 2013–2021 (Figure 3.85).

Labour productivity (GVA/FTE) in the LSF segment was increasing gradually from 2014 to 2016, when it reached its' highest value around EUR 30 000. From 2017 to 2021, fluctuating in wide ranges, and in 2022 reached EUR 9 691 which is a 61% decrease compared to 2021 and 55% compared to the 2013–2021 period. The situation for the SSCF is different from the LSF, labour productivity was fluctuating with much lower ranges in the period 2013–2019. In 2020, labour productivity decreased significantly, reaching the lowest value for the indicator up to 2020, while in 2021 it increased compared to 2020, but in 2022 it decreased by 63% compared to 2021 and reached the lowest value in the period analysed.

Figure 3.85. Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the BKS
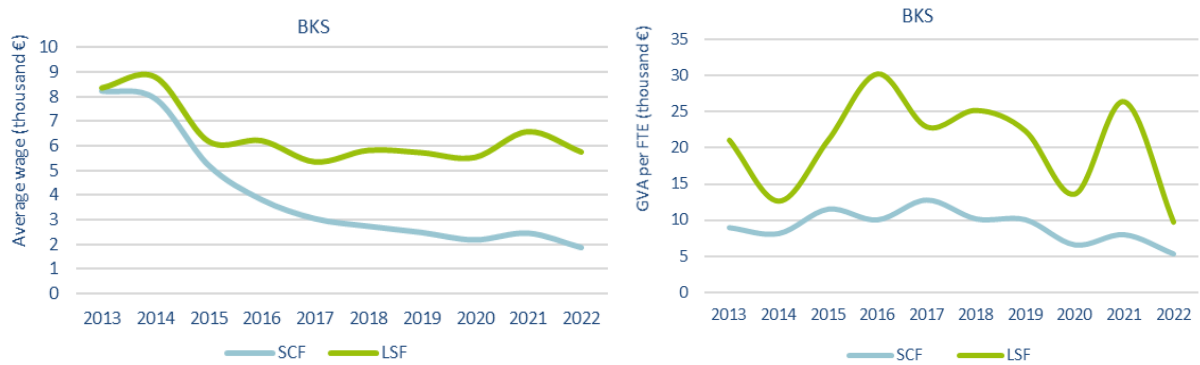
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

Revenue in 2022 was estimated at EUR 9.2 million, decreasing by 26% compared to 2021 and by 29% compared to the average 2013–2021 period. GVA produced was EUR 4.6 million, representing an overall decrease of 47% compared to 2021 and a 48% decrease from the average for the period from 2013 to 2021. Gross profit was estimated to be EUR 2.5 million, a 61% decrease compared to 2021. Net profit also decreased in 2022, reaching EUR 1.14 million, which was 77% lower than in 2021 (Figure 3.86).

Figure 3.86. Trends in revenue and profits for MS fleets operating in the BKS

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.7.3 Trends by Member State fleet

Fleet capacity and employment

The 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 3% increase in the number of vessels was due to the increase in both Bulgarian and Romanian vessels in 2022. Apart from the 3% increase in the number of vessels in 2022, the days-at-sea for 2022 decreased by 19%, and this is a continuation of the trend for a decrease in the days at sea in the region since 2017 (Figure 3.87).

Total employment in 2022 was estimated at 2 146 jobs, corresponding to 677 FTEs.

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, 0.37, compared to 1.85 in the LSF, due to the seasonal nature of the small-scale fishery and the lower effort.

The total employment increased by 6% between 2021 and 2022, due to the increase in the number of total employees in the Romanian fleet. The increase in FTE by 11% followed the decrease in total employment.

Figure 3.87. Trends in the number of vessels and employment (in FTE) for the MS fleets operating in the BKS
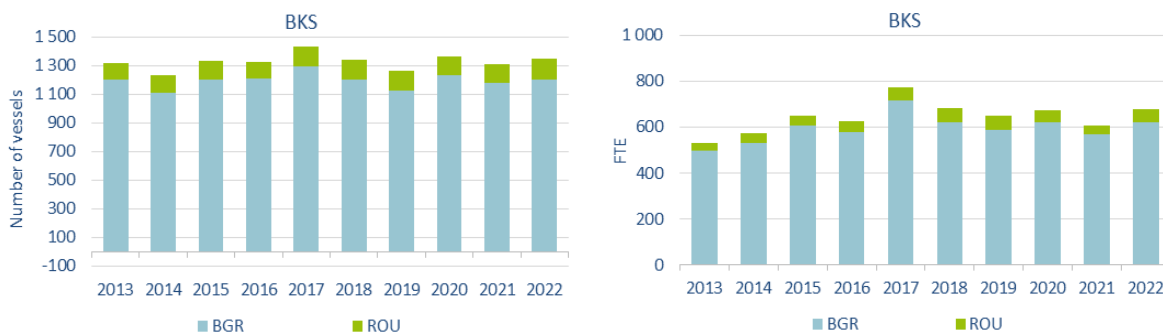
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024))

Fishing effort

The EU Black Sea fleet spent 21 538 DaS in 2022, which is a 19% decrease compared to 2021 and 21% less than the average for the period 2013–2021. The decrease in the region is mainly due to the Bulgarian days, which decreased by 24% compared to 2021, while the days spent by the Romanian fleet increased by 12%. The Bulgarian fleet accounted for 81% of the days, while the Romanian contribution was 19%. (Figure 3.88).

Figure 3.88. Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the BKS
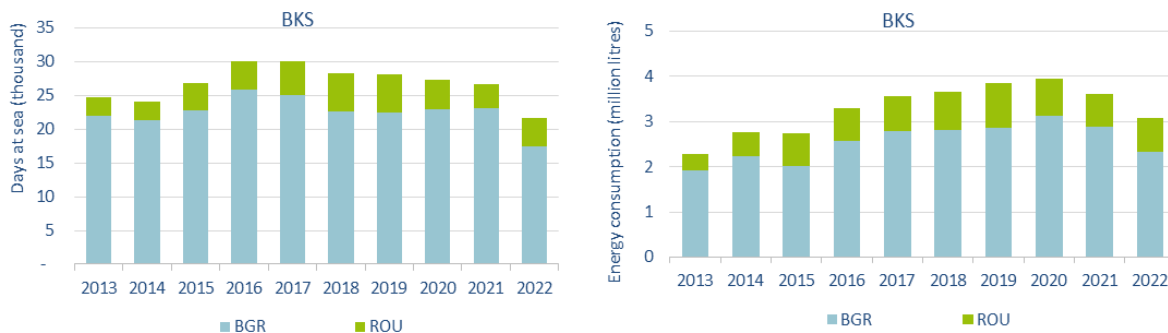
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)).

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 the last five years was mainly due to the overall reduction of the number of vessels in Bulgaria and the overall decrease in DaS in Romania.

Landings and top species

The weight and value of landings generated by the Black Sea EU fleet in 2022 amounted to approximately 8 722 tonnes and EUR 8.28 million, respectively. In terms of landed weight, Bulgaria landed 5 546 tonnes and Romania 3 176 tonnes with the value of landings being EUR 4.84 million and EUR 3.45 million, respectively. The distribution of both the value and weight of landings, by country, is shown in Figure 3.89.

In 2022, LSF accounted for 70% of all landings by weight, equivalent to 60% of the landed value. Although over 65% of the effort was deployed by the SSCF, these vessels landed only 30% by weight and 40% 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 3.89. Trends on landings in weight and value by MS fleets operating in the BKS
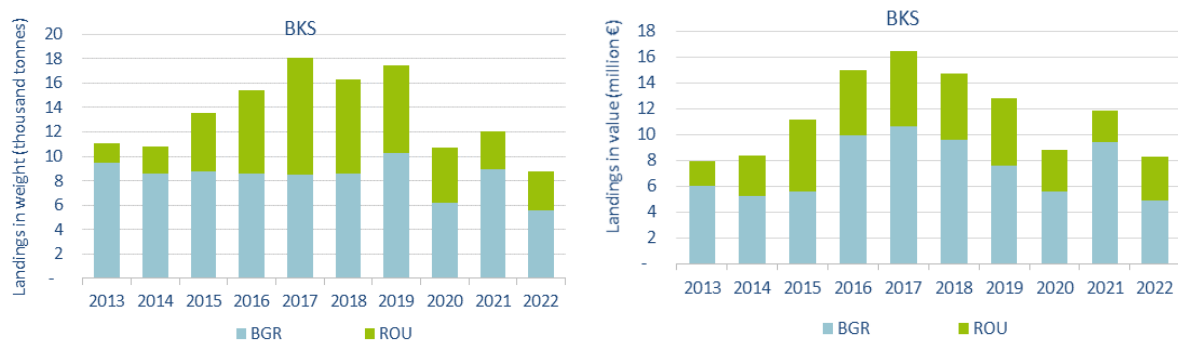
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the main species (by weight) were sea snails (4 618 tonnes), followed by European sprat (1 623 tonnes), Mediterranean mussel (671 tonnes) and bluefish (545 tonnes) (Figure 3.90).

Figure 3.90. Top 10 species in landed weight and value for MS fleets operating in the BKS, 2022
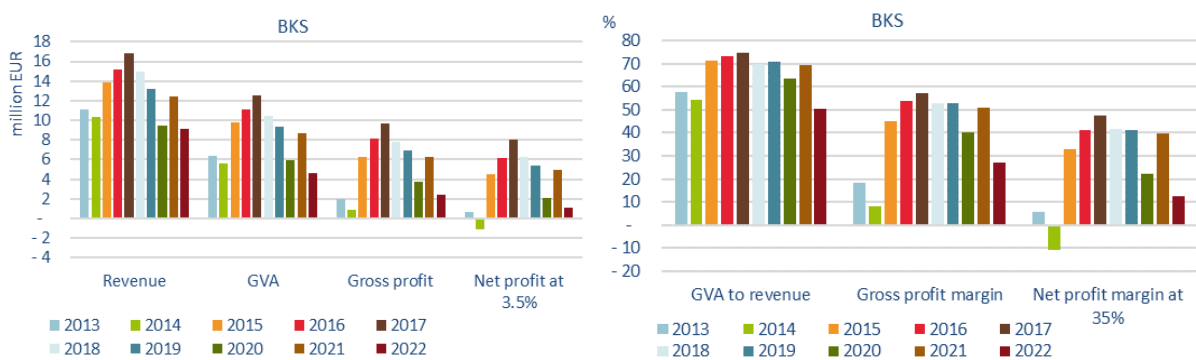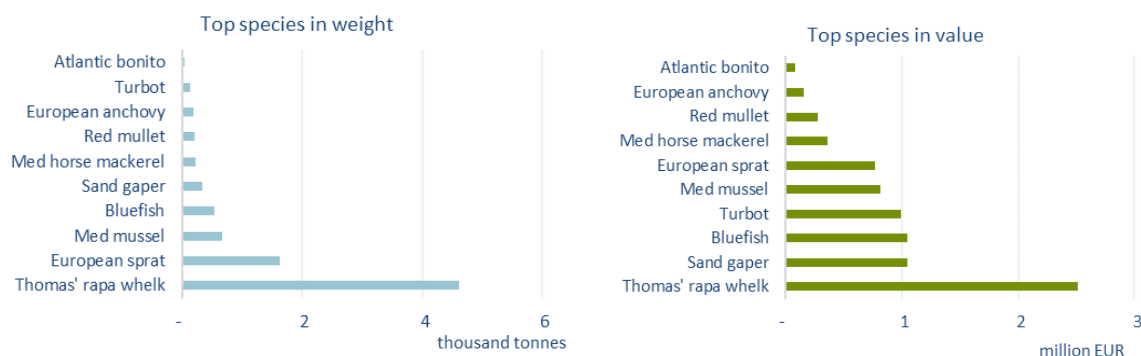

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

In terms of landing value, the most important species were sea snails (EUR 2.51 million), sand gaper (EUR 1.05 million), bluefish (EUR 1.05 million), turbot (EUR 0.99 million), and Mediterranean mussel (EUR 0.82 million) (Figure 3.90).

Figure 3.91. Trends in landings of the top species in landed weight and value for MS fleets operating in the BKS
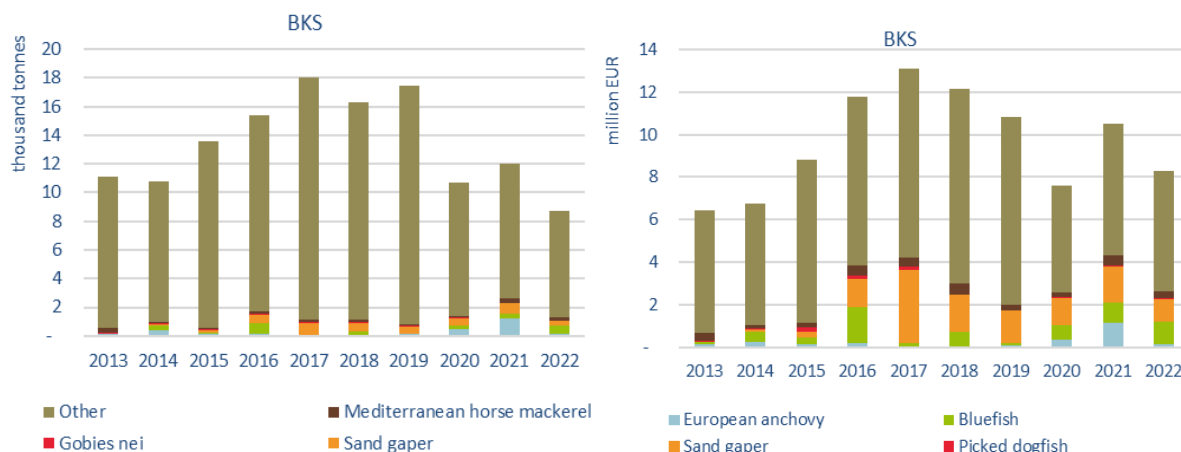
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance

The revenue generated in 2022 was EUR 9.2 million, 57% of which was obtained by the Bulgarian fleet (EUR 5.2 million). The amount of GVA was EUR 4.59 million, of which EUR 2.2 million was added by the Romanian fleet and EUR 2.4 million by the Bulgarian fleet.

Total gross profit for the region was estimated at EUR 2.47 million. The Romanian fleet generated the larger gross profit in 2022, amounting to EUR 1.5 million (Figure 3.92).

11 segments, one Romanian and ten Bulgarian segments, reported gross losses in 2022. These 11 segments represented 965 vessels (72%) from the fleet operating in the Black Sea. The gross losses of these segments were probably due to the low fishing activity of the majority of the vessels in them and low landings, with 17% of the weight and 18% of the value generated by the fleet. These amounted to –EUR 1.12 million. Overall net profit amounted to EUR 1.14 million in 2022, and this was generated by the remaining eleven segments represented by 380 vessels, or 28% of the fleet in the region.

As in previous years, amongst the operating costs, the two major expenses remain energy costs and crew wages costs, accounting for EUR 2.5 and EUR 2.1 million, respectively. In terms of crew costs, Bulgaria was leading with EUR 1.46 million, and Romanian costs were EUR 0.67 million. Regarding the energy costs, the situation was similar: EUR 1.73 million for Bulgaria and EUR 0.79 million for Romania.

While the SSCF accounts for 91% of the total fleet by number (1 222 vessels) and 65% of the effort (13 943 days), it landed only 30% of the total by weight (2 617 tonnes) and 40% by value (EUR 3.35 million).

The LSF of Romania was more profitable than the LSF in Bulgaria, with a gross profit margin estimated at 34% for the Romanian LSF and 7.8% for the Bulgarian LSF. For the SSCF, the situation was similar, with smaller differences, where the Romanian SSCF recorded a 46.2% gross profit margin and the Bulgarian SSCF generated a 34.6%.

Net profit margins were estimated at 41% for the Romanian SSCF and 22% for the Bulgarian SSCF, while for the LSF, the Romanian fleet reported a 12% margin and the Bulgarian LSF −9%.

Figure 3.92. Trends in revenue and profit by MS fleets operating in the BKS
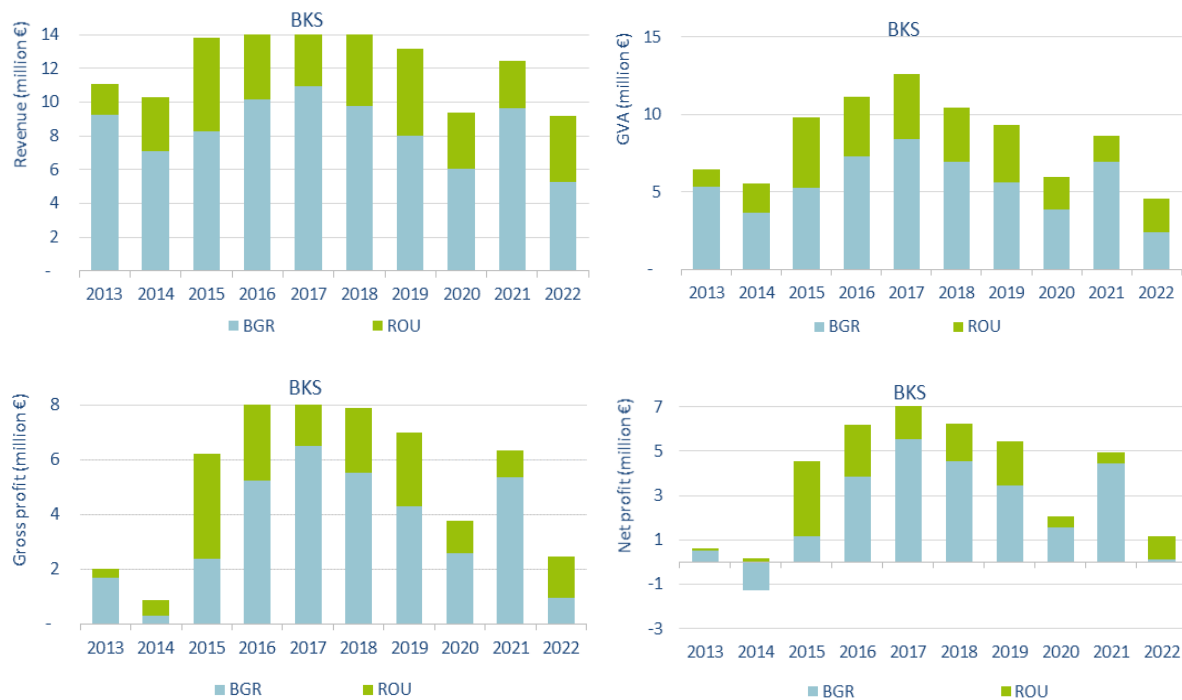
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.7.4 Main factors affecting the performance of the fleet

After the improvement of the fleet's economic performance between 2015 and 2017, with an increase in both gross and net profits, in 2018 and 2019, both indicators decreased, and this negative trend continued until 2020, when the level of economic profitability decreased significantly. In 2021, both indicators showed improvement in economic profitability, with a level close to the one observed in 2019, but in 2022, the deterioration was significant, and profitability dropped even below the level from 2020.

Factors that may affect positively the fleet performance in the region:

- Additional increase in the turbot quota for both Bulgaria and Romania in the last three years, together with a management plan for third countries fishing in the Black Sea;

- The stable average prices for some important species with significant landings, such as sea snails, and maintaining the average prices for the other species;

- The sea snail stock in GSA 29 is fished near F_{MSY}, which means that fishing vessels and processing plants utilising this species could continue to provide employment in the region;

- Keeping the trend with almost stable fuel costs at the regional level is directly connected with 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 affected fishing activities by the SSCF, which led to a reduction of the DaS and value of landings and, of course, a negative impact on 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 trend of a stable level of days-at-sea is leading to the relevant stable energy costs.

Other factors that affected fleet performance in the region include:

- The Black Sea fishery is highly dependent on very few valuable species. In terms of landing weight and value, the sea snail is the most profitable species, and according to the most recent available consideration from 2022, its stock in the Black Sea was considered to be around reference biological points. Sprat, which is usually the second most important fishery, 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.

Regulation and fisheries management in the region

The recommendations adopted by the GFCM in the last 5 years have established a set of emergency measures that look to align the implementation of management measures by all countries operating in the region.

In 2022, during the 45th session of GFCM, two recommendations were adopted for the management of the fisheries in the Black Sea. Recommendation GFCM/45/2022/9 on a multiannual management plan for turbot fisheries in the Black Sea (geographical subarea 29), amending Recommendation GFCM/43/2019/3 and Recommendation GFCM/45/2022/10 on a regional research programme for rapa whelk fisheries in the Black Sea (geographical subarea 29), amending Recommendation GFCM/42/2018/9 were adopted in order to insure the sustainability of the turbot stock and improve the biological data collection of rapa whelk. Recommendation GFCM/44/2021/9 on management measures for the sustainable exploitation of sprat in the Black Sea (geographical subarea 29), Recommendation GFCM/44/2021/10 on management measures for sustainable piked dogfish fisheries in the Black Sea (geographical subarea 29) and Recommendation GFCM/44/2021/17 on a catch certificate scheme for turbot in the Black Sea (geographical subarea 29) introduced obligations in order to ensure the sustainability of the sector. At the initiative of the EU, the GFCM amended recommendation GFCM/43/2019/3, 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.

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 2023, the turbot quota was kept at the same level as in 2022, and due to the fact that the EU Member States underexploited its quota for turbot, a carry-over of the unused quota was approved in view of the exceptional situation created by the COVID-19 pandemic.

Status of important stocks

Commercially important stocks for the Black Sea fisheries in 2022 remained the same as in the past decades: turbot, sea snails, sprat, and picked dogfish.

During 2020, turbot stock in GSA 29 was found to have a positive evolution of biomass and an improved or unchanged evolution of the overexploitation status. In 2021, the Working Group on the Black Sea under GFCM confirmed that the stock trajectory is following the increasing evolution seen in past years, and during the stock assessment in 2022, the current biomass continued improving. In terms of landing weight and value, the sea snail is the most profitable species, since there was no stock assessment in 2018 and 2019. In view of the consistent, deteriorating signals, qualitative advice was provided in 2021. In 2022, the Black Sea rapa whelk stock was considered slightly above the reference point, and fishing mortality should not be increased. Sprat, which is the second most important fishery, and the stock assessment during 2021 show that the status was considered in sustainable exploitation. The Working Group on the Black Sea (WGBS) under GFCM agreed on a roadmap towards the finalisation of the benchmark in 2023. Both countries are fishing less quantity than their European sprat quotas. In 2021 and 2022, the Bulgarian fleet landed 46% and 19%, respectively, of the TAC, while the Romanian fleet landed less than 1% in 2021 and near 2% in 2022. 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's 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 Member States, 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.

GFCM Recommendation GFCM/43/2019/3 amended the TAC for turbot for 2018 and 2019 and set the EU share of this TAC at 114 tonnes in each of the two years.

With amendments of the multiannual management plan for turbot due to decisions taken during the 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 the turbot quota was increased to 75 tonnes for Bulgaria, 32% compared to the previous one and for EU Black Sea countries, was allocated to 150 tonnes which is 17.5% of 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. With Council Regulation (EU) 2021/90 of 28 January 2021 and Council Regulation (EU) 2022/10 of 27 January 2022 the same fishing opportunities were fixed for 2021 and 2022, respectively, in the Black Sea. In 2023, due to the exceptional situation created by the COVID-19 pandemic, an opportunity to carry over the unused quota from 2022 was provided to EU Member States by the European Commission.

3.7.5 Description of relevant fisheries in the region

Small-scale coastal fleet

The Black Sea fishery is dominated by SSCF vessels dispersed across 76 landing places (18 in Romania and 58 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 adapted to fishing seasons and fluctuations in species abundance.

The 1 222 vessels that comprise the SSCF had a combined capacity of 2 054 GT and 25 106 kW. The number of vessels in 2022 increased by 3% compared to 2021, GT remained at the same level as in 2021, and kW increased by 3%. These are of vital importance to the region, where they make up 91% of the total fleet by number and 83% of the total employment (66% of FTE). In 2022, 1 779 fishers were directly employed, corresponding to 450 FTEs. In the majority of cases, vessels are operated by the owner or a family member.

Landings by the Black Sea SSCF amounted to 30% of the total landed weight in the region and 40% of the total value. The lower value achieved by the SSCF (compared to the LSF) appears to reflect 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 low activity where the catch is not intended for the market but is consumed directly by the owners and their families.

The SSCF accounted for 65% of the total DaS in the region and generated revenues of EUR 4 million. GVA was estimated to be EUR 2.4 million, gross profit EUR 1.6 million, and net profit EUR 1.2 million. In 2022, labour productivity (GVA per FTE) decreased by 33% compared to 2021 and by 45% to the average for 2013 to 2021 and reached EUR 5 303.

The SSCF targets several species, including sea snails, sand gaper, Mediterranean mussel, turbot, European sprat, European anchovy, pontic shad, gobies, and Mediterranean horse mackerel. In terms of value, the most important species for the SSCF were sand gaper, followed by sea snails, Mediterranean mussel, turbots, and bluefish (Figure 3.93).

Figure 3.93. Top 10 species landed by SSCF operating in the BKS, 2022
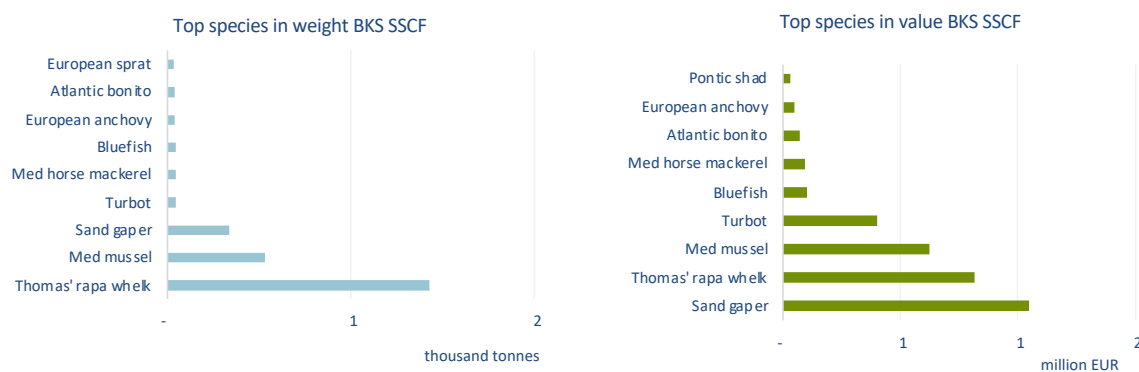
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.94. Trends in landings of top species landed by the SSCF operating in the BKS
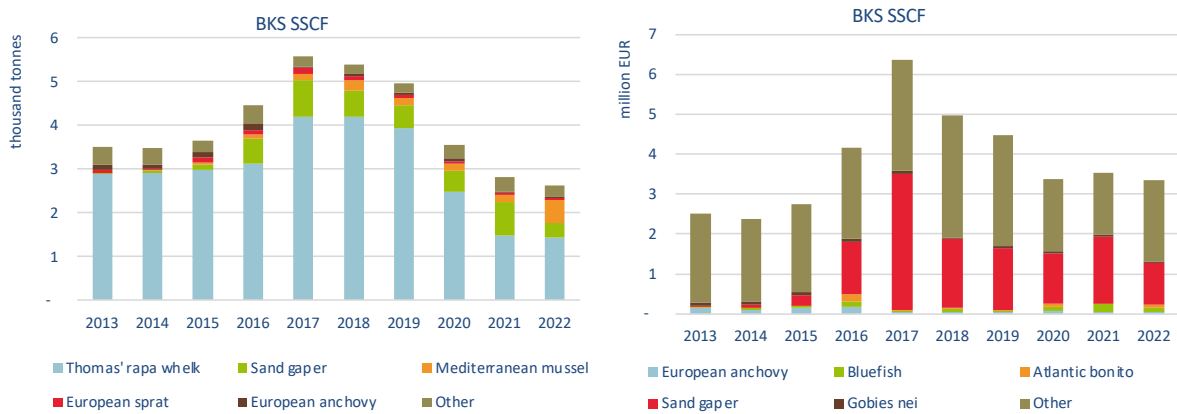
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Large-scale fleet

In 2022, the LSF in the Black Sea consisted of 123 vessels, or 9% of the entire fleet. These had a total capacity of 4 237 GT and 20 513 kW. The Bulgarian LSF represented 80% of the EU Black Sea LSF with 99 vessels, while the Romanian LSF consisted of 24 vessels. The main gears used remained pelagic trawls. There were also vessels using passive and active gears during the year, as well as vessels using beam trawls.

The LSF employed a total of 367 people, corresponding to 227 FTE. Total labour costs in 2022 were EUR 1.3 million, and labour productivity (GVA per FTE) decreased to EUR 9 690, which is a 63% decrease compared to 2021 and by 45% compared to the 2013–2021 average.

Until 2018, the LSF accounted for 30–37% of the total DaS 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, in 2018 and 2019, they increased again to 10 300 and 11 300, respectively. In 2020, the DaS spent by the LSF decreased by 10% (10 200) and in 2021, they decreased by 2% (9 930) compared to 2020. In 2022, the DaS decreased by 24% and reached 7 595.

Figure 3.95. Top 10 species landed by LSF operating in the BKS, 2022
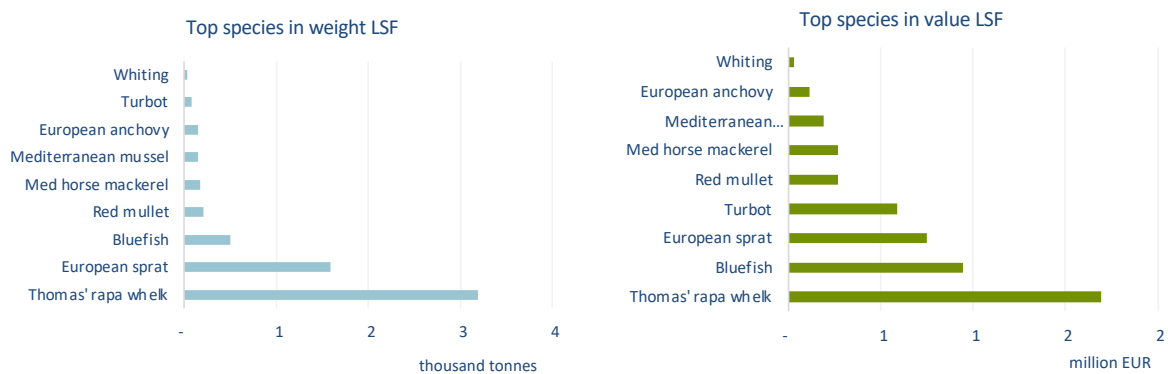
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

The LSF targets the same species as the SSCF, with sea snail making up the highest proportion (by value and by weight). Other important species for the LSF are European sprat, with almost the same importance as sea snail, bluefish, European anchovy, red mullet, turbot, and Mediterranean horse mackerel (Figure 3.95).

The LSF landed 70% (6 104 tonnes) of the total landed weight in the region in 2022, valued at EUR 4.9 million, or 60% of the total value. This generated EUR 2.2 million in GVA and a net loss of EUR 0.07 million. None of the LSF segments reported a net loss in 2022. The LSF generally operates through longer supply chains than the SSCF, but the marketing channels are more developed. In 2022, the highest landings in terms of weight and value were polyvalent vessels with both active and passive gears, followed by pelagic trawlers.

Figure 3.96. Trends in landings of top species landed by the LSF operating in the BKS, 2022
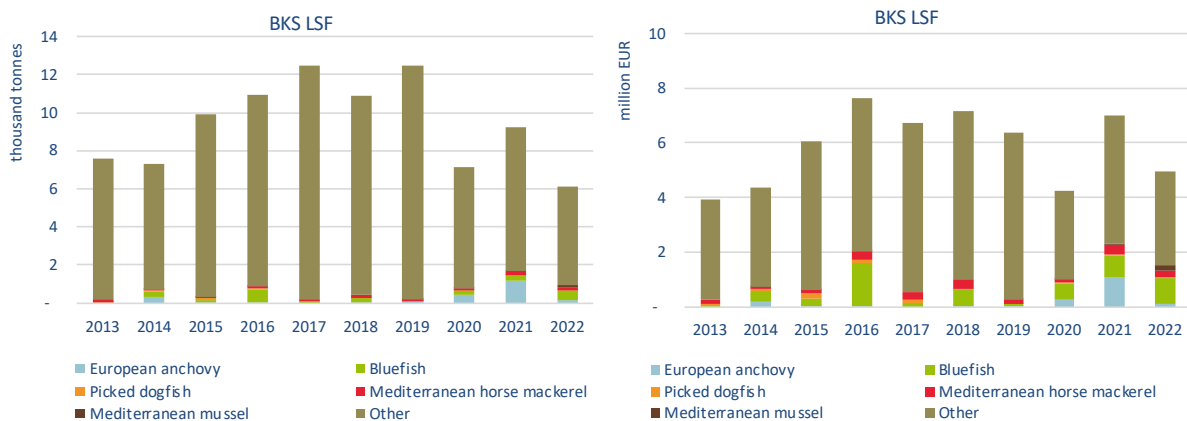
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

3.7.6 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 22 active fleet clustered segments) represented 22% of the total number of vessels, but these five segments (two LSF segments and three SSCF segments) landed 63% of the fish, corresponding to 69% of the value of landings and revenue. These segments provided work to 666 employees, corresponding to 195 FTEs.

There were eleven segments, with 965 vessels in total, that generated net loss, ten of them were from the Bulgarian fishing fleet. They spent 45% of the total days at sea for the fleet but landed 17% of the fish, corresponding to 18% of the value. These 11 segments provided work to 1 286 employees, or 401 FTEs.

At a fleet segment level, Romanian 06 to 12 metres vessels with passive gears generated the highest revenue from the Black Sea region in 2022 (EUR 1.9 million), followed by Romanian vessels using polyvalent active and passive gears for vessels 12 to 18 metres (EUR 1.7 million), Bulgarian vessels using polyvalent active and passive gears for vessels 12 to 18 metres (EUR 1.2 million) and Bulgarian 24 to 40 metres segment with pelagic trawlers (EUR 1.1 million).

3.8   EU Outermost Regions (OMR)

3.8.1 Overview

In 2022, the number of active vessels was 2 587, although in some regions, significant parts of the registered fleet were inactive. Most of the OMR fleet is small scale and labour intensive with 93% of the vessels under 12 metres LOA. Vessels over 12 metres operate mainly in Canaries Islands, Azores and Madeira, La Réunion and to lesser extent in French Guiana.

Figure 3.97. Number of active vessels per length categories (left) and per OMR (right), 2022
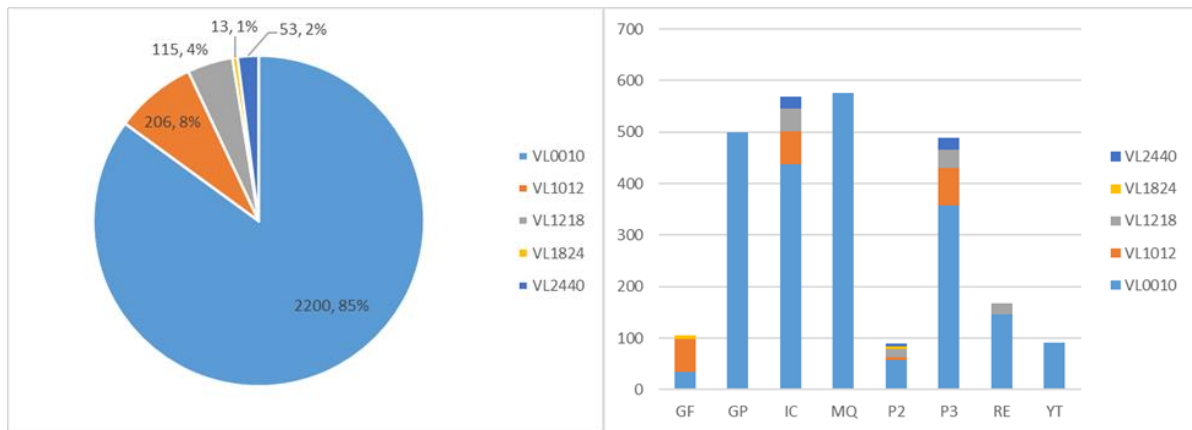
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Total engaged crew was 6 675 (2.6 per vessel on average) for 3 488 FTEs. Total days at sea (DaS) were around 190 000 for an energy consumption of 21.9 million litres (115 litres/DaS). Energy consumption average figures were 1.5 kg and 7.1 euro of fish landed per litre of fuel consumed but with heterogeneous situations between OMRs and segments. In 2022, landings from the OMR fleets combined amounted to 33 566 tonnes valued at EUR 155.5 million. Average price was 4.6 euro/kg. GVA and NVA were EUR 104.0 million (63% of total revenue) and EUR 89.0 million, respectively. Gross profit and net profit were estimated to EUR 29.0 million and EUR 10.9 million. These figures do not consider operating subsidies which may change segments performance (see below). In 2022, GVA per crewmember was EUR 15 579 and GVA per FTE was EUR 29 811.

In 2022, 1 439 vessels and 2 744 engaged crew were active in the French OMR (1.9 per vessel on average) compared to 579 vessels and 2 494 engaged crew in the Portuguese OMRs (4.3 per vessel), 569 vessels and 1 437 engaged for the Spanish OMR (2.5 per vessel). With EUR 69.2 million and 9 916 tonnes (7.0 euro/kg average price), French OMR fleets accounted for 45% of the landings in value and 30% in weight, followed by the Portuguese OMR fleets with EUR 57.2 million and 15 303 tonnes (3.7 euro/kg) representing 37% of the total OMR value and 46% in weight. For Canaries islands, the value of landings was EUR 29.1 million for 8 348 tonnes (3.5 euro/kg average price) representing 25% and 19% of the total OMR in weight and value. In most cases, landings are sold to local markets but in some regions, a significant part of the landings are exported (Reunion).

In 2022, GVA was estimated to EUR 41.8 million (40%), EUR 36.4 million (35%) and EUR 25.8 million (25%) for the French, Portuguese and Spanish OMRs, respectively. Despite the overall net profits per country/region being positive, French Guiana, Guadeloupe, Martinique, Reunion, Mayotte, and Madeira recorded negative net profits. Operating subsidies including EMFAF compensation costs programs have to be considered because they may have an influence in viability of segments.

These subsidies increased from EUR 2.5 million in 2017 to a maximum of EUR 6.9 million in 2019 to reach EUR 5.1 million in 2022, but these values seem to be underreported by some regions.

Table 3.3. Summary results for the EU OMR fleet by region and Member State, 2022

	OMR Geo indicator	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
France	GF (A)	70	236	196	10 423	0.6	1 753	4.7	5.9	3.1	2.8	0.4	0.1	0.5
	GF (L)	28	80	15	940	0.1	204	0.6	0.7	0.2	0.2	-0.1	-0.2	0.1
	GF (O)	7	35	21	737	0.0	327	3.1	ND	ND	ND	ND	ND	0.1
	GF Total	*105*	*351*	*231*	*12 100*	*0.7*	*2 284*	*8.3*	*6.5*	*3.3*	*3.0*	*0.3*	*-0.1*	*0.7*
	GP (A)	224	449	364	32 888	2.9	1 893	17.5	17.5	11.9	10.6	3.3	1.7	0.4
	GP (L)	275	417	66	7 755	0.8	435	4.1	4.1	1.9	0.4	-0.1	-1.8	0.2
	GP Total	*499*	*866*	*430*	*40 643*	*3.8*	*2 328*	*21.6*	*21.6*	*13.8*	*11.0*	*3.2*	*-0.1*	*0.6*
	MQ	575	970	228	24 227	2.1	1 545	18.2	16.8	11.1	10.0	3.0	1.5	0.0
	RE	168	327	295	13 302	2.3	2 680	15.3	19.0	10.2	8.5	3.9	2.1	0.4
	YT	92	229	133	9 504	1.3	1 077	5.9	5.9	3.4	2.7	0.5	-0.2	0.0
Total France		**1 439**	**2 744**	**1 317**	**99 776**	**10.1**	**9 916**	**69.2**	**69.8**	**41.8**	**35.2**	**10.8**	**3.2**	**1.6**
Portugal	P2	90	455	300	7 442	1.8	4 028	13.3	13.4	7.2	6.0	0.7	-0.9	0.9
	P3	489	2 039	1 065	39 056	5.3	11 275	43.8	43.7	29.2	23.8	13.0	6.2	0.6
Total Portugal		**579**	**2 494**	**1 365**	**46 498**	**7.1**	**15 303**	**57.2**	**57.2**	**36.4**	**29.7**	**13.7**	**5.3**	**1.5**
Spain	IC	569	1 437	806	43 736	4.7	8 348	29.1	38.8	25.8	24.1	4.5	2.5	2.0
Total Spain		**569**	**1 437**	**806**	**43 736**	**4.7**	**8 348**	**29.1**	**38.8**	**25.8**	**24.1**	**4.5**	**2.5**	**2.0**
Total OMR		**2 587**	**6 675**	**3 488**	**190 009**	**21.9**	**33 566**	**155.5**	**165.7**	**104.0**	**89.0**	**29.0**	**10.9**	**5.1**

Normal activity (A) and low activity (L) based on vessel activity threshold at 75 days at sea per year. Segment (O) with no activity threshold

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data. Operating subsidies excluded.

Figure 3.98. Operating subsidies by OMR between 2017 and 2022
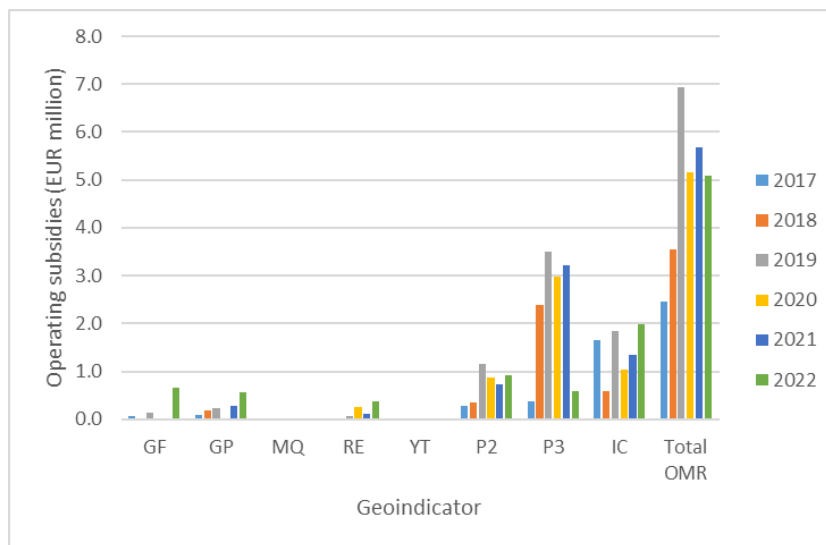
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)).All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, operating subsidies represented 3.0% of OMR total revenue but with significant differences between Member States and OMR. They represented 2.6% of revenue in Portuguese OMRs but with lower levels compared to previous years, 6.9% in Canary Islands and only 2.3% for the French OMR. These subsidies may have a significant impact on profitability of the segments.

3.8.2 Background and regional details

The EU Outermost Regions (OMR) refers to the nine remote territories belonging to three Member States: six French territories – Guadeloupe, French Guiana, Martinique, Mayotte[10], Reunion, and Saint-Martin; two Portuguese autonomous regions – Azores and Madeira and one Spanish territory – Canary Islands. All the outermost regions are islands, archipelagos except for one land territory (French Guiana), and are located in the western Atlantic Ocean, the Caribbean and Amazonian basins, and the Indian Ocean.

Under the fleet economic data call, Member States identify fleet segments based in the OMRs by allocating a geographical indicator to the fleet segment definition, as provided in Table 3.4. All fleet segments identified with a geographical indicator pertaining to one of the OMRs are considered.

Table 3.4. Geographical indicator codes used in the EU-MAP data calls to identify OMR fleet segments

Geo Code	Name	Definition
P2	Madeira	Portuguese outermost region (autonomous region)
P3	Azores	
IC	Canaries	Spanish outermost region (autonomous community)
GF	French Guiana	French outermost region (overseas department)
GP	Guadeloupe	
MQ	Martinique	
RE	La Réunion	
YT	Mayotte	
MF	Saint-Martin	French outermost region (since 2009) (overseas community)

Source: EWG 24-07

3.8.3 Trends in the OMRs

OMR active vessels declined by –23% between 2013 and 2022 (Canaries Island and Mayotte excluded) and by –14% between 2017 and 2021 for the whole OMR fleet (total eight OMR). However, a stabilization has been observed since 2020. Engaged crew and DaS followed quite the same mid-term trend with however, significant differences between OMRs (see below). Energy consumption did not reduce as such, suggesting that vessels who left the fleet or became non active were consuming little fuel.

Even if the live weight of landings fluctuated over the period, with a significant drop in 2020 due to COVID-19 crisis, total six OMR's (French Guiana, Guadeloupe, Martinique, Reunion, Madeira, Azores) landings in weight show no significant trend. Average total weight was around 25 400 tonnes over the 2013-2022 period (36 300 tonnes for the eight OMR between 2017-2022). For these six regions, increases in the total gross value of landings (+7%), revenue (+8%) and GVA (+6%) were observed. Gross and net profit indicators showed a positive trend until 2019, declined significantly in 2020 but did not recover to previous values in 2021 and 2022. If Canaries Islands and Mayotte are included, the trends for the total eight OMRs are more contrasting. GVA trend was stable since 2018 and the contribution of these regions to total gross and net profit was limited. Beyond these global changes, several drivers may explain these evolutions (exit of non-active or less active

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[10] 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-Barthelemy changed status in 2012 to become part of the Overseas Countries and Territories (OCT) within the meaning of the TFEU.

vessels, decommissioning schemes, resource evolution, operating subsidies, etc.) at either OMR or segments levels.

Figure 3.99. Trends in key indicators for EU OMR

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Portugal

The Portuguese OMR fleet in 2022 was composed of 579 active vessels, operating mainly in FAO 27.10.a and FAO 34.1.2. 80% of the active vessels belongs to the SSCF. Both in Madeira and in the Azores, 5% of vessels are over 24 metres. The landings from the OMR fleets amounted 15 303 tonnes and generated a value of EUR 57.1 million. Engaged crew was responsible for 2 494 jobs corresponding to 1 365 FTE. GVA and NVA were EUR 36.4 and EUR 29.7 million, respectively. Gross and net profit of EUR 13.7 and EUR 5.2 million, respectively. The most representative species in value were bigeye tuna, blackspot seabream and black scabbardfish, representing 14.9%, 14.6% and 13.0% of the total value of landings, respectively.

Madeira (P2)

The Madeira fleet was composed of 90 active vessels in 2022. Overall, 57% of the vessels are less than 10 metres LOA and 87% are less than 18 meters LOA. The total number of jobs created by this fleet was 455, corresponding to 300 FTE. In terms of effort, all these vessels together spent 7 442 DaS and used up 1.8 million litres of fuel (242 litres/DaS). The total live weight of landings was 4 028 tonnes generating an income of EUR 13.3 million, which means an average price of 3.31 euro/kg. Regarding the fleet performance, revenue was EUR 13.4 million and GVA and NVA were EUR 7.2 million and EUR 6.0 million, respectively. Gross profit and net profit were EUR 662 026 and –EUR 925 491, operating subsidies excluded. The active vessels operated mainly with longlines and the most representative species was the black scabbardfish, with 2 201 tonnes landed (55% of the total landings of these fleet) and a yield of EUR 7.4 million (56% of the total value of landings). Tunas are also representative of the fishing activity in Madeira and the main species of tunas accounted for around 29.6% of the total value and 32.0% weight landed.

Figure 3.100. Top species landed in value (left) and weight (right) in Madeira, 2022.
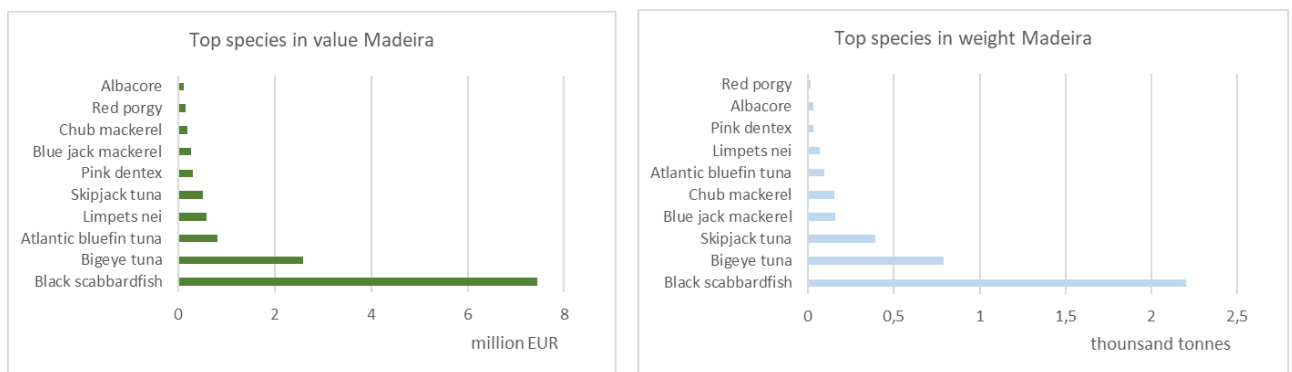
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Vessels of the Madeira fleet operate in the different following fisheries around Madeira archipelago:

- Slope fishery: vessels mainly targeting demersal species black scabbardfish mainly using set-longlines and small pelagic such as blue jack mackerel and chub mackerel using purse seiner.

- The large pelagic fishery: vessels using polyvalent active gears to target large pelagic species (skipjack tuna, bigeye tuna, bluefin tuna and albacore).

Between 2013 and 2022, the number of active vessels was stabilised, while FTE and crew decline -23% and –19%, respectively.

Compared with the previous year, the Madeira active fleet was registered an increase in terms of number of vessels (+5%), total vessel power (+17%) and total vessel tonnage (+10%).

Figure 3.101. Trends on capacity, effort, landings, GVA and profit for the Portuguese OMR fleet in Madeira.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)), All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.102. Cost structure for the Portuguese OMR fleet in Madeira, 2022.
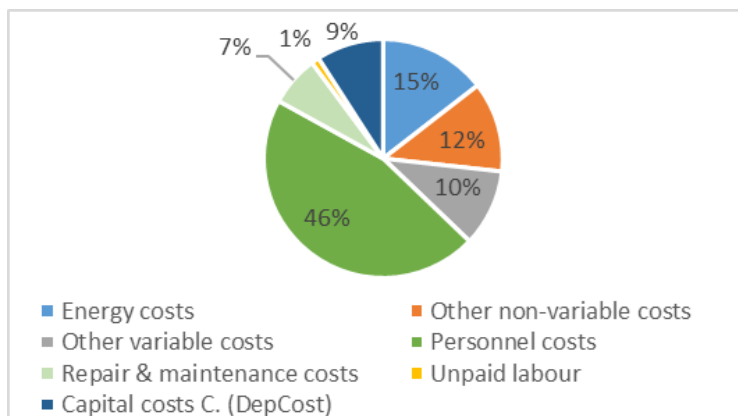
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Despite a decrease in days at sea (–9%) compared to 2013, DaS registered a 2% increase when compared to 2021 and the energy consumption decreased 21% compared with 2021, reaching the lowest value in the 2013–2022 time series.

The landings in weight fell by –4% while the value of landings increased by 8%, compared to last year. Total GVA and NVA was EUR 7.2 and EUR 5.9 million in 2022, the lower value registered 2013–2021 period. Compared to 2021, gross profit worsened in –18%, operating subsidies excluded.

In 2022, the cost structure of the Madeira fleet was dominated by wages and salaries (46%) followed by energy costs (15%) and other non-variable costs (12%). Others variable costs represented 10% of total costs.

Fleet structure and key results in Madeira

The fleet structure is characterised by a dominance of vessels using set-longlines targeting demersal species black scabbardfish, and vessels operating with pole and line targeting large pelagic species. The Madeira fleet is structured in 7 fleet segments.

The most relevant segment in terms of number of vessels is the HOK0010 with 50 vessels representing 56% of the active fleet, 28% of the DaS and 15% of the value of landings. This fleet targets mainly demersal species (black scabbardfish represents 37% in weight and 27% in value) and also tunas (bigeye tuna and Atlantic bluefin tuna together represents 26% and 39% in weight and value of landings, respectively). The fleet segment employed 55 FTEs (18% of the total). Economic indicators for this fleet reported a gross profit of EUR 0.6 million.

The HOK1218 segment is composed by 15 vessels, representing 17% of the active fleet, 38% of the days at sea and 51% of the value of landings. The fleet targets mainly demersal species (black scabbardfish represented 85% in weight and 87% in value). The fleet segment employed 118 FTEs (39% of the total). Economic indicators for this fleet reported a gross profit of EUR 1.3 million.

Segment HOK2440 is composed only by 6 vessels and represents 7% of the active vessels, 8% of the DaS and 11% of the value of landings. The fleet targets mainly large pelagic species (big eye tuna represents 68% in weight and 79% in value and skipjack tuna represents 29% in weight and 15% in value). The fleet segment employed 51 FTEs (17% of the total). Economic indicators for this fleet reported a negative gross profit of –EUR 1.6 million and –EUR 2.5 million net profit.

Table 3.5. Summary results for the Portuguese *OMR fleet segments in 2022: Madeira (P2)*

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
PRT NAO HOK0010 P2 *	50	108	55	2 063	0.1	417	2.0	2.0	2.0	1.4	1.3	0.6	0.4	0.064
PRT NAO MGP1824 P2 *	3	37	13	497	0.1	323	0.5	0.5	0.5	0.3	0.2	0.0	-0.2	0.035
PRT NAO MGP0010 P2	7	28	11	466	0.0	70	0.6	0.6	0.6	0.5	0.5	0.2	0.1	0.011
PRT NAO HOK2440 P2	6	65	51	599	0.7	625	1.5	1.5	1.5	-0.9	-1.6	-1.7	-2.5	0.339
PRT NAO HOK1218 P2	15	152	118	2 822	0.5	2 037	6.7	6.8	6.8	4.7	4.5	1.3	1.0	0.371
PRT NAO HOK1824 P2	3	32	32	460	0.2	460	1.5	1.5	1.5	1.0	0.9	0.3	0.2	0.091
PRT NAO HOK1012 P2	6	33	20	535	0.1	96	0.6	0.6	0.6	0.3	0.3	0.0	0.0	0.012
Total	90	455	300	7 442	1.8	4 028	13.3	13.4	13.4	7.2	6.0	0.7	-0.9	0.923

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Main factors affecting the performance of the fleet in Madeira

- The crew costs, which represents the main operational costs, may increase in order to keep and recruit crew to operate the fleet. The fleet faced the lack of incentives to attract young fishers to the sector. In addition to this constraint, there is a lack of available labour in the region.

- The ageing and outdated fleet also affects the results of the activity in terms of efficiency, productivity, and competitiveness of artisanal fishers.

- The stocks operated by the Madeira fleet, which are subject to periodic analytical assessments, are those managed at Atlantic level by ICCAT. The variations in TACs and Quotas of the main tuna species may not allow the fleet to work all year round.

- In 2022, aid was granted to compensate operators in the fisheries and aquaculture sector in the Madeira for the additional energy costs, created by the invasion of Ukraine. The value was attributed per vessel considering the fleet segment in which it is included and the respective length class.

- A compensation scheme for the additional costs in the OMR in the fisheries sector is established and funded by EMFF within the 'Promoting marketing and processing of fisheries and aquaculture products' priority. In 2022, EUR 0.9 million were paid to the Madeira OMR under this funding scheme.

Azores (P3)

The Azores fleet was composed of 489 active vessels in 2022. Overall, 73% of the vessels are less than 10 metres LOA and 95% are less than 18 metres LOA. The total number of jobs created by this fleet was 2 039, corresponding to 1 065 FTE. In terms of effort, all these vessels together spent 39 056 DaS and used up 5.3 million litres of fuel (135 litres/DaS). The total live weight of landings was 11 275 tonnes generating an income of EUR 43 831 million, which means an average price of 3.89 euro/kg. Regarding the fleet performance, revenue was EUR 43.7 million and GVA and NVA were EUR 29.2 million and EUR 23.8 million, respectively. Gross profit and Net profit at 3.5 were EUR 13.0 million and EUR 6.2 million. Like in Madeira, also the Azorean fleet was dominated by longliners (HOK), which in 2022 represented 84% of the active vessels. 95% of the Azorean fleet operates using passive gears only. The remaining fleet (5%) were purse seiners. The Azores OMR is very rich in biodiversity and fishing fleets target cephalopods, demersal fishes and large pelagic species. The main species landed, by value, were blackspot seabream (19%), bigeye tuna (14%) veined squid (12%) and skipjack tuna (11%).

Figure 3.103. Top species landed in value (left) and weight (right) in Azores, 2022.
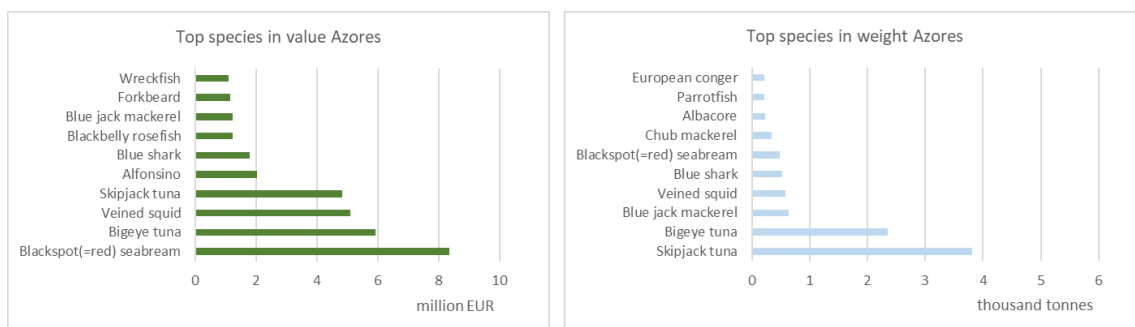
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Between 2013 and 2022, the active fleet decreased by –18%, while FTE and crew decline 44% and 43%, respectively. The decrease in DaS and energy consumption was 48% and 50% showing that fuel consumption per DaS decreased 4% from 2013 to 2022, despite of no changes in the total engine power. The landings in weight decreased 17% from 2013 to 2022 and value increased 15%, resulting in a considerable increase in the average price (+38%). 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 way, specially caused by some recovery of the large pelagic species (skipjack tuna, albacore, and bigeye tuna) catches. In 2020 there was a decrease at the value of landings, however, has recovered in the following years. GVA and NVA increased 9% and 15%, respectively, in time series 2013-2022.

Figure 3.104. Trends on capacity, effort, landings, GVA and profit for the Portuguese OMR fleet in Azores.

The sharp fall of the effort curve in 2015 is a reflection of the lack of 2015 energy consumption data of the Azorean fleet.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the cost structure of the Azorean fleet is dominated by wages and salaries (44%) followed by capital costs C. (15%) and energy costs (13%).

Figure 3.105. Cost structure for the Portuguese OMR fleet in Azores, 2022.
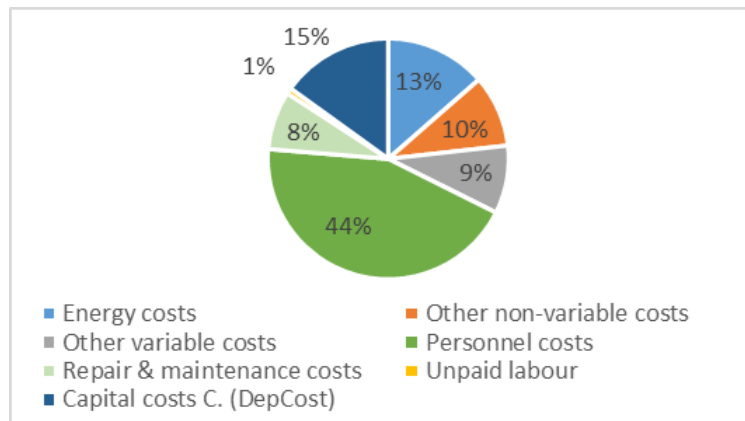
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Fleet structure and key results in Azores

The Azorean fleet is structured in nine fleet segments, dominated by vessels using longlines targeting cephalopods, demersal and pelagic species.

The most relevant segment in terms of number of vessels is the HOK0010 operating in FAO in area FAO 27.10.a (Azores). With 292 vessels represents 60% of the active fleet, 49% of the DaS and 29% of the value of landings. This fleet targets demersal and cephalopods species – balckspot seabream and veined squid – which combined represent 32% and 53% of the total weight and value of landings of the fleet segment, respectively. In 2022, the total value from landings was EUR 12.7 million, approximately 3% more than 2021. The fleet segment employed 293 FTEs (28% of the total) but generated 780 jobs (38% of the total), revealing the importance of partial employment in this segment. Economic indicators for this fleet reported a gross profit of EUR 5.3 million.

Table 3.6. Summary results for the Portuguese *OMR fleet segments in 2022: Azores (P3)*

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
PRT NAO HOK2440 P3 *	24	288	182	2 676	2.6	5 355	12.3	12.2	12.2	7.2	4.7	1.3	-1.9	0.381
PRT NAO PGP0010 P3 *	20	42	18	1 420	0.0	173	0.9	0.9	0.9	0.7	0.6	0.4	0.3	0.021
PRT NAO PS 1012 P3 *	8	45	35	1 467	0.2	529	0.9	0.9	0.9	0.6	0.5	0.4	0.2	0.007
PRT NAO HOK0010 P3	292	780	293	19 265	0.8	1 544	12.7	12.7	12.7	8.9	7.6	5.3	3.6	0.091
PRT NAO PS 0010 P3	13	38	16	1 189	0.1	204	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.006
PRT NAO PS 1218 P3	3	17	6	239	0.0	93	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.002
PRT NAO HOK1218 P3	31	258	164	3 666	0.6	1 927	6.4	6.4	6.4	4.5	3.9	1.9	1.2	0.033
PRT NAO DFN0010 P3	33	80	27	2 081	0.1	264	1.2	1.2	1.2	0.9	0.8	0.6	0.5	0.010
PRT NAO HOK1012 P3	65	491	324	7 053	0.9	1 186	8.8	8.8	8.8	6.1	5.3	3.1	2.1	0.032
Total	489	2 039	1 065	39 056	5.3	11 275	43.8	43.7	43.7	29.2	23.8	13.0	6.2	0.582

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Segment HOK2440 is composed by 24 vessels operating mainly in area FAO 27.10.a (Azores) and FAO 34.1.2 (Madeira). This fleet represents 5% of the active vessels, 7% of the DaS, but is responsible for 28% and 47% of the value and weight of landings of the Azorean fleet, respectively. The fleet targets mainly tuna species (bigeye and skipjack tuna), blue shark and swordfish. In 2022 the value of landings was almost EUR 12.3 million, less 3% comparing to 2021, resulting from the

decrease of 13% in the weight of landings. The fleet segment employed 182 FTEs (17% of the total) and generated 288 jobs. Economic indicators for this fleet reported a gross profit of EUR 1.3 million.

Main factors affecting the performance of the fleet in Azores

- The fleet faces the lack of incentives to attract young fishers to the sector. In addition to this constraint, there is a lack of labour supply in the region.

- Some owners of smaller vessels have more than one professional activity or work seasonally as a fishing professional on board other vessels (for example, during the tuna season).

- The geographical location of the Azores archipelago and the migratory nature of tuna, related to the abundance of food available and ocean currents, mean that this fishery has large fluctuations in annual catches and a strong seasonality.

- The stocks operated by the Azorean fleet, which are subject to periodic analytical assessments, are those managed at Atlantic level by ICCAT. The variations in TACs and Quotas of the main tuna species may not allow the fleet to work all year round.

- The low price of fish sold for the industry and marketing also affects the results of this fleet. Difficulty in exporting fish via area/sea.

- There is a considerable heterogeneity in terms of the use of the vessels throughout the year, mainly due to adverse weather conditions, which affect the activity of the vessels, especially the small-scale ones. Within the Azores archipelago, conditions can be quite diverse (e.g. Western Group vs Eastern Group; North coast vs South coast).

- Blooms in large quantities of invasive algae that cause anoxia. The lack of oxygen eliminates algae and fish from the ecosystem, with impact on hatchery and juvenile fish, which in the long term will have strong impacts on the number of fish around the islands.

- In 2022, aid was granted to compensate operators in the fisheries and aquaculture sector in the Madeira for the additional energy costs, created by the invasion of Ukraine. The value was attributed per vessel considering the fleet segment in which it is included and the respective length class.

  A compensation scheme for the additional costs in the outer most regions in the fisheries is established and funded by EMFF within 'Promoting marketing and processing of fisheries and aquaculture products' priority. In 2022 EUR 0.6 million were paid to the Azores OMR under this aid.

Spain

For Spain, fishing activity of the OMR fleet is spread out in FAO 34.1.2. In 2022, the Canary Island fleet was composed of 569 active vessels, of which 87% are small scales (under 12 metres LOA). Engaged crew was 1 437 (806 FTE). Total effort expressed in DaS was 43 736 days for total fuel consumption of 4.7 million litres (107 litres/DaS). Total landings in weight and value were 8 348 tonnes for EUR 29.1 million, respectively and average price was 3.49 euro/kg. GVA and NVA was EUR 25.8 million (66.5% of the revenue) and EUR 24.1million, respectively. The main species in weight were bigeye tuna, skipjack and albacore; and in value bigeye tuna, Atlantic bluefin, and albacore. In this sense the main species landed are the different species of tuna followed by small

pelagic species. Most of the landings are sold locally directly to consumers or fish mongers. It is important to note that this fleet is dependent on species assessed or followed by the ICCAT.

Figure 3.106. Top species landed in value (left) and weight (right) in Canary Island, 2022.
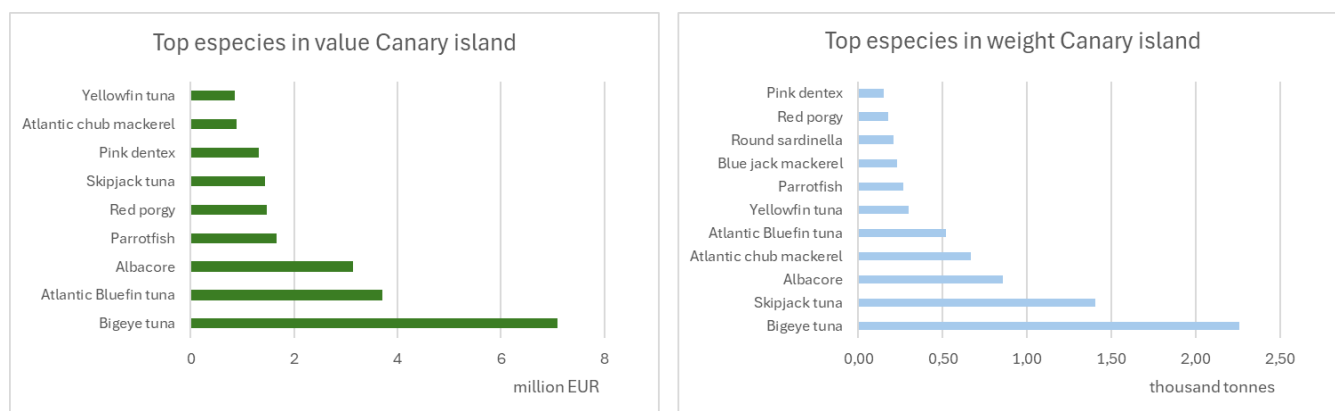
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Vessels operate in two different fisheries:

- Coastal fisheries: vessels use small gears, such as pots, gillnets, and hooks to target small pelagic and demersal species.

- The large pelagic fishery: vessels operate with hand lines and trolling lines to target large pelagic species (tunas). Here we there are also purse seiners catching for bait.

Most of active vessels are polyvalent and may operate using several combinations of gears targeting more than one specie. Moreover, the level of activity is very heterogeneous within the fleet and segments, so we can find vessels fishing less than 50 days/year to vessels that fish 250 days/year. For most of the fishers, fishing is a complementary activity that is carried out part-time. The main problem for this fleet is the inactivity; 21% of the Canary Island fleet is inactive. The fleet is mainly composed of non-decked vessels with outboard engines operating on a one-day trip basis.

Between 2017 and 2022, the active fleet decreased by 6%, however, crew and FTE decreased by 23.5% and 37.4%, respectively. This drop means that most fishers had other activities and that therefore, income from the fishing activity is just a complement. DaS decreased by 2.4% however, energy consumption decreased by 49.4% showing a significant change in fuel consumption per DaS. The landings in value decreased by 8.4% and weight decreased by 36.6%, it means that the average price has increased in the last years.

Total GVA and NVA also decreased over the period (-38% and -40%, respectively). The drop over the period may be due to a high figure in 2017.

In 2022, the cost structure of the Canary fleet is dominated by wages and salaries (44%) followed by unpaid labour and energy costs (15% and 12%, respectively).

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Figure 3.107. Trends on capacity, effort, landings, GVA and profit for the Spanish OMR fleet in Canary Island.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.108. Cost structure for the Spanish Canary Island OMR fleet, 2022.
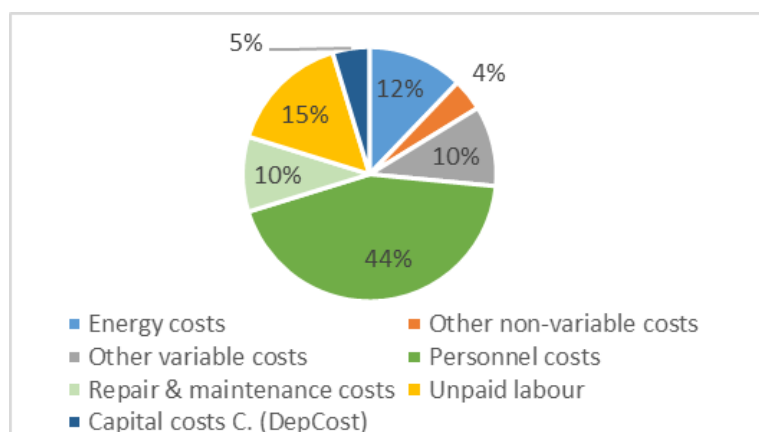
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Fleet structure and key results in the Canary Islands

In Canary Islands we can find six clustered segments. The most important segment in number of vessels is PMP0010 with 437 vessels. This segment gives employment to 318 FTEs, the 39.5% of the total jobs generated by the Canary Island fishing fleet. It generates 37% of total landings value and 24.8% of total weight in the Canary Island fishing fleet. This segment together with FPO1012 (16 vessels) fish mainly in the coast targeting small pelagic species.

There are three clustered segments that fish with hooks (HOK1012 – HOK1218 – HOK2440). These three segments have 105 vessels and give employment to 401 FTEs, the 33% of the total jobs generated by the Canary Island fishing fleet. It generates 54% of total landings value and 59% of total weight in the Canary Island fishing fleet. This segment targets mainly tunas.

In Spain, the geoindicator (IC) started to be used in 2017. Regarding PMP0010 the number of vessels has decreased over the years by 9.9%, as the same time than sea days (8.7%) and value of landing (8.1%); however, the weight of landings have decreased by 43.8%. GVA and NVA have increased over the years since 2018, except for 2022 when two values have decreased by 20% and 21%, respectively. With respect to hook segments, the number of vessels has been increasing over the years in parallel with the decrease of purse seiners except in 2021 that increased from 8 vessels in 2020 to 11 vessels in 2021 and it has been maintained in 2022. Compared to 2017 the weight of landing has decreased by 31% and the value of landing by 6%. GVA and NVA have shown a high variability between years.

Table 3.7. Summary results for the Spanish *OMR fleet segments in 2022: Canary Islands (IC)*

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
ESP NAO FPO1012 IC *	16	37	13	1 506	0.1	160	0.8	0.8	0.8	0.4	0.3	-0.1	-0.2	0.024
ESP NAO HOK1012 IC *	48	154	82	2 671	0.4	945	2.6	5.3	5.3	4.0	3.8	0.9	0.7	0.209
ESP NAO HOK2440 IC *	23	263	231	3 856	2.1	2 687	9.0	13.6	13.6	8.0	7.2	0.2	-0.7	0.568
ESP NAO PMP0010 IC *	437	765	318	31 541	1.4	2 067	10.8	13.0	13.1	9.3	8.9	2.5	2.0	0.754
ESP NAO PS 1218 IC *	11	65	73	1 329	0.2	1 185	1.9	1.6	1.6	1.1	1.1	0.1	0.0	0.148
ESP NAO HOK1218 IC	34	153	88	2 833	0.5	1 305	4.0	4.3	4.3	3.0	2.8	0.8	0.6	0.292
Total	569	1 437	806	43 736	4.7	8 348	29.1	38.7	38.8	25.8	24.1	4.5	2.5	1.995

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Main factors affecting the performance of the fleet in the Canary Islands

- The variations in TACs and Quotas of the main tuna species (BET, BFT, ALB, YFT) are one of the main factors affecting the performance of the fleet. The closure of the fisheries for skipjack, bluefin tuna and bigeye tuna, mainly affects the profitability of pole-and-line tuna fishers.

- The landing prices have been changing over the years affecting also the performance of the fleet.

- Fuel price is one of the main factors affecting the performance of the fleet. In 2022, aid was granted to vessels-owning companies to compensate for the increase in production costs caused by the increase in fuel prices resulting from the situation created by the invasion of Ukraine. The aid was granted according to the gross tonnage (GT) of the vessels, with 11 tranches being established. The first tranche corresponds to vessels of less than 25 GT, which account for 80% of the Spanish fleet.

- A compensation scheme for the additional costs was established and funded by EMFAF. The most important were for improving market organisation of fisheries and aquaculture products (art.70) and strategies for local development (art. 63).

- Operating subsidies to producers is an important factor to take into account for the performance of the fleet, assuming 5% of the gross value of landing.

- Given the age of the vessels, it is possible that the operational efficiency, productivity, and competitiveness of artisanal fishers is being affected. There is also a need to involve a new generation in the fishing activity to ensure the continuity of the sector and his competitiveness.

- The implementation of floating offshore wind turbines would generate an impact on artisanal fishing in the Canary Islands.

- Changes in the ecosystem, overfishing by some industrial fleets were reported as to impact the availability of fishing stocks around Canary Islands.

France

For France, fishing activity of the OMR fleet is spread out in the Atlantic and Indian oceans. 98% of the active vessels are small scale (under 12 metres LOA). Only French Guiana, Martinique and Reunion fleets have vessels between 12 and 24 metres. The main fishing zones in terms of operation are in the Western Central Atlantic areas 31 (French Antilles), 31 and 41.1.1 (French Guiana), in the Western Indian Ocean 51.6 and 51.7 (Reunion and Mayotte). In 2022, landings from the OMR fleets combined (1 439 vessels) amounted to 9 916 tonnes valued at around EUR 70 million. The crews engaged was 2 744 (1 317 FTE), GVA and NVA were EUR 41.8 (60% of revenue) and EUR 35.2 million (50%), respectively. Gross and net profit were EUR 10.8 million (15%) and EUR 3.2 million (5% margin), respectively and operating subsidies were EUR 1.6 million (2% of revenue). The top species landed in value were large pelagic species (yellowfin tuna and other tunas, common dolphinfish, swordfish and blue marlin) but also coastal species (parrotfishes, spiny lobster, conchs and acoupa).

Guadeloupe (GP)

In 2022, the Guadeloupe fleet was composed of 499 active vessels (97% under 10 metres LOA) in the fleet. Engaged crew was 866 (430 FTE). Total effort expressed in DaS was around 40 000 for a total fuel consumption of 3.8 million litres (92 litres/DaS). Total landings in weight and value were 2 328 tonnes for EUR 21.6 million, respectively and average price was 9.3 euro/kg. GVA was EUR 13.8 million (63% of the revenue), NVA EUR 11.0 million (51% of the revenue) and gross profit EUR 3.2 million (14% margin). Net profit without subsidies was –EUR 0.1 million and operating subsidies were EUR 0.6 million. Indicators are also provided (see below) based on activity threshold giving a different comprehension of fleet structure and evolution. The main species in value were common dolphinfish, yellowfin tuna, parrotfishes, spiny lobster and filefishes. Snappers, groupers and conchs are also key species for the fleet. This landings composition reflects the different fisheries in which the vessels operate. All the landings are sold locally directly to consumers or fishmongers and restaurants. It is important to note that the Guadeloupe fleet is highly dependent on species assessed or followed by the ICCAT (yellowfin tuna, blue marlin, etc.) and the WECAFC (dolphinfish, conchs, spiny lobster, etc.).

Figure 3.109. Top species landed in value (left) and weight (right) in Guadeloupe, 2022
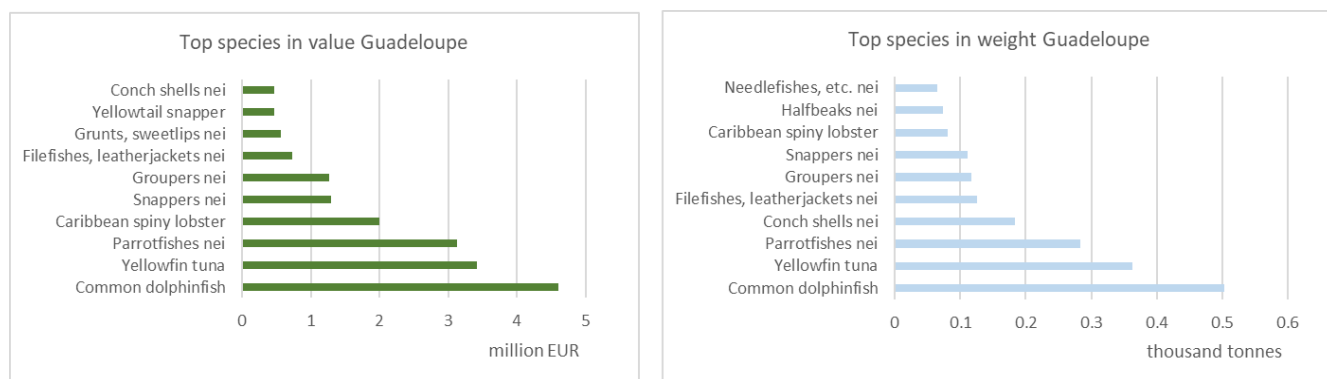
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The fleet is mainly composed of non-decked vessels with outboard engines operating on a one-day trip basis. Average crew is two members with some exceptions for vessels using encircle nets. Crew members are from Guadeloupe. However, the fleet includes decked vessels, some of them operating longer trips on the Saint-Barthelemy and Saint-Martin insular shelf. The level of activity is very variable within the fleet and segments.

Vessels operate in the different following fisheries around Guadeloupe archipelago.

- Coastal insular shelf fisheries: vessels use mainly traps, gillnets, hand line to catch a great diversity of demersal and benthic species, trammel nets to target spiny lobster or stromboïd conch, and encircle nets to target small pelagic species and demersal species. Snorkelling is also practiced.

- Slope fishery: vessels mainly targeting snappers mainly using small set-longlines and traps.

- The large pelagic fishery: vessels operate hand lines and trolling lines to target large pelagic species (dolphinfish, yellowfin tuna, blue marlin, wahoo, etc.) around mainly private Moored Fishing Aggregating Devices (MFADs) or on free schools.

Most of active vessels are polyvalent and may operate in the different fisheries using several combinations of gears. However, the EU segments are not always relevant to differentiate the main fishing strategies in the fleet. Moreover, the level of activity is very heterogeneous within the fleet and segments. The fleet segments were sub-segmented in low active (L) segments and normal active (A) segments considering the 75 DaS per year threshold.

Based on this sub-segmentation, different trends appear. Between 2013 and 2022, the number of normal active vessels and related engaged crew decreased by -37% and –34%, respectively. This evolution was combined with a change in the structure of the fleet with vessels of larger size and engine power in the less than 10 metres category. The decrease in DaS and energy consumption was around -35% and –32% with no significant change in fuel consumption per DaS. The landings in weight and value followed quite the same trend with average price which has remained almost stable over the period except for the three last years. Other economic indicators such as total GVA, NVA, gross profit and net profit (remaining positive at EUR 1.7 million without operating subsidies) decreased with the same magnitude as the number of A vessels showing a relative stability of productivity and economic performance of normal active vessels segment as a whole. The number of low active vessels was quite stable over the same period (-3%) but the days at sea, landings in

weight and value reduced by −14%. Considering the low activity of these vessels (30 days per year on average), these vessels were poorly productive. GVA was low and if gross profit indicator remains positive, depreciation and opportunity cost of capital of these low active vessels yield significant negative net profits.

Figure 3.110. Trends on capacity, effort, landings, GVA and profit for the Guadeloupe active (A) fleet (GP). Vessel activity threshold equal or more than 75 days at sea per year.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

In 2022 and for the A segment, the cost of energy represented 14% of the total costs but the dependence to fuel is highly dependent on the segments considered. Vessels targeting large pelagic species with hooks and line around MFADs are more dependent than vessels operating in coastal areas. Non-variable cost represented on average 16% of the total costs. This so-called non variable cost is highly dependent on gear costs and the gears used. Personnel costs (55%) based on a share remuneration system include social security costs for which contribution rates are reduced compared to France mainland. As mentioned before, the L segment is characterised by low level of activity, meaning relative lower variables costs (11% Energy cost and 35% crew costs) and relative higher fixed costs (21% other non- variable costs and 25% capital cost) compared to A segment.

Figure 3.111. Trends on capacity, effort, landings, GVA and profit for the Guadeloupe low active (L) fleet (GP). Vessel activity threshold under 75 days at sea per year.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.112. Cost structure for the Guadeloupe OMR fleet with normal activity (A) –*left*– and low activity (L) –*right*– in 2022. Vessel activity threshold at 75 days at sea per year.
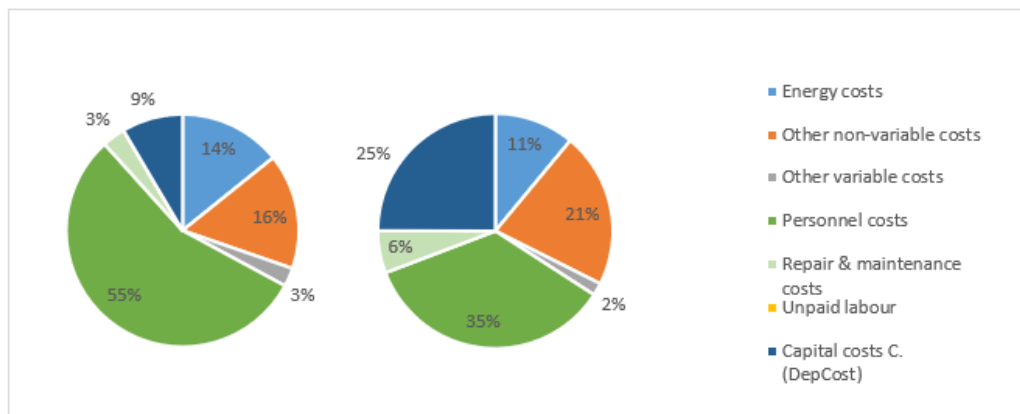
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Fleet structure and key results in Guadeloupe

Fleet structure is characterised by a high level of gear polyvalence that the main gear based DCF segmentation imperfectly represents. The fleet segments were sub-segmented in low active (L) segments and normal active (A) segments considering the 75 DaS per year threshold. According to this sub-segmentation, 244 (45%) were in the A segments and 275 (55%) in the L segments but the A segments accounted for 85% of the FTE, 81% of DaS and landings (in weight and value) and

87% of the GVA (EUR 11.9 million) in 2022. Net profit without subsidies was EUR 1.7 million for the A segments and –EUR 1.8 million for the L segments.

Table 3.8. Summary results for the French *OMR fleet segments in 2022: Guadeloupe (GP)*

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
Regular activity fleet segments														
FRA OFR PGP0010 GP A*	97	189	163	15 089	1.29	830	7.92	7.92	7.92	5.24	4.67	1.32	0.63	0.179
FRA OFR DFN0010 GP A*	35	75	58	4 860	0.27	277	2.27	2.27	2.27	1.70	1.51	0.53	0.30	0.035
FRA OFR PS 0010 GP A*	11	43	34	1 561	0.09	101	0.81	0.81	0.81	0.63	0.57	0.22	0.15	0.013
FRA OFR HOK0010 GP A*	41	72	50	5 180	0.94	452	4.00	3.99	3.99	2.64	2.39	0.80	0.49	0.118
FRA OFR FPO0010 GP A*	40	71	59	6 198	0.34	234	2.52	2.52	2.52	1.69	1.45	0.42	0.13	0.021
Total regular activity fleet segments	224	449	364	32 888	2.93	1 893	17.52	17.51	17.51	11.91	10.59	3.30	1.70	0.364
Low activity fleet segments														
FRA OFR FPO0010 GP L*	62	70	10	1 581	0.07	53	0.59	0.59	0.59	0.19	-0.04	-0.12	-0.39	0.018
FRA OFR DFN0010 GP L*	48	75	12	1 373	0.07	65	0.63	0.63	0.63	0.29	0.02	-0.04	-0.36	0.010
FRA OFR HOK0010 GP L*	76	108	18	2 241	0.41	181	1.59	1.58	1.58	0.92	0.49	0.22	-0.30	0.098
FRA OFR PGP0010 GP L*	81	123	19	2 311	0.25	119	1.17	1.17	1.17	0.38	-0.07	-0.19	-0.73	0.058
FRA OFR PS 0010 GP L*	8	41	7	249	0.02	17	0.14	0.14	0.14	0.08	0.04	0.01	-0.03	0.010
Total low activity fleet segments	275	417	66	7 755	0.83	435	4.11	4.11	4.11	1.85	0.45	-0.12	-1.82	0.194
Total GP	499	866	430	40 643	3.8	2 328	21.6	21.6	21.6	13.8	11.0	3.2	-0.1	0.558

Normal activity (A) and low activity (L) based on vessel activity threshold at 75 days at sea per year.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Focusing on the A segments in 2022, the main were the PGP0010A (189 vessels representing 43% of the active fleet, 46% of the days at sea and 45% of the landings in value), the HOK0010A (41 vessels representing 18%, 16% and 23% of the previous indicators), followed by the FPO0010A (40 vessels, 18%, 19% and 14%), DFN0010A (35 vessels 16%, 15% and 13%) and PS0010A (11 vessels, 5%, 5% and 5%). Average landing price was higher for the FPO0010A (10.8 euro/kg) than other segments for which prices were between 8 euro/kg and 9.5 euro/kg. The HOK0010A is the most energy dependent (180 litres/DaS) followed by PGP0010 (86 litres/DaS), DF00100A and FPO0010A (around 55 litres/DaS) but remained one the most performant fleet in terms of fleet and average economic indicators followed by PGP0010. Improving performance seemed to be driven by segments operating in the large pelagic fishery. Between 2023 and 2022, all the number of vessels in A segments decreased with the most important reduction concerning PGP0010A (-45%).

Main factors affecting the performance of the fleet in Guadeloupe

- The lack of suitable and accessible training for the fishers at regional level is a key issue for the sustainability and attractiveness of the sector. The recent digitalisation of administrative procedures is also a significant constraint for fishers. Moreover, the cost of entry (capital cost) to the sector has increased over the last 10 years due to the increase of vessels characteristics (size, engine power) and unit capital price.

- Guadeloupe like other OMRs is geographically far from sources of supply. These constraints generate for the local economic operators, additional costs compared to mainland. These additional costs undermine the competitiveness of the fishing sector, in since 2021 due to the increase in fuel price, transportation cost of materials (gears, engines, etc.) to Guadeloupe and more recently supply chains difficulties. A compensation scheme for the additional costs was established and funded by EMFAF but the returns and benefits for local fishers were still limited in scope.

- In 2022, average annual fuel price reached more than 1 euro/litre. Different measures including a tariff shield were adopted by national authorities at the end of the first quarter 2022 to attenuate the impact of these increases for fishing companies including a discount at pump

and/or direct additional aids (from 0.25 to 0.35 euro/litre depending on the period) in France mainland, and in outermost regions. Since March 2022, an economic and social resilience plan including different phases was put in place to deal with the economic consequences of the Ukraine crisis on the fleets' economic situation. The support to the fishing vessels applying to the schemes was 0.2 euro/litre.

- The increase in landing prices over the past ten years has been very limited in scope. One of the reasons given is the importation of seafood from international markets in a context of region's high dependence on imports. However, the supply chain of local products is considered by local operators as not well organized.

- The number of landings points is very important in Guadeloupe. The quality of port infrastructure is heterogeneous over the territory and a key factor for maintaining fishing activity and attracting young fishers.

- There is a prefectural act for fisheries management including technical measures (gear regulation, species mesh size) but 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 (numerus clausus) for the different fisheries. Moored Fishing aggregating devices (MFADs) regulations are also poorly respected. However, new regulations for commercial fishers have been subject to discussion in 2023 notably for the regulation of the number of MFADs per vessel. Local illegal fishing and recreational fishers are also serious competitors and a new regulation for recreational fisheries was set up in 2019. The conch stocks being subject to worry, the fishery was closed for the 2020-2021 season and re-opened in October 2021.

- Several no take zones were set up within the National Park area. However, the sustainability of the sector is threatened by the quality of habitats environment dependent on coastal development and agriculture. Permanent pollution of coastal habitats by pesticide (Chlordecone) used by agriculture led to the ban of coastal fishing areas in the southern part of the island (Basse-Terre). Currently, no solution is within sight to resolve these issues except fisher's financial compensation for the prohibited fishing areas due to pesticides.

- Since 2011, massive Sargassum algae inflows (stranded and floating blankets) in the Caribbean led to massive changes in the pelagic and coastal ecosystems with impacts on the fishing stocks. Fishing activity in Guadeloupe is also significantly impacted by these events (difficulties to operate vessels and fishing gears). Dedicated projects are aiming to prevent harbours clogging but with limited effectiveness.

- Marine ecosystems and fishing activity are subject to the occurrence of extreme events. Ten hurricanes occurred between 2004 and 2017.

Martinique (MQ)

In 2022, the Martinique fleet comprised 575 active vessels and 97% were under 10 metres. Total crew was 970 persons corresponding to 228 FTE. Total effort expressed in DaS was around 24 227 for a total estimated fuel consumption of 2.1 million litres (86 litres/DaS). Total landings in weight and value were, respectively 1 545 tonnes for EUR 16.8 million and average price was 10.9 euro/kg. GVA was estimated to EUR 11.1 million (66% of the revenue), NVA was EUR 10.0 million (59%) and gross profit EUR 3.0 million (18.0% margin). Net profit without subsidies was EUR 1.5 million (9% margin). The main species in value and weight were large pelagic species (dolphinfish, yellowfin tuna, blue marlin) but also coastal species (conches, spiny lobster, eggs from urchins, coral reef fishes). This landings composition reflects the different fisheries in which the vessels operate. All the landings are sold locally directly to consumers or fish mongers. It is important to note that the Martinique fleet is dependent on species assessed or followed by the ICCAT (yellowfin tuna, blue marlin) and the WECAFC (dolphinfish, conchs, spiny lobster, etc.).

Figure 3.113. Top species landed in value (left) and weight (right) in Martinique, 2022
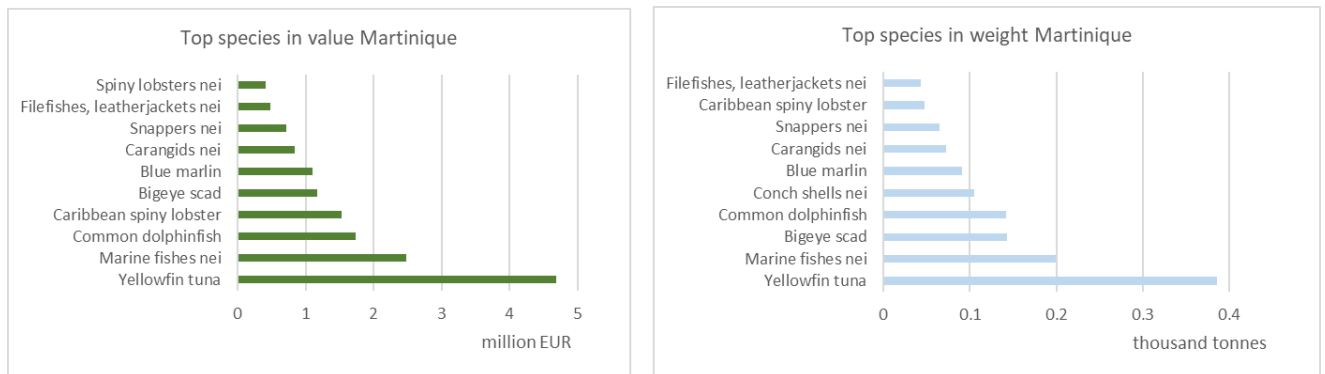
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Vessels operate in the different following fisheries around Martinique.

- Coastal insular shelf fisheries: vessels use mainly traps, gillnets, hand line to catch a great diversity of demersal and benthic species, trammel nets to target spiny lobster or stromboïd conch, encircle nets to target small pelagic species and beach seine. Snorkelling is also practiced.

- The large pelagic fishery: vessels operate hand lines and trolling lines to target large pelagic species (dolphinfish, yellowfin tuna, blue marlin, wahoo, etc.) on free schools but also around Moored Fishing Aggregating Devices (MFADs).

- Most of active vessels are polyvalent and may operate in the different fisheries using several combinations of gears. The fleet is mainly composed of non-decked vessels with outboard engines operating on a one-day trip basis. However, the fleet includes decked vessels operating longer trips. Few vessels over 12 metres operate in the French Guiana EEZ to target snappers with pots. Average crew is 2 members with some exceptions for vessels using encircle nets or beach seines. Crew members are mainly from Martinique.

Between 2013 and 2022, the active fleet decreased by -31%, engaged crew (-36%) but FTE increased (+18%). The days at sea and energy consumption increased by 7% and 91% respectively. Landings in weight and value increased by respectively 115% and 158%. Therefore, GVA also

improved from EUR 4.1 million to EUR 11.1 between 2013 and 2022 with 2020 as an exceptional year. Even low, gross profit and net profit also increased over the same period. Part of these improvements may be explained by the exclusion of a significant part of inactive vessels from the fleet over the recent years.

Figure 3.114. Trends on capacity, effort, landings, GVA and profit for the Martinique fleet (MQ).
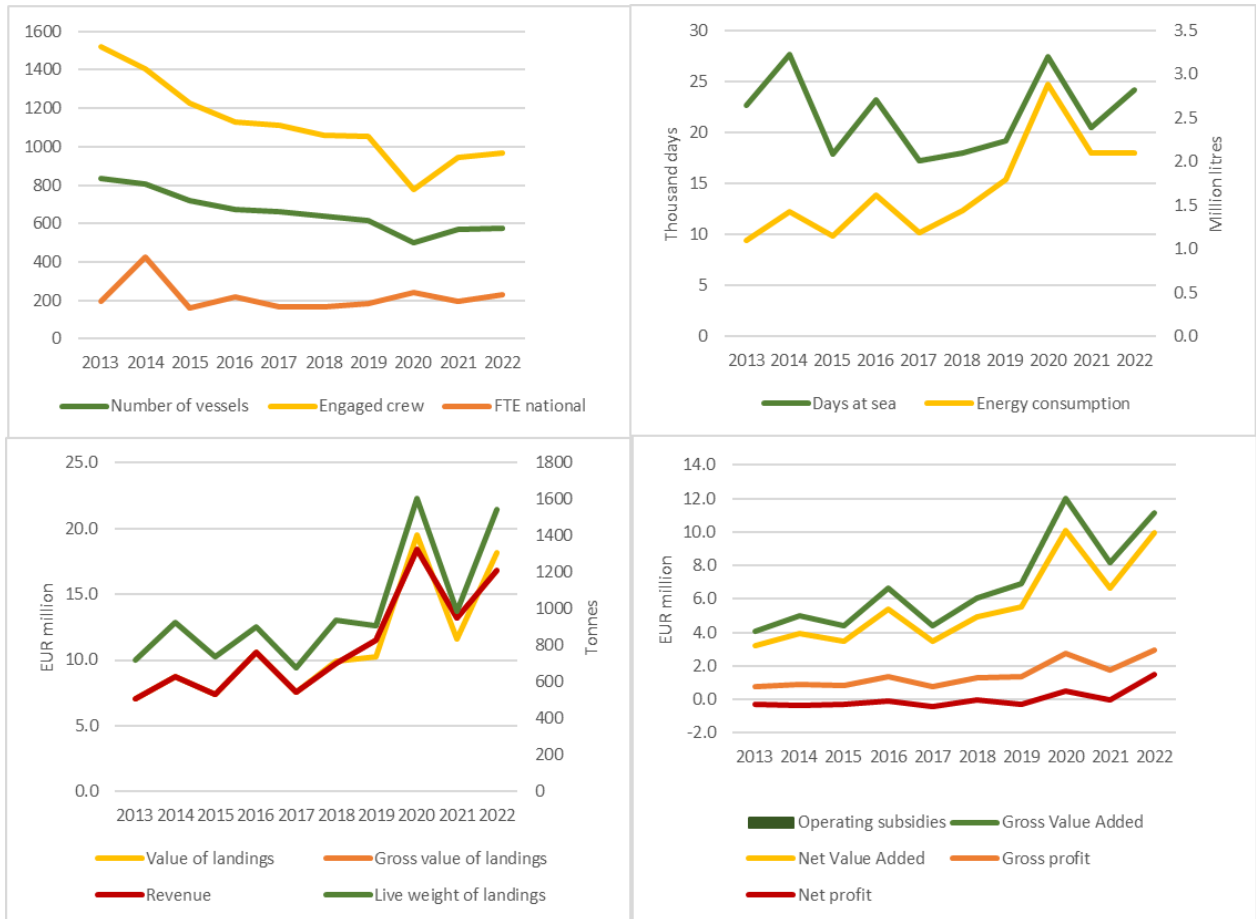
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.115. Cost structure for the Martinique OMR fleet, 2022.
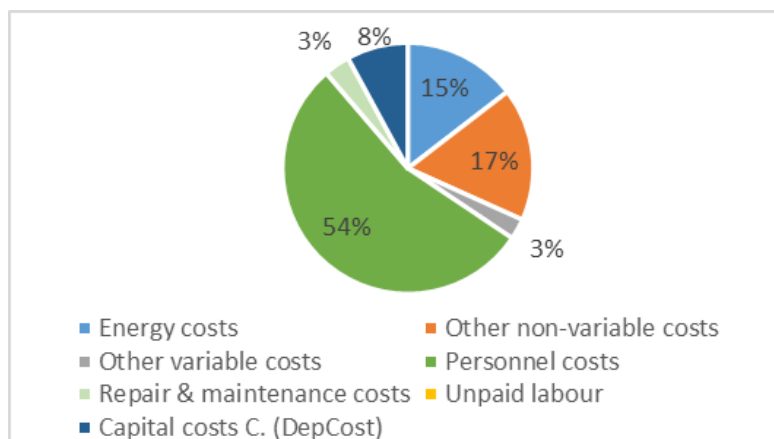
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the cost of energy represented 15% but the dependence to fuel is highly variable depending on the segment considered. Vessels targeting large pelagic species with hooks and line around MFADs are more sensitive to the cost of energy than vessels operating in coastal areas. Non-variable cost represented on average 17% of the total costs. This cost is highly dependent on gear costs and the gears used. Personnel costs (54%) include social security costs, which contribution rates are reduced compared to France mainland.

Fleet structure and key results in Martinique

The fleet structure is characterised by a high level of gear polyvalence that the main gear based DCF segmentation imperfectly represents. According to this segmentation, the main fleets are the PGP0010 (272 vessels representing 47% of the active fleet, 68% of the days at sea and 70% of the landings in weight), the FPO0010 (132 vessels representing 23%, 12% and 7% of the previous indicators), followed by the HOK0010 (117 vessels, 20%, 15% and 19%) and DFN0010 (54 vessels 9%, 5%, 4%). Average landing price was higher (13.5 euro/kg) for the FPO0010 targeting coastal species compared to HOK0010 targeting mainly large pelagic species (12.0 euro/kg). The HOK0010 and PGP0010 were the most energy dependent fleet (4 800 litres per vessel). The gross and net profit were positive for the fleet in 2022 except the net profit for the FPO0010. It is important to note that average figures which can be derived from aggregates are difficult to interpret as it includes a significant part of the vessels for which the level of activity (days at sea) is low. Between 2013 and 2022, the reduction in the number of vessels concerned all the segments, the PGP0010* (-32%), DFN0010 (-36%), FPO0010 (-32% and to a less extent the HOK0010 (-24%).

Table 3.9. Summary results for the French *OMR fleet segments in 2022: Martinique (MQ)*

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
FRA OFR FPO0010 MQ	132	210	26	2 946	0.2	104	1.4	1.4	1.4	1.0	0.8	0.3	0.1	0.000
FRA OFR HOK0010 MQ	117	198	34	3 666	0.6	299	3.6	3.6	3.6	2.4	2.1	0.7	0.4	0.000
FRA OFR PGP0010 MQ *	272	465	156	16 419	1.3	1 082	12.5	11.1	11.1	7.4	6.6	1.9	0.9	0.000
FRA OFR DFN0010 MQ	54	98	12	1 196	0.0	59	0.6	0.6	0.6	0.5	0.4	0.2	0.1	0.000
Total	575	970	228	24 227	2.1	1 545	18.2	16.8	16.8	11.1	10.0	3.0	1.5	0.000

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Main factors affecting the performance of the fleet in Martinique

- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet. Fuel price reached 1.02 euro/litre in 2023. Different measures including a tariff shield were adopted by national authorities at the end of the first quarter 2022 to attenuate the impact of these increases for fishing companies including a discount at pump and/or direct additional aids (from 0.25 to 0.35 euro/litre depending on the period) in France mainland, and also in outermost regions. Since March 2022, an economic and social resilience plan including different phases was put in place to deal with the economic consequences of the Ukraine crisis on the fleets' economic situation. The support to the fishing vessels applying to the schemes was 0.2 euro/litre.

- Martinique like other OMRs is geographically far from sources of supply. This constraint generates, for the local economic operators' additional costs compared to mainland. These additional costs increase the final price of inputs, which may undermine the competitiveness of

the fishing sector. A compensation scheme for the additional costs was established and funded by EMFAF but the returns for local fishers are still limited in scope.

- Even if average landing prices increased over the last decade, the supply from the sector seems to subject to the competition from imports from international markets and from few foreign vessels (Venezuela) landing in Martinique.

- 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. Except the entry permit to the fleet, there are few licences schemes with fixed numbers (*numerus clausus*) for the different fisheries. Local illegal fishing and recreational fishers are also serious competitors. A natural marine park was established in 2017 covering the entire Martinique EEZ.

- The sustainability of the sector is also threatened by the quality of habitats environment dependent on coastal development (e.g., wastewater treatment plant not up to standards) and agriculture. Permanent pollution of coastal habitats by pesticide (Chlordecone) used by agriculture (banana plants) led to the ban of coastal fishing areas in the western part of the island. Currently, no solution is within sight to resolve these issues except fisher's financial compensation for the prohibited fishing areas due to pesticides.

- Since 2011, massive Sargassum algae inflows (stranded and floating blankets) in the Caribbean led to massive changes in the pelagic and coastal ecosystems with impacts on the fishing stocks. Fishing activity in Martinique is also significantly impacted by these events (difficulties to operate vessels and fishing gears). Dedicated projects are aiming to prevent harbours clogging but with limited effectiveness.

- Marine ecosystems and fishing activity are subject to the occurrence of extreme events. Moored fishing aggregating devices and pots fishing were especially subject to currents over the last years.

- Landings are distribution over many landings' points. The quality of port infrastructure and services is also an important element for maintaining fishing activity and attracting young fishers.

French Guiana (GF)

In 2022, the French Guiana OMR fleet comprised 105 active vessels. Within this fleet, 25 vessels from 00-10m and 63 vessels from 10-12m use drift nets. 7 trawlers from 18-24m targeted tropical shrimps. Total crew was 351 persons corresponding to 230 FTE. Total effort expressed in DaS was around 12 100 for a total fuel consumption of 715 000 litres. Total landings in weight and value were respectively 2 284 tonnes for around EUR 5.2 million and average price was 2.3 euro/kg. Total revenue including the sale of fish swim blades was EUR 6.5 million. Economic indicators concerned only the small-scale fleet under 12 metres[OBJ]. In 2022, GVA excluding the trawlers fleet was EUR 3.3 million (50% of the revenue), NVA was EUR 3.0 million (49%) and gross profit EUR 0.3 million (5% margin). Net profit without subsidies was -EUR 0.1 million and operating subsidies were EUR 0.7 million. Indicators are also provided based on activity threshold (see below) giving a different comprehension of fleet structure and evolution.

The main species in value and weight were Acoupa. Acoupa weakfish swim blades are also highly value and contribute the revenue of fishers. Penaeus shrimps nei are harvested by trawlers and mostly exported. Snappers are also exploited in the French Guiana EEZ but by foreign Venezuelan

fleet and thus not reported here. For some share species (especially snappers) stock status is followed by the WECAFC.

Figure 3.116. Top species landed in value (left) and weight (right) in French Guiana, 2022 (GF)
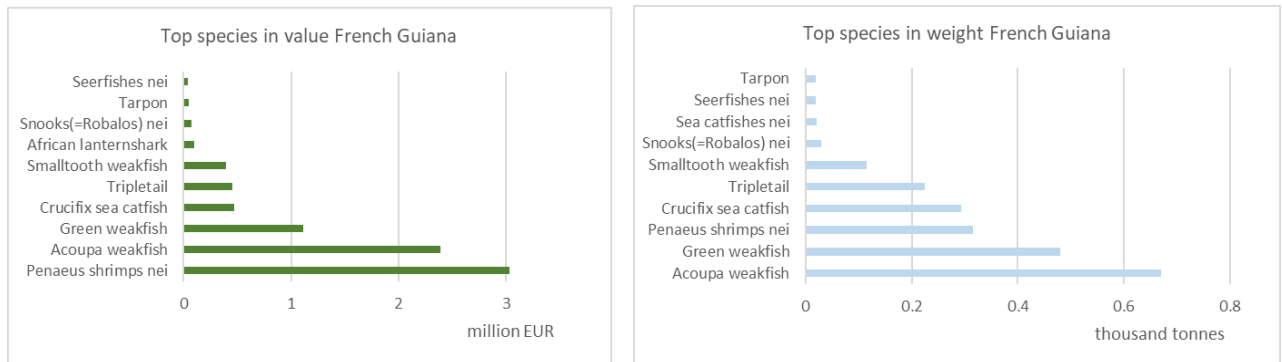
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

A significant part of the driftnet small scale fleet is based around the main city of Cayenne with 36 vessels in Cayenne and 18 vessels in Rémire Montjoly the neighbouring city. The other part of the fleet is distributed along the coast in harbours located in the river mouths. These vessels operate on coastal areas and mainly use driftnets to catch demersal species. Even if vessel operators are French, most of these non-EU fishers involved the crews are from Brazil. For the segment composed of bottom shrimp trawlers, all the crew members are from Brazil and Guyana. The driftnet fishery is subject to high competition from foreign IUU in French Guiana EZZ. The fleet segments were sub-segmented in low active (L) segments and normal active (A) segments considering the 75 DaS per year threshold.

Based on this sub-segmentation, different trends appear. Between 2013 and 2022, the number of A vessels and related engaged crew increased by 4% and 17%, respectively. Note that 2020 COVID pandemic reduced the number of vessels in this category. This evolution was combined with a change in the structure of the fleet with vessels of larger size. There was no clear trend in DaS and energy consumption. However, landings in weight and value, revenue and GVA followed a decreasing trend (−20%, −34%, −32%, −51%, respectively). Gross and net profit also decreased significantly but remained positive. Operating subsidies increased in 2022 but the A segment was characterized by declining economic performance to be placed in a context of illegal fishing (see below). The number of L vessels oscillated over the same period with no significant trend. The trend for the other indicators were similar to the A segment. Considering the low activity of these vessels (35 days per year on average), these vessels were poorly productive. GVA was low and declined as well as gross profit indicator (negative at the end of the period). Depreciation and opportunity cost of capital of these L vessels yield negative net profits.

Figure 3.117. Trends on capacity, effort, landings, GVA and profit for the French Guiana active (A) fleet (GF). Vessel activity threshold equal or more than 75 days at sea per year.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

In 2022 and for the A segment, the cost of energy for the driftnet segment represented 12% of the total costs which was quite low compared to other French OMRs segments (see also fuel consumption per day per segment). Non-variable cost represented on average 18% of the total costs. This so-called non variable cost is highly dependent on gear costs and the gears used. Personnel costs (47%) based on a share remuneration system include social security costs for which contribution rates are reduced compared to France mainland. As mentioned before, the L segment is characterised by low level of activity, meaning relative lower variables costs (9% Energy cost and 37% crew costs) and relative higher fixed costs (30% Other non- variable costs and 8% capital cost) compared to A segment.

Figure 3.118. Trends on capacity, effort, landings, GVA and profit for the French Guiana low active (L) fleet (GF). Vessel activity threshold under 75 days at sea per year.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.119. Cost structure for the French Guiana OMR fleet with normal activity (A) –*left*– and low activity (L) –*right*– 2022. Activity threshold at 75 days.
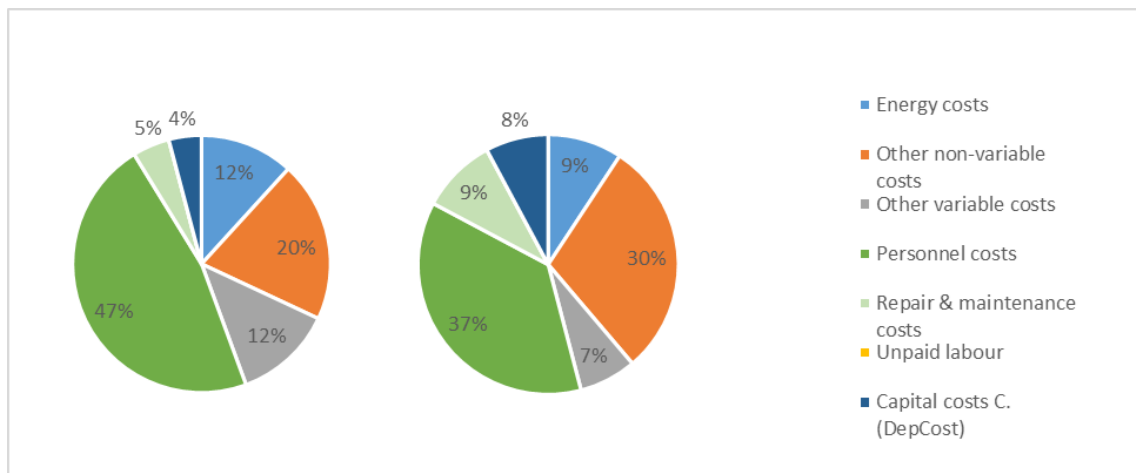
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Fleet structure and key results in French Guiana

Fleet segments were sub-segmented in low active (L) segments and normal active (A) segments considering the 75 DaS per year threshold. According to this sub-segmentation, 70 vessels (71%) were in the A segments and 28 (29%) in the L segments but the A segments accounted for 93% of the FTE, 92% of DaS and 90% of landings (in weight and value) and 93% of the GVA (EUR 3.06 million) in 2022. Net profit without subsidies was EUR 0.08 million for the A segments and – EUR 0.18 million for the L segments. Operating subsidies were EUR 0.528 and EUR 0.074 million, respectively.

Focusing on A segments in 2022, the main was DFN1012A* including 51 vessels representing 73% of the active fleet, 74% of the days at sea and 77% of the landings in value. 180 crew members were engaged (152 FTE), DaS were 7 734 and total fuel consumption 490 000 litres (64 litres per DaS). Total landings in weight and value were 1317 tonnes for EUR 3.59 million (2.7 euro/kg average price). Total revenue including revenue from fish swin blades was EUR 4.54 million for a GVA of EUR 2.42 million (53% of revenue). Gross and net profit were respectively positive EUR 0.35 million (4% margin) and EUR 0.1 million (2% margin) in a context in which operating subsidies reached EUR 0.421 million. Average GVA per FTE and per vessel were respectively EUR 15 923 and GVA EUR 47 395.

The other A segment was DFN0010A* including 19 vessels representing 27% of the active fleet, 26% of the days at sea and 23% of the landings in value. 56 crew members were engaged (44 FTE), DaS were 2689 and total fuel consumption 150 000 litres (57 litres per DaS). Total landings in weight and value were 437 tonnes for EUR 1.07 million (2.5 euro/kg average price). Total revenue including revenue from fish swin blades was EUR 1.32 million for a GVA of EUR 0.65 million (49% of the revenue). Gross profit was positive at EUR 0.05 million (4% margin) but net profit was negative at –EUR 0.02 million (-2% margin). Operating subsidies reached EUR 0.102 million for this segment. Average GVA per FTE and per vessel were respectively EUR 14 700 and GVA EUR 34 043.

Table 3.10. Summary results for the French OMR fleet segments in 2022: French Guiana (GF)

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
Regular activity fleet segments														
FRA OFR DFN0010 GF A*	19	56	44	2 689	0.15	437	1.07	1.07	1.32	0.65	0.60	0.05	-0.02	0.108
FRA OFR DFN1012 GF A*	51	180	152	7 734	0.49	1 317	3.59	3.58	4.54	2.42	2.23	0.35	0.10	0.421
Total regular activity fleet segments	70	236	196	10 423	0.64	1 753	4.66	4.65	5.86	3.06	2.83	0.39	0.08	0.528
Low activity fleet segments														
FRA OFR DFN1012 GF L*	12	43	7	339	0.02	58	0.16	0.16	0.20	0.03	-0.01	-0.06	-0.12	0.055
FRA OFR DFN0010 GF L*	16	37	8	601	0.05	146	0.42	0.42	0.48	0.19	0.16	-0.03	-0.06	0.019
Total low activity fleet segments	28	80	15	940	0.07	204	0.58	0.57	0.68	0.22	0.15	-0.09	-0.18	0.074
Fleet segments without activity level classification														
FRA OFR DTS1824 GF *	7	35	21	737	ND	327	3.06	ND	ND	ND	ND	ND	ND	0.053
Total	7	35	21	737	ND	327	3.06	ND	ND	ND	ND	ND	ND	0.053
Total GF	105	351	231	12 100	0.7	2 284	8.3	5.2	6.5	3.3	3.0	0.3	-0.1	0.655

Normal activity (A) and low activity (L) based on vessel activity threshold at 75 days at sea per year.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

In 2022, the trawlers segment (DTS1824) targeting shrimps was made of seven vessels with an engaged crew of 35 members (21 FTP). Days at sea were 737 for 327 tonnes landings in weight and EUR 3.06 million value. No economic indicators were available.

Between 2013 and 2022, the fleet structure changed with a reduction in the vessel number for the DFN0010A* (-37%) and an increase for the DFN1012A* (+38%). The GVA per vessel decreased

significantly for both segments. The DTS1824 segment faced a sharp reduction in the vessel number (-65%).

Main factors affecting the performance of the fleet in French Guiana

- The increase in demand of Asian market for Acoupa weakfish swim blades has put significantly pressure on the resources and the artisanal fishing activity in French Guiana, especially. This product which was, for the past decade a source of additional income for the French Guiana crew members is now subject to an organized foreign IUU piracy activity to provide Chinese buyers through Brazilian and Surinamese retailers. Acoupa weakfish is now targeted specifically for the value of the swim bladder in a context where the landing price of demersal species are low. This product yields additional and significant incomes for the small-scale fleets in French Guiana. However, due to IUU activities from Brazil, Suriname and Guiana Acoupa weakfish are subject to concern with recent IUCN red list assessment indicating that the species is considered to the be 'vulnerable' on its entire range. In terms of fisheries management, illegal harvesting is reported for these species and is the major concern on its entire range.

- Additionally, illegal fishing (IUU) is observed on both the west and east side of the coastal shelf it is also reported well within the French Guiana EZZ using serious hardship for local fishers. In terms of number of vessel number and harvesting (take and gillnet length) IUU from neighbouring countries is considered to represent at least three times the effort of French Guiana legal fleet, creating serious issues in terms of conflicts at sea, socioeconomic consequences, and fisheries management.

- Landing site infrastructures, especially for the 00-10m and 10-12m are practically inexistent in number and the quality of equipment not even measurable. Landings in some places can only happen at high tide time. There are less than ten landing points for all the SSCF that are sometimes also used by recreational fishers. This situation is source of conflict with sport fishing and in general marine leisure sectors since there are barely any infrastructures to share.

- Most of the crew members in the small-scale fleet 00-12m are foreign fishers. The crew turnover is considered high and difficulties in regularizing the residence permits of crew members do not allow all vessels operators to activate their very rudimentary vessels. The lack of attractiveness of the fishing sector does not allow, under the current conditions, to positioning of French crews on board. There is a shortage of around 130 fishers in order the tire Guyanese coastal fishing fleet can be fully operational. The small-scale fleet is, for the most part, unsuited to the requirements of living conditions on board in terms of safety, hygiene, and reporting under EU norms.

- Shrimp landings from the trawlers operating on the shelf have strongly decreased in the last decade. Various factors could explain this evolution: the increase of the fuel price and relative high level of fuel consumption by shrimp trawlers, in a context of global environmental changes; the decrease of shrimp price in international market and competition aquaculture products is certainly a factor. The extremely humid and oxidizing equatorial climate makes it difficult to maintain the fleet operational. These combined effects of various factors have probably contributed the decline in the economic performance of the segment and the decline in attractiveness of the fishery. At the same time, bycatch reduction and collaborations with NGOs and scientific entities aimed at reducing environmental impacts of French Guiana fisheries.

- French Guiana like other OMRs is geographically far from sources of supply. These constraints generate, for the local economic operators' additional costs compared to mainland. These

additional costs increase the final price of the products, which may undermine the competitiveness of the fishing sector. A compensation scheme for the additional costs was established and funded by EMFF but the returns for local fishers are limited in scope.

- In 2022, different measures including a tariff shield were adopted by national authorities at the end of the first quarter 2022 to attenuate the impact of these increases for fishing companies including a discount at pump and/or direct additional aids (from 0.25 to 0.35 euro/litre depending on the period) in France mainland, and in outermost regions. Since March 2022, an economic and social resilience plan including different phases was put in place to deal with the economic consequences of the Ukraine crisis on the fleets' economic situation. The support to the fishing vessels applying to the schemes was 0.2 euro/litre.

- The vast majority of companies in the fishing sector experience difficulties in accessing bank financing, mainly for the following reasons: under-capitalization, difficulties of pre-financing of investment, etc.

Mayotte (YT)

In 2022, the registered fleet from Mayotte was composed of 92 active vessels. Engaged crew was 229 (133 FTE). Total effort expressed in DaS was around 9 504 for a total energy consumption of 1.3 million litres (137 litres per DaS). Total landings in weight and value were respectively 1 077 tonnes for EUR 5.9 million and average price was 5.4 euro/kg. Most of the species are sold locally. GVA was EUR 3.4 million (58% of the revenue), NVA was EUR 2.7 million (46%). Gross profit was EUR 0.5 million (8% margin) and net profit was -EUR 0.2 million. No operating subsidies were reported. The main species in value and weight were yellowfin and skipjack tunas, Spotcheek emperor and snappers. Large pelagic species are followed and/or assessed by the IOTC.

Figure 3.120. Top species landed in value (left) and weight (right) in Mayotte, 2022
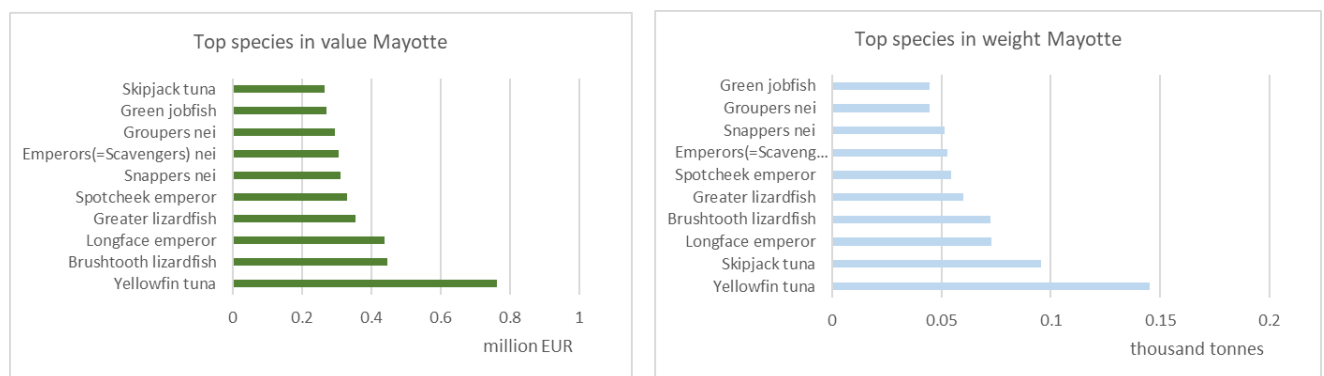
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The main gears used are hand lines and trolling lines, followed by nets (gillnets and encircling gillnets), drifting longlines and diving. Vessels operate in the different following fisheries:

- In coastal (lagoon) areas, demersal species are harvested mainly by hand line. A few boats use nets to target small pelagic fish.

- Demersal species are also harvested offshore.

- Outside the lagoon, large pelagic species are targeted by trolling liners on free schools or around MFADs. A few boats target swordfish and tuna (bigeye and yellowfin tuna) using

longlines within the 20 nautical miles around the barrier reef with extension to 75 nautical miles for some vessels.

Figure 3.121. Trends on capacity, effort, landings, GVA and profit for the Mayotte fleet (YT).
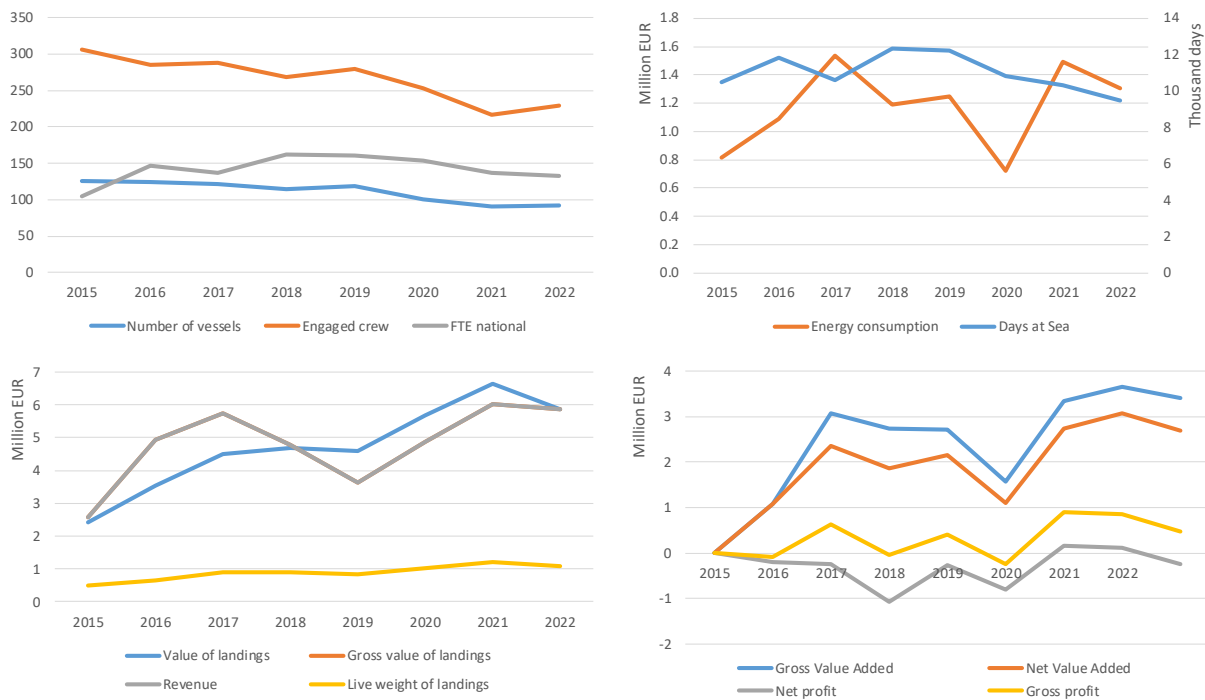
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the cost of energy represented 19% of the total costs. Personnel costs (48%) include social security costs for which contribution rates are reduced compared to France mainland.

Figure 3.122. Cost structure for the Mayotte OMR fleet, 2022.
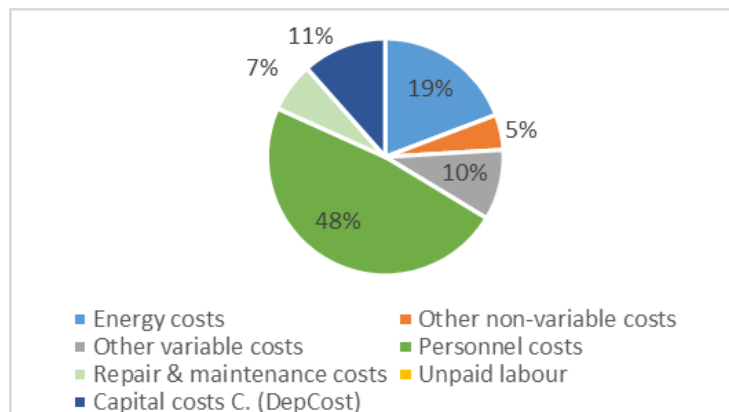
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The trips are usually daily but can reach 4 to 5 days for the fleets operating on the outer reefs. Between 2015 and 2022, the active fleet and crew decreased by –26% and –25%, respectively. Fishing activity expressed in DaS decreased after 2019 to reach 9 500 days in 2022. Landings in weight and value increased over the period from 500 to 1 100 tonnes and from EUR 2.6 to EUR 5.9 million, respectively. Average price ranged from 4.9 euro/kg to 5.7 euro/kg with no trend. However,

trend in revenue is more difficult to explain and not coherent with value of landings before 2019. GVA, NVA, gross profit indicators improved significantly over the period, net profit also but to a less extent.

Fleet structure and key results in Mayotte

Hooks and lines and netters were clustered in 2020 meaning that there is now only one segment in the fleet.

Table 3.11. Summary results for the French OMR fleet segments in 2022: Mayotte (YT)

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
FRA OFR HOK0010 YT *	92	229	133	9 504	1.3	1 077	5.9	5.9	5.9	3.4	2.7	0.5	-0.2	0.000
Total	92	229	133	9 504	1.3	1 077	5.9	5.9	5.9	3.4	2.7	0.5	-0.2	0.000

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022). Based on incomplete data for economic data.

Main factors affecting the performance of the fleet in Mayotte

- The registered fishing fleets coexist with a subsistence fishing fleet and recreational fleet (around 1 500 vessels) operating in the inner lagoon and barrier reef demersal resources. Even if difficult to estimate, illegal fishing is considered to be around 40% of total fishing pressure. Part of these fleets also operate unfair competition with registered vessels through the informal sale of their catches on local markets. One of the objectives of the authorities and stakeholders is to improve the structuration of the sector with a gradual transition from an informal/illegal activity to a professional activity, more monitored and regulated.

- One of the major problems for the fleet is the lack of suitable infrastructure. Even if there are some exceptions, this current situation does not allow fishers to operate their vessels to land their products in suitable conditions. The objective of the authorities is to create a limited number of landings points in order to provide a correct upstream environment (ice – fuel – bait – fishing equipment) and a better organisation of the local supply chain respecting health and safety rules. These infrastructures are supposed to facilitate the renewal of the fleet.

- Young fishers face difficulties for starting fishing activity (absence of second-hand vessels, reduced financial capacities, lack support of banks) and the EMFAF is often considered as not adopted to the case of Mayotte.

- The coral reef of Mayotte is subject to high fishing pressure. The lack of reef resources represents an obstacle to the development of the sector, thus making a transition to large pelagic fishing necessary. However, only 0.1% of the Mayotte fleet is able to operate offshore. In order to try to address the demersal resources decline, local authorities and marine Natural Park covering the entire EEZ encouraged fishers to exploit pelagic species, by settling a park of MFADs around the island.

- Only vessels registered in Mayotte and the European flag vessels can obtain authorization to fish in waters less than 100 nautical miles from Mayotte. However, access to Mayotte waters by non-EU fishing vessels is possible subject to fishing agreements concluded with the EU. Mayotte EEZ is also exploited by French, Spanish purse seines (1 000 tonnes in 2019) and

Seychelles purse-seiners (2 600 tonnes in 2019) targeting tropical tunas with mainly drifting fishing aggregated devices (DFADs).

- In 2022, different measures including a tariff shield were adopted by national authorities at the end of the first quarter 2022 to attenuate the impact of these increases for fishing companies including a discount at pump and/or direct additional aids (from 0.25 to 0.35 euro/litre depending on the period) in France mainland, and in outermost regions. Since March 2022, an economic and social resilience plan including different phases was put in place to deal with the economic consequences of the Ukraine crisis on the fleets' economic situation. The support to the fishing vessels applying to the schemes was 0.2 euro/litre.

La Reunion (RE)

In 2022, the Reunion fleet was composed of 168 active vessels. Total crew was 327 persons, corresponding to 294 FTE. Total effort expressed in DaS was around 13 300. Total fuel consumption was 2.3 million litres (170 litres/DaS). Total landings in weight and value were respectively 2 680 tonnes for EUR 16.1 million and average price was 5.99 euro/kg. In 2022, Total revenue was estimated to EUR 19.0 million and GVA to EUR 10.2 million (53% of revenue) and NVA to EUR 8.5 million (44%). Gross profit was EUR 3.9 million (20%) and net profit EUR 2.1 million (11%). Operating subsidies were EUR 0.4 million. The main species in value and weight were mainly large pelagic species, swordfish, yellowfin tuna, blue marlin, albacore, bigeye tuna, common dolphinfish and wahoo followed and/or assessed by the IOTC. Demersal species including snappers were also harvested. Swordfish is mainly exported when other species are sold locally.

Figure 3.123. Top species landed in value -left- and weight -right- in la Reunion, 2022
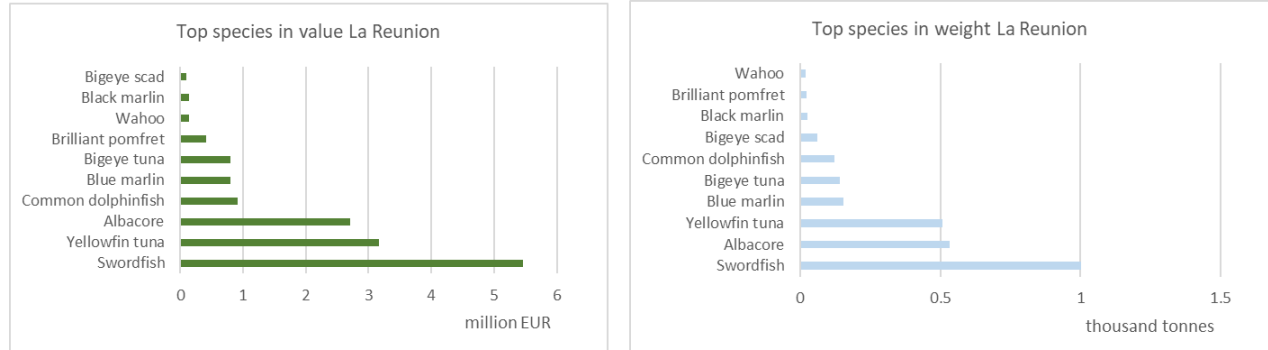
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Vessels operate in the different following fisheries around Reunion Island:

- Coastal insular shelf fisheries: insular shelf is very limited in size. Gears used by small scale vessels are hand line to target demersal stocks and small pelagic species, beach seines, and various nets to target small pelagic species. The use of pots and traps is limited in scope.

- Slope fishery: small scale vessels mainly target a diversity of deep-sea species including snappers. The gear used is mechanized hand line.

- Coastal large pelagic fishery: vessels operate hand lines and trolling lines to target large pelagic species on free schools or around Moored Fishing Aggregating Devices (MFADs). In The Reunion, MFADs are organized collectively by the regional fisheries committee.

- Offshore large pelagic fishery: vessels operate longlines to target swordfish around Reunion Island and in western waters up to Madagascar.

Between 2013 and 2022, the active fleet and days at sea decreased by −20% and −39% respectively, engaged crew by -5% but FTE increased by 71%. Year 2018 excluded energy consumption progressed by 26% despite a reduction in days at sea. Landings in weight and value decreased by −4 and -11%, respectively but discrepancies between revenue times series before 2019 makes analysis difficult. It is important to underline that price transfers mechanisms within the longliners supply chain may influence price evolution.

Figure 3.124. Trends on capacity, effort, landings, GVA and profit for the Reunion fleet (RE).

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

In 2022, the cost of energy represented 11% but the dependence to fuel is highly dependent on the segments considered. The share of other variable cost is very high (28%) and seems to be mainly explained by the cost of bait for longliners. Non-variable costs represented on average 7% of the total costs. This cost is highly dependent on gear costs and the gears used. Personnel costs include social security costs for which contribution rates are reduced compared to France mainland.

Figure 3.125. Cost structure for the Reunion OMR fleet, 2022.
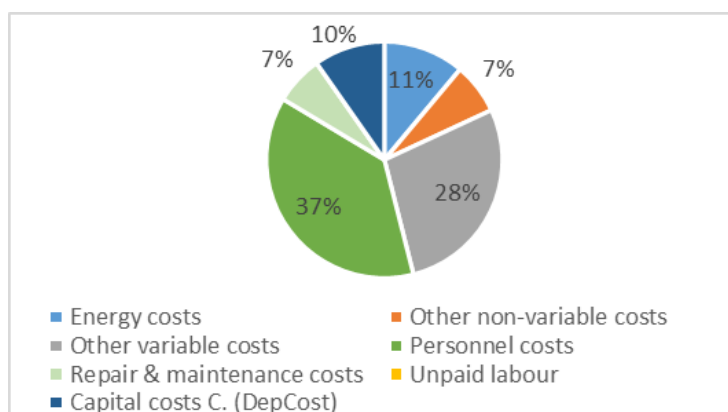
Fleet structure and key results in la Reunion

In 2022, the segment HOK0010* concerned 147 vessels (88% of the active fleet) with 197 crew members engaged (179 FTE). Total effort expressed in DaS was around 9 930. Fuel consumption was 0.9 million litres (91 litres/DaS). Total landings in weight and value were respectively 896 tonnes for EUR 6.2 million and average price was 6.9 euro/kg. In 2022, GVA and NVA were EUR 4.7 million and EUR 3.9 million (68% and 57%), respectively. Gross profit and net profit were EUR 1.8 million and EUR 1.0 million (27% and 15%), respectively. The fleet benefited from operating subsidies. The main landed species in value were large pelagic species such as yellowfin tuna, common dolphin, swordfish, wahoo, blue marlin and albacore. This segment included vessels using trolling and hand lines but also some small longlines vessels targeting swordfish.

Table 3.12. Summary results for the French *OMR fleet segments in 2022: La Reunion (RE)*

	Number of vessels	Engaged crew	FTE national	Days at sea	Energy cons. (Million litres)	Live weight of landings (tonnes)	Value of landings (Million EUR)	Gross value of landings (Million EUR)	Revenue (Million EUR)	Gross Value Added (Million EUR)	Net Value Added (Million EUR)	Gross profit (Million EUR)	Net profit (Million EUR)	Operating subsidies (Million EUR)
FRA OFR HOK0010 RE *	147	197	179	9 930	0.9	896	6.2	6.2	6.8	4.7	3.9	1.8	1.0	0.249
FRA OFR HOK1218 RE *	21	130	116	3 372	1.4	1 784	9.0	9.8	12.1	5.5	4.7	2.1	1.1	0.134
Total	168	327	295	13 302	2.3	2 680	15.3	16.1	19.0	10.2	8.5	3.9	2.1	0.382

Two segments HOK1218 and HOK1824 using longlines were merged in a cluster. In 2022, 21 vessels (12% of the active fleet) made up this segment with 130 crew members engaged (116 FTE). Total effort expressed in days at sea was 3 372 days for total fuel consumption of 1.4 million litres (402 litres/DaS). Total landings in weight and value were respectively 1 784 tonnes for EUR 9.8 million and average price was 5.5 euro/kg. Total revenue was EUR 12.1 million. The segment benefited from EU EMMF aids for the exportation of the landings and compensation of costs. GVA and NVA was respectively EUR 5.5 million (45% of revenue) and EUR 4.7 million (38%) and gross profit and net profit was EUR 2.1 million (17%) and EUR 1.1 million (9%), respectively. In 2022, the main species in value were swordfish, yellowfin tuna and albacore.

Main factors affecting the performance of the fleet in la Reunion

- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet. However, La Reunion like other OMRs is geographically far from sources of supply. These constraints generate, for the local economic operators' additional costs compared to mainland. These additional costs increase the final price of the products, which may undermine the competitiveness of the fishing sector. A compensation scheme for the additional costs was established and funded by EMFAF as well as EMFAF contribution to fish exports which has a significant impact on fleet performance especially for vessels over 12 metres.

- In 2022, average annual fuel price reached more than 1 euro/litre. Different measures including a tariff shield were adopted by national authorities at the end of the first quarter 2022 to attenuate the impact of these increases for fishing companies including a discount at pump and/or direct additional aids (from 0.25 to 0.35 euro/litre depending on the period) in France mainland, and in outermost regions. Since March 2022, an economic and social resilience plan including different phases was put in place to deal with the economic consequences of the Ukraine crisis on the fleets' economic situation. The support to the fishing vessels applying to the schemes was 0.2 euro/litre.

- Competition with recreational fishing is particularly high for the small-scale segment. 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. Recreational fishing includes 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 sharks has to be considered with potential interaction with sharks' depredation, mostly on demersal fishery using handline seasonally, exceptionally on moored FAD.

Main drivers for the French OMR fleet

- Most OMRs are islands and geographically far from sources of supply. These constraints generate, for fishers' additional costs compared to mainland. Compensation scheme for the additional costs were established and funded by EMFAF but the returns and benefits for local fishers seems to be limited in scope in Guadeloupe, Martinique and French Guiana.

- The increase in the cost of capital is considered as a main issue for fleet renewal and access to fisheries for newcomers in most of the OMRs. Fuel price is also one of the main factors affecting the performance of the segments, especially the most dependent. Major increases in fuel price and more generally inputs (gears, engines) were reported for 2022 with potential effort reduction. Compensation measures for fuel price increases have been established Portuguese, Spanish and French OMRs for 2022 and 2023. In Portugal, the aids have been granted according to fleet segment and length categories when in Spain GT categories have been used. In France, the system changed over a time wit at first discount at pump and secondly a unique direct additional aid per litre of fuel consumed.

- The landing prices have increased over the last years for Canaries islands, but this trend is not similar in other regions like Guadeloupe or Martinique where the importation and competition from seafood from international markets is high.

- In some OMRs, the lack of suitable infrastructures for vessels operations including landings create dis-incentives to enter or to continue to operate in the sector. In most OMRs, the fleets faced the lack of incentives to attract young fishers to the sector with contrasted situation between islands, unemployment or lack of labour. Additionally, this issue is reinforced by the lack training for the fishers at local level and administrative digitalization constraints.

- The variations in TACs and Quotas of key species are one of the main factors affecting the performance of the fleets mainly in Canaries Islands, Madeira and Azores. In Guadeloupe, the Conch fishery was closed for the season 2020-2021 with impact on dependent vessels. If fisheries are regulated through technical measures (gear regulation, species mesh size), the lack of access regulations to fisheries (licences, etc.) is source of internal competition and increased cost of operation within the SSCF sector in most of the French OMRs. The funding of Moored Fishing Aggregating devices and their management is also a key driver of and fisheries and fleet evolution in the OMR where they are used (Mayotte, Reunion, Guadeloupe and Martinique).

- In most OMRs, competition with recreational fishing and illegal fishing (foreign or/and local) is particularly high for the small-scale segments. The situation is critical in French Guiana EEZ with IUU neighbouring fleets. Poaching fish activities also reduce the market availability affecting also the price in some regions. In the Atlantic Ocean and the Indian Ocean, OMRs fleets harvest the same stocks as large-scale fleets especially on large pelagic species. Projects of windfarms in Canaries may also impact the fishery sector.

- Marine ecosystems and fishing activity in the OMRs are subject to the occurrence of extreme events (hurricanes or storms) or change in the environment (vase amazon, algae) with impact on gears and harbour infrastructures. Since 2011, massive Sargassum algae inflows (stranded and floating blankets) in the Caribbean led to massive changes in the pelagic and coastal ecosystems with impacts on the fishing stocks. Fishing activity in Guadeloupe, Martinique and to a less extent French Guiana are regularly impacted by these events (difficulties to operate vessels and fishing gears).

- The sustainability of the fishing sector is also threatened by the quality of habitats environment dependent on coastal development and agriculture. Permanent pollution of coastal habitats by pesticide (Chlordecone) used by agriculture led to the ban of coastal fishing areas in Guadeloupe and Martinique.

Data issues for the French OMR fleet

In the OMR section data availability issues have to be considered:

- No data was provided for Saint Martin. Economic data are missing for French Guiana segment DTS18-24m.

- Data for Canaries islands and Mayotte have been only available since 2017 and 2015, respectively.

- Data sets have improved over the last years although improvements should still be considered regarding indicators for specific segments (effort and energy consumption, coherence between

landings value and gross value of landings, structure of costs, capital value and depreciation, FTE, operating subsidies related to EMFAF or other public organizations,).

- The level of activity is very heterogeneous within the segments in outermost regions. According to data collection guidelines, segments for Guadeloupe and French Guiana regions were sub-segmented in low active (L) segments and normal active (A) segments, considering vessel activity threshold at 75 days at sea per year (DaS).

3.9   Distant Water Fleet (DWF)

3.9.1 Fleet selection

To analyse the economic performance of the EU distant water fleet at the regional level, the economic data provided by fleet segment at the supra-region level are disaggregated based on transversal data (effort and landings) that are provided at the sub-region level (FAO level 3 or 4) (see the 2021 AER Annex report for more details on the methodology used).

In addition, fishing activity in these areas is essentially assessed by fleet segments and also presented as flag states in the context of the Long Distance Fisheries (LDF). Thus, refinements proposed for the current methodologies, considering the level of granularity of the DWF and EU-MAP data, also contemplate the fact that not all fishing fleets operating in RFMOs are necessarily DWF.

According to the fleet selection criteria to define of fishing activity used in the AER, distant water fleet includes EU registered vessels over 24 metres LOA flying the flag of a Member State and fishing predominantly in non-EU waters. However, there are other fleet segments under 24m that also have significant activity in certain RFMOs and thus, are considered as well in the analysis to obtain a comprehensive picture of the extent of the EU fleet's activity overall.

Due to the specific characteristics of the RFMOs, some adaptations from the standard regional disaggregation methodology are required. As a result, the definitions and criteria used to select fleets for the OFR analysis have changed over the years informed by expert knowledge in terms both of fleet length and percentage of high dependency. The aim of this exercise is to give an accurate description of the fleets' economic activity as close to reality as possible, so all relevant fleet segments are included therein. However, it has become clear that a more common and refined approach is needed as well as an extension of the geographical coverage to include more RFMOs where EU fleets are present (e.g. NPFC, SPRFMO, SIOFA); and Economic Exclusive Zones of third countries waters where the EU has signed Sustainable Fishing Partnership Agreements (SFPAs).

Table 3.13 outlines the criteria for fleet selection in this report (EWG 24-07), which has not been altered from the one used in the AER 2021.

Table 3.13. Overview of the definitions and criteria used to assess the performance of the EU fleets operating in the RFMOs

RFMO		Geographical coverage	Vessel length	Target species	Degree of dependency	Assessment
ICCAT	AER 2024	Atlantic Ocean and adjacent seas (Mediterranean and Black Sea)	> 24m LOA for the Atlantic stocks and > 18m for the Mediterranean stocks	All ICCAT species and stocks	>= 40% of a fleet segment's total landed value in 2018	Assessed fleet segments in the LDF with high dependency on ICCAT
	ICCAT EU Fleet		All fleet segments	ICCAT major species and stocks	Landings of at least one ICCAT major species	Assess all EU fleet activity in ICCAT
	ICCAT EU DWF		> 18m LOA for the Atlantic and Mediterranean stocks		>= 20% of a fleet segment's total landed value in 2019	Assess EU DWF high level of dependency on ICCAT
IOTC	AER 2024	Indian Ocean (FAO statistical areas 51 and 57) and adjacent seas, north of the Antarctic Convergence	> 24m LOA	IOTC major species and stocks	>= 40% of a fleet segment's total landed value	Assessed fleet segments in the DWF with high dependency on IOTC
	IOTC EU Fleet		All fleet segments		Landings of at least one ICCAT major species	Assess all EU fleet activity in IOTC
	IOTC EU DWF		> 18m LOA		>= 20% of a fleet segment's total landed value in 2019	Assess EU DWF with high level of dependency on IOTC
NAFO	AER 2024	FAO major fishing area 21	> 24 m LOA	All species	>= 40% of a fleet segment's total landed value in 2018	Assessed fleet segments in the DWF with high dependency on NAFO RA
	NAFO DWF (no ICCAT)		> 18 m LOA	All species excluding the ICCAT major species	>= 20% of a fleet segment's total landed value in 2019	Assess EU DWF with high level of dependency on NAFO excluding ICCAT activity in the area
CECAF	AER 2024	FAO major fishing area 34	> 24m LOA	All species	>= 40% of a fleet segment's total landed value	Assess EU DWF with high level of dependency on CECAF
	CECAF DWF (no ICCAT)		> 18 m LOA	All species excluding the ICCAT major species	>= 20% of a fleet segment's total landed value in 2019	Assess EU DWF with high level of dependency on CEACF excluding ICCAT
NEAFC	AER 2024	NEAFC CA: FAO major fishing area 27	> 24m LOA	All species	>= 40% of a fleet segment's total landed value	
	NEAFC DWF (no ICCAT)	NEAFC RA: international waters in FAO major fishing area 27	> 18 m LOA	All species excluding the ICCAT major species	>= 20% of a fleet segment's total landed value in 2019	Assess EU DWF with high level of dependency on NEAFC CA and RA excluding ICCAT activity in the area

Source: EWG 24-07

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3.9.2 NAFO – Northwest Atlantic Fisheries Organization

Background of NAFO

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 13 Contracting Parties with the entry of UK in 2020[11].

The NAFO Regulatory Area is defined in the NAFO Convention as that part of the Convention Area, which lies beyond the areas in which Costal States exercise fisheries jurisdiction (outside of the Exclusive Economic Zones) (Figure 3.126).

Figure 3.126. The scientific and statistical subareas, divisions and subdivisions are outlined in Annex I of the NAFO Convention
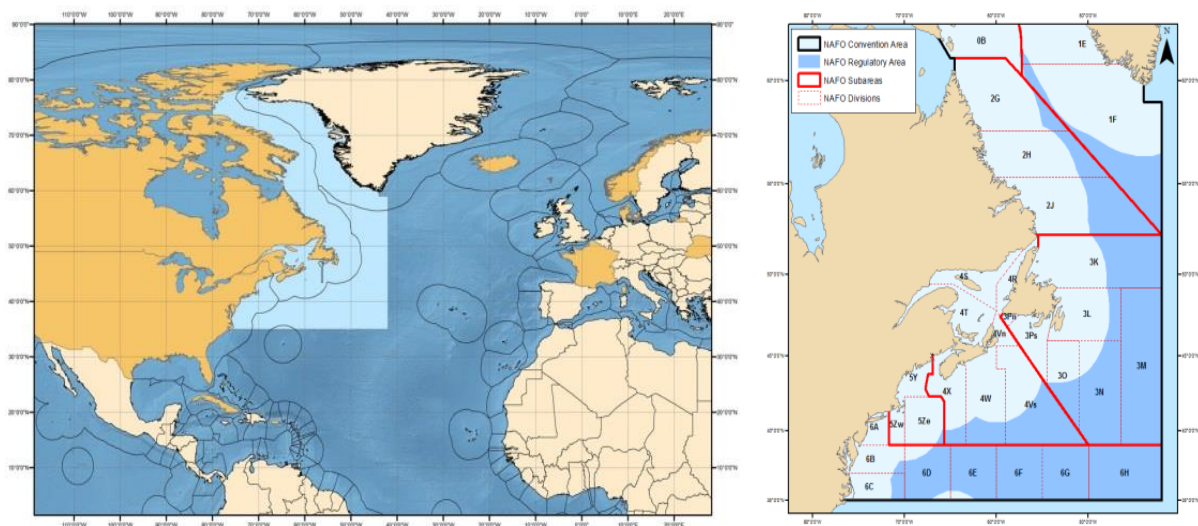
Source: NAFO, GEOMAR http://www.marineplan.es/ES/fichas_kml/rfbs.html

The three main fisheries regulated in the NAFO area are cod, Greenland halibut, and pelagic and golden redfish. 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).

The ground fish (Atlantic cod, Greenland halibut and shrimp) fishery occurs mainly in NAFO. In 2020 the moratorium on 3M shrimp was ended. Since there was no improvement in the stock biomass, the NAFO Scientific Council advised that no catches of this species would be taken from 2023.

Fleet selection and data limitations of the EU NAFO fleet

In previous editions of the AER (AER from 2019 and 2020), all effort and landings of all species by fleet segments operating within the RA were considered taking into account the following criteria:

- Only fleet segments over 24 metres LOA were included.

- High dependency on NAFO CA was set at 40% of landings value.

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[11] 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 Unites States of America.

To refine results to the activity of the RFMO and reduce the overlap with the ICCAT analysis, in the AER 2021 it was proposed an updated definition including the following criteria:

- The exclusion of the ICCAT major species[12].

- Consideration of all fleet segments over 18 metres as DWF.

- High dependency, set at 20% of value of landings from the CA.

The EWG 24-03 and EWG 24-07 decided to maintain this approach for the AER 2024 (as in AER 2023) to show the overall activity of the EU fleet with presence in NAFO but focused its analysis in comparing the activity of the two main fleet segments which have a high dependency expressed in 40% of more of value of landings, i.e. the Portuguese and Spanish demersal trawlers over 40 metres LOA. The reason is that the rest of fleet segments have a dependency ratio lower than 10%.

Brief description of the EU NAFO fleet

In 2022, eight fleet segments from four Member States showed some activity in NAFO (excluding ICCAT major species). All eight fleet segments were over 18 metres LOA, but only two of them showed high dependency, which in this case is 40% or more of the total value of landings in the CA: the demersal trawler segments over 40 metres from Spain and Portugal. It is worthwhile to note that Spain had 12 trawlers with reported days at sea in NAFO RA and Portugal had nine trawlers (two of them operating in the NEAFC). The methodology, however, based on the value of landings, estimates only seven vessels from Spain and eight from Portugal as highly dependent.

According to the reported EU-MAP data, activity of the EU NAFO fleet was composed of an estimated number of 23 vessels which produced 37 700 tonnes valued at EUR 94.7 million. The total number of active vessels decreased from 24 in 2021 to 23 in 2022. The main fishing nations are Portugal and Spain. Estonia did not report data of activity to EU-MAP for 2022. The Danish and German fleets consisted of one demersal trawler each fishing seasonally in the region. France, in respect of St. Pierre et Miquelon and Denmark, in respect of Faroe Islands and Greenland, are not included (no data provided by these under EU-MAP) in the analysis as they are to this effect independent contracting parties of NAFO.

Table 3.14. Member State's fleets with activity in NAFO (excluding ICCAT species), 2022

NAFO	Estimated no. of vessels	% of total NAFO active vessels	as a % of NAFO DAS	Weight of landings	as a % of NAFO landings	Value of landings	as a % of NAFO value	as a % of NAFO revenue
	2022 number	(%)	(%)	tonnes	(%)	Thousand €	(%)	(%)
PRT	10	44	40	18,342.4	49	41,209.3	44	33
ESP	12	52	56	15,870.9	42	42,057.4	44	58
DNK	0.6	2	2	1,808.5	5	7,609.3	8	6
DEU	0.4	2	2	1,678.6	4	3,795.7	4	3
EU NAFO	23	100	100	37,700.4	100	94,671.8	100	100

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

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[12] Further refinement can be made by including only the list of species covered by NAFO.

None of the national fleets are heavily dependent on the region, although specifically, Portuguese demersal trawler fleets above 40 metres obtains around 90% of its total landings in value from activity in NAFO. The other Member States' fleets have less than 5% dependency on this area.

Based on the proposed criteria described above, the two industrial demersal trawler segments from Spain and Portugal identified for the EU NAFO DWF (i.e. high dependency on NAFO excluding ICCAT major species) landed jointly 32 487 tonnes valued at EUR 77.9 million in 2022 (representing 95% of the volume and 94% of the value produced jointly by both fleets).That is only a slight rise in volume of landings compared to 2021 (32 698 tonnes) but a significant increase in terms of value of landings (EUR 65.4 million).

Figure 3.127. Member State fleet percentage in NAFO (excluding ICCAT species), 2022

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Capacity of the EU NAFO fleet

In terms of fishing capacity, the Portuguese demersal trawlers doubled the Spanish demersal trawlers in GTs (15 116 GT for Portugal vs 7 538 GT for Spain). Both segments combined represent 84.1% of the total fishing capacity displayed in the area by the EU fleet.

Figure 3.128. Trends on fishing effort by the EU fleet operating in NAFO targeting non ICCAT major species: 2013– 2022.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)).

In terms of fishing effort expressed in kw/days and days at sea (DaS), the Spanish demersal trawler fleet segment over 40 metres reported 1 293 DaS while the Portuguese demersal trawler fleet reported 1 493 DaS. The rest of fleet segments spent less than 150 DaS in the region and they had a minor activity.

Figure 3.129. Landings and value of landings of Spain and Portugal in NAFO targeting non ICCAT major species: 2022.
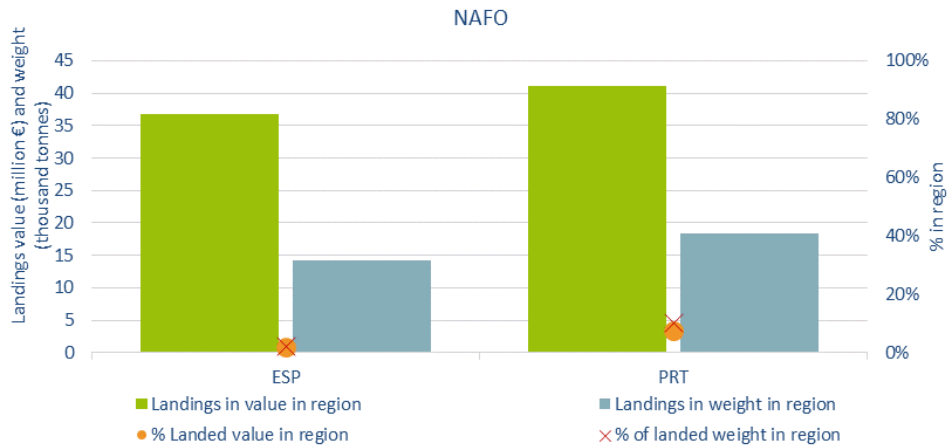
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)).

Landings and dependency of the EU NAFO fleet

In 2022, Portuguese demersal trawlers led landings both in value (EUR 41.2 million) and volume (18 339 tonnes), followed by Spanish demersal trawlers, with EUR 36.7 million and 14 148 tonnes. Danish and German trawlers reported landings of 1 808 and 1 678 tonnes in weight, and EUR 7.6 and EUR 3.8 in value, respectively. The catch from France was negligible.

Figure 3.130. Landings and value of landings trends in NAFO targeting non ICCAT major species: 2013-2022.
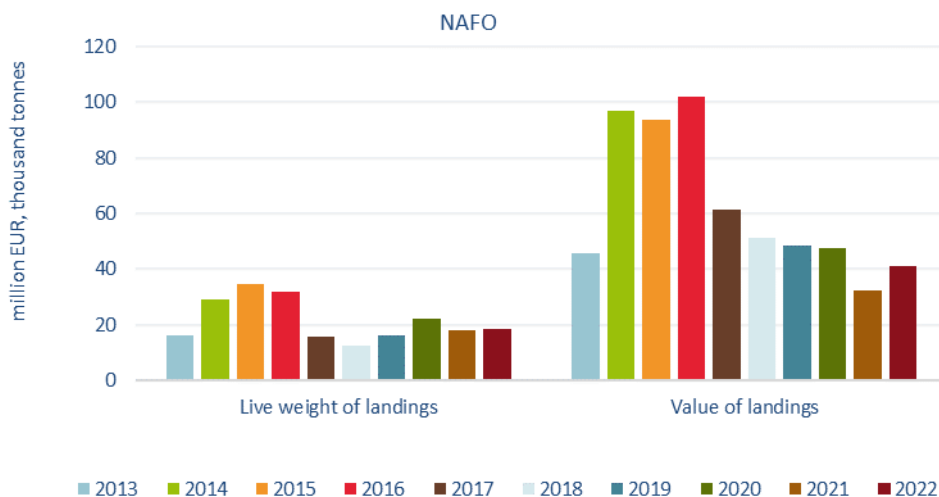
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Regarding the comparative historical trends, according to EU MAP 2022, landings have reached EUR 94.7 million in value and 37 700 tonnes in weight. This is an increase in terms of value from the previous year (when value was EUR 90.9 million) but a drop in terms of volume compared to 2021 (when weight was 40 495 tonnes) which means a better ratio price per kilo for the main

commercial species. For the case of Portugal, the average price went from 1.66 in 2021 to 2.25 euro/kilo in 2022, when for the Spain was from 2.04 euro/kilo in 2021 to 2.60 in 2022.

Regarding the historical period 2013-2022, landings in weight (excluding ICCAT species) have fluctuated between 27 000 and 44 000 tonnes, reaching a peak of 43 500 tonnes in 2020. The value of landings has fluctuated between EUR 90 million and EUR 112 million in the same period, reaching its peak in 2016. Overall, the average price has fluctuated between 2.0 and 3.5 euro/kg in the period 2013-2021. Year 2021 show the lowest price in the entire time series, of 2.24 euro/kg, a steady decline down from 3.47 euro/kg in 2017.

Figure 3.131. Average price for fleets operating in NAFO (excluding ICCAT major species), 2013-2022.

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.132. Top species landed in weight and value by EU fleets operating in NAFO (excluding ICCAT major species), 2022.
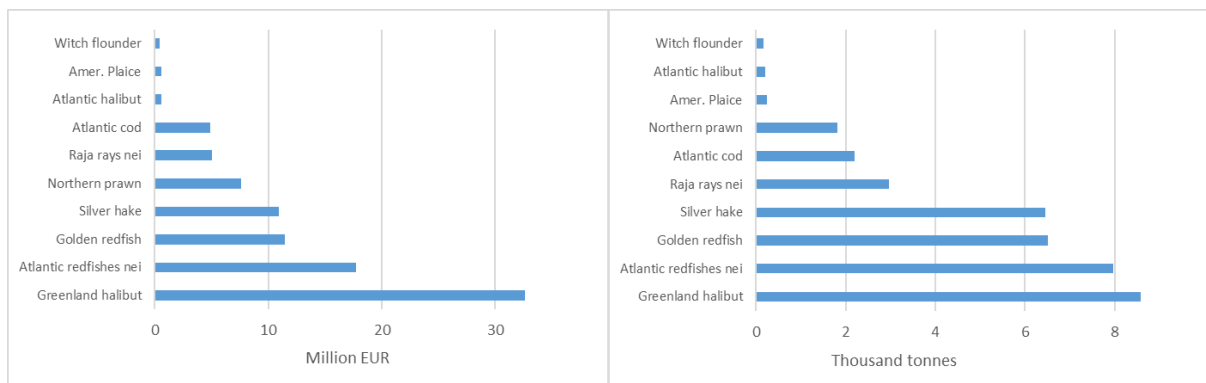
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

The main species landed from NAFO in 2022, in terms of volume, were Greenland halibut (8 575 tonnes), Atlantic redfish (7 962 tonnes), golden redfish (6 513 tonnes) and silver hake (6 444 tonnes), followed at a considerable distance by rays (2 970 tonnes), Atlantic cod (2 190 tonnes) and Northern prawn (1 808 tonnes). In terms of value, the main species were Greenland halibut (EUR 32.6 million), Atlantic redfish (EUR 18.7 million), silver hake (EUR 11.6 million) and golden redfish (EUR 11.5 million), far ahead of Northern prawn (EUR 7.6 million). Since 2021 there has been a very significant increase in silver hake catch and turnover, for which the Spanish fleet is

largely responsible. Hake species are a target of great interest for this fleet. The large catch volume of silver hake in 2021 and 2022 allows Spanish vessels to compensate for the quota shortage of other species and, at the same time, consolidate market channels.

Figure 3.133 Trends on landings in weight and value by EU fleet operating in NAFO targeting non ICCAT major species, 2013– *2022*.
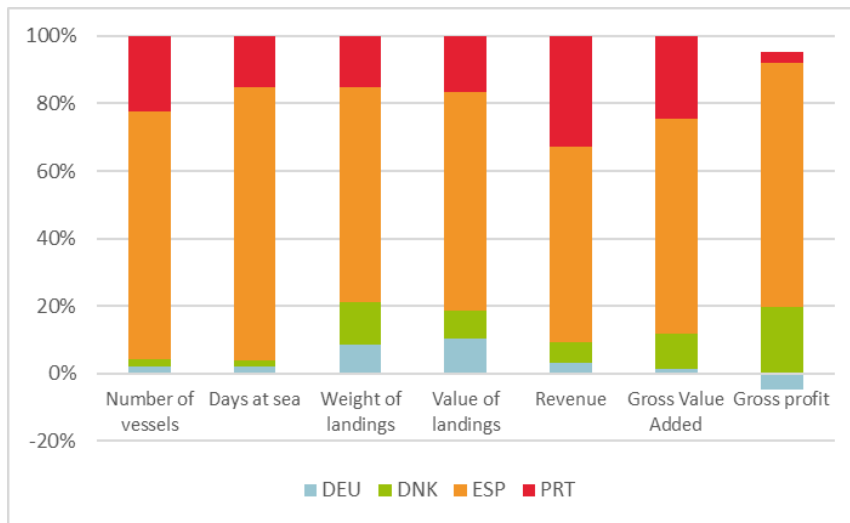

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Economic performance of the EU NAFO fleet

The downward trend in number of vessels and employment, which started in 2012, has resumed in 2022 after a discontinuation in 2021. The number of days at sea has also been reduced in comparison to 2021, and consequently the volume of catches has decreased, although turnover has increased. Both variables remain below the 2020 data. Energy consumption in volume terms is fairly similar to the previous year (27.4 million litres in 2021 vs 27.3 in 2022), although it is practically double in value terms (EUR 14.5 million vs EUR 28.6 million), due to the sharp rise in fuel prices (the average price increased from EUR 0.53 in 2021 to EUR 1.05 in 2022) as a consequence of the Russian invasion of Ukraine in February 2022 and the resulting economic sanctions.

Figure 3.134. GVA per FTE and average of EU fleet operating in NAFO targeting non ICCAT major species, 2013– *2022*.
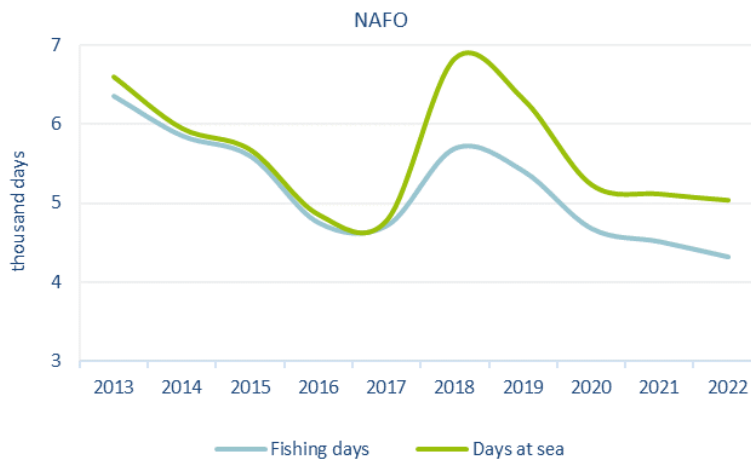

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

When comparing GVA generated unit of work (FTE) between the three main flag states with relevant fleet segments, we can see that, for the first time in the study period, Spain shows the higher value, with EUR 174 837, after a steady rise since 2019. Germany reports EUR 60 216, and

Portugal, EUR 28 980. The historical performance 2013–2021 shows a decreasing trend since 2017 for Spain and Portugal and since 2018 for Germany. In the case of Germany, this is due to the sharp decline in GVA since 2018 related to the lower value obtained in sales, combined with a continued increase in FTE since that year. The Portuguese fleet also suffers from a significant decrease in GVA since 2017, and at the same time there has been a more intensive use of crew since 2018, which has led to a lower value of the GVA per FTE indicator. Regarding Spain, although there has also been a downward trend in GVA since 2016, this has been reversed from 2019 onwards, and, contrary to the other two countries, the trend in FTE has been decreasing between 2018 and 2020. As a result of this, the GVA per FTE indicator has started to rise since 2019.

Economic performance results for 2022 shows a considerable increase in revenue, GVA and gross profit for the fleet operating in the area with respect to that of 2021. The downward trend observed since 2016 in all variables, interrupted during the pandemic thanks to cost-cutting fishing strategies and partially recovered in 2021, seems to have been definitively broken in 2022. The total revenue was EUR 125.2 million (from EUR 83.1 in 2021), considerably higher than values from the period of 2014-2018, being the first time in those years that the figure of EUR 100 million is surpassed. The Portuguese (33%) and Spanish (54%) demersal trawlers fleet combined represented 87% of the total revenue with EUR 108.2 million. In 2022, GVA of the EU NAFO fleet was EUR 22.5 million (from EUR 9 million in 2021), gross profit was of EUR 19.8 million, and net profit was of EUR 12.8 million.

At the fleet segment level, the economic performance of demersal trawlers shows some differences between Portugal and Spain. While Portugal has increased its landings in the area from 17 848 tonnes in 2021 to 18 339 in 2022, Spain has slightly reduced them from 14 850 tonnes reported in 2021 to 14 148 tonnes in 2022. Regarding the value of the landings, both fleets have increased their turnover, although the Portuguese fleet has done so more significantly (from EUR 32.4 million to EUR 41.2 million) than the Spanish fleet (from EUR 33 million to EUR 36.7 million). In addition, the increase in the value of the Portuguese catch (27.2%) is 10 times greater than the increase in volume (2.7%), indicating a higher proportion of the catch of species of high commercial value, in contrast to what was observed in this fleet during the past year.

Figure 3.135. Trends on revenue, profits for the fleets operating in the NAFO
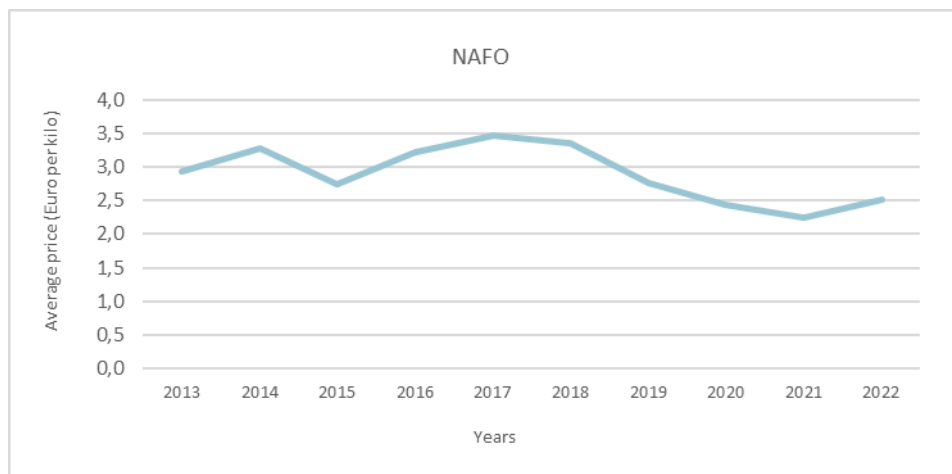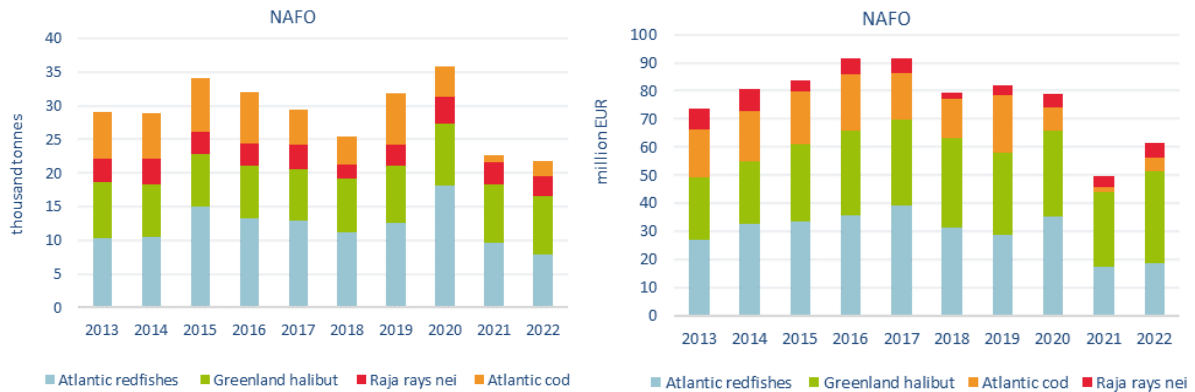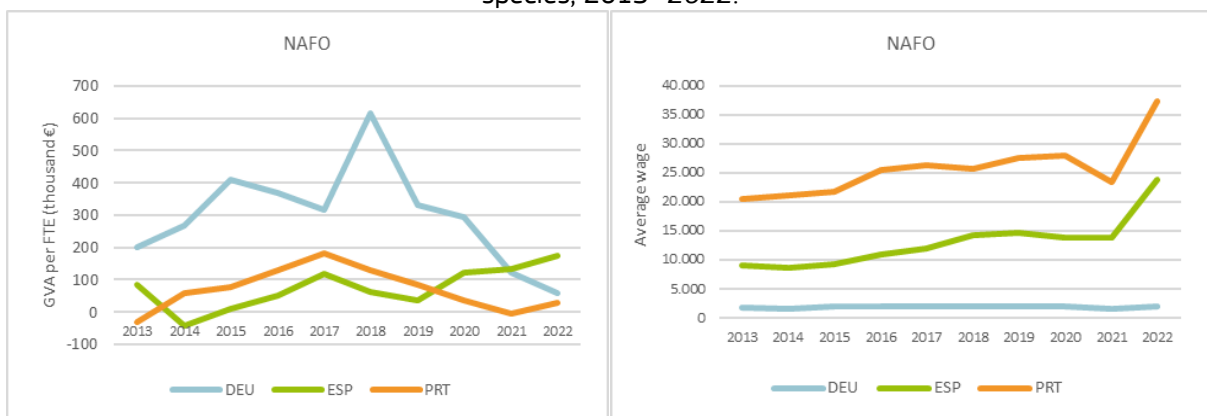

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).
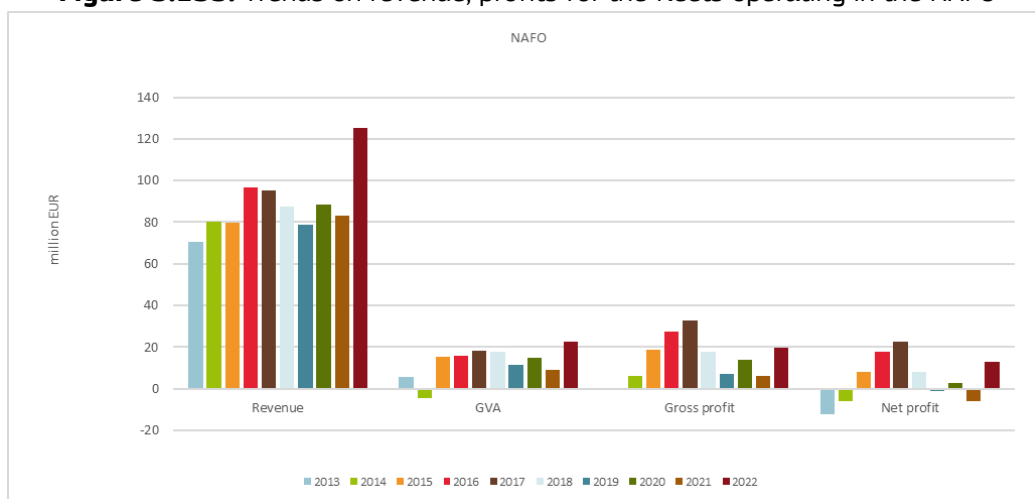
Gross profit generated by the two fleet segments differs extensively, at EUR 4.8 million for the Portuguese trawlers (from EUR 2.5 million in 2021) versus EUR 26.1 million for their Spanish

counterparts (from EUR 4.2 million in 2021). Portugal surpassed Spain in labour intensity in the area in terms of national FTE (245 vs 209) but Spanish spent more on wages and the Spanish energy consumption was higher in terms of volume (11.6 vs 10.5 million litres) but not in terms of value (EUR 11.1 million vs EUR 12.3 million), due to the lower price of fuel thanks to national subsidies (0.96 euro/litre in Spain vs 1.17 euro/litres in Portugal). The Portuguese demersal trawlers average 19.6 FTE per vessel while the Spanish demersal trawlers average 20.2 FTE per vessel. Labour productivity was higher in 2022 for Spanish vessels (EUR 157 511) than for Portuguese vessels (EUR 79.792). Both fleets have experienced a heavy rise in labour productivity compared to 2021, although much greater in the Spanish fleet (129%) than in the Portuguese fleet (58%). Net profit for Portuguese demersal fleet was negative (–EUR 0.9 million), while the Spanish demersal trawlers reached a net profit of EUR 15.2 million. Net profit margins were – 2.3% and 22.8%, respectively.

Result by Member State of the EU NAFO fleet

DENMARK

Denmark has low activity in NAFO (one active vessel not operating fully in the region), which brings confidentiality issues that prevent the publication of activity and economic data.

ESTONIA

Estonia has not reported activity in NAFO for 2022. However, a stable level of catches above 3 000 tonnes are shown at the catch estimates provided by NAFO official database (STATLANT) for 2021 and 2022, catches of this fleet have not been reported to the EU in the last years. Their main target species are Atlantic redfish, Yellowtail flounder, Greenland halibut and silver hake. These discrepancies in data reporting need to be further explored by the EWG in future reports.

FRANCE

No data are reported for France on behalf of St. Pierre et Miquelon fleet under the DCF. The NAFO official statistics report a notoriously decreasing trend in the 2019-2023 period on total landings in weight for all species combined, namely: 73 tonnes in 2023, 52 tonnes in 2022, 308 tonnes in 2021, 535 tonnes in 2020 and 729 tonnes in 2019.

PORTUGAL

The Portuguese fleet operating in NAFO is mainly composed of the demersal trawlers over 40 metres targeting Atlantic redfish, cod and halibut. There are also some longline vessels operating in the region, catching mainly blue shark and swordfish.

This segment was composed of eight vessels operating in 2022. Total landings (excluding ICCAT species) amounted to 18 339 tonnes, valued at EUR 41.2 million in 2022. The fleet's dependency on activity in NAFO has been fluctuating from 2013 onwards. In 2021 these trawlers faced a drop in catches and their value, but in 2022 there was some recovery, especially in terms of the value of landing. The fleet operates mainly in NAFO Divisions 3LMNO, targeting golden redfish (36% of landing value), Atlantic redfish (32%), silver hake (13%), Greenland halibut (13%) and Atlantic cod (9%).

The Portuguese trawlers have reported the highest live weight of landings in the region in 2020. However, the considerable drop in the volume of landings in 2021 has meant that the top position is now occupied by the Spanish fleet. In 2022, Portugal once again dominated both in terms of the volume of catches and the value of landings.

In terms of economic performance, this fleet segment was not profitable in 2022 although the average price of fish sold has risen. Both GVA and gross profit has fallen in 2022 when compared to 2021.

GERMANY

The German fleet segment with presence in NAFO did not show high dependency, with only 8% of the value of landings reported coming from the area. The fleet segment mainly targets Greenland halibut (1 660 tonnes) and minor quantities of beaked redfish (10 tonnes), roundnose grenadier (3 tonnes), and northern wolfish (3 tonnes) in the NAFO CA.

Most of the activity of this fleet segment is in the Atlantic North East (FAO area 27), with 89% of the total days at sea and 91% of the value of landings in 2022.

SPAIN

The Spanish demersal fleet operating in NAFO is composed mainly of freezer trawlers (ESP NAO DTS VL40XX). These vessels generally operate in NAFO (FAO 21) and the Barents Sea (cod trawlers operating in FAO area 27). The Spanish fleet also has longliners operating in the region, targeting mainly blue shark and swordfish which fall within the remit of ICCAT and are therefore excluded from this analysis.

In 2022, the fleet segment of demersal trawlers >40m represents the 26% of NAFO fishing effort (DaS), obtaining 38% of NAFO landed value and 39% of weight. The fleet's dependency on activity in NAFO has decreased by 10% in 2022 after experiencing an increasing trend since 2017 (a rise of 50% from 2017 to 2021).

In NAFO, this fleet mainly targets Greenland halibut, Atlantic redfish, silver hake, cod and rays in the Flemish Cap (3M) and Grand Bank (3LNO) areas.

Landings (excluding ICCAT species) amounted to 14 148 tonnes, valued at EUR 36.7 million in 2022.

Landings of the top species amounted to 3 856 tonnes for Greenland halibut value at EUR 19.4 million, closely followed by silver hake (3 785 tonnes) although with a considerably lower value in relative terms (EUR 5.1 million), which reflects first sale prices (1.33 euro/kg vs 5.03 euro/kg for halibut). Atlantic redfishes with 2 921 tonnes landed with an estimated value of EUR 5.0 million and Rays with 2 442 tonnes and EUR 4.2 million show a better value/weight ratio than silver hake (1.76 and 1.75 euro/kg, respectively).

In terms of economic performance, the segment was profitable for the second consecutive year, experiencing big increases in gross and net profit.

Out of a total of 21 NAFO authorized Spanish vessels, this segment aggregates all the most active vessels in the area, and 7 of the 12 vessels in the segment have reported their presence in the NAFO Regulatory Area in 2022 with a combined effort of 1 293 fishing days.

Many of the seven active vessels in NAFO also combined their activities with other fishing grounds, as a result of decreasing fishing opportunities for target species such as cod and Greenland Halibut in the Regulatory Area.

Main drivers and factors affecting the performance of the EU NAFO fleet

- All the EU fleets presented a good economic performance from 2019 to 2022. In terms of volume of landings in weight, it showed oscillations between 35 000 and 40 000 tonnes in live

weight and EUR 100 million in value of landings. This is higher than the period 2013-2018, where catch was closer to the region of 30 000 tonnes. The main reason can be attributed to the increase of landing on both quota (Atlantic redfishes) and non-quota (silver hake) species. It is worthwhile to note that substantial increase of landings of silver hake in 2021 and 2022 in the region of 6 thousand tonnes compared to previous years where it was generally lower than 500 tonnes). Regarding value of landings, the years 2020 and 2022 showed a relatively stable trend around EUR 95 million, which is higher than the historical period 2013-2019 and 2021 where it has oscillated between EUR 80 and EUR 90 million.

- The economic performance of the fleets is driven and conditioned on the value of key commercial species caught by the Spanish and Portuguese demersal trawlers. Despite its recent high volume of landings, silver hake shows a remarkably lower price than other species caught such as Greenland halibut or Atlantic Redfish. The value for silver hake was of 1.3 and 1.8 euro/kg for 2021 and 2022, in comparison with 3.0 and 3.8 euro/kg for Greenland halibut and 1.8 and 2.3 euro/kg for Atlantic redfishes. In years 2016 and 2017, the total value of landings reached a peak of EUR 97 million due to the higher value of first sale reached by Atlantic redfish of 2.69 and 3 euro/kg, respectively.

- Changes in fuel prices might have also influenced on impacts of profitability.

- After the steep fall of gross and net profitability in 2021, attributable to the high non-variable and variable costs (partly associated to COVID-19 related measures) and to low average price of catches (1.94 euro/kg), in 2022 these parameters have recovered considerably. This is partly explained by the rise of the average price, which in 2021 had reached the lowest value of the whole period 2013-2022, and partly to the gradual return to normality after the pandemic period.

- Capacity, effort, and landings in weight have decreased in general since 2013 although it seems to be quite stable and even slightly increasing in recent years. This seems to be consistent with the adaptive fishing strategies and business plans of the concerned fleets due to lower availability of fishing opportunities in the convention area, particularly for Cod, Redfish, and Northern Prawns. In recent years, demersal fishing trawlers targeting cod and redfish have increased their annual level of catch either in other species within the NAFO RA (e.g. silver hake) or fishing grounds such as the North-East Atlantic (FAO 27) or the South-West Atlantic (FAO 41), targeting other demersal species. This factor could partially explain the overall decrease in days at sea in the area.

- The general downward trend in FTE, intensified in 2020 due to measures taken during the pandemic, has been reversed in 2021 and 2022, due to the growth of this parameter. This decreasing tendency might be partially linked to the modernisation of vessels and mechanisation of processing activities at sea, together with a rotation system of the employed full-time staff on several fishing trips.

- The annual wages have experienced remarkable fluctuations depending on the year. This might be linked to the number of fishing trips where the crew is hired. Portugal seems to show high fluctuations on average wages depending on the year with a decreasing trend in the last five years, from a peak of EUR 73 140 in 2017 down to EUR 40 421 in 2021, with a recovery in 2022 of up to EUR 69 663. Spain shows a more stable range of wages at a lower level (although on an upward trend since 2019, which has made it overtake Portugal in 2021). In 2022, Spanish annual wage was EUR 85 606. The generally lower amounts could be also explained in the way the fixed salary is reported without considering in kind contributions or

bonus linked to catch. Germany has the highest wages although there are significant differences between years, being 2021 the lowest of the last decade, with EUR 106 748. In 2022, it rose to EUR 130 680.

- The witch flounder 3NO stock was reopened in 2015, following many years with no directed fishery. This may positively affect the Baltic States which have historical rights to fish it but have a negative effect for Spanish and Portuguese vessels as they could keep on board by-catches for this fishery while it was on moratoria (up to 5% of total catch), and with the reopening they will be forced to discard any catch of this species.

- The HCR for Greenland halibut was adopted at the NAFO Annual Meeting in September 2017 stemming from the new Management Strategy Evaluation, implemented in 2018 with a TAC of 17 500 tonnes. It continues applying and it has contributed to provide a stable framework allowing to adapted fishing strategies and planning for concerned operators.

- On 1 January 2021, the United Kingdom withdrew the EU, becoming an independent coastal state. This involved renegotiating the country's membership of regional fisheries management organisations in which it was integrated as an EU member. On 3 April 2020, the United Kingdom notified the European Commission of its intention to express its consent, in its own capacity, to be bound by five international agreements establishing five regional fisheries management organisations including NAFO, intended to be applied during the transition period, in the area of the Union's exclusive external competence on fisheries. As a result, the UK joined NAFO as a new independent member in September 2020, becoming NAFO's 13th contracting party. In 2022, the quota of UK for 3M cod was 373 tonnes and transferred out all this quota to Norway (187 tonnes) and to the Faroe Islands (186 tonnes) as part of bilateral quota transfer deals. For 2024, the quota assigned to UK for 3M cod is 1 091 tonnes (compared to the 5 586 tonnes attributed to the EU).

Outlook for 2023 and beyond of the EU NAFO fleet

- The NAFO Conservation and Enforcement Measures (CEM) incorporate all NAFO measures presently in force as adopted by the NAFO 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 RA as defined in Article 1 of the NAFO Convention.

- The applicable CEM measures for the period analysed in the 2022 report (2022): https://www.nafo.int/Portals/0/PDFs/COM/2022/comdoc22-27.pdf. More information can be found on the historical archive of management measures and quota tables can be consulted at NAFO website: https://www.nafo.int/Fisheries/Conservation

- NAFO Scientific Advice is generated through a joint effort by NAFO members (13 CPCs in 2022) and makes use of different data sampling programs carried out by the Member States. Additionally, available statistics on the resources and their environment are also used when producing the advice.

- The 45th Annual Meeting of the Northwest Atlantic Fisheries Organization took place in September 2023 in Vigo (Spain)[1]. – . During the meeting, NAFO continued to advance on ecosystem and fisheries objectives, focusing on vulnerable marine ecosystems (VMEs) and

climate change, while also reinforcing the protection of fishery observers, and labour standards in NAFO fisheries.

- On the ecosystem approach framework to fisheries management, NAFO adopted a recommendation that its bottom fishing closures on seamounts and six of its sponge VME closures be submitted to the CBD Secretariat and to the UN Environment Programme World Conservation Monitoring Centre (UNEP WCMC) for inclusion in the World Database on Other Effective Area-based Conservation Measures (OECMs). NAFO also agreed to maintain all of its existing VME bottom fishing closures until 31 December 2026.

- On climate change, NAFO agreed to consider the current and future impacts of climate change on NAFO managed stocks, non-target species, and associated ecosystems in the Convention Area, including, inter alia, as appropriate, in its decision making, and through its work in the Ecosystem Roadmap.

- On protection of observers at sea, NAFO reviewed and revised the NAFO Observer Program to include key provisions to reinforce the protection and independence of fishery observers. NAFO also adopted a Non-Binding Resolution on Core Principles on Labour Standards in NAFO Fisheries.

- Regarding conservation and management of key commercial fish stocks:

- Greenland Halibut is one of the key commercial species for the EU distant water fleet in NAFO. A Management Strategy Evaluation (MSE) for 2+3KLMNO Greenland halibut was adopted at NAFO Annual Meeting in September 2017 with a starting TAC of 17 500 tonnes and will continue to be in force This management plan contains a harvest control rule (HCR) which has proven to be robust to date and contributed to provide economic stability and predictability. A protocol for exceptional circumstances for Greenland halibut MSE was developed in 2018 to guarantee that the full process is respected. In 2023, exceptional circumstances occurred for first time due to lack of data from one time series survey for three consecutive years. However, the Scientific Council concluded that, based on the results of a sensitivity analysis, the existing Management Procedure could still be used to calculate the TAC for this stock. As a result, the agreed Management Procedure be applied to set the TAC for 2024 with no change.

- In terms of future trends, it is of concern that the 5% automatic in year decrease of the TAC has led to an accumulated decrease in the level of catches from the starting point of 17 500 tonnes in 2017 to slightly over 15 000 tonnes for 2+3KLMNO 2024, resulting in a TAC of 11 228 tonnes for 3LMNO. This represents the minimum ever set to date and might have long term implications in the economic viability of the fishery, with need to look for additional species or fishing grounds.

- Due to the poor biological situation of the 3M Atlantic Cod stock, a drastic reduction of the TAC has been adopted in recent years. In 2020, the TAC was set in 1 500 tonnes, coming down from 17 500 tonnes in 2019 and from 11 145 tonnes in 2018. However, since 2021 the situation has improved slightly: in both 2021 and 2022 the TAC agreed was of 4 000 tonnes while in the last two years has increased steadily, with 6 100 for 2023 and 11 700 tonnes for 2024 bringing a more positive outlook on the state of the stock. This recovery of the 3M Cod Stock and increase in TAC in recent years can be partly explained by the implementation of three flanking (technical) measures which are in force since 2021 aiming at 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.

- The three flanking measures to protect spawning aggregations of 3M Cod are:

    1. Time area closure of the directed fishery for the 3M cod stock for January-March.

    2. Compulsory use of sorting grids for all trawlers with a directed fishery on cod.

    3. 100% Control of landings for vessels engaging in directed fishery on 3M cod stock.

- The economic impact of the recent increase of TAC for cod in 3M in recent times is likely to benefit the Portuguese and Spanish demersal trawlers, as they have already adapted to change their fishing strategies in the North Atlantic in the first quarter of the year and look for alternative fishing grounds, during the time of the closure. This will help in particular those operators more reliant or with higher dependency on this fisher, the Portuguese demersal trawlers.

- The Commission adopted in 2014 an MSE approach for redfish in Division 3LN (FC Doc. 14/29). This approach uses a harvest control rule 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 2021 annual meeting, it was decided to continue using the HCR and extend the 18 100 tonnes annual TAC for the period 2023 to 2024. The MSE is currently subject to a review process and work will continue in accordance with NAFO workplan for 2024.

- 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 was 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 period of closure, 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 and 2021 in 3M, with an effort scheme based on allocation by CPCs, corresponding to the EU, 823 out of the total 2 640 fishing days. However, it was closed again with effect January 2022 because of catch limits being exceeded with only 20% of the fishing effort allocated for 2021. At the 2021 annual meeting, it was agreed to continue the moratorium on the fishing of this stock for 2023 and it has remained closed in 2024.

- The uncertainty on both the biological state of the stock and the lack of progress on agreeing a management regime (moving from an effort based on fishing days to either a quota or mixed system) prevents any future reopening of the fishery. This situation has already caused the loss of significant incomes for the specialised demersal trawl fleet from Estonia and Latvia. There is no date planned for intersessional work to review the current management approach for shrimp in Division 3M and agree on modalities for transition from an effort to a TAC and quota system, as there is not agreement between the contracting parties in terms of allocation keys based on reference periods of historical catches.

- 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 in coming years about new closures or expansion of existing ones (e.g., seamounts, sponges and gorgonians, sea pens concentrations, black corals, bryozoans, etc.) overlapping current fishing areas, particularly in 3M and 3LN. In 2021, a rollover of the current

VME closures in the NAFO RA was agreed for an additional year, pending a more comprehensive review. In 2022, VME closures were agreed for the period 2022-2026. A much more exhaustive enumeration of the boundary points delineating the seamount closures in the NAFO Regulatory Area was carried out (and new six closures were added), the boundary points delineating the 30 Coral Area Closure in the NAFO Regulatory Area remained unchanged for the new period. All seamount areas in the NAFO Regulatory Area at fishable depth (i.e. shallower than 4 000 metres) are now closed to bottom contacting fishing gears until December 2026. In total, the areas closed to bottom fishing have a surface area of 372 201 km^2, representing 14% of the NAFO Regulatory Area.

- 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. In 2021, the Commission requested the Secretariat and the Scientific Council with other international organizations, such as FAO and ICES, to inform the Scientific Council's work related to the potential impact of activities other than fishing. The NAFO Secretariat has also been mandated to conduct outreach with other international organizations to ensure that NAFO's efforts to protect marine biodiversity are known. NAFO and Canada as Coastal State have also established an arrangement to exchange information concerning fisheries and oil and gas activities in the NAFO Regulatory Area.

- An EU funded project developing a method for a multispecies assessment in Subdivision 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 bioeconomic tool to test management scenarios and evaluate economic trade-offs. This approach could bring further uncertainty for those fleets which are dependent on one of these commercial species and create unexpected changes in their fishing patterns. An ecosystem 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).

Landing obligation of the EU NAFO fleet

- 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 LO.

- 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

- As a result, the EC adopted a Delegated Act establishing a specific derogation to the application of the LO outside EU waters (Including NAFO RA).

- 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_dimension_landing_obligation.pdf

- By proposal of Norway, a study was launched in 2019 to analyse potential implications of adoption of LO in NAFO by looking at the EU and Norwegian legislations with the aim of reflecting at possible measures to be discussed in future years. The results of this study will be presented and discussed at the forthcoming NAFO Working Group on Selectivity, By-Catch and Discards Working Group (WG BDS) However, this WG has not met since 2021 and there have been no calls to reconvene it. At the Annual Meeting in 2023, it was agreed that the elements WG-BDS Action plan (COM Doc. 17-26) continue to be addressed in the other working groups and STACTIC. Norway noted that work with respect to consideration of a landing obligation and discard ban in NAFO, albeit not part of the Action Plan, should continue to be discussed at other Working Groups such as RBMS and EAFFM to ensure continuity.

3.9.3 ICCAT – International Commission for the Conservation of Atlantic Tunas

Background of ICCAT fisheries

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.

ICCATs area of competence covers all waters of the Atlantic Ocean, including adjacent seas (FAO areas 21, 27, 31, 34, 37, 41, 47 and 48). 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). In 2019, ICCAT was given an extended mandate to manage pelagic oceanic and highly migratory species of sharks and rays. These, currently, include pelagic oceanic sharks such as shortfin mako and blue shark.

ICCAT regularly performs stock assessments on the main targeted species and stocks under their remit. These assessments evaluate the current and proposed future harvest practices in light of the Commission's objective to maintain the populations at a level that permits their maximum sustainable yield. The main species and stocks regulated by ICCAT targeted by the EU vessels are:

- Tuna (major spp.) – Atlantic and Mediterranean bluefin tuna (BFT), Atlantic and Mediterranean albacore (ALB) and tropical tuna – skipjack (SKJ), yellowfin tuna (YFT) and bigeye tuna (BET);

- Billfish (major spp.) – Atlantic and Mediterranean swordfish (SWO), blue marlin (BUM), Atlantic white marlin (WHM), Atlantic sailfish (SAI)

- Sharks (major spp.) – blue shark (BSH), shortfin mako (SMA) and porbeagle (POR)

- Small tuna and other billfish (small t) – bullet tuna (BLT), Atlantic bonito (BON), frigate tuna (FRI), little tunny (LTA), common dolphinfish (DOL).

Fleet selection and data limitations of the EU ICCAT fleet

Due to its geographical situation, the EU fleet operates in both the Atlantic and Mediterranean Sea. The fleet also targets species covered by ICCAT in coastal, insular and open-sea offshore areas by artisanal, small-scale vessels as well as larger vessels over 24m. The EU fishing fleet operating within the ICCAT RA is therefore not entirely a long-distant fishery.

To capture the full scale of the fishery at the EU level, as well as in the context of the LDF, the activity of the EU fleet is analysed in two main parts: (1) ICCAT major-species fleet and (2) ICCAT LDF fleet:

- The EU ICCAT major-species fleet includes all fleet segments with reported landings of one or more of the major species or stocks (as listed in Table 3.15 in the ICCAT RA (Atlantic and/or Mediterranean Sea) in 2022. Due to the low dependency of some of these fleet segments on these stocks, only a general overview of the activity will be assessed, i.e., the economic performance by fleet segment will not be considered.

- To analyse the EU ICCAT major-species LDF fleet, all fleet segments over 18 metres LOA and with 20% or more of their landings in value obtained in 2022 from one or more of the major species or stocks in the ICCAT RA are selected. This method is the same than the one adopted in AER 2021 and it has remained unaltered since then. However, it differs to that used in previous

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AERs in three aspects: (1) only the major ICCAT species and stocks are considered, (2) vessel length group 18-24 metres is included and (3) high dependency on the ICCAT RA in terms of value of landings is set at 20%, as opposed to 40% used in the AER 2020 (and 60% used in the AER 2019).

Table 3.15. List of major species or stocks covered by ICCAT

Tuna (major sp.)		Tuna (small t)		Sharks (major sp)	
Albacore	ALB	Atlantic bonito	BON	Blue shark	BSH
Atlantic bluefin tuna	BFT	Atlantic Spanish mackerel	SSM	Porbeagle	POR
Atlantic sailfish	SAI	Blackfin tuna	BLF	Shortfin mako	SMA
Atlantic white marlin	WHM	Bullet tuna	BLT		
Bigeye tuna	BET	Cero	CER		
Blue marlin	BUM	Common dolphinfish	DOL		
Longbill spearfish	SPF	Frigate tuna	FRI		
Skipjack tuna	SKJ	King mackerel	KGM		
Southern bluefin tuna	SBF	Little tunny(=Atl.black skipj)	LTA		
Swordfish	SWO	Plain bonito	BOP		
Yellowfin tuna	YFT	Seerfishes nei	KGX		
		Serra Spanish mackerel	BRS		
		Slender tuna	SLT		
		Wahoo	WAH		
		West African Spanish mackerel	MAW		

Source: EWG-24-03.

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 at the fleet segment level by supra-region, instead of a combination of effort and landings variables by fleet segment (as is the case with the other regional analyses). Usually, effort (days at sea) is used to disaggregate the number of vessels of a fleet segment to a region. As a result of this methodology, estimations on capacity (number of vessels, GT, kW), economic (revenue, GVA, etc.) and employment (FTE, etc.) variables may be over or under-estimated.

The EWG 24-07 agreed to maintain the ICCAT fleet selection criteria which has remain unaltered since 2021. This selection excludes both the Mediterranean Sea and the EU Outermost Regions (OMR) from the analysis. The reason being that fleet segments that target ICCAT species in these areas are now included in the Mediterranean Sea EU Regional Analysis and in the EU Outermost Regions chapters, respectively.

According to data submitted, the EU fleet amounts to an estimated number of 221 commercial vessels, in comparison to 106 vessels in 2021. The total reported EU landings in weight for the main species regulated by ICCAT in the Atlantic Ocean amounted to 175 271 tonnes in 2022, valued at EUR 406.5 million (Figure 3.136).

After experiencing a stagnation and slightly downward trend in the number of vessels the last decade (period 2013-2022), in 2022 as the highest of all years. This should be confirmed by the

results of the performance of the fleet in the following years. Total days at sea have been around the area of 50 000 in the last decade except for 2022, which was over 60 000.

Figure 3.136. Trends on number of vessels and FTE for the EU Atlantic LDF on ICCAT species.
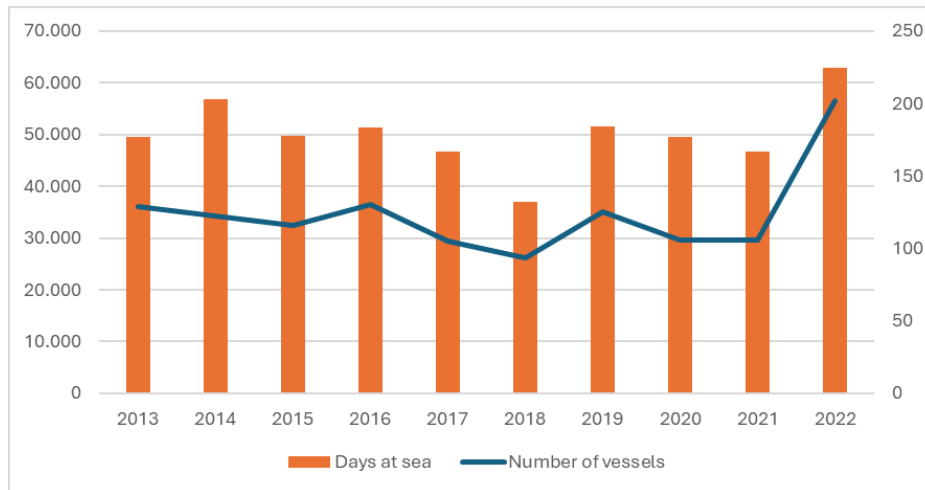
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)).

As a result of the increase in number of vessels, days at sea and landings, the economic indicators have experienced a remarkable growth in 2022 with respect to those of 2021 and previous years, showing a revenue of EUR 377 million (73% increase with 2021), a GVA of EUR 163 million (59% increase), a gross profit of EUR 59.4 million and a net profit of EUR 12.2 million.

The main species landed in 2022 were skipjack (51 128 tonnes, 30.5% of the total landings), blue shark (41 084 tonnes, 24.5%), yellowfin tuna (34 416 tonnes, 20.5%), albacore (23 098 tonnes, 13.8%), swordfish (10 158 tonnes, 6%) and bigeye tuna (7 931 tonnes, 4.7% of the total). In 2022, 56% of the major species and stocks landed consisted of tropical tuna (Figure 3.137).

Figure 3.137. Trends on landings in weight by the EU fleet of ICCAT major species
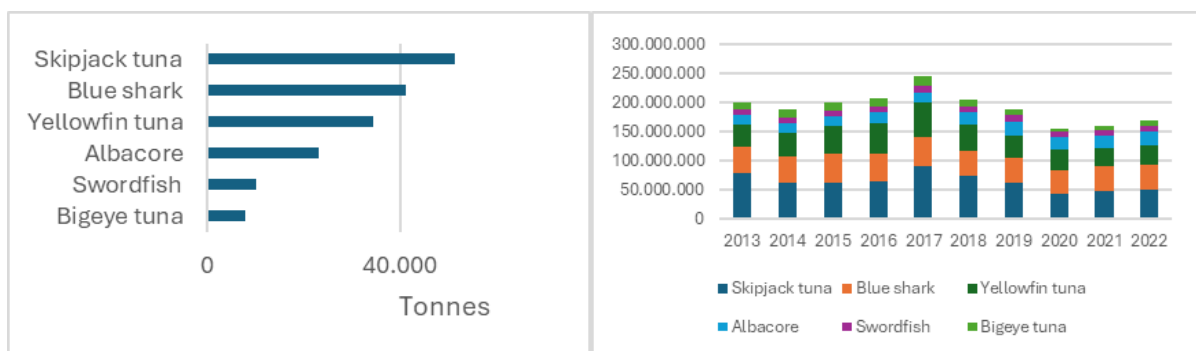
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)).

Regarding value, however the top five species have remarkable differences. Albacore tuna and yellowfin tuna were the two most valuable species in absolute terms, with a total value of EUR 89 and EUR 88 million, respectively. They were followed by skipjack (EUR 75 million), blue shark (EUR 61 million) and swordfish (EUR 58.5 million). However, when looking at first sale price per species, swordfish comes first with 5.76 euro/kg followed by albacore tuna with 3.85 euro/kg and yellowfin tuna with 2.6 euro/kg. Both skipjack and blue shark are around 1.5 euro/kg.

It is noticeable that, despite the volume of landings in the period 2020-2022 being quite stable above 150 000 tonnes with an increase in the last three years but it is still far from the period 2017-2019. However, the value of landings is close to EUR 400 million, much higher than the years 2018 and 2019, which is slightly over EUR 350 million. This can be partially explained by increase of value of landings of swordfish.

Figure 3.138. Trends on landings in value by the EU fleet of ICCAT major species
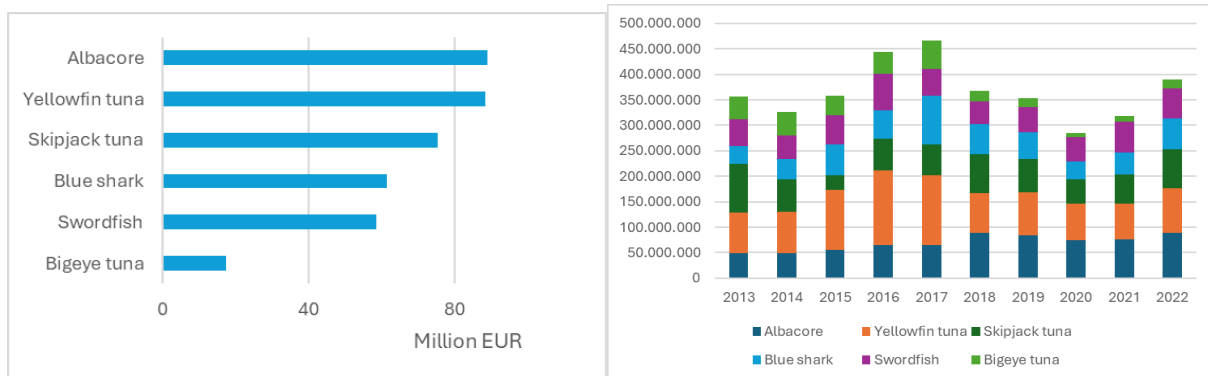
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.139. Evolution of prices of the main ICCAT targeted species
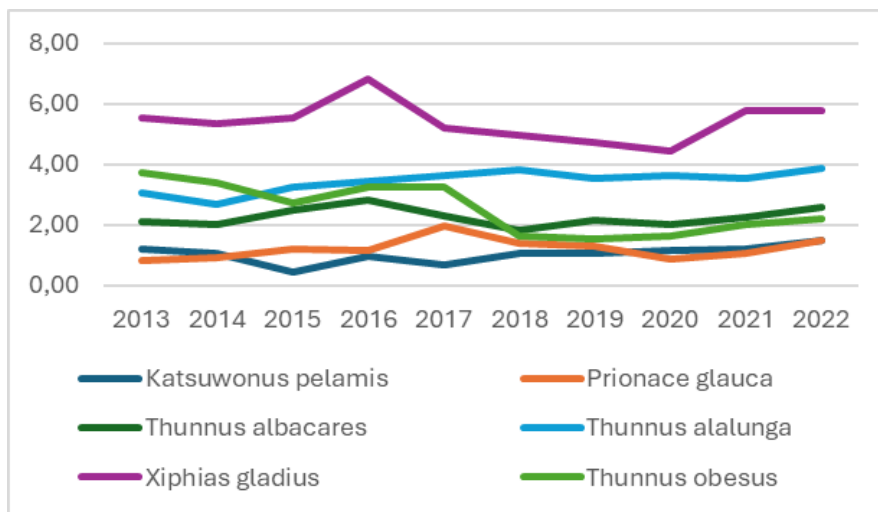
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

LDF Atlantic fleet with high dependency of the EU fleet on ICCAT species

Activity of the LDF in the Atlantic is largely directed towards tropical tuna by purse seiners and longliners.

Table 3.16 presents the main trends of the selection of the fleet segments representing the LDF (over 18 metres with a >=20% landings value dependency on ICCAT major species) selected for the Atlantic.

The selected number of vessels are 202, with 51 000 fishing days, EUR 376 million in value of landings and 164 500 tonnes in weight.

Table 3.16. Estimated summary results for the Atlantic EU ICCAT fleet, highlighting segments with high dependency on activity in the ICCAT RA, 2022

ICCAT EU LDF – Fleet segments with high dependency	Number of vessels	Fishing Days	GVA (M EUR)	Net Profit (M EUR)	Revenue (M EUR)	Value of landings (M EUR)	Landings in Weight (M tonnes)
ESP NAO DFN1824 NGI *	6	3,210	1.58	0.20	2.48	2.96	0.63
ESP NAO HOK1824 NGI	19	5,255	5.33	1.23	7.95	7.99	1.71
ESP NAO HOK2440 LLD *	32	5,848	12.95	2.93	30.39	31.53	11.77
ESP NAO HOK2440 NGI	37	6,566	32.12	10.16	44.62	40.38	9.02
ESP NAO PS 2440 NGI	11	5,220	7.52	1.26	11.73	11.45	2.62
ESP OFR HOK2440 LLD	34	9,085	25.52	11.89	69.74	59.95	27.38
ESP OFR PS 40XX NGI	6	1,353	41.80	13.59	98.99	110.70	51.78
FRA NAO TM 1824 NGI *	8	2,988	5.16	0.66	10.30	8.63	2.40
FRA OFR PS 40XX IWE *	8	2,337	18.94	-24.45	66.16	68.73	43.17
IRL NAO TM 2440	4	444	3.54	-0.54	6.79	6.07	2.21
PRT NAO HOK1824 NGI	13	3,545	3.53	-0.38	6.95	6.95	1.46
PRT NAO HOK2440 NGI	17	3,588	1.65	-4.97	10.26	10.09	3.65
PRT OFR HOK2440 IWE	4	1,191	1.88	-0.07	7.05	7.01	3.71
PRT OFR HOK40XX IWE	1	241	1.79	0.72	3.99	3.99	2.96
TOTAL	**202**	**50,871**	**163.32**	**12.21**	**377.38**	**376.42**	**164.47**

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Results by Member State fleet

FRANCE

The French industrial fleet of Purse Seiners over 40m consisted of 20 vessels in 2022 (including 4 vessels registered on the island of Mayotte and clustered with one vessel HOK VL2440). The number of fishing vessels in this fleet has remained relatively stable over the years, but the situation is set to change over the next few years, for different reasons outlined below. The overwhelming majority of this fleet is made of freezer tuna seiners operating both in the Indian Ocean or Atlantic Ocean. Around half of the fleet operates in the Indian Ocean, the other half in the Atlantic.

The average age of those 20 active vessels reached 21.3 years old in 2022. The average length reached by the vessels amounts to 78 metres. Average FTE onboard was around 24 employees by vessel in 2022 (fishers employed come from both France and foreign countries –mostly African–).

In 2022, total volumes of landings of tropical seiners amounted around 110 000 tonnes for the vessels of the fleet segment, stable compared with the previous year.

At global level of the segment, tuna species caught were mainly skipjack (54.3%), yellowfin tuna (37% of the total volumes of landings), and big eye tuna (6.7%). In the Atlantic Ocean, yellowfin and skipjack account for almost 88% of the catches, followed by bigeye tuna (about 8.4%), in 2022. Overall, and taking all species together, the Atlantic Ocean zone accounts for 39.3% of the volumes caught by the vessels of this fleet segment, while the Indian Ocean accounts for the remainder (60.7%).

Total landing income for this fleet segment reached almost EUR 168 million in 2022. According to economic data collected, the three main cost items in 2022 were energy costs, crew wages, and non-variable costs. They represented 35.8%, 30.6% and 17.0% of the total income in 2022, respectively.

As a result, operating profitability of the first segment of the French fishing fleet (in terms of landed value), is negative in 2022, as in the previous year. The deterioration in macroeconomic conditions has led to a sharp rise in operating costs over the last few years (fuel, logistics, etc.), while prices rose only slightly. At the same time, demand for canned tuna has fallen between 2020 and 2022.

SPAIN

In Spain, various segments target albacore seasonally from June to September. Some of these segments are classified as longliners, such as NAO HOK 18-40m, while others employ different predominant fishing gear, such as DFN 18-24m or PS 24-40m. Regardless the predominant gear they use, they all use hooks to catch this species. All the above referred fleets segments are profitable in 2022.

There are also two segments of surface longliners of more than 24 meters that target mainly blue shark and swordfish. The NAO 24-40m segment and OFR 24-40m segment were profitable both in gross and net.

In addition, there is presence of six industrial purse seiners above 40 metres that target tropical tuna. The segment is profitable, and the value of landings increased since 2020.

PORTUGAL

As a result of the location of Portuguese territories (outermost and mainland), a significant part of the fleet from Portugal operates in waters regulated by the ICCAT and catch species assessed by this organization.

According to the national statistics, in 2022 18 vessels belonging to NAO HOK 24-40m and 12 vessels belonging to NAO HOK 18-24m segment have operated in the ICCAT area, having 20% or more of their landings in value obtained from one or more of the species or stocks in the ICCAT RA.

This fleet targets blue shark (71% and 49% of their landings in weight and 49% and 32% in value, and swordfish (25% and 38% in weight and 43% and 50% in value respectively).

Regarding OFR longliners, the segments HOK 24-40m and HOK 40XX had five and one vessels, respectively, that operated exclusively in the ICCAT area in 2022, targeting blue shark (89% of their catches, corresponding to almost 6 000 tonnes that valued at EUR 9.23 million).

The Portuguese OFR longliners fleet segment is made of freezer tuna seiners operating in the Indian Ocean or in the Atlantic Ocean.

Apart from the PRT OFR HOK40XX IWE fleet segment, Net profit margin was negative in all other fleet segments considered in the ICCAT RA.

Main drivers and limiting factors affecting fleet performance in the ICCAT RA

- Current management measures in force such as the 72 days closure for FADs (Fish Aggregating Devices) from 1 January to 31 March in the Atlantic Ocean are having a negative impact in terms of fleet activity and level of catch of French and Spanish purse seine active vessels in

ICCAT RA. It has created already effort displacements to Indian Ocean and, to a less extent, the Pacific Ocean. A reduction of the FAD closure is not foreseen in the short term, given that it is still difficult for SCRS to evaluate its impact in the last 3 years and disaggregate the effect of these closures from the global pandemic.

- The general trend of energy price for the distant water fleet has increased considerably in 2022, going up from 0.57 to 0.98 euro/litre. This has had an impact on variable operational costs.

- Regarding shortfin mako, the restrictions imposed by ICCAT for vessels to catch and retain on board, tranship or land North Atlantic shortfin mako. Stringent trade measures derived from the application of the inclusion of shortfin mako under CITES Appendix 2 with documentation requirements coupled with increases in observer coverage have already caused a noticeable decrease in landings from this area reported by Spanish and Portuguese surface longliners. This might have also a perverse effect of an increase of fishing pressure on other target species (such as blue shark or swordfish) and displacement of effort to other areas (Indian and Pacific Ocean).

- In terms of commercial aspects, Spanish and Portuguese surface longliners witnessed falls in demand in target countries (Italy, Brazil, Senegal, etc.) for swordfish and frozen sharks in the period 2020-2022 due to COVID-19 sanitary requirements so a substantial part of their landings has been temporarily stored in freezing facilities in Galicia (Vigo, A Guarda, Marín) or Portugal (Viana do Castelo, Porto).

- EU tuna purse seiners saw a drop in the sale prices due to competition on frozen tuna and tuna loins purchased by EU processors from non-EU countries (mainly China) because of the new regulation setting autonomous tariff quotas (ATQs) for certain fishery products for the years 2021-2023, for which they can import 30 000 tonnes each year from non-EU countries at a reduced or zero-duty tariff.

Outlook for 2023 and beyond

Qualitative assessment of implementation of current measures in place:

- The Spanish tropical purse seine fleet has reduced its operational activity in number of vessels in 2023 and 2023 as a result of the combined effect of the management measures adopted, namely the drifting FAD closure in the Atlantic Ocean for a duration between 72 and 90 days and also the proliferation and increase in competition from Asian owned purse seine fishing fleets flagged in African coastal countries such as Ghana, Senegal, Guinea, Republic of Guinea and Liberia. Should this situation continue, it is likely that there will be further reductions in activity and presence in the Atlantic Ocean and effort displacement to other fishing grounds in the Indian and Pacific Oceans.

- The entry into force of the EU Revised Fisheries Control Regulation on January 2024 contains specific rules for the DWF to be implemented in a phased approach that will be applied to control of tuna landings and monitoring of transhipments at ports, calculation of margin of tolerance, or inclusion of some fleet segments as reference fleets for Electronic Monitoring Systems. This will likely create increased bureaucratic requirements and operational burden affecting performance for the activity of this segment.

- The French purse seine fishing segment targeting tropical tunas is going through a period of crisis, and important decisions are being taken by the owners of the vessels concerned:

cessation of activity and sale of vessels, observed in 2023 and 2024. The survival of vessels in this fleet segment (and all jobs on board and ashore affected by this activity) will depend on improved competitiveness in the years ahead. Only good news is that the professional organization representing French frozen tuna producers has been certified to the MSC Fisheries Standard (a set of requirements for sustainable fishing) for Atlantic tuna in 2024, for a period of 5 years, giving fishing companies hope that their catches will be better valued.

Regulatory framework

Outcomes of ICCAT Annual Meeting 2022

- The ICCAT 23rd Extraordinary Meeting in 2022 was the first face-to-face meeting in 3 years. Due to the COVID-19 pandemic, ICCAT Annual Plenary Meetings and intersessional Panels took place remotely in the period 2020-2021 via written correspondence through the website. This has posed several logistic and technical challenges, exacerbated by the high number of Contracting Parties (50 including the EU), mostly developing countries, number of languages, and time difference due to its wide geographical distribution. As a result, no significant progress was made in passing new conservation and management measures, and work has focused only on a limited number of decisions to extend existing measures, with special attention to the Atlantic bigeye tuna and the northern shortfin mako due to the low biological state of both stocks.

Outcomes of ICCAT Annual Meeting 2023

- The 28th Regular Meeting of the Commission took place on 20 November 2023 in New Cairo (Egypt) in hybrid mode. In total, 20 new Recommendations and 4 Resolutions were adopted covering relevant issues on Atlantic tuna and tuna-like species conservation and fisheries management.

- ICCAT agreed new protection measures for cetaceans, whale sharks and mobulid rays, which prohibit these species being retained on board, transhipped, or landed, in whole or in part.

- It also agreed new conservation and management measures for Atlantic blue shark, swordfish and North Atlantic albacore. It also set minimum standards for the optional implementation of Electronic Monitoring Systems.

- ICCAT has also planned the adoption in 2024 of a management procedure for northern Atlantic swordfish; and has advanced on plans for and to respond to Climate Change and biodiversity impacts.

- In 2023, full scientific stock assessments were carried out for three species: Atlantic blue shark (*Prionace glauca*), the most common shark species caught in ICCAT fisheries; eastern and western Atlantic sailfish (*Istiophorus albicans*), and northern Atlantic albacore (*Thunnus alalunga*).

- The effectiveness of the management measures adopted for North Atlantic albacore in recent years resulted in an increase in abundance, allowing ICCAT to set a new TAC of 47 251 tonnes for this stock for 2024 to 2026.

- On North Atlantic blue shark, an annual TAC of 30 000 tonnes was established, whereas in the case of the southern stock the TAC was set as 27 711 tonnes, which corresponds to reductions of 23.3% and 4.2%, respectively. It was agreed that, by 2025, the Scientific Committee shall

inform on the feasibility, cost, options and tentative roadmap for developing a Management Strategy Evaluation framework (including inter alia candidate Harvest Control Rules) for the management of these stocks in the ICCAT Convention area.

- On North Atlantic swordfish, the Commission agreed to review at the 2024 Annual Meeting the final Candidate Management Procedures and select one for adoption and application to establish the TAC for 2025-2027 and future years.

- On tropical tunas, albeit the extensive discussions regarding the multi-annual conservation and management programme for these stocks, no progress was achieved. Therefore, an agreement was reached for a simple rollover of the current measures, which implies a Total Allowable Catch (TAC) for bigeye tuna of 62 000 tonnes for 2024, while the annual TAC for yellowfin will remain at 110 000 tonnes. In addition, to reduce the fishing mortality of juvenile bigeye and yellowfin tuna, a 72-day fishing closure and the limitation on the use of FADs in 2024 were also kept. Finally, it was agreed a roadmap for the work to be done next year to review existing measures and, inter alia, develop catch limits and associated catch verification mechanisms for 2025.

- The Commission also took some steps to reinforce and ensure the effective implementation of conservation and management measures. In particular, ICCAT adopted recommendations establishing minimum standards and programme requirements for the use of Electronic Monitoring Systems in ICCAT fisheries and a Resolution on core principles on Labour Standards in ICCAT fisheries. Amendments were also made to strengthen ICCAT's existing port inspection and Illegal, Unreported and Unregulated (IUU) vessel listing measures and a Standing Working Group on Catch Document Schemes was established.

- On monitoring, control and surveillance, the ICCAT Compliance Committee focused on a more in-depth review of Contracting Parties and Cooperators implementation of ICCAT requirements and of the Schedule of Actions to address compliance issues. A more comprehensive approach was also agreed to encourage the use capacity building as a tool to improve compliance in ICCAT.

3.9.4 IOTC – Indian Ocean Tuna Commission

Background

The Indian Ocean Tuna Commission (IOTC) is the RFMO mandated to manage the fisheries on tuna and tuna-like species in the Indian Ocean and adjacent seas. It was established in 1993 and entered into force in 1996. It is an intergovernmental organisation gathering the countries bordering the Indian Ocean and the countries having an interest in the tuna fisheries in the area. The objectives are to promote cooperation among its members for the conservation and optimal utilisation of the tuna stocks in the area and to ensure the establishment of a sustainable fisheries in the region. To achieve these objectives, IOTC members meet annually, discuss and adopt measures for the conservation and management of tuna and tuna-like species.

The EU became a member of IOTC in 1995. The other members of IOTC are Australia, Bangladesh, China, Comoros, France on behalf of its overseas territories, India, Indonesia, Iran, Japan, Kenya, Korea, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Pakistan, Philippines, Seychelles, Somalia, Sri Lanka, South Africa, Sudan, Tanzania, Thailand, the United Kingdom and Yemen.

The IOTC area of competence is the Indian Ocean (FAO statistical areas 51 and 57) 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.

The species under the management mandate of IOTC are tropical tuna stocks (i.e., skipjack, yellowfin and bigeye), albacore tuna, frigate tuna and swordfish (Table 3.17 – List of major species or stocks covered by IOTC). In addition, the IOTC 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).

Table 3.17. List of major species or stocks covered by IOTC

Tropical tuna		Temperate tuna		Neritic tuna		Billfish		Sharks	
Bigeye tuna	BET	Albacore	ALB	Bullet tuna	BLT	Black marlin	BLM	Blue shark	BSH
Skipjack tuna	SKJ			Frigate tuna	FRI	Blue marlin	BUM	Oceanic whitetip shark	OCS
Yellowfin tuna	YFT			Kawakawa	KAW	Indo-Pacific sailfish	SFA	Scalloped hammerhead	SPL
				Longtail tuna	LOT	Striped marlin	MLS	Shortfin mako	SMA
						Swordfish	SWO	Silky shark	FAL

Source: EWG 24-07

Fleet selection and data limitations

The EU fleet targeting species covered by IOTC, excluding the OMR are entirely a DWF. The EU IOTC fleet includes all fleet segments with reported landings of one or more of the major species or stocks in the IOTC RA in 2022.

Due to the low dependency of some of these fleet segments on these stocks, only a general overview of the activity will be assessed, i.e., the economic performance by fleet segment with low dependency levels will not be considered.

To analyse the EU IOTC DWF, all fleet segments over 18 metres LOA and with 20% or more of their landings in value obtained in 2022 from one or more of the major species or stocks in the IOTC RA are selected.

This method is the same than the one used in the previous AER 2023 containing three aspects: (1) only the major IOTC species and stocks are considered; (2) the vessel length group 18–24 metres is included and (3) high dependency on the IOTC RA in terms of value of landings is set at 20%.

The segments that target IOTC species in Outermost Regions (Reunion and Mayotte) are now analysed in the EU Outermost Regions chapter.

EU IOTC Fleet

According to the EU-MAP IOTC fleet data, four Member States were active in the IOTC Convention region in 2022: Spain, France, Portugal and Italy. The EU fleet active in 2022 consisted of estimated 35 vessels, the same number as in 2021: 21 from Spain, 11 from France, 2 from Portugal and 1 from Italy.

Figure 3.140. Trends on number of vessels and FTE for the EU Atlantic DWF on IOTC species.
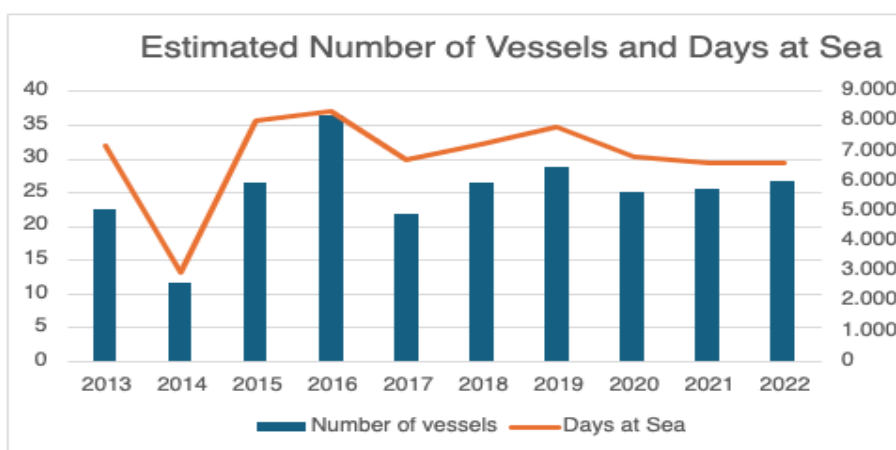
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024))

Profitability has remained at similar levels than 2021. The GVA has been in both years above EUR 210 million, and a gross profit around EUR 120 million, with both variables almost doubling the previous two years 2019 and 2020.

The top species in landings were the tropical tuna species, with skipjack in first place with 130 663 tonnes in weight and EUR 219 million in value, followed by yellowfin (66 269 tonnes and EUR 179 million) and bigeye (19 955 tonnes and EUR 47 million). Regarding sharks, blue shark (2 798 tonnes and EUR 6 million) and shortfin mako (475 tonnes and EUR 1.7 million) are the main species. Landings of swordfish amounted to 2 292 tonnes and EUR 12 million.

It is noticeable to see an upward trend in value of landings from 2020 to 2022 due to increase first sale prices of all species of tropical tuna and swordfish, as indicated in the table below.

Figure 3.141. Trends economic indicators for the EU Atlantic IOTC DWF on IOTC species.
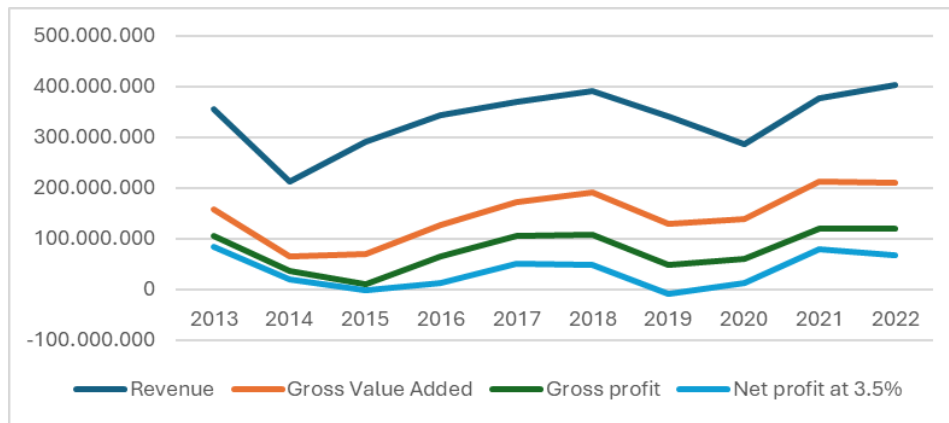
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 3.142. Trends on landings in weight and value by the EU fleet of IOTC major species

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

EU IOTC DWF

For the EU IOTC DWF, four fleet segments over 18 metres, with an estimated 27 vessels, showed high dependency on activity in IOTC in 2022.

The four fleet segments are: Spanish, French and Italian purse seiners above 40 metres LOA; and Portuguese longliners above 40 metres.

Landings for the IOTC DWF amounted to 218 649 tonnes valued at EUR 449.1 million. Thus, the IOTC DWF with high dependency covered 98% of the IOTC fleet's landings in weight and 97% of the landings value in 2022.

Table 3.18. Selected IOTC DWF, 2022

Year	MS	Fleet Segment	Number of vessels	Dependency (% of value of landings)	Landings in weight (thousand tonnes)	Landings in value (EUR)
2022	PRT	PRT OFR HOK40XX IWE	1	39	1 094 811	4 011 781
2022	ITA	ITA OFR PS 40XX IWE	1	38	3 217 693	4 663 535
2022	ESP	ESP OFR PS 40XX NGI	14	68	147 966 907	334 871 672
2022	FRA	FRA OFR PS 40XX IWE *	11	61	66 369 580	105 590 303

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

Results by Member State fleet

FRANCE

The French industrial fleet of Purse Seiners consisted of an estimated 11 vessels out of 20 vessels that conform the segment in 2022 (including 4 vessels registered on the island of Mayotte and clustered with one vessel HOK VL2440).

The overwhelming majority of this fleet is made of freezer tuna seiners operating both in the Indian Ocean or Atlantic Ocean. Around half of the fleet operates in the Indian Ocean, the other half in the Atlantic.

The average age of those 20 active vessels reached 21.3 years old in 2022. The average length reached by the vessels amounts to 78 metres. Average FTE onboard was around 24 employees by vessel in 2022 (fishers employed come from both France and other countries –mostly African).

In 2022, total volumes of landings of tropical seiners amounted around 110 000 tonnes for the vessels of the fleet segment, showing a slightly decreasing trend compared with the previous year.

At global level of the segment, tuna species caught were mainly skipjack (54.3%), yellowfin tuna (37% of the total volumes of landings), and big eye tuna (6.7%). More than 64% of skipjack catches are made in the Indian Ocean. Overall, and taking all species together, the Indian Ocean zone accounts for 60.7% of the volumes caught by the vessels of this fleet segment, while the Atlantic zone accounts for the remainder (39.3%).

In terms of landings, the total weight for this fleet segment in the region reached 66 370 tonnes in 2022, with an estimated value of EUR 106 million. However, the economic performance of this fleet segment showed in 2022 a negative profitability. The entire French tuna purse seiner fleet segment (including activity in the three oceans) showed a gross profit of EUR 7.7 million but a net profit of –EUR 10 million.

According to economic data collected, the three main cost items in 2022 were energy costs, crew wages, and non-variable costs. They represented 35.8%, 30.6% and 17.0% of the total income in 2022, respectively.

ITALY

The Italian trawlers fleet operating in FAO 34 in 2022 is halved in comparison to 2021. It includes 2 active vessels over 40 meters, belonging to the same fishing enterprise, fishing off the Sierra Leon coast. The fleet has a 100% dependency on CECAF activity and mainly targets demersal species.

Economic data have not been reported for the year 2022, for confidentiality reasons.

Because of the resizing of the fleet, between 2021 and 2022, a decrease of 34% is detected in the volume of landings. Despite this, a decrease in the value of landings is detected but less than proportionally (-19%).

Indeed, a consistent increase (+23%) in the average price is registered, almost due to the change in species composition of landings in 2022, with an increase of the share of common octopus on the total (from 19% in 2021 to 30% in 2022) and a parallel increase of its average price (+22%).

PORTUGAL

There was an estimated number of one vessel active in the region out of two, targeting big pelagic species in the Pacific Ocean, in the area regulated by the IOTC RA. This fleet, composed of longliners up to 24 metres. For confidentiality issues it is not possible to detail the activity in this regulatory area. The most representative species are blue shark and swordfish.

SPAIN

The Spanish industrial fishing fleet operating in the IOTC RA is composed of large (over 40 metres) purse seine and longline (24-40 metres) vessels. The purse seiners target tropical tuna stocks, while the surface longliners target swordfish and blue shark. The purse seiner segment has a high dependency (near 70%) on this region in terms of share of landings both in weight (65%) and value (68%). The longliners are less dependent on this agreement to catch its targeted species, with only 10% share of their landings in value.

The Spanish industrial purse seiner fleet has a presence on the Atlantic (ICCAT convention area, mainly west coast of Africa), Indian Ocean, and Pacific Oceans.

This segment is the most important EU fleet in the IOTC RA in terms of landings with an estimate of 148 000 tonnes in weight and EUR 335 million in value. It is composed of an estimate of 14 vessels with over 2 200 fishing days at sea employs 833 FTEs and its main target species consist of skipjack, yellowfin tuna and bigeye tuna. This fleet segment was profitable in 2022 both in gross and net profit terms, representing a significant increase in comparison with previous years.

Drivers and limiting factors affecting the performance of the EU fleet

- The Spanish and French purse seiners above 40 metres LOA show both a high degree of dependency in this area. The Spanish purse seine fleet degree of dependency is above 67% in terms of value of landings looking at the last three years analysed (2020-2022); while the French purse seiners degree of dependency is above 60% for the same period. This confirms that the Indian Ocean is currently the main fishing ground for both fleet segments followed by the Atlantic Ocean, where they have over 20% of their value of landings. There is also one Italian purse seiner above 40 metres consistently showing a 100% dependency in this fishing ground for the last years.

- There is an overall increase in the purse seiner fleet growth and benefits, which can be partly explained due to a higher value of first sale for the main tropical tuna species and swordfish (price per kilo). However, the profitability between the Spanish and the French tuna purse seine

vessels appears to be very uneven. Despite operating under similar conditions and with similar numbers in the region (14 Spanish vessels and 11 French), the Spanish PS vessels land more than double (148 000 tonnes vs 66 400 tonnes) in weight and triple in value (EUR 335 vs EUR 106 million) than the French ones.

- The entire French tuna purse seiner fleet segment (including activity in the three oceans) showed a gross profit of EUR 7.7 million but a net profit of -EUR 10 million. According to economic data collected, the three main cost items in 2022 were energy costs, crew wages, and non-variable costs. They represented 35.8%, 30.6% and 17.0% of the total income in 2022, respectively.

- During COVID-19 in 2020, the EU purse seine companies supported increased operational costs to tackle the health crisis: crews had to be put in quarantine at hotels before going onboard, vessels were put in quarantine at port due to positive COVID-19 cases onboard, increases in expenses for the purchase of individual protection equipment and the chartering of planes to conduct crew changes when passenger flights were disrupted or temporally suspended. This continued in 2021 and 2022, with related increase in variable costs.

- Yellowfin tuna's quota in the Indian Ocean, implemented since 2017, has had an impact on purse seine fishing activity. The EU adopted catch limits assigned to purse seine fleet from Italy, France and Spain. The implementation of the catch limits by each Member State imposed more stringent management to reduce in average 17% of the catch from the period 2014-2016. If it is considered the EU catch for the reference year (2014), the effective reduction by EU flag states differed markedly, with Spain assigned the highest reduction, at 21%, while such reduction was at 4% for the French fleet (Italy had no activity in 2014). In 2019 the Spanish government also implemented a limit on total tropical tuna catch that reduced fishing opportunities for the Spanish fleet since that year, while such arrangement does not exist for other fleets. The IOTC also imposed enhanced reporting and control obligations coupled with a reduction in the ratio of one supply vessels for two purse seiners. This ratio was then revised to two supply vessels for five 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 in recent years caught in higher quantities than in the past. Skipjack has a lower market value then yellowfin and bigeye, resulting in lower profit margins in overall terms.

- Regarding catch data reporting, divergences have been noted between different sources, e.g., the 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.

- Regarding estimate of total catch, including target species and non-target species (by-catch and discards), there are data deficiencies and gaps that need to be addressed. 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 systematically. This ends up in a rough estimation of nominal discards. There is a need to fill this gap to improve knowledge in particular for sensitive species such as turtles or silky sharks.

- Regarding fishing effort, more information is needed in the way it is accounted for and reported for all gears in the IOTC area. Overfishing and IUU fishing by non-EU fleets undermines

conservation and management of tuna stocks and puts in risk the future economic viability of the fishery for the EU fleet, due to the deterioration of the stock and a decrease of quotas due to the lack of level playing field between all concerned CPCs.

- Overall, the reduction of purse seiner's fishing opportunities is already creating negative socio-economic consequences 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.

Outlook for 2023 and beyond

Regulatory framework:

- 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 (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 transhipments at sea.

Summary of outcomes of IOTC Annual Meeting 2023

The 27th annual meeting of the Indian Ocean Tuna Commission (IOTC), that took place from 8 to 12 May 2023 in Mauritius, delivered some important results for sustainable fisheries in the Indian Ocean and concluded in the adoption of nine important conservation and management measures grouped within the following themes:

Sustainable management of tropical tuna species:

- Regarding bigeye tuna, a specific measure was adopted to ensure the sustainable management for this stock introducing clear catch limits for all countries fishing in the area to ensure that the global quota will not be exceeded. Furthermore, special provisions were agreed to enable coastal states to be able to develop their own fisheries. The EU agreed to contribute the most to the catch reduction, reducing EU catches by 18.7% against the 2017-2021 declared catch average.

- Regarding yellowfin, no agreement could be reached.

- Regarding skipjack tuna, there was no agreement on setting catch limits.

Compliance with existing rules:

- A long-standing proposal of the EU was successfully adopted to improve the compliance process of the IOTC. The IOTC finally agreed to amend the rules of the IOTC Compliance Committee, an important step forward to make sure that fishing activities are conducted in accordance with applicable laws, regulations, and conservation measures. Moreover, the

proposal supports IOTC countries to identify the priority areas where compliance is to be improved.

- The IOTC Compliance Committee expressed concern repeatedly with low levels of compliance with the commission's regulations. In response, it has produced several recommendations on how to achieve targets set by IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs). In particular, there were low levels of compliance with Resolution 15/02, covering mandatory statistical reporting requirements, and Resolution 17/05, covering the conservation of sharks caught in association with fisheries managed by IOTC. The committee has recommended that the IOTC should carry out a review of its conservation and management measures alongside subsequent reports that point out the challenges encountered during their implementation.

- Within 2022, the committee proposed, the IOTC Secretariat should also provide an analysis highlighting problems and possible solutions on the implementation of resolution 19/04, which concerns the IOTC's records of vessels authorized within its area of competence, so as to guide CPCs in a possible future review.

- Meanwhile, the committee said that the IOTC should consider making the use of electronic port-state measures (ePSM) applications mandatory. It should also consider endorsing the Working Party on the Implementation of Conservation and Management Measures' recommendations, with the goal of having the system implemented before the next IOTC compliance assessment in 2023, but IOTC members encountering problems with the system will be allowed to continue using a paper system.

Protection of ecosystems

- The IOTC adopted an important measure to protect seabirds and cetaceans from adverse impacts of the tuna fisheries. The measure to protect cetaceans was co-sponsored by the EU. These measures reinforce the "ecosystem approach" taken by the IOTC, that aims to take into consideration the whole ecosystem when managing the fisheries.

Electronic monitoring of catches for a better scientific data collection

- The IOTC adopted a proposal co-sponsored by the EU to adopt minimum electronic monitoring standards (electronic monitoring system – EMS – or Remote Electronic Monitoring – REM). The IOTC is the first RFMO that adopts such standards. This will allow to raise the observer coverage in the future, something that was not possible with the sole use of human observers (half of the catches in IOTC are taken by artisanal vessels).

Fish aggregating devices (FADs)

- The IOTC has not been able to agree on a new resolution for the management of drifting fish aggregating devices (FADs). The EU proposed a new resolution that addressed all the relevant aspects of the FAD fishery, including tackling plastic pollution to limiting the number of FADs. The proposal would have covered all fleets fishing in the region under a single management plan but did not go ahead. The objective was to replace and improve Resolution 23/02, which was adopted in the February special session of IOTC, but to which most of the members fishing on DFADs have formally objected and was not adopted at the Annual Meeting.

- It is expected that more stringent measures on FAD management are likely to be adopted in forthcoming years, which would have a real impact on the ground for purse seine vessels

fishing with DFADs. Some controversy might arise due to the different approaches by some coastal states CPCs with predominance of artisanal pole and line fleets or fishing with anchored FADs versus those IOTC member nations fishing on DFADs including the EU.

Summary of outcomes of IOTC Annual Meeting 2024

The 28th annual meeting of the IOTC took place in Bangkok, Thailand, from 13 to 17 May 2024. There was a record number of 24 proposals, of which seven were introduced by the EU. 11 new conservation and management measures were adopted for the sustainable management of the stock.

After 3 years of complex negotiations, and based on a proposal from the EU, the Members of the IOTC adopted a resolution for the management of drifting fish aggregating devices (FADs). Since 2022, the EU has consistently presented proposals to improve the management of FADs in the Indian Ocean. A FAD is a floating device used to attract tuna and/or other fish to facilitate their capture. A FAD can be drifting and tracked by means of a satellite buoy or anchored to the bottom of the seafloor. Their use depends on the needs of the fleets using them. Purse seine vessels, including those flagged in Member States of the EU, use a majority of drifting FADs in the high seas, while coastal communities tend to use anchored FADs that are located closer to the coastline.

- Based on an EU proposal, the IOTC adopted an ambitious and stringent management framework for drifting FADs which includes:

    - The immediate prohibition of the use of fully non-biodegradable drifting FADs;

    - The gradual phase out of non-biodegradable components in drifting FADs to fully biodegradable FADs in 2030;

    - The reduction of the number of drifting FADs per vessel from 300 in 2024 to 250 FADs in 2026 and 225 in 2028, the lowest limit ever adopted in any RFMO.

    - The introduction of a register of FADs to ensure an improved control of this fishing practice.

- The parties to the IOTC agreed on management procedures for skipjack and for swordfish that will allow for a more informed, automatic and science-based decision-making process in the IOTC. The IOTC is the first tuna RFMO to adopt a management procedure for swordfish, a non-tuna species, and to have management procedures for two out of the three tropical tuna stocks – skipjack and bigeye.

- The proposal from the EU to establish a fisheries temporary closure of 1 month in the Indian Ocean intended to help the recovery of the yellowfin and bigeye stocks, which are currently overfished, was finally not adopted. It would have helped the recovery of the yellowfin and bigeye stocks, which are currently overfished.

Prospects for the Spanish and French purse seine fleets for 2024 and beyond

- The number of Spanish French purse seine fishing vessels in this fleet has remained relatively stable over the years, but the situation is set to change over the next few years, for different reasons including rising fuel and variable costs, TAC reductions and technical measures (e.g. limitation in the number of FADs that can be used) affecting the economic performance of the fleet.

- There are two major problems for the long term-viability of those segments, namely:

The ever-increasing regulations targeted mainly on limiting and reducing the use of drifting FADs with the aim to reduce fishing mortality of overfished yellowfin and bigeye stocks.

This regulatory pressure in practice affects almost exclusively the EU purse seine fleet segment, which represents less than 20% of the total catch for those stocks. The other gears and fleet segments contributing fishing mortality such as non-EU longliners, pole and line, seiners using anchored FADs and driftnets do not have any specific management measures. Furthermore, exemptions have been granted to Small Island Developing States and countries with a limited number of purse seiners, such as Korea, but not to other developing or less developed states. This creates a significant disparity, disadvantaging notably EU fleets and disrupting level playing field.

- Additionally, IOTC continues to reduce the number of supply vessels allowed per flag state. This policy discriminates against shipowners with only one or two purse seiners within the same flag state, as they may lose their supply vessels. Coupled with the prohibition on registering new supply vessels in the IOTC's authorized vessel register this measure also hinders developing states from expanding their fleets. Supply vessels are crucial for the purse seine fishery, as they help manage and recover deployed FADs and reduce fleet fuel consumption, which is a vital factor given the current surge in global fuel prices.

- The IOTC has shown governance deficiencies and failure to implement effective measures to manage adequately fish stocks or enforce proper monitoring, control and surveillance. Other measures proposed to improve transparency and better data for scientific analysis were either rejected or weakened, including proposals to improve data collection and reporting, catch and effort, tropical tuna discard ban, the EU's High Sea Boarding and Inspection Scheme and observer coverage increase.

The above factors combined are threatening the economic viability of the EU purse seine fleet in the Indian Ocean, causing operational constraints, increasing fuel costs and reducing in volume of catch for the main tropical tuna stocks over the last years. This might have a spillover effect on changes in business strategies and effort displacements to other oceans to adapt to this stringent regulatory scenario.

Negative trends in gross and net profit:

Operating profitability of the purse seine segment of the French fishing fleet (in terms of landed value), is negative in 2022, as in the previous year. The deterioration in the macroeconomic conditions has led to a sharp rise in operating costs over the last few years (fuel, logistics, etc.), despite prices have risen. At the same time, the demand for canned tuna has fallen between 2020 and 2022.

The French tropical purse seine fishing segment is going through a period of crisis, and important decisions are being taken by the owners of the vessels concerned: cessation of activity and sale of vessels in particular, observed in 2023 and 2024.

The survival of vessels in this fleet segment (and all jobs on board and ashore affected by this activity) will depend on improved competitiveness in the years ahead. Some good news is that the professional organization representing French frozen tuna producers has been certified to the MSC Fisheries Standard (a set of requirements for sustainable fishing) for Atlantic tuna in 2024, for a period of 5 years, giving fishing companies hope that their catches will be better valued.

3.9.5 CECAF – Fishery Committee for the Eastern Central Atlantic

Background

CECAF is a committee established in 1967 by Resolution 1/48 adopted by the FAO Council. It is an advisory body and has no mandate on fisheries management in its area of competence (Figure 3.143). The Committee covers all living marine resources within its area of competence.

The Committee is composed of Member Nations and Associate Members of the Organization selected by the Director-General of FAO. These members are: Angola, Benin, Cameroon, Cabo Verde, Dem. Rep. of the Congo, Congo, Côte d'Ivoire, Cuba, Equatorial Guinea, European Union, France, Gabon, Gambia, Ghana, Greece, Guinea, Guinea-Bissau, Italy, Japan, Republic of Korea, Liberia, Mauritania, Morocco, Netherlands, Nigeria, Norway, Poland, Romania, Sao Tome and Principe, Senegal, Sierra Leone, Spain, Togo, and the United States of America.

Most of the EU fleet activity in this area falls under the framework of six tuna SFPAs in West Africa (Cape Verde, Ivory Coast, Gabon, Liberia, Sao Tomé e Principe, and Senegal) and three Multi-species SFPAs (Guinea-Bissau, Mauritania and Morocco). 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.

Figure 3.143. Map of the CECAF Area of Competence

Source: FAO http://www.fao.org/figis/geoserver/factsheets/rfbs.html
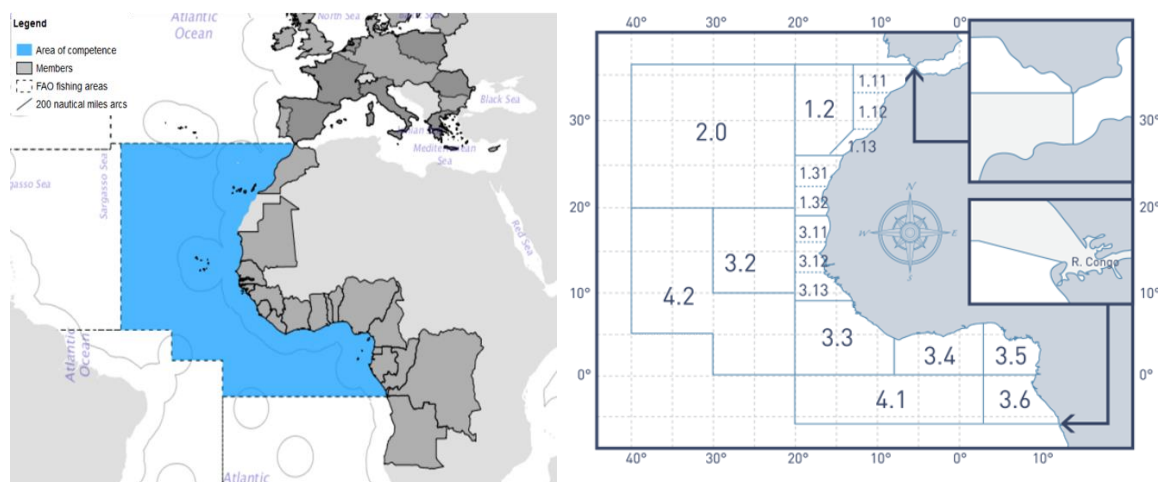
Fleet selection and data comparisons/limitations

A large part of the activity in the CECAF region is related to the tuna fishery, which overlaps with ICCAT. To refine the results and reduce the overlap with the ICCAT analysis, since AER 2022 the following three criteria have to be met: 1. Focus is given to the fleets targeting small pelagic and demersal fisheries in the CECAF region by excluding the ICCAT major species; 2. Vessels over 18 metres LOA are selected to exclude activity of OMR local fleets in national waters, especially considering that Canary Islands were included under OFR until 2017; 3. Those fleet segments which predominantly get their catches from Outermost Regions are now analysed under the EU Outermost Regions chapter.

According to the three criteria above mentioned combined, only four fleet segments are identified with a dependency >20% on CECAF activity for 2022. The estimated number of vessels amount to 40 with an employment of 1 368 FTE. Total landings amounted to 53 414 tonnes valued at

EUR 111 million in 2022. According to the criteria selected, the landings include only demersal and small pelagic species and therefore exclude all the tropical tuna and big pelagics that are within the remit of ICCAT.

The EWG 24-07 reiterates the statement made by EWG 23-07 and EWG 22-06 whereby 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, while it will be difficult to overcome the current data limitations in the short term, disaggregated data can be made available beforehand for experts within the EWGs in the coming years. This will 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 EEZ waters.

In terms of fishing nations, France mainly or exclusively targets tuna and tuna-like species in the area (shown by the absence of CECAF no ICCAT data). Italy and Poland activity is low. Portugal has some activity in CECAF outside its OMRs, while Germany dependency on this area is very low.

Brief description of the EU fleet activity in CECAF

The EU distant water fleet defined here as over 18 metres LOA with some activity in CECAF in 2022 is made up of 16 fleet segments and comprised an estimated 86 vessels from six Members States[13] in 2022: Spain, Portugal, Italy, Lithuania, Portugal and Germany. This represents a decrease of vessels compared to 2021 and the lowest of the 2013-2022 period but it is less sharp in terms of estimated days at sea.

Figure 3.144. Trends on capacity (no. vessels) and effort (days at sea) for the EU DWF active in the CECAF Area of Competence
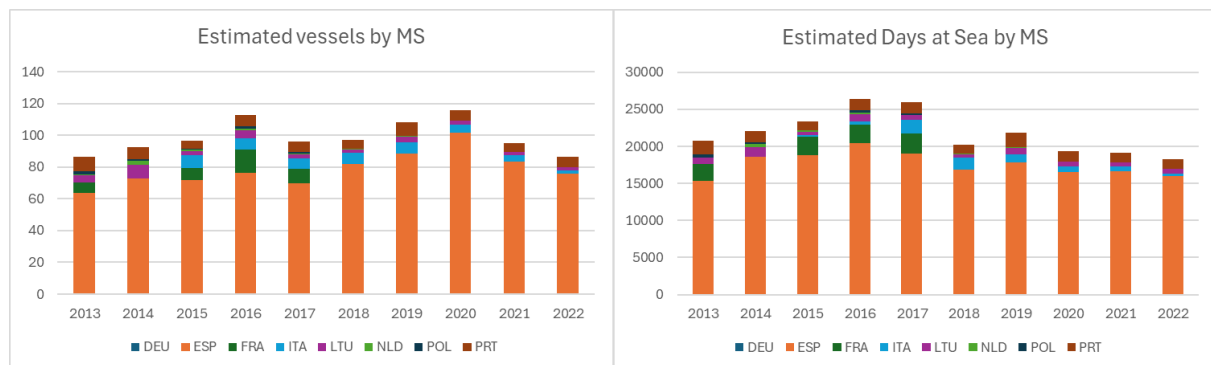
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)).

Historically, the main species landed in value are the tropical tunas (yellowfin, skipjack and bigeye tuna), chub mackerel and Senegalese hake. When excluding the ICCAT major stocks, the top species landed in weight are Atlantic horse mackerel (HOM) with 19 139 tonnes, Atlantic chub mackerel (VMA) with 16 369 tonnes and chub mackerel (MAS) with 6 695 tonnes. Those species were also important in the terms of landed value (EUR 27 903 million, EUR 15 156 million and EUR 5 841 million, respectively). However, it is important to underline the importance of other species targeted through demersal trawling such as Southern pink shrimp (SOP) with EUR 12 697 million, the Benguela hake (HKB) with EUR 10 771 million and deep-water rose shrimp (DPS) with EUR 9 251 million.

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[13] Note: France is not included as the fleet targets only ICCAT species in the area; fleets from Poland, Germany, Latvia and the Netherlands are also not included as only partial DCF data were submitted due to confidentiality issues.

Figure 3.145. Trends on landings in value and weight by EU DWF activity in the CECAF Area of Competence.
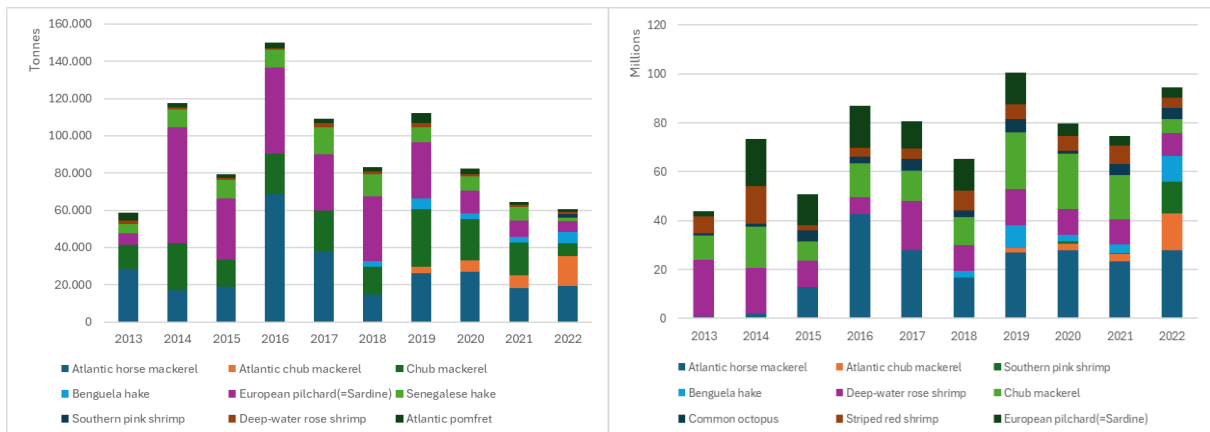
Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A3/AC(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

Brief description of the EU CECAF DWF with a high dependency on the area

The distant water fleet, defined as vessels over 18 metres LOA with high dependency on CECAF excluding ICCAT), included an estimated 40 vessels from three Members States[14] in 2022: Spain, Italy and Lithuania. This is a small decrease with respect of 2019, where there were 48 vessels from the same Member States. Also noteworthy is the disappearance of Portugal from the list of member countries with a high dependence on CECAF in 2022.

These vessels combined landed 53 414 tonnes (54 571 tonnes in 2021 and 61 727 tonnes in 2020) in weight with a value of EUR 111 million (EUR 100 million in 2021 and EUR 107 million in 2020).

The highest number of vessels corresponded to Spain, with 90% of the total (36 vessels including demersal trawlers and longliners), followed by Italy (2 demersal trawlers) and Lithuania (2 pelagic trawlers).

In terms of fleet segmentation, there were four DWF segments targeting non-ICCAT main species in 2022, namely:

- Two Spanish (one demersal trawler and one longline between 24-40 metres each);

- Two Lithuanian pelagic trawlers over 40 metres;

- One Italian demersal trawler over 40 metres.

Amongst these four fleet segments, there were three which had a high degree of dependency on this area, i.e., close to 50% or more of the total share of value of their landings. The lowest dependency was shown by Spanish longliners of 24-40 metres with 20%. The most dependent fleets were the Italian demersal trawlers over 40 metres operating in international waters that operates exclusively on this area. They were followed by the Spanish demersal trawlers 24-40m and the Lithuanian pelagic trawlers over 40m (71% and 37%, respectively).

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[14] Note: France is not included as the fleet targets only ICCAT species in the area; fleets from Poland, Germany, Latvia and the Netherlands are also not included as only partial DCF data were submitted due to confidentiality issues.

Table 3.19. Summary results for the 4 long distance fleets over 18 metres LOA operating in the CECAF area with high dependency on non-ICCAT species (EU-MAP)

CECAF (EU DWF CECAF)	MS	Fleet Segment	Number of vessels	FTE	Revenue (EUR)	GVA (EUR)	Gross Profit (EUR)	Net Profit (EUR)
2022	ESP	ESP OFR DTS2440 NGI	28	1079	47,256,729	-1,462,166	-13,580,803	-15,923,333
2022	ESP	ESP OFR HOK2440 NGI *	8	102	1,768,458	-1,362,753	-1,867,301	-2,461,225
2022	ITA	ITA OFR DTS40XX IWE	2	-	-	-	-	-
2022	LTU	LTU OFR TM 40XX NEU *	2	107	48,291,071	15,213,171	11,430,651	14,253,072

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)). All monetary values have been adjusted for inflation; constant prices (2022).

The Lithuanian pelagic trawlers over 40m landed the most catch in weight with 37 774 tonnes (with a level similar to that of 2021, i.e. 37 848 tonnes), followed by the Spanish demersal trawlers between 24-40m with 13 798 tonnes (a value very similar to the 13 958 tonnes reported in 2021).

The Italian demersal trawlers over 40m have the highest ratio value/weight with 8 744 euro/tonne, representing a substantial increase from 2021, where it was 6 950 euro/tonne. They are followed by the Spanish demersal trawlers 24-40m with 3 941 euro/tonne, an increase from last year (3 420 euro/tonne), and Spanish longliners 24-40m (3 168 euro/tonne). The good performance of these three fleets might be partially explained due to factors such as proximity to the fishing grounds implying low fuel consumption and high energy efficiency. Another factor would be the reduced transport and operational costs as most catch is channelled to local consumption from neighbouring markets (the target species being mainly sold in the Spanish and Portuguese auctions and markets).

Lithuanian pelagic trawlers over 40m present the lowest ratio value/weight with 1 240 euro/tonne which can be explained by the relatively lower price of small pelagic fish compared with demersal species.

Figures below present the main trends of the selection of the fleet segments representing the DWF (over 18 metres with a >=20% landings value dependency on none ICCAT major species).

Figure 3.146. Trends on economic indicators for the EU CEAFC DWF (no ICCAT) with high dependency in the area
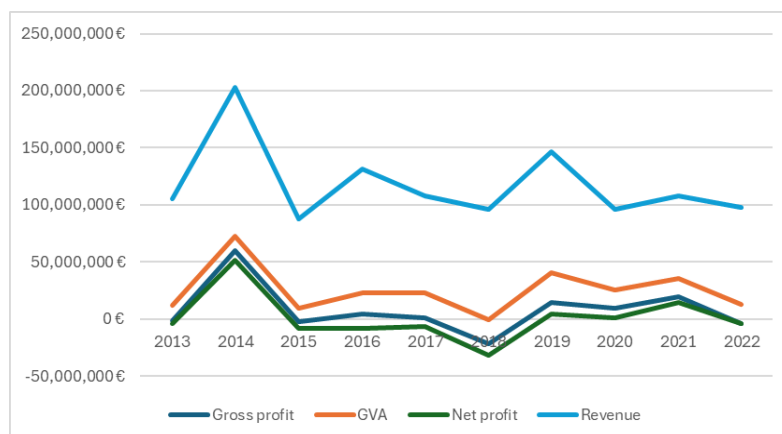

Data source: MS data submissions under the 2024 Fleet Economic data call (MARE/A4/ACS(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Combined, the CECAF DWF with high dependency in the area was not profitable in 2022, worsening its loss-making position to levels similar to those of 2018. This is also translated in the decrease in

fishing presence in terms of number of vessels, in employment (FTEs) as well as total landings in weight and value.

Results by Member State fleet

ITALY

The Italian trawlers fleet operating in FAO 34 in 2022 is halved in comparison to 2021. It includes two active vessels over 40 meters, belonging to the same fishing enterprise, fishing off the Sierra Leon coast. The fleet has a 100% dependency on CECAF activity and mainly targets demersal species.

Economic data have not been reported for the year 2022, for confidentiality reasons.

Because of the resizing of the fleet, between 2021 and 2022, a decrease of 34% is detected in the volume of landings. Despite this, a decrease in the value of landings is detected but less than proportionally (-19%). Indeed, a consistent increase (+23%) in the average price is registered, almost due to the change in species composition of landings in 2022, with an increase of the share of common octopus on the total (from 19% in 2021 to 30% in 2022) and a parallel increase of its average price (+22%).

LITHUANIA

The Lithuanian distant water fleet predominantly operates in the CECAF area but has also reported fishing effort in SPRFMO. Due to confidentiality reasons, economic data for DWF is reported by clustered segment and disaggregated by the estimation methods to the level of fishing area. In 2022, two Lithuanian pelagic trawlers were operating in the CECAF area with the same capacity as in 2021. Compared to 2021 fishing effort in terms of days at sea increased by 3% resulting in 37 774 tonnes of weight of landings in the region. In 2022 estimated value of landings in CECAF decreased by 4% and was 16% lower than 2013-2021 multiannual average.

The main species landed included Atlantic horse mackerel and chub mackerel. Estimated number of employees in the CECAF area decreased by 9% to 107 FTE in 2022. Despite the relatively stable effort and income from landings in the region during the 2021-2022 period, a considerable surge in operating costs had a strong impact on the economic performance. Compared to 2021 GVA decreased by 18% to EUR 15.2 million, whereas gross profit declined by 22% to EUR 11.4 million. The main driver for the decline in profitability was related to the considerable increase of fuel prices in 2022 and inflated other variable costs. For example, a 3% increase in DaS resulted in a 25% surge in other variable costs, related to the fishing effort.

SPAIN

Spanish Hook and line 24-40 segment (ESP OFR HOK 2440 NGI*)

The Spanish hook and line 24-40m segment is a heterogeneous, clustered segment that includes vessels from 18m. It is important to note that some of these vessels did not operate in CECAF waters, being the overall dependency on 34 FAO area 44% in terms of landed weight and 38% in terms of landed value. However, the fleet segment obtains most of its revenue from targeting ICCAT stocks, with the main target in CECAF waters outside ICCAT species being Atlantic pomfret (POA), which constitutes 14% of the weight and 16% of the value of landings.

Spanish Demersal trawler 24-40 segment (ESP OFR DTS 2440 NGI)

The Spanish demersal trawlers between 24-40 metres reported an estimate of 28 active vessels out of the 39 total vessels in the segment. The dependency of the segment in the terms of its activity is stable at 72% of the days at sea and its economic dependency (landed value) has decreased by 21% since 2017, at the same time that increases in FAO area 47.

This segment landed almost 14 000 tonnes in weight for the second year in a row, slowing the descending trend observed since 2019. The value of landings amounted to EUR 54 million in 2022 (2% more than in 2021). Nevertheless, profitability has worsened to the point that the segment shows losses in gross and net profit.

In terms of employment, FTEs has increased as total number of vessels has experienced also an increase. FTE reached its highest point since 2013 with 1079 and the number of jobs also increased to 992.

Spanish longline fleet operating predominately in the Morocco Coastal fishing grounds

Apart from the fleet over 18m, there is a particular segment, the Spanish longline fleet 00-24m. This is a special case as most of the vessels are small-scale and operate mostly in the Morocco Coastal region (FAO area 34.1.1), while some activity occurs in the Mediterranean (GSA 1 and GSA 3) and in FAO area 27.9.a (south coast of Spain).

In 2022, this fleet comprised an estimate of 11 vessels (6 less than 2021), the most of them being vessels under 12 metres in length using hooks.

Landings (in weight and value) are dominated by splendid alfonsino (BYS) and European conger (COE).

The 11 vessels employed 29 FTE and spent 597 DaS to land 76 tonnes with a value of EUR 319 688. The fleet segment was profitable during 2022 but it will disappear in 2023 since those vessels could not access Moroccan waters during part of the year.

Main drivers and factors affecting the performance of the fleet

Overview of SFPAs between the EU and African partner countries

- The EU has currently 13 SFPA protocols with third countries, of which 10 are tuna agreements and three are mixed. The EU has in force bilateral Sustainable Fisheries Partnership Agreements (SFPA) with the following CECAF countries: Cabo Verde, Ivory Coast, Sao Tomé e Principe, Gabon, Senegal, The Gambia, Mauritania. It also has "dormant" agreements with Guinea Equatorial, Liberia and Morocco.

- At present, three out of the four protocols embedded in multi-species agreements with partner countries in the West African region, i.e. Morocco, Senegal (tuna SFPA with hake component) and Guinea Bissau, are either dormant, not operational or have expired so the EU distant water fleet cannot fish there due to the exclusivity clause.

- The Morocco agreement expired in July 2023 and is pending of resolution from the ECJ on the sovereignty dispute between Morocco and Western Sahara (rulings T-344/19 and T-356/19) for part of the waters where there are important fishing grounds where EU fishing vessels have quota. The agreement is currently dormant, and the EU is waiting for the final ruling before deciding how to proceed forward. The agreement which expired in 2023 had a total budget of

EUR 208 million for 4 years which allowed 128 vessels of 10 Members States to fish within the Moroccan EEZ and Western Sahara.

- On May 2024, the SFPA with Cabo Verde expired. The last protocol implementing the agreement entered into force on 20 May 2019 following the expiration of the previous protocol in December 2018.This is part of the tuna network fisheries agreements in West Africa and used to include 69 EU vessels from Spain, Portugal and France with a financial contribution of EUR 550 000 per year in the first two years of application of the protocol and of €EUR 500 000 per year in the last two years.

- On June 2024, the SFPA with Guinea Bissau expired. This is a multi-species agreement covering tuna as well as cephalopods, shrimps, demersal species and small pelagics. The agreement is also part of the tuna network of fisheries agreements in West Africa. Despite the renewal was agreed in May 2024, it is foreseen that it will take 4-6 months to enter into force and complete the necessary legislative procedures for its conclusions including ratification from the EU side. This leads to a stand-by process that has a direct affectation to more than 20 Spanish distant water fleet vessels (mostly from Spain) which were actively fishing under the agreement as well as others from Portugal, Italy, Lithuania, Latvia or Poland. The reason being that they are obliged to interrupt their fishing activities and not fish within the EEZ of Bissau under any interim private arrangement due to the EU exclusivity clause.

- The SFPA with Senegal is currently in limited operation due to bureaucratic problems associated with the implementation of the protocol. Furthermore, this country received in May 2024 the yellow card as non-cooperating country with IUU fishing due to lack of effective monitoring, control and surveillance of their own flagged vessels as well as controls in ports to landings from foreign vessels, undermining fishing products traceability and catch certification schemes. This country has currently 45 EU vessels operating in their waters, of whose 29 are Spanish including longliners, shrimp trawlers and demersal trawlers. A potential red card in the future might mean a trade ban to import in the EU fishing products caught in Senegalese waters by any operators, including EU vessels. There is one specific fleet segment that could be affected as they are highly dependent on this country, the Spanish and French tuna pole and line vessels relying on live bait that is only available in Senegal and supplied by artisanal fleets. The interruption of this agreement could finally affect logistic hubs, as there is currently a regular shipping line for cargo between Dakar and Las Palmas.

- On 1 July 2024, the latest tuna protocol signed with Côte d'Ivoire expired. This fisheries agreement allows EU vessels mainly from Spain, Portugal and France to fish in the Ivorian waters and is part of the tuna network fisheries agreements in West Africa. The protocol covers the period 2018-2024 and provides fishing opportunities for 36 European vessels (28 tuna seiners and 8 surface longliners) with a financial contribution of EUR 1.5 million euros (682 000 per year) for a reference tonnage of 5 500 tonnes per year and support for the development of Côte d'Ivoire's sectoral fisheries policy.

State of play of scientific assessments and advice in CECAF

- During the last few years there have been several CECAF actions aimed at assessing and implementing agreements, and to improve knowledge about the state of the stocks which are of key commercial interest for fisheries. On June 2022, the CECAF Secretariat organized an Intersessional Meeting in Dakar, Senegal. The purpose of the Intersessional Meeting was to review an independent study on the CECAF Cost-Benefit Assessment (CBA) with the objective of identifying options to improve the functioning of CECAF. Fourteen delegates representing CECAF

member countries and the CECAF Secretariat met at the Intersessional Meeting to (i) discuss the revised independent study report; (ii) examine the details and implications of different options presented to the delegates; and (iii) prepare the results of the Intersessional Meeting discussions and recommendations to be presented to CECAF.

- The CECAF Working Group for the Assessment of Small Pelagic Fish off Northwest Africa has met annually to update stock assessments and advice on the management of key small pelagic species and stocks in the region. Three meetings have been held between 2019 and 2023 since the last meeting of the scientific subcommittee in 2018. This group did not meet in 2020 due to the COVID-19 pandemic.

- The following species were analyzed and evaluated by this group: sardine (*Sardina pilchardus*), sardinella (*sardinella aurita* and *Sardinella maderensis)*, horse mackerel (T*rachurus trecae, Trachurus trachurus* and *Caranx rhonchus, Trachurus spp.*), mackerel (*Scomber colias*), bonga (*Ethmalosa fimbriata*) and anchovy (*Engraulis encrasicolus*) in the region between the southern border of Senegal and the northern Atlantic border of Morocco, including the Canary Islands.

- The annual reports of this Group present the principal trends in catches of the main pelagic fishes, recent changes in the fisheries, data quality issues related to sampling, an update on the results of the assessment of small pelagic species and stocks, and the management recommendations of the 2022 Working Group. Among the 10 stocks assessed, five are overfished (round sardine, flat sardine, horse mackerel and bonga), three stocks are fully exploited (horse mackerel, horse mackerel and anchovy) and the two sardine stocks (Sardina pilchardus) are not fully exploited.

- The last meeting was CECAF Small Pelagic South Working Group organized a meeting in November 2023 in Lome (Togo) in order to refresh pelagic fishery data, evaluate stocks status and set recommendations for stock management.

- There is also a CECAF Demersal Species Sub-Group North Working Group which meets occasionally, the last one in June 2024 in Agadir (Morocco) to review demersal species capture data, assess fish stocks, and set stock management recommendations. The participating MS of this Group are Morocco, Spain (Canary Islands), Mauritania, Senegal, Cabo Verde and The Gambia.

Outlook for 2023 and beyond

- The EU is one of the international actors that has signed the most agreements with CECAF countries. EU SFPAs currently in force in the second half of 2024 with Mauritania, Senegal, The Gambia, Gabon, Guinea-Bissau, Sao Tome and Principe.

- The consequences of the temporary or permanent interruption of the activity by EU distant water fleets in the EEZs of third African countries due to stand-by situation between the renewal of agreements, dormant agreements or denunciation of some, can be twofold:

  - 1. A majority of the affected vessels will move to Mauritania, and this will have a short-term increasing interdependency with this SFPA in terms of utilisation of the fishing possibilities, given the lack of alternative of fishing grounds for several demersal, shrimp and small pelagic freezer trawlers. Another alternative fishing grounds for this fleet are Angola (where there is no public agreement, but they operate under direct authorisations or private agreements), Conakry (depending on the biological report on the state of stocks) or Eastern African countries.

- 2. Some fleets segments which are highly dependent to certain fishing grounds with no alternatives (e.g. hook and pole and line vessels in Senegal or shrimp trawlers in West Africa) will have to tie-up and cease their activity until the SFPA comes into force, given their high dependency on this ground.

3.9.6 NEAFC – The North East Atlantic Fisheries Commission

Background

The North East Atlantic Fisheries Commission (NEAFC) is the Regional Fisheries Management Organisation for the North East Atlantic. It is responsible for managing fisheries in the high seas portion of one of the most abundant fishing areas in the world. The objective of the NEAFC Convention is "*to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits*". The Convention highlights the need to safeguard the marine ecosystems in which the resources occur, and to encourage international cooperation and consultation with respect to these resources.

NEAFC is comprised of six Contracting Parties, namely: Denmark (in respect of the Faroe Islands & Greenland), European Union, Iceland, Norway, the Russian Federation and United Kingdom (since 2020), which have signed up to the Convention on Multilateral Cooperation in North East Atlantic Fisheries, which entered into force in November 1982. They also have three cooperating non-contracting parties, namely Bahamas, Canada and Panama.

The area covered by the NEAFC Convention stretches from the southern tip of Greenland (42° W), south to Spain (36° N) and west to the western tip of Russia at Novya Semlya (51° E). The Convention area does not include the Mediterranean Sea and the Baltic Sea (Figure 3.147). NEAFC's objective is to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits. To this end, NEAFC adopts conservation and management measures for various fish stocks and control measures to ensure that they are properly implemented. NEAFC also adopts measures to protect other parts of the marine ecosystem, in cooperation with OSPAR, from potential negative impacts of fisheries. All these objectives are channelled through the implementation of the NEAFC Scheme of Control and Enforcement (NEAFC Scheme) and NEAFC Recommendations.

Figure 3.147. Map of the NEAFC area of competence
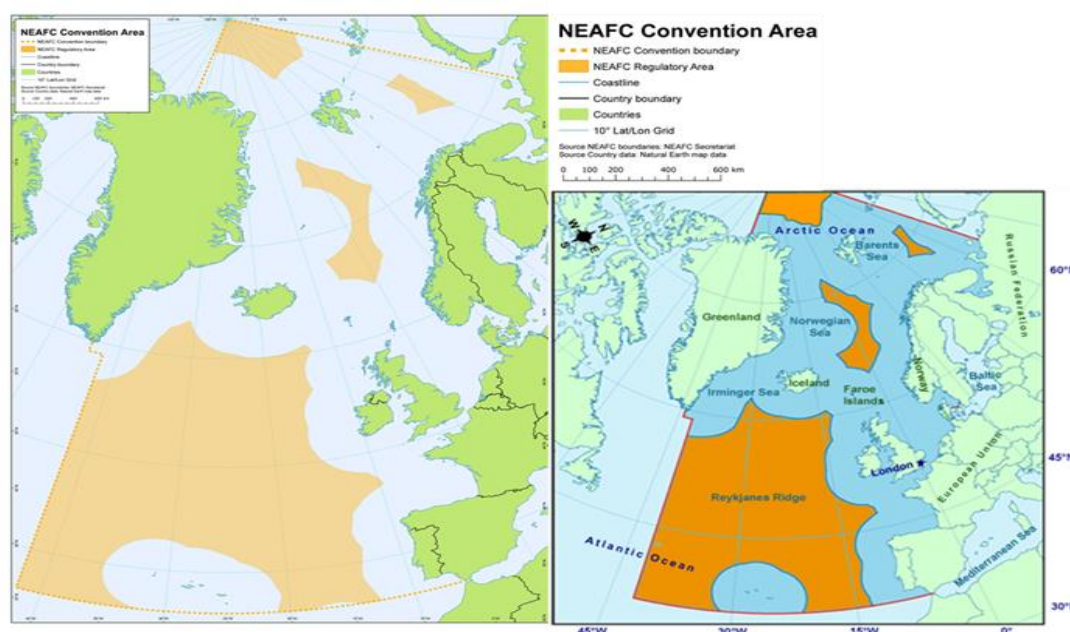
The institutional framework for EU member countries is completed with the Joint Deployment Plan (JDP). This implements both the NEAFC guidelines as well as the EU conservation and control measures applicable to EU fishing vessels in the NEAFC RA, in accordance with Article 17 of Regulation (EU) No. 1236/2010. The NEAFC JDP has been applicable since 2009 and involves Cyprus, Denmark, Estonia, France, Germany, Ireland, Latvia, Lithuania, the Netherlands, Poland, Portugal, Spain and Sweden.

According to the reported species to NEAFC, the main fisheries for this area are:

- Pelagic fisheries: Mackerel, Blue withing, Herring (Norwegian Spring – Spawning Atlanto-Scandian).

- Demersal fisheries: Redfish (both oceanic and pelagic deep-sea), haddock.

- Deep-sea fisheries: Greenland halibut, Ling and Tusk.

Total catches reported in the North East Atlantic Regulatory Area (FAO Area 27) are approximately 10.5 million tonnes as of 2022[15]. The four top main fisheries regulated in the NEAFC Regulatory Area amount to a level of catches of approximately 3.3 million tonnes, which represent 31% of the total catch.

Fleet selection and data limitations

All fleet segments over 18 metres with a high dependency on stocks in the (1) NEAFC CA and (2) NEAFC RA, excluding ICCAT major species.

The main difficulty in providing an accurate assessment of the performance of the EU fleet active in the NEAFC RA is the granularity of the spatial (transversal) data. In the fleet economic data call, effort and landings data are called for at FAO fishing area level 3 (Division) in the North Atlantic, and at level 4 (Sub-division) for the Baltic Sea. Thus, it is currently impossible with the level of data to limit the analysis to fleet activity only within the NEAFC regulatory areas.

Main drivers and factors affecting the performance of the fleet

- The regional and international contexts have evolved considerably since the NEAFC Convention was amended for the last time in 2006 (and entered into force in 2013).

- At regional level, the entry into force of the Withdrawal Agreement of the United Kingdom from the EU in February 2020 created a new situation for fisheries management in the North-East Atlantic (NEA), with changes in the balance of powers and in the relative positioning of Coastal States and fishing nations. The weight of the EU is relatively lower and shifts in fisheries governance have occurred due to bilateral and trilateral negotiations with third countries including Norway, United Kingdom or Faroe.

- At global level, international treaties were recently adopted, like the UN "BBNJ agreement" in 2023, and the new Global Biodiversity Framework under the Convention on Biological Diversity (CBD), providing a clear pathway to countries and Regional Fisheries Management Organisations (RFMOs) to establish meaningful protections for biodiversity in the high seas. These developments with active NEAFC Contracting Parties´participation can open avenues for cross-

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[15] https://www.neafc.org/catch.

sectoral engagement and NEAFC has an important role to play in implementing these decisions for the NEA region.

- Effects of climate change and global warming of waters is already producing shifts of migratory patterns of key commercial stocks to the north and east. This is turning into unilateral increase of fishing opportunities for those coastal states in where these stocks fall within their EEZ waters. This creates frictions on shared stocks with non-EU countries because of divergence in the allocation of historical fishing rights.

- Unilateral decisions in the management of joint and shared stocks from coastal states can undermine the conservation and sustainability efforts and objectives at regional level.

- Political instability can lead to market sanctions and other unintended actions between coastal states (blocking access to ports, charging landing and operational fees…)

- NEAFC has implemented several restrictive measures. In this regard, the closure of areas to fishing for the protection of vulnerable marine ecosystems (VMEs) is increasingly significant over time. The closures in the Mid-Atlantic and Hatton and Rockall areas are two examples extended for this purpose, both extended until 2027.

- The protection of certain stocks also determines the closure of fishing areas, as in the case of haddock (closure on Rockall Haddock Box), redfishes (closure of Irminger Sea) or blue ling, and even the prohibition of fishing certain species of elasmobranchs.

Figure 3.148. Map of NEAFC Regulatory Area VME Closures and Existing Fishing Areas
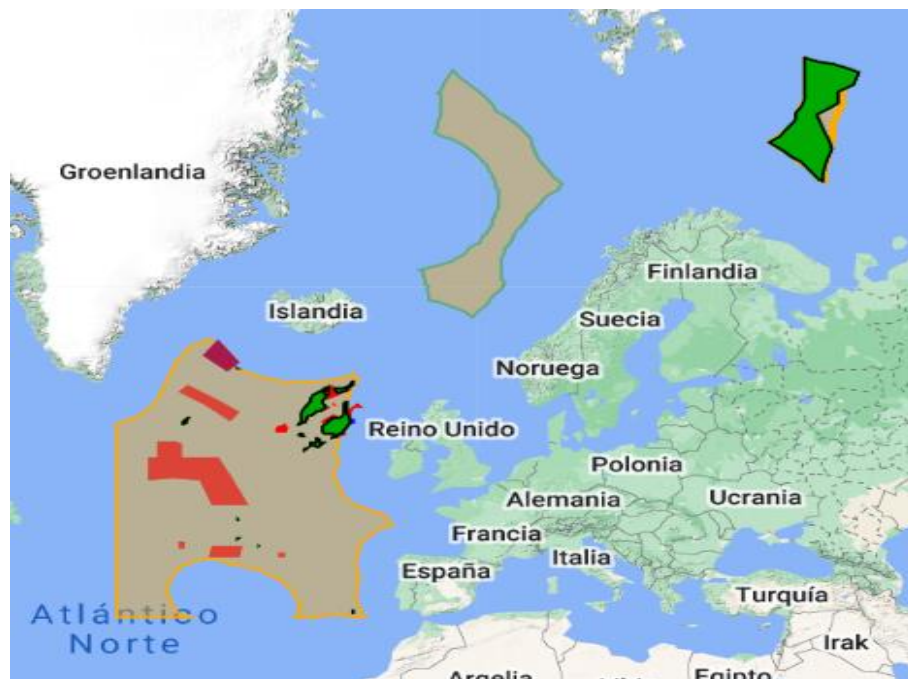
Data source: NEAFC (2024).

Outlook for 2023 and beyond

- Regarding regulatory changes, in 2022 and 2023, adjustments were made to the NEAFC Control and Enforcement Regime. This is a relevant change in the management of the organization, as fishing vessels must comply with both the applicable management measures and the NEAFC

Scheme of Control and Enforcement when fishing in the NEAFC Regulatory Area. Failure to do so may be considered illegal, unreported and unregulated (IUU) fishing.

- The 42nd Annual Meeting, held in London on 14-17 November 2023, concluded with several new resolutions, including the following:

  - 22 species, including cod, common sole, and plaice, will be added to the list of species for which discarding catches is prohibited.

  - Regarding Vulnerable Marine Ecosystems (VMEs), the regulation extends the ban on bottom fishing in certain areas until the end of 2027. One example is the rollover of Rockall Haddock Box closure, designed to protect juvenile haddock in the area.

  - Reinforced and comprehensive control measures will be implemented for mackerel, horse mackerel, blue whiting and Atlanto-Scandian herring fisheries in the NEAFC RA for 2024. These measures, stemming from Coastal State consultations, aim to prevent non-Coastal States or fishing parties from exploiting these stocks. One of the measures adopted requires the use of camera and sensor technology for monitoring at landing and processing facilities if landings exceed 10 tonnes and if more than 3 000 tonnes of those pelagic species are weighed per year.

  - Regarding stock-specific management measures, the meeting resulted in the adoption of a prohibition on directed fisheries for basking sharks, porbeagle, deep-sea rays, deep-sea sharks and chimaera species for 2024-2027.

  - There was also a proposal adopted by NEAFC Parties addressing climate change, outlining high-level aspirations and principles to better understand the impacts of climate change on NEAFC-regulated stocks and the marine environment.

  - Recognising the significant challenges posed by climate change to ocean environments and ecosystems, NEAFC committed to addressing the issue through its management and science processes. The organisation aims to reduce the environmental impacts of NEAFC meetings while navigating the complex landscape of regional fisheries management in the face of climate change.

  - Regarding Other Effective Conservation Measures (OECM), a proposal was adopted, recognizing current closed areas as OECMs. This includes an International Council for Exploration of the Sea (ICES) request for advice on the biodiversity/ecosystem benefits of areas restricted to bottom fishing in the NEAFC Regulatory Area.

  - NEAFC showcased its commitment to effective monitoring, control, and enforcement by setting a launch date of January 15th, 2024, for its modernised electronic reporting system. This system provides detailed information on fishing gear and haul-by-haul fishing activity. The online interface aids national inspectors and the NEAFC secretariat in instantly accessing vessel activity data in high seas, facilitating enforcement and enhancing scientific advice on ecosystem-based fisheries management and biodiversity protection.

- In 2024, there were 2 374 authorized vessels, with over 800 from the EU. The Irish fleet holds nearly half of the EU authorizations, followed by Spain, which accounts for nearly a quarter. Among third-party countries, Russia, Norway, and the Bahamas are the predominant fleets in the region (24%, 16% and 14%, respectively).

- In practical terms, the EU distant water fleet targeting small pelagic, demersal and deep-sea species are facing an increasing number of cross-sectoral, environmental and fisheries legislation together with enhanced monitoring, control and enforcement and the challenge of decreasing fishing opportunities as a result of geopolitical changes and climate changes. This will likely exacerbate conflicting interest with neighbouring countries at Coastal States negotiations. This might have negative consequences in terms of access to the fishing grounds and quota availability in fishing grounds of high socio-economic and historical interest for the EU fleet.

- Fisheries negotiations between the EU and non-EU coastal states are often directly and consequently linked with the wider negotiations on trade and market access. The EU is globally the largest and most attractive import seafood market, and this could be used as a tool to prevent and deter coastal states from breaching any international commitments or agreements.

4   EU National Chapters

4.1   Belgium

4.1.1   Short description of the national fleet

In 2022, there were 65 vessels registered in the Belgian national fleet with a capacity of 13 698 GT or 44 789 kW; 60 (92%) of these vessels were active. This value represents an 8% decrease in number of active vessels in 2021 and is a 12% decrease when considering the overall time series. In 2023 there were even fewer active vessels with 57 active vessels in the Belgian fleet.

Fleet structure

The Belgian fleet is small and mainly composed of demersal and beam trawlers. Only a few other fishing gears are used (seiners, dredges, pots, 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). In previous years Belgium reported on a PMP segment consistent of minimum three vessels using mixed passive and active gears, and guaranteed GDPR. This segment is not reported on in 2022 due to GDPR-protection of sensitive data. Belgium does not have vessels of more than 40 metres.

Fishing activity and production

Belgian vessels operate mainly in the North Sea, English Channel, Bristol Channel and other areas of the North Atlantic. In 2022, a total of 12 780 days were spent at sea; 2% more than in 2021, and 8% less than the average 2008-2021. A clear decreasing effort trend can be observed from 2008 onwards. Although this reducing trend appears to be stabilising in recent years.

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 a decreasing trend before 2016 but does after 2016.

In 2022, just over 18 300 tonnes of seafood were landed by the fleet, with a value of EUR 96.2 million, a 16% increase in landings compared to last year, representing a stable value of landing compared to previous years. The fleet mainly targets demersal species. Sole remained the dominant species, generating the highest landed value (EUR 42.1 million) and representing about 44% of the total landings value. In terms of weight, European plaice was the top landed species in recent years and still retains a high value (2 420 tonnes or 13% of the total landed weight). Remarkably, in 2022, 1 000 tonnes less of European place was caught but still generated a similar landed value and second highest landed value (EUR 7.4 million, 13.9% of the total). However, in 2022 more sole was caught (2 542 tonnes or 13% of the total landed weight) compared to European plaice. Values for caught sole remained similar for sole compared to 2021, however due to strong fish prices the value of sole went up by EUR 6.45 million, an increase of 15%.

The Bristol channel (FAO area 27.7.f) and the Celtic Sea (27.7.g,h,j) was the most important area in terms of total landed value (together 27.6%), followed by the North Sea (27.4) with 26%, the Eastern Channel (27.7.d) with 23%, the Irish Sea (27.7.a) (11%), the Western Channel (27.7.e) (6%) and the Bay of Biscay (27.8) (5%). The share of the North Sea remained similar, while the combined share of Bristol Channel and Celtic Sea increased compared to 2021 even becoming greater than the North Sea share.

Employment and average salaries

Total number of crew on board was estimated at 289 in 2022, without considering rotation, corresponding to a total employment of 223 FTEs. The segment with the highest employment was TBB VL2440 (64% of the national fleet) with an average of 5.0 FTE per vessel. In the DTS VL2440 segment there were 3.4 FTE per vessel, while in TBB VL1824 this slightly increased from 1.6 FTE per vessel in 2021 to 1.7 FTE per vessel in 2022. These FTE values have been on the rise since before 2018 although the FTE for the TBB VL2440 dropped for the first time.

4.1.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Belgian fishing fleet that was active in the year 2022.

National fleet performance

The economic performance of the overall fleet has been decreasing in the last couple of years. After years of being in a loss-making position, net profit was positive between 2015 and 2020. Indeed, the net profit has been decreasing over the years and has become negative in 2020, a trend that is worsening in 2022. In 2022 two of the three fleet segments had negative profitability (i.e., TBB 24m-40m and DTS 24m-40m), with only the TBB VL1824 segment being profitable. It has to be noted that the TBB VL2440 segment returned a negative net profit.

GVA, gross profit and net profit in 2022 were estimated at EUR 40.1 million, EUR 5 million and – EUR 8.9 million, respectively. Considering the entire time series, these values represented a decrease of 18% for GVA, a decrease of 66% for gross profit and 445% for net profit. Compared to 2021, GVA decreased by 2%, gross profit and net profit decreased by 43% and by 79%, respectively. These results indicate an overall reduced economic situation, and the data of 2022 continues a decreasing trend since 2016.

Compared to 2021, in 2022 total income (no income from fishing rights) increased by almost 12% to EUR 101 million. Revenue increased considerably in 2022 compared to 2021 increase of over EUR 13 million to EUR 99.5 million in 2022, as income from landings increase by 13.7%. Direct income subsidies decreased by 43% compared to 2021 and increased by 5% compared to the average of all other years. This relevant decrease in 2022 is explained by subsidies that were given for building new vessels with innovative new technologies for fishing in and with new low emission engine units in 2021. These large subsidies were no longer available in 2022 as vessel owners are starting to receive the new vessels.

Total variable costs – excluding unpaid labour- increased when comparing 2021 to 2022 (16%). Energy costs increased by 69% and decreased by 38% compared to the average since 2013 (EUR 28.7 million). Personnel costs increased by 9%, and repair and maintenance costs decreased by 11%. Energy and crew costs represent the largest costs (53% in 2020 as in 2019). Although, the share of energy costs has been decreasing each year since 2014, in 2021 the share of energy costs increased again and even more so in 2022, jumping from 19% in 2021 to 27% in 2022. However, labour costs have always remained stable over these years, with a small decrease in 2022.

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 increased by 16% in 2022. Personnel costs increased again in 2022 compared to 2021, contrary to a decrease of 4% in number of total FTE. Caution must be used when translating this into what the crew earned. However, due to indexations

in 2022 the minimum wage cost may have increased compared to previous years, explaining a higher personnel cost but lower FTE. Pay related social insurance taxes are not taken into account. Personnel costs represented 30% of the value of landings in 2022, a decrease of about 3% on average over the years since 2014.

The value of physical capital of the Belgian fleet was estimated at almost EUR 75 million. The average age of the vessels is high but decreased by 2 years as a few newly built vessels entered the fleet. Still, newly built, or younger vessels rarely enter the fleet to replace older ones. Investments decreased by 8% in 2022. They had been steeply increasing in 2016 and 2017 and decreased again in 2018. However, they remained high in recent years when compared to previous years (before 2016).

Resource productivity and efficiency indicators

The gross profit margin in 2021 was 5%, which is almost as low as 2013. This may indicate a reduced operating efficiency of the sector compared to previous years but is more likely the effect of geopolitical changes and challenges that occur in relation to higher personnel and fuel costs. Net profit margin was estimated at almost −8.9% in 2022, which is again almost at the level of 2013. Together with net profit (fixed indexation) as shown above, these the negative values in recent years show that the Belgian fleet is suffering economically and potentially do not have a positive outlook for the future. It remains to be seen if indeed this negative trend will continue in coming years, or the fleet can recover to positive net profits.

Return of fixed tangible assets (RoFTA) also highly increased in 2015 (13%) and 2016 (52%) compared to earlier years. In 2017 RoFTA was not as high as in 2016, however, still higher than in all other years (22%). In 2018, it decreased to 8% and to 5% in 2019. In 2020 RoFTA increased again to 14% closer to the RoFTA of 2012, while in 2021 the RoFTA decreased by 3% and even further to 8% in 2022.

Landings per unit of fishing effort (kg per day at sea) have followed an increasing trend until 2016, but now appears to be decreasing continuously. This trend continued until 2021, with a carful start of an increasing trend in 2022.

Energy consumption per landed tonne has followed an overall decreasing trend since 2008, with the lowest estimated value in 2016 of 1 393 litres per landed tonne. During a 5-year time period (2013-2017) energy consumption stagnated around 1 500 litres, increasing to 1 600 litres in 2018 and even 1 760 litres per landed tonne in 2019. The increasing litres per landed tonne trend continued in 2020 and 2021 with respective values of 1 800 and 2 004 litres per landed tonne. In 2020, the total amount of energy consumed by the fleet decreased by 3% compared to 2019 and decreased another 2% in 2021 and 4% in 2022. Yet, landings in 2022 increased by 3% underlining that due to high fuel prices efficient fishing is an aim of fishers.

In general, efforts have been made since the 2008 fuel crisis to use more fuel-efficient engines, include fuel monitoring systems, and more efficient fishing techniques, including lighter gears. 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.

The three most important segments in the Belgian fleet are all fairly fuel intensive. The energy efficiency was lowest (26%) for both the demersal trawler/seiner fleet (VL1824) which includes 15

vessels and the smaller beam trawler fleet (VL1824) including 17 vessels. The energy efficiency was highest (31.4%) for the beam trawl segment (VL2440) which includes 18 vessels. The large beam trawl segment (VL2440) including 28. Even though the demersal trawler segment had the lowest energy efficiency, it presented with the highest energy intensity (1 495 L/landed tonne), while the large beam trawl segment had the lowest energy intensity (2 042 L/landed tonne). Considering the fuel price break-even results for these fleet segments in 2022, the short-term break-even values are much higher compared to the long-term break even values due to the high values of consumption of mixed capital for each of these fleet segments, therefore reducing the operation profit value used to calculate these values.

Labour productivity (GVA/FTE) also increased significantly over the years, peaking in 2016 and still remaining high in the following years with a somewhat reduced values in more recent years. 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. In recent years (from 2016 onwards) a decreasing trend of labour productivity has been noted. This decrease appears to lessen from 2018. A possible turning point was reached in 2021 where for the first time since 2013 the energy cost per landed tonne is higher compared to the landed weight per sea day. It remains to be seen if this trend, where more energy per unit of landed weight is spent compared to the effort that went into catching that weight, continues in the future years.

Table 4.1. Belgium. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2021.

Fleet segment	Fuel Price	Short-term Break-even fuel price (€)	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
BEL NAO TBB2440 NGI	0.83	0.92	0.59	31.4%	2 042
BEL NAO DTS2440 NGI *	0.82	1.07	0.73	26.4%	1 495
BEL NAO TBB1824 NGI *	0.91	1.33	1.08	26.2%	1 514
National average	0.84	0.99	0.66	29.8%	1 865

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.1.3 Performance by fishing activity

Small-scale coastal fleet

In 2014, there was only one active fishing vessel under 12 metres 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 definition used in this report (vessel under 12 metres using passive gears). Currently, this vessel is no longer active.

Large-scale coastal fleet

As the Belgian fleet only used to have a single vessel under 12 metres, the Belgian fleet can be considered a large-scale coastal fleet. The overall performance of this fleet has thus been

discussed in above sections, while the specific fleet segments are discussed in the following sections. More detailed information is given in the following sections.

4.1.4 Performance of selected fleet segments

The Belgian fleet is dominated by trawlers (beam, shrimp and otter). In 2022, in contrast to 2021, the larger beam trawlers (TBB VL2440) appear to perform worse than the smaller ones (TBB VL1824) in terms of GVA to revenue and profit margins. The demersal trawlers (DTS VL2440) also have lower profits than the smaller beam trawlers even though these segments have a similar number of vessels. Their profit margins were higher in 2017 and 2018, running a loss in 2019 and remained stable in 2020 compared in to 2019. In 2021 and 2022 these vessels are again running a loss. Noticeably in 2022 is that the small beam trawlers (TBB VL1824) have positive net profit margins and have an improved economic developmental trend over the time series.

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 24-40 metres

There were 28 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 2022, the value of landings amounted to almost EUR 67 million, representing 69% of total landed value (decreased share compared to 2021). The vessels in this fleet segment target a variety of species, particularly common sole (37% total value of landings), European plaice (6%) and anglerfish (5.5%).

This fleet segment reported a positive gross profit of EUR 2.2 million but a negative net profit (fixed index) of almost -EUR 8 million in 2022, a decrease of 70% and 187% compared to 2021. Average crew wage per FTE was highest in this fleet segment. Labour productivity was also relatively high compared to other fleet segments. The profitability of this fleet segment was esteemed weak in 2018 and 2019, while it was reasonable both in 2016 and 2017. This fleet segment regained a reasonable profitability in 2020 but falls again into a weak profitability in 2021 and 2022. The gross and net profit margin were 3% and -11%, respectively.

Energy consumed per landed tonne has decreased mildly compared to the value in 2021 (~2 100 to 2 042 litre/tonne), a value coming close to values seen in 2010 where notably more active vessels were still present in the fleet.

Beam trawl 18-24 metres

There were 17 active vessels operating predominantly in the North Sea, Eastern and Western English Channel, employing a little over 13% of total FTE. Value of landings amounted to EUR 10.8 million, about 11% of total national landings (a small increase compared to 2021). These vessels target a variety of species including common shrimp (5.8% of total value of landings), common sole (3.1%) and European plaice (~0.5%).

Gross profit increased markedly in 2022 compared to 2021 (EUR 1.3 million) and thus a positive net profit (fixed indexation) of about EUR 0.25 million was generated. This is a fairly large increase compared to 2021. GVA was EUR 5.2 million (~13%). While the profitability of this fleet segment was reasonable in 2016, it was esteemed weak in 2017, reasonable in 2018 and weak again in 2019. The profitability remained weak in 2020, 2021 and 2022, but the economic development trend looks positive. The gross and net profit margins were 12% and 2%, respectively in 2022, a clearly a better result compared to 2021.

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. Still, this fleet segment has performed the best compared to the other fleet segments in 2022.

Demersal trawlers

This segment operates predominantly in the North Sea (27.4) and Eastern Channel (27.7d) and employed 23% of total FTE. Value of landings amounted to EUR 18.5 million (19% of totals; an increase compared to 2021). Targeted species include Norway lobster (4% of value of landings), European plaice (2%) and common sole (3%).

Profitability in 2022 was weak with a negative net profit of –EUR 1.2 million. Rather more negative compared to 2021. The gross and net profit margin were 8% and –6%, respectively. Energy consumed per landed tonne was lowest for this fleet segment (1 495 litres/tonne). This fleet segment seems to have performed the best both in 2016 and 2017, but this was not the case in the 2018–2020 period. For 2021, this fleet segment seems to have deteriorated the most compared to the beam trawler segments, a trend that continues in 2022 with further deterioration of this fleet segment.

4.1.5 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 and numbers between 2015 and 2017 were positive. In 2018 numbers were still positive, however profitability decreased, a trend that continued in 2019. The year 2020 appeared to represent a first year of profit growth after 3 years of profit decline. In 2021 the profit of the fleet was again lower and more comparable to 2019. In 2022 the profit further decreased especially in the DTS and large TBB fleet segments.

Despite higher average fish prices in 2018, the total value of landings was lower and fuel costs were higher. The value of landings in 2019 was the lowest record since 2014 with the same number of vessels and even lower in 2020. Positively, the value of landings has increased again in 2021 even though the weight of landings has been the lowest since 2013. In 2022 the weight of landings was even lower compared to 2021, however the value of landings has been significantly higher compared to previous years, with the 2022 value being closer to the value of landings in 2018.

Events such as the full implementation of the LO, loss of fishing grounds due to Brexit, heavily fluctuating fuel prices due to the Russian/Ukraine crisis and more volatile fish prices due to volatile market demands make for a less optimistic forecast in the years to come. Contrary to factors that

negatively impact the economic performance of the fleet, high fish prices in 2022 appear to have ameliorated the factors that negatively impact the performance of the fleet.

Markets and Trade (including fish price)

The average landed prices of sole decreased in 2017 but increased again in 2018. In 2019, the highest yearly average of the time series was reached: 12.1 euro/kg. This value dropped a small amount in 2020 but regained the high 12.1 euro/kg price in 2021. In 2022 the average fish price for sole was at an all-time high of 17.4 euro/kg. The value of landings for sole remained virtually the same compared to 2020 (~44% of the total value of landings).

Plaice prices have been increasing since 2013 and reached the highest yearly average in 2018: 2.5 euro/kg. This in part accounts for the profitability of TBB VL2440 and TBB VL1824. It slightly decreased in 2019 to 2.4 euro/kg and again in 2020 to 2.2 euro/kg but regained the 2.4 euro/kg price in 2021. Also, for plaice the fish price went to an all-time high of 3.1 euro/kg. Both value of landings and landed weight were lower in 2019 and 2020, a trend that become stronger in 2021 and continued in 2022.

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. In 2019, the prices were slightly lower than in 2018 and this fleet segment was not profitable. In 2020, the average landed price for common shrimp increased again (by 20%), 7% in 2021, and a significant 54% in 2022. Also, the landed weight was doubled in 2022, resulting in this fleet segment being economically weak but showing a positive economic trend.

Prices for Norway lobster increased considerably between 2014 and 2016, but decreased in 2017, 2018, 2019 and again considerably in 2020 (-30% compared to 2019). In 2021, the price restored somewhat with an increase of 30% and increased rising in 2022 with another 12%. Value of landings and landed weight was restored to values comparable to values in 2018. However, 2018 and 2019 were difficult years for DTS VL2440 and in 2019 they were not profitable. Although, still non-profitable in 2020, the DTS VL2440 fleet managed to reduce its non-profitability. However, in 2021 and 2022 this fleet segments' non-profitability increased again, even though value of landings and landed weight of Nephrops increased. This could be due to a higher common sole catch, which retained a high yearly average price.

Over the years common squid have become more important reaching the highest landings and value of landings in the time series in 2019 (516 tonnes; EUR 3.7 million). By 2022 squid species are now the second most important group of fished species representing a landed value of EUR 9.9 million, which represents just over 10% of the total value of the Belgian fleet. These species do not fall under quota measures and their introduction may be a response to policy measures such as the LO.

The dependency on the Netherlands markets was remarkable in previous years but decreased significantly in 2020 and remained similar in 2021. The contribution of the Netherlands markets increased to a small extent in 2022. Thus, 57% of landings in foreign harbours occurs in Dutch ports in the Netherlands. However, in 2021 also 33% was landed in Denmark, a significantly reduced amount was landed in France (2%) while more catch was landed in Spain (10%) compared to 2021. The increased landings in Denmark are a direct effect of the weighing obligation in their

ports. No landings were made in the United Kingdom in 2021 and 2022, as a direct consequence of the Brexit, and remarkably no landings were made in Germany, although those landings were very small even in previous years. Almost 40% of the fleet is also owned by Dutch nationals (Velghe et al., 2022). These tend to land in their home ports, where the price for plaice is generally higher than in Belgium (higher 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), have also become important.

Management instruments and regulation (policy)

The fleet is managed mainly through 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 LO 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 2020 this exemption consisted of 105 tonnes of sole spread out over the different areas (51 tonnes in the North Sea) (Velghe et al., 2022). Once this amount exceeded, sole below the minimum conservation reference size was landed and subtracted from the national quota. The *de minimis* values for 2022 were not available to this EWG.

As no numbers were available for fish landed in Belgian harbours below minimum conservation reference size in 2021, the numbers of 2020 are given as reference point. In 2020 a total of 87 kg of cod, 1 745 kg plaice, 2 721 kg of sole and 2 604 kg of anglerfish below minimum conservation reference size were landed in Belgian harbours; for the first three species a decrease of 95%, 53% and 42% compared to 2019 (Velghe et al., 2023a), respectively. The reduction is an effect of the decreased landings of these species.

In some cases, an exemption with regards to high survivability is permitted. For 2022, the *de minimis* was obtained for plaice using beam trawler with mesh sizes between 19 and 80 mm in all fishing areas, turbot in the North Sea using beam trawler with mesh sizes smaller or equal to 80 mm and for rays and Norway lobsters in all areas (Velghe et al., 2023b).

Stock status, TACs and quotas

Initial quota for Norway lobster and sole decreased in 2020 (−8% for sole) but increased in 2020 (+34% compared to 2019 for sole) and again in 2021 (+8% compared to 2020 for sole). Quota for plaice saw a yearly decrease between 2017 and 2021, however, was still relatively high (esteemed positive stock status). Initial quota for cod decreased significantly in 2019 (−32% compared to 2018) and 2020 (−59% compared to 2019) and again in 2021 (−29% compared to 2019) but staying stable in 2022 (−1.5% compared to 2021). This is mainly caused by a decline of North Sea cod quota and its unfavourable stock status.

The Belgian fishery applies quota swaps in the framework of correct management of stocks and to allow fishers to fish year-round, while aiming to catch the quota (Velghe et al., 2023b). The total quota for sole in 2022, which is especially important for the Belgian fleet, was set at 3 954 tonnes after swaps (65% of this was caught) (Velghe et al., 2023b). The sole stocks in the Western English Channel (27.7.e), Celtic Sea (27.7.fg), eastern English Channel (27.7.d) and Bay of Biscay (27.8.ab) are currently exploited at sustainable levels. However, the spawning stock biomass (SSB) of the latter two stocks has dropped below their precautionary approach limits (MSY Btrigger and Bpa). For the North Sea (27.4) and Irish Sea (27.7.a) stocks, the fishing pressure is estimated too high to ensure a long term sustainable yield. Moreover, the SSB for North Sea sole is below sustainable levels. Although the SSB for Irish Sea sole is estimated to be above sustainable levels, the situation remains precarious as the stock is still recovering from its historical low SSB in 2014.

The quota for plaice was 7 396 tonnes after swaps in 2022 (-12% compared to 2021); 33% of this was caught (Velghe et al., 2023b). Plaice stocks have developed favourably under the current management, with spawning stock biomass at sustainable levels for plaice in the North Sea (27.420), the eastern and western English Channel (27.7.d and e), the Irish Sea (27.7.a) and the Southern Celtic Sea/South-west of Ireland (27.7h-k). However, fishing pressure is estimated as too high for both plaice stocks in the English Channel. Additionally, the SSB of plaice in the Celtic Sea (27.7.fg) is perceived too low (unsustainable). Discard rates for plaice were estimated to be high (e.g. 51% in 2021 for the North Sea stock (27.420).

The quota for cod was 635 tonnes after swaps in 2022 (-80% compared to 2021) and 89% of this allowance was caught (Velghe et al., 2023b). North Sea cod (27.47d20) was harvested unsustainably for many years. Despite the implementation of the cod management plan since 2003 and some signs of stock recovery, the spawning stock biomass of this cod stock is still estimated to entail reduced reproductive capacity, hampering the recruitment of the stock. Fishing pressure is however at sustainable levels as a result of large reductions in TAC and additional management measures.

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, started to increase again in 2017 and 2018, but decreased in 2019 and 2020. From the second quarter of 2020 fuel prices were on the rise again, progressing to prices at similar levels of the full economic crises in 2008 and 2012 at the time the current report is being written. In 2022 the fuel prices were at an all-time high in Belgium causing fuel to be a major cost for the Belgian fishing fleet. 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. Currently investments are made in modern engines that will be built in new ships. These modern engines can run on fossil fuel as well as on hydrogen fuel provided that an extra investment has to be made in order for these modern engines to run on hydrogen fuels. Currently, efforts are made to invest in engines that are particularly fuel efficient under load, i.e. during trawling, which is a relevant investment to make for the Belgian fishing fleet.

Facing the implementation of the LO, 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. Compared to 2020, fuel prices in 2022 peaked, while crew costs rose through indexation measures in Belgium. Contrary to such negative impacts on socio-economic fleet performance, remaining strong average fish prices resulted in part in an amelioration of negative impacts. Still, 2022 was a year where the fleet became again less profitable. Yearly fluctuation in socio-economic performance is however expected to happen. From socio-economic results observed in 2022, it seems that a stabilising effect will possibly happen in coming years of no major socio-economic upheavals happen in the future.

4.1.6 Nowcasts for 2023-24 and beyond

Model results

Overall, it is expected that 2023 and 2024 will be stable although slightly less profitable than 2022. For 2023 an overall positive and slightly increased profitability of the fleet compared to 2022 is forecasted. For 2024 the model predicts a continued positive trend compared to 2022. Yet, an uncertainty factor must be taken into account as fuel prices remain high although they have recovered somewhat from an all-time high in 2022. With the ongoing Russian/Ukraine and new Palestine/Israel conflicts fuel price remain volatile and unpredictable. Fuel costs may be tempered in part by the activity of seven new vessels in the Belgian fleet from 2023 onwards, but this impact is currently difficult to predict.

Outlook

Initial quota for 2024 decreased for all key species of the Belgian fishing fleet. However, regardless of the fishing opportunities, 2024 has been a more standard year (cfr. Pre-COVID year) for fishing

activity, although some areas had already temporary closures allocated to them. It remains to be seen if normal fishing activity can continue in the future due to increasing fuel prices as a consequence of geo-political conflicts and environmental measures taken under climate change initiatives. Average fish prices remain strong, meaning that the demand for fishing products remains. Still, it has to be seen how long this positive trend will continue in 2024 and if indeed this will last in the future with current increasing interest rates and financial inflation. The value of landings is predicted to decrease in 2024 (8%).

Increasing fuel prices

Fuel prices were on the rise during 2021 and continued to rise in 2022. A conflict that started in February 2022 between Russia and Ukraine only exacerbated the rise in fuel prices. Although fuel prices are generally high (at the time of writing), they can also fluctuate heavily. The small Belgian fleet can manage some bulking of fuel, and thus can buy fuel at times when prices are lower. As the Belgian fleet cost structure is highly dependent on fuel prices, the short-term direct impact will be felt by the fishery industry. Specifically, the direct impact will be mainly felt in the cost for the vessel owners and consequently lead to reduction of the ability to create some financial reserve, the ability to pay for maintenance or refurbishment works, and or the ability to pay loans for new vessels.

As the Belgian fishing sector is still being faced by consequences of the Brexit (e.g. what to do with landings in the United Kingdom) and the weighing obligation in landing ports (coming in 2022), the compounding direct impact of high fuel prices may again decrease the attractiveness of the fishing profession. Although there are some clear direct impacts of the high fuel prices, the potential longer-term effects could be more worrisome. High fuel prices also affect other industries and the purchasing power of seafood consumers. This could lead to a decreased general financial performance and increased inflation. Such long-term inflation will increase the crew costs on top of other costs that vessel owners have. Taken together, the cost-benefit balance may shift to cost and thus may result in vessels not fishing. When vessel owners decide not to fish, potentially the most severe long-term impact may be the loss of key personnel with expert operating knowledge (motorists, fishers, captains, etc.) from the fishing sector. Crew members that flow from the fishing profession into another profession very rarely return and can lead to a net loss of knowledge of fishing.

Although 2023 and potentially future years may look bleak, some solutions can balance the costs. For example, keeping average fish prices high by including the extra costs in these fish prices, and decreasing fossil fuel dependency, may be key strategies for the profitable operation of the Belgian fishing fleet. Seven new vessels are underway for the Belgian fishing fleet and will operate on engines that with an extra but reasonable investment can be rebuilt to work on hydrogen gas.

Although coming years will be challenging for the Belgian fishing sector, keened out investment strategies in personnel and technological innovations may help to shape the future of this sector.

4.1.7 Methodological considerations and 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
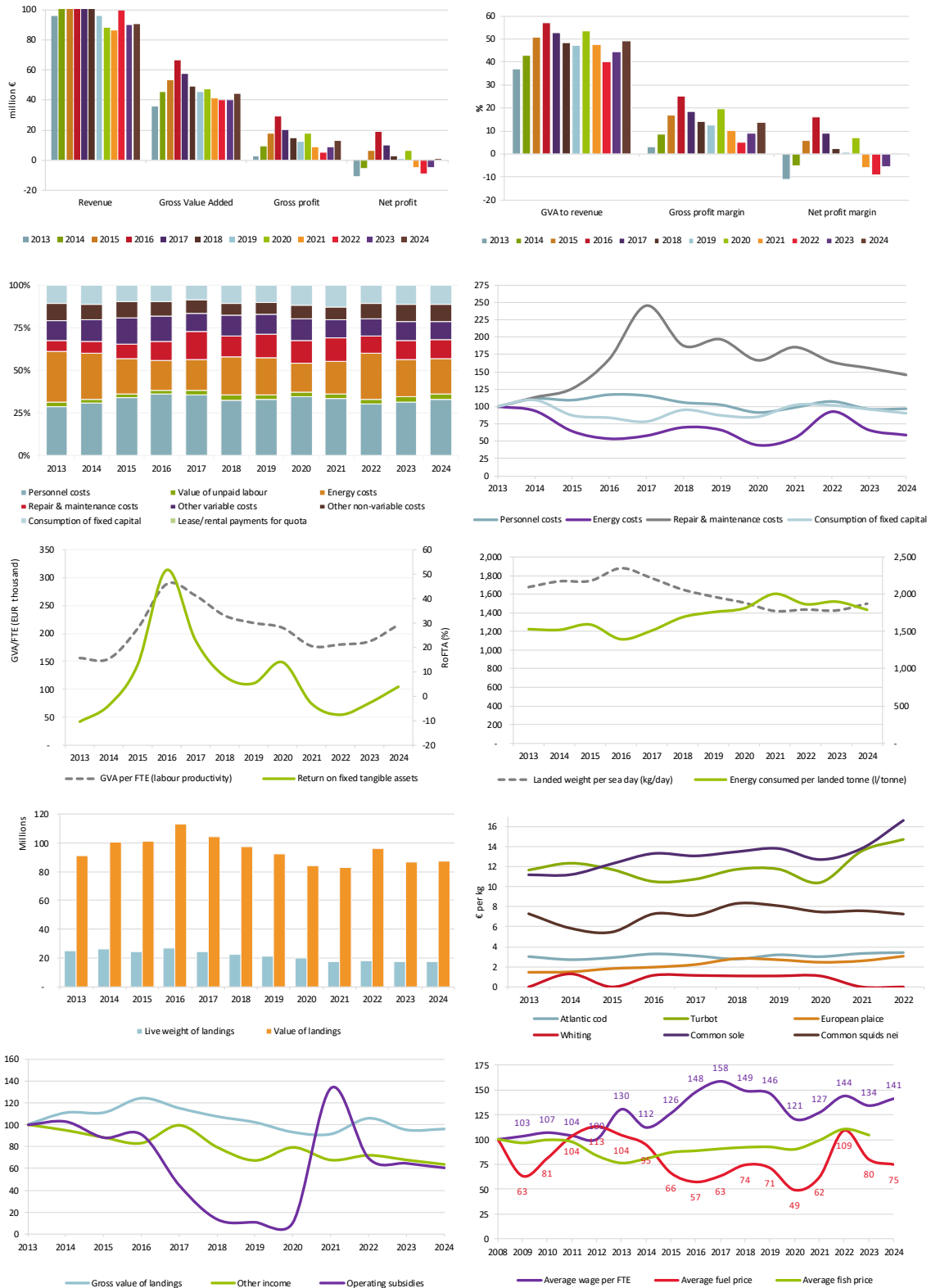
were now split into different variables and definitions annexed to the questionnaire were clarified, leading to some unusual trends. Direct income subsidies decreased by 51% in 2017.

Response rate with regards to number of unpaid labour was too low in 2017 and 2018 to make sensible estimations. Since 2019 a yearly estimation is made; however, this value may not be representative. 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.

Capital value and capital cost variables for inactive vessels are not known (refusal respond rate of 100%). Only about 8% of the fleet was inactive in 2022 (five 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, and pots and traps). 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). In 2022, however, the number of vessels in the PMP VL1824 segment dropped below safe GDPR measures. Therefore, this segment was not reported on in 2022. All data from this segment was removed from socio-economic parameters reported here.

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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.2   Bulgaria

4.2.1 Short description of the national fleet

In 2022, the Bulgarian fishing fleet consisted of 1 877 registered vessels, of which 1 204 were active and the remaining 673 were inactive. The active fleet had a combined GT of 4 778 tonnes, engine power of 39 713 kW and an average age of 28 years.

Fleet structure

The Bulgarian fishing fleet is divided into a SSCF (1 105 vessels, representing 92% of the total fishing fleet in 2022) with an engine power of 23 359 kW and a LSF segment (99 vessels, representing 8% in 2022) with an engine power of 16 354 kW. The overall size of the Bulgarian fishing fleet increased by 3% between 2021 and 2022 but decreased by 2% compared with the average for the period 2013–2021.

The estimated value of the physical capital of the Bulgarian fleet was EUR 19.04 million, of which 88% corresponds to the active fleet. Between 2021 and 2022, the number of inactive vessels increased by 5%, and the number of active vessels increased by 2%. Compared to 2021, in 2022, the active SSCF increased by 2%, while the active LSF was absolutely stable. In the active SSCF, GT decreased by 1% while kW increased by 3%, and in the active LSF, GT and kW increased by 3% and 4%, respectively.

Employment and average salaries

Total employment in 2022 was estimated at 1 724 jobs, corresponding to 623 FTEs with an average of 0.52 FTE per active vessel. The level of employment increased between 2021 and 2022 by 13%, and the total employment for 2022 remains 2% higher compared to the average total employed for the period 2013–2021. The increase in employment might be because of the increase in active vessels in the SSCF. The number of employed workers includes the number of unpaid labour. After unpaid employment became a possible choice in the questionnaire, a significant part of the fishers declared that they were unpaid labour. This can be explained by the fact that 77% of the active vessels in 2022 had between 1 and 10 days at sea (DaS) and 10% had between 11 and 20 DaS for the whole year. Mostly, the owner or family member uses these vessels.

Fishing activity and production

The Bulgarian fleet spent 17 460 DaS in 2022, a 24% decrease compared to 2021 and a 24% decrease over the period 2013–2021. The DaS marked the highest decrease during the analysis period, and the number is the lowest since 2010.

Compared to 2021, which was the year with a positive sign in terms of landings, compared to 2020, which was the year with the lowest landings volume for the period 2008-2020, in 2022 there was again a significant decrease of the live weight and value of landings. Compared to 2021, the total weight decreased by 38% and the value by 48%. The total landed weight was 5 546 tonnes of seafood, with a landed value of EUR 4.8 million. Compared to the analysed period (2013-2021), the total weight of landings decreased by 36% and the value decreased by 37%.

Regarding the top species in terms of value, the price of sea snails for 2022 changed the trend from the previous years and decreased by 30% compared to 2021, and compared to the period 2013-2021, decreased by 29%. The average first sale price for 2022 for European sprat also

decreased, by 25% compared to 2021, and compared to the period 2013-2021, decreased by 12%. The price of sand gaper increased by 24% compared to 2021 and by 6% compared to the period 2013-2021. In 2022, the price of bluefish decreased by 52% compared to 2021, and the price of red mullet decreased by 14%. Turbot continued to be very important due to the quota, and the price has decreased by 20% compared to 2021.

While in 2021 the main landed species for the Bulgarian fleet as a percentage of the total weight and value were the European sprat with 39% in terms of weight and 20% in value, followed by the sea snail, with 24% in weight and 12% in value, and sand gaper represented only 8% in terms of weight and 18% in value, the situation in 2022 was different. In 2022, the European sprat represented 28% of the landings in weight and only 15% of the value. The sea snail represented the highest quantity, with 39% in weight and 18% in value. The sand gaper was in fourth place in terms of weight, with 6% in terms of weight but taking the first place with 22% in terms of value.

4.2.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Bulgarian fishing fleet that was active in the year 2022.

National fleet performance

The amount of income generated from landings in 2022 was EUR 4.84 million, while non-fishing income amounted to another EUR 0.4 million, and the total amount of income EUR 5.24 million. In 2022, the income from landings decreased by 48% compared to 2021 and it was 37% lower than the average for the period 2013-2021. The decrease in income from landings was due to the decrease in total landings combined with the decrease in the first sale price to some of the main commercial species. The other income, which is mainly coming from tourism activities, decreased by 40% to 2021 and remained far from the 2015 level, when it was more than EUR 2.5 million.

In general, total costs decreased by 2% between 2021 and 2022. The wages and salaries of the crew decreased by 5% in 2022 compared to 2021 and by 37% to the period 2013-2021. The most valuable cost, energy costs, increased, and in 2022 it was 11% higher than in 2021.

The operating costs in 2022 amounted to EUR 4.3 million. Energy costs and crew costs remain the two major cost items (EUR 1.73 million and EUR 1.16 million, respectively). However, EUR 0.31 million of crew costs were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2021 and 2022, operating costs did not show changes.

In terms of economic performance, the GVA, gross profit, and net profit in 2022 were estimated at EUR 2.39 million, EUR 0.93 million, and EUR 2.41 million, respectively. In 2019 and 2020, the net profit decreased compared to 2018 and 2017, and while in 2021 it showed a significant increase with 137%, compared to 2020 in 2022 decreased again to the level of 2020.

In 2022, the Bulgarian fleet had an estimated value of physical capital of EUR 16.84 million, and investments amounted to EUR 0.11 million, which is less than a 1% increase in the value of physical capital and 33% increase of the investments, compared to 2021. The estimated value of total assets in the last three years was around EUR 18 million, while for 2022 it was EUR 17.3 million.

The distribution of the fleet has not changed significantly over time. According to the number of vessels, SSCF is the main fleet in Bulgaria, with 1 105 active vessels in 2022. They spent 11 127 DaS and landed 1 276 tonnes of fish for EUR 1.8 million. The LSF engaged 99 vessels, which spent 6 333 DaS and landed 4 270 tonnes of fish for EUR 3.05 million.

The difficult access to funding by the Operational Program under EMFF for SSCF and the lack of political stability, together with huge inflation due to crisis in the region are the main reasons for the very low value of investments during the last few years. Fishers spent their own funds or use additional funding and generate debts that amounted near EUR 0.04 million.

Resource productivity and efficiency

In 2022, the gross profit margin was 17.66%, indicating a 68% decrease in operating efficiency of the sector compared to 2021, if it is compared to the period 2013-2021 a decrease of 57% is observed. This also can be seen in the net profit margin for 2022 which decreased by 12% compared to 2021 but increased by 58% over the period 2013-2021. A RoFTA near 4% in 2021, which is 85% lower than in 2021 derives from the significant decrease in the net profit.

In 2022, labour productivity decreased significantly by 69% compared to 2021. The indicator for 2022 was 62% lower than in the period 2013-2021.

Fuel consumption per landed tonne is fluctuating since 2019 but the decrease in the last year is not so significant. In 2022, it reached 376 litres per landed tonne, which was 128 litres less per landed tonne compared to 2020, and 42 litres less per landed tonne compared in 2021. Compared to the period 2013-2021, fuel consumption per landed tonne in 2022 increased by 19%.

Table 4.2. Bulgaria. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
BGR MBS PMP0612 NGI	1.04	6.25	6.20	12.2%	169
BGR MBS TM 2440 NGI	0.68	1.40	1.28	28.1%	285
BGR MBS TM 1218 NGI	1.02	1.45	1.35	46.5%	347
BGR MBS PMP1218 NGI *	0.64	0.43	0.38	64.5%	748
BGR MBS TBB1218 NGI *	0.89	1.74	1.57	41.3%	208
BGR MBS TM 1824 NGI	1.01	0.34	0.24	50.9%	637
National average	0.75	1.15	1.05	35.8%	418

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

In the table above, the break-even points of fuel for the most important Bulgarian fishing segments in terms of the value of landings are presented. Even though the segments are from different length classes and are using different fishing techniques, there are no significant fluctuations between the calculated variables, except for Polyvalent active and passive gears from 6 to 12 m.

Landings in weight per unit of effort (in DaS) followed the fluctuation trend starting in 2019 (after the stable increase from 2016), and after an increase of 42% in 2021 compared to 2020, in 2022 decreased by 18% compared to 2021. In 2022, there was a decrease of 16% compared to the average for 2013-2021.

4.2.3 Performance by fishing activity

Small-scale coastal fleet

The majority of the vessels in 2022 (1 105 from 1 204 active vessels) had a total length under 12 metres, used only passive gears and carried out mainly small-scale coastal, seasonal fishing. Their preferred fishing gear was a gillnet (anchored), and for catching sea snail they used the manual method by scuba diving. The total number of employees was 1 482, but this number also includes unpaid labour (1 356). For the majority of people involved in this type of fishing, this is a seasonal activity closer to a hobby or a small family business. Most of the small-scale fishers use the catches for private consumption by themselves and their families or they sell them in their own restaurants. The live weight of landings was 1 276 tonnes, decreased by 28% compared to 2021 and by 47% to the period 2013-2021. The value of the landings in 2022 also decreased by 39% to 2021 and by 40% compared to the average for 2013-2021. The net profit for 2022 decreased by 31% compared to 2021, and it was 16% lower than the average for the period 2013-2021.

The net profit margin remained at the same level as in the period 2017 – 2021 and compared to the period 2013-2021 it was 49% higher. These significant differences were possible because, over the period 2013-2020, there was 1 year (2014) in which the net profit was actually a net loss, because the expenses of the SSCF exceeded the income or total revenue produced during the years.

Large-scale fleet

The Bulgarian LSF consisted of 99 vessels in 2022: 19 of them were under 12 metres, but with active gears (8 of them were between 0-6m using beach seines, 2 were between 6-12m using beach seines, 7 were between 6-12m using mid-water trawls and 2 was using beam trawl). The FTE was 198 in 2022, which is 4% higher than in 2021 (representing 242 total employed 1% less) were employed in the LSF segment.

This LSF produced 4 270 tonnes of landings, which were 77% of the landings of the whole fleet. Its value was estimated at EUR 3.05 million, representing 63% of the value of all landings.

The income from landings decreased by 53% and it reached the levels from 2020, after the significant increase in 2021. The other income increased by 171% compared to 2021 and 11% to the period 2013-2021. In 2022 wages and salaries of crew decreased by 5% compared to 2021 and increased 2% to the period 2013-2021. The value of unpaid labour decreased compared to 2021 (by 5%). The number of unpaid labour in LSF was 43, or 3.1% of the total in the fleet. The main expenditure – energy costs, increased by 21%, the repair and maintenance costs by 2%. The other non-variable costs decreased by 30%, while other variable costs increased by 21%.

4.2.4 Performance 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 27 active fleet segments in 2022, with a further 673 inactive vessels. The clustering scheme was changed in 2017 and based on it and on the low number of vessels in some fleet segments, there are 16 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 a census and covers all vessels.

In 2022, part of segments of the Bulgarian fleet were clustered in seven clusters: drift net 12-18m (17 vessels), vessels using hooks 6-12m (12 vessels), purse seiners 0-6m (10 vessels), vessels

using active and passive gears 12-18m (18 vessels), vessels using pots and traps 6-12m (32 vessels), vessels using passive gears only 6-12m (7 vessels), beam trawls 12-18m (8 vessels). In 2022, in vessels using hooks 6-12m and vessels using passive gears only 6-12m there was one segment per cluster, but the name of the clusters was left for consistency.

The profitability of 3 fleet segments, which involve 196 vessels, was high for 2022, reasonable for 2 segments with 21 vessels and 11 (or 12 segments if PGP 0006 is included) of the segments (981 vessels or 987 with PGP 0006), showed weak profitability.

One fleet segment obtained 1 500 tonnes in live weight of landings, two segments more than 800 tonnes, followed by one fleet segments with more than 700 tonnes.

Pelagic trawlers 24-40 metres

In 2022, 11 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 2022, the total live weight of landings was 1 500 tonnes with a value EUR 1.04 million (decreased 54% compared to 2021) and 51 FTEs were employed in this fleet segment. The profitability of the segment is reasonable, and according to the economic development, the trend is deteriorated. In 2022, the net profit margin decreased by 64% compared over the period 2013-2021.

Pelagic trawlers 12-18 metres

In 2022, 18 vessels made up this segment that targets European sprat, sea snail and red mullet. In 2022, the total live weight of landings was 762 tonnes with a value EUR 0.58 million and 38 FTEs were employed in this fleet segment. The profitability was weak and it was not possible to estimate the economic development, because the segment was clustered in the previous years.

Polyvalent active and passive gears 6-12 metres

In 2022, 110 vessels made up the segment that targets mainly sea snails, sand gaper, red mullet and Mediterranean horse mackerel. In 2022, the total live weight of landings was 812 tonnes with a value EUR 1.17 million, and the fleet segment employed 66 FTEs, corresponding to 148 total employees. The net profit margin in 2022 increased by 3% compared to the period 2013-2021.

Beam trawlers 12-18 metres*

In 2022, 10 vessels made up this clustered segment that targets sea snail. In 2022, the total live weight of landings was 827 tonnes with a value EUR 0.34 million and 13 FTEs were employed in this fleet segment. The profitability was reasonable, but it was not possible to estimate the economic development trend because the segment was missing in the recent years.

4.2.5 Drivers affecting the economic performance trends

The Bulgarian catches in 2022 decreased significantly compared to 2021 (38%) and compared to the average for the 2013-2021 period the total catches decreased by 36%.

The prices of fish and fuel remain the main driving forces behind the overall sustainability of the fleet.

The decrease in the average price of the most important species with significant landings for the Bulgarian fleet as sprat and sea snail, together with the decreased landings, had a negative impact on the profitability of almost all segments of the fleet.

The economic performance of the fleet in 2022 was also affected by the temporary suspension of fishing activities due to the war in Ukraine, which threatened the security of fishing operations.

Markets and Trade

The yearly consumption of fish and fish products had a negligible decrease from 6.2 kg per capita in 2021 to 61 kg for 2022. As usual 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 2022, total imports of fish and fishery products in Bulgaria amounted to 44 208 tonnes, which is 8.8% increase compared to 2021 level. An increase is observed in the imports of live and frozen fish, frozen fish fillets, salted and dried fish, molluscs (live, fresh, chilled, frozen and dried), ready foods and canned fish and canned crustaceans and molluscs, and a decrease in imports of fresh and chilled fish, crustaceans and aquatic invertebrates.

About two-thirds of the total imported quantities of fish and fish products in 2022 were from EU member states. Deliveries from the EU increased by nearly 8% on an annual basis, amounting to 29 085 tonnes, with the main partners being Spain (5 200 tonnes), the Netherlands (4 900 tonnes), Greece (3 800 tonnes) and Denmark (3 600 tonnes). The import of fish and fish products from third countries in 2022 was 15 122 tonnes, 10.5% more compared to 2021.

According to the data from the National Statistical Institute, in 2022 the total export of fish, other aquatic organisms and fish products was 14 928 tonnes. The amount is 9.2% less than the previous year, showing a decrease in export of most types of products, except for ready foods and canned fish and fish fillets.

About 80% of total fish and fishery product exports in 2022 were formed by shipments to the EU, which shrank by 5.9% on an annual basis to 11 937 tonnes. The most significant quantities were towards Romania (6 400 tonnes) and Sweden (2 300 tonnes), followed by those for Poland (500 tonnes), Belgium (500 tonnes) and Greece (400 tonnes).

The situation in Bulgarian markets is complicated because the big quantity of imported fish and fish products are imported at a lower price than the price of Bulgarian catches from the Black Sea. Therefore, fishers cannot compete in this respect, even after processing and added value.

Operational costs (external factors)

After many years (2008-2017) in which the personnel costs were the major costs item, from 2018 the energy costs represented 40% of the operational costs in 2018 and 46% in 2019. While in 2020 the personal costs and the energy costs shared the first place with 30% for each of them, in 2021 the energy costs again took the first place with 36%. In 2022 the trend was the same and the share of the energy costs represented 40%. 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.

Status of key stocks, TACs and quotas

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 EU.

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 remains the same while turbot quota was increased to 75 tonnes for Bulgaria, 32% compared to the previous one and for EU Black Sea countries was allocated to 150 tonnes which is 17.5% of 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. With Council Regulation (EU) 2021/90 of 28 January 2021 and Council Regulation (EU) 2022/110 of 27 January 2022 the same fishing opportunities were fixed for 2021 and 2022 in the Black Sea.

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 this measure helps for improving part of fleet performance. The trend continues and in 2021 and in 2022 where 126 vessels are allocated to catch turbot.

Management instruments

As an 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.

Innovation and development

Under Operational Programme for support from the EMFF for the development of the Bulgarian fisheries sector for a Programming period 2014-2020, EUR 25.5 million was allocated to ensure 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 2020, EUR 9 000 in subsidies for investments were provided to Bulgarian fishers, while in 2021 and 2022 there were no subsidies for investments provided. 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 the fishers' point of view which main aim is increasing product quality and value.

4.2.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Based on the model results for 2023 an increase in the volume and value of landings is expected compared to 2022. The economic performance during 2023 showed a deterioration which corresponds to the overall performance during 2020, but shows an improvement compared to 2022. In regards to the projection for 2024, the overall deterioration of the Bulgarian fishing fleet is expected to remain at the same level as the one shown in 2023. This is obvious due to the remaining level of landings in volume and value, which is the main factor in decreasing revenue. Fuel prices are the next driving force for the fleet which in 2023 are showing a substantial decrease. Together with the complicated situation in the region and the continuation of the military situation in the Black Sea region the deterioration during 2023 seems realistic. At the beginning of 2024, the fuel prices were stable at the EU level and reached the limit from the beginning of 2023, and this could be a mitigating circumstance for the deterioration of the fleet in the last years which is projected mainly by the economic results from the last year in which the difficult situation in the region and increased fuel prices were affecting the economic performance of the fleet.
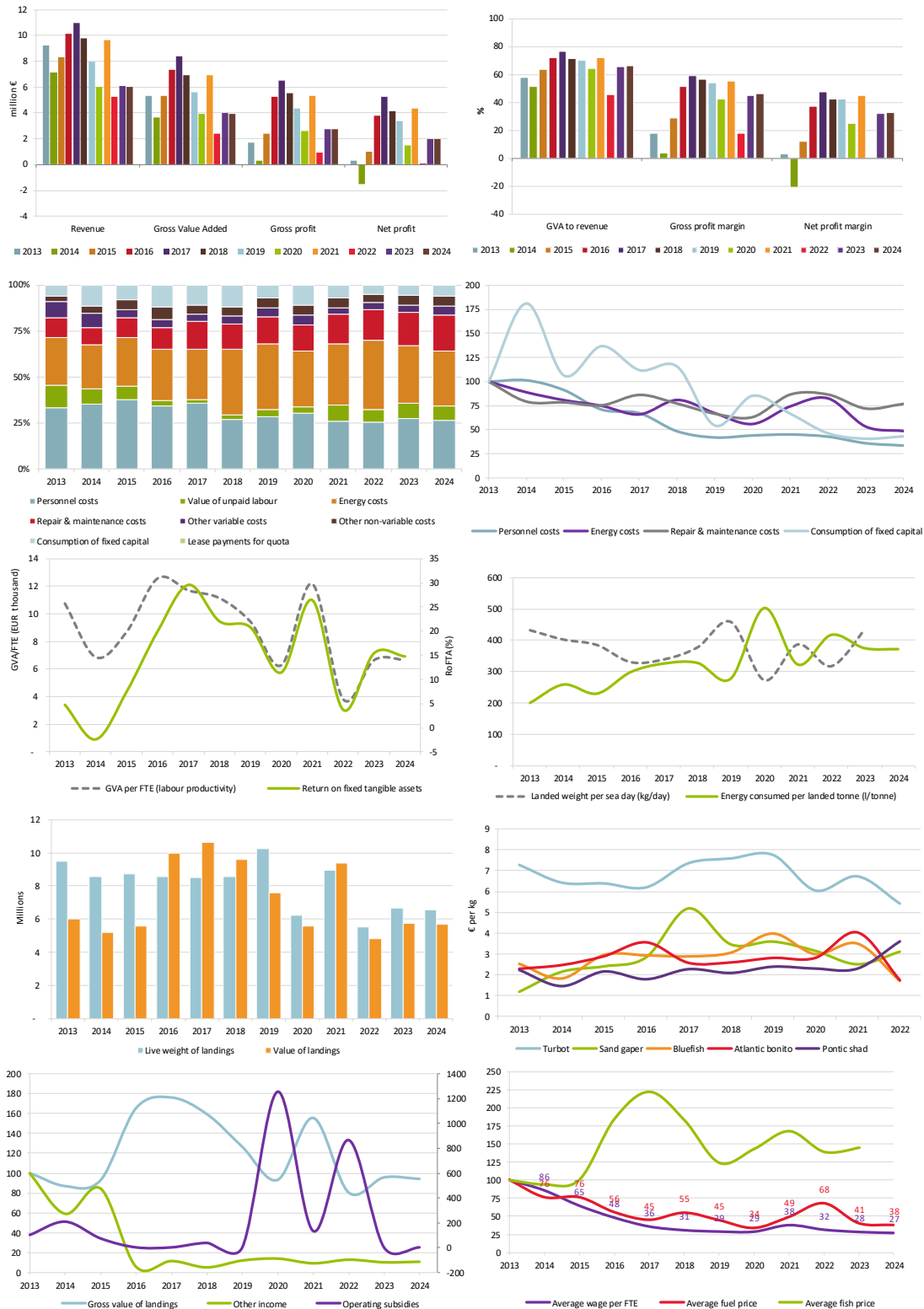
Outlook

According to the data available in 2023, 6 665 tonnes of seafood were landed by the Bulgarian fleet, with a value of EUR 5.75 million which is 19% higher than the value of landings from 2022. The stable landings of rapa whelk together whit the significant increase of the landing of sprat, compared to the last year, and together with the stable landings and average prices are the main reasons for the improvement of the profitability in 2023.

4.2.7 Methodological considerations and data issues

Identify changes in respect to previous years

There were no changes in respect to the previous years. All the clusters were used only for data reporting, not for data collection because the data was collecting through questionnaires from all vessels. No major improvements were achieved during the last year and no data issues were observed.

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 (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.3   Croatia

4.3.1 Short description of the national fleet

In 2022, the Croatian fishing fleet consisted of 7 680 vessels with a capacity of 43 458 GT and 347 729 kW; 6 187 vessels (81%) were active. Fleet capacity is decreasing since 2015; combined gross tonnage and total engine power both decreased by 19% in 2022 compared to 2015. Reduction in fishing fleet is mostly due to permanent cessation of LSF vessels.

Fleet structure

The Croatian fleet operates in the Northern Adriatic Sea; according to national legislation the fleet is divided into main commercial fleet and a category of small-scale artisanal coastal fisheries for personal needs consisting of some 3 500 vessels (i.e. *mali obalni ribolov*, MOR). From 2015 to 2017, these MOR vessels were gradually introduced into the commercial SSCF pursuant to Croatia's Accession Treaty; still, they continue to operate as a distinct legal category under specific rules and restrictions and gradually decrease naturally because their special licences are non-inheritable and non-transferable.

In 2022, the active fleet was divided into 86% SSCF (5 348 vessels) and 14% LSF (839 vessels). Decline in fleet capacity is evident since 2013 due to reduction of LSF in 2022 by 22% in number of vessels, 17% in GT and 20% in kW compared to 2013, mostly due to scrapping of purse seiners, bottom trawlers and dredgers.

The number of fishing enterprises totalled 5 424 in 2022, with the majority (89%) owning a single fishing vessel, as is typical of artisanal fleets. Between 2013 and 2023, the number of fishing enterprises declined at an average annual rate of 3%. 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.

The estimated value of physical capital of the Croatian fleet was EUR 271 million of which 27% corresponds to the inactive fleet. The total investments in physical capital in 2022 were estimated at EUR 13 million (+10% compared to estimated investments in 2021).

Fishing activity and production

In total around 330 000 days were spent at sea in 2022 (+1% compared to 2021) of which 70% in SSCF. In line with the limitation of effort for purse seiners and bottom trawlers, reduction of effort (expressed in sea days) is evident in LSF which is continued in 2022 (-6% compared to 2021). In contrast, effort increased in SSCF by 4% compared to 2021, and by 40% compared to 2013-2021 average, which is consistent with the inclusion of small-scale artisanal coastal vessels to the commercial fleet in the period 2015-2017.

The overall landing of sea products has been gradually decreasing since 2014 due to management measures at the level of the Adriatic Sea. Compared to 2014, the peak year of the period, landings decreased by 21% to 62 686 tonnes of landed seafood products in 2022; in turn, landed value has increased by 7% compared to 2021 amounting to EUR 73 million in 2022.

More than 125 species are caught commercially in Croatia as is typical of Mediterranean 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 85% of total volume and 47% total value of products landed in 2022. Higher value species

targeted by demersal fisheries, hake, red mullet, Norway lobster and deep-water rose shrimp, accounted for 4.5% in terms of quantity, and 18% in terms of the value.

Prices obtained for the key species targeted by the fleet generally remain stable in the period 2013-2021, increasing gradually. Slight annual variations of the prices are mostly due to the market effect, i.e. resulting from changes in volume of landings over the period. Annual variations in prices are more evident for higher value demersal species and for species for which temporal closures are established.

As in previous years, in 2022 purse seiners from 24-40m LoA contributed for most landed weight and value, 50% and 30%, respectively. Overall, purse seine segments amount to over 90% of volume and 50% of value of products landed; small-pelagic fishery is managed under the provisions of a multiannual management plan for small pelagic fish in the Adriatic Sea as adopted under the GFCM. In turn, bottom trawlers contributed to 6% of landed volume and 23% of landed value in 2022.

Employment and average salaries

Employment in 2022 was estimated at 7 914 jobs, corresponding to 3 342 full-time equivalents (FTE). Engaged crew in SSCF amounted to 72% (43% FTEs) and to 28% in LSF (57% FTEs). The level of employment has remained relatively stable since 2016; compared to 2016-2021 average, engaged crew and FTEs increased by 1% and 3% in 2022, respectively. Increase in 2016 is entirely due to activation of the special SSCF vessels category in 2015, as explained in the section above; engaged crew in LSF decreased by 14% compared to 2013-2021 average, in line with 13% reduction in number of vessels.

Annual average wages per FTE in the SSCF and LSF were EUR 4 309 and EUR 14 213, respectively, in 2022. Average wages per FTE decreased by 6% and 4% in the SSCF and LSF, respectively, relative to 2021. Comparatively, the average crew wages in the SSCF and LSF are 64% and 36% lower than those in the EU Mediterranean region, respectively.

4.3.2 Economic performance for 2022 and recent trends

The economic results refer only to the part of the Croatian fishing fleet that was active in in the year 2022.

National fleet performance

In 2022, the economic performance of the active fleet improved slightly compared to previous years. Total revenue (income from landings and other income) generated by the Croatian fleet, estimated at EUR 110 million, increased by 10% compared to 2021 and by 16% compared to 2013-2021 average revenue. The major factor for the economic improvement is higher revenues from landing income and other income, which increased by 7% and 16%, respectively, in relation to 2021. Income from other sources has more than tripled since 2016 and represents 31% of all income in 2022. Although the volume of landings in 2022 increased by only 2% compared to 2021, the increase in landings income is mostly due to increased fish prices by 11%, from 1.83 euro/kg in 2021 to 2.03 euro/kg in 2022.

GVA and gross profit of the active fleet increased by 20% and 69%, in comparison to 2021, amounting to EUR 64.6 million and EUR 31.4 million, respectively, while net increased to EUR 11 million (+342% in relation to 2021).

Total operating costs decreased in 2022 by 4% compared to 2021 and amounted to EUR 78.4 million. Labour costs account for the largest portion of operating costs (37%), followed by energy costs (28%) and other variable costs (12%).

Labour costs have a general increasing trend in the period; labour costs in 2022 (EUR 29 million) increased by 4% compared to the 2013-2021 average. However, the decrease in 2022 by 6%, relative to 2021, is mostly due to a decrease in the number of engaged crew and labour costs in LSF by 5% and 7%, respectively.

Fuel consumption amounted 24.095 million litres, decreasing by 10% relative to 2021, however, due to the increase in fuel prices in 2022 by 36%, from 0.66 euro/litre in 2021 to 0.9 euro/litre in 2022, fuel costs increased to EUR 21.6 million (+22% compared to 2021).

In total, operating subsidies and subsidies on investment allocated to the active fleet in 2022 amounted to EUR 10.8 million, contributing to total income (including subsidies) by 9%, which is consistent with the average annual share of subsidies of 9.5% in the last 5-year period.

Decreasing trend of value of physical capital started in 2018; in 2022, estimated (depreciated) replacement value amounted to EUR 198 million of which 66% belongs to LSF. Estimated consumption of fixed capital (annual depreciation), which decreased by 12% compared to 2021, was EUR 13.5 million.

Despite global adverse influences on the economy, Croatian fishers maintained economic performance without increasing pressure on the resources; this was achieved primarily by lowering energy consumption and by increasing fish prices, coupled with the financial support from the EMFF.

Resource productivity and efficiency

The gross profit margin in 2022 was 29%, increasing from 19% in 2021, indicating operating efficiency of the sector.

In 2022, the active fleet had a net profit margin of 10%, increasing compared to 2021. The Rate of Return on Fixed Tangible Assets (RoFTA), used as an approximation of capital productivity, was estimated at 5% in 2022 (including inactive vessels), and at 13% and 7% in SSCF and LSF, respectively.

The labour productivity (GVA/FTE) in 2022 has increased by 19% compared to 2021, amounting to EUR 19 323, as GVA increased by 20% while FTE decreased by 1%. In LSF, GVA per FTE increased by 57% compared to 2021, estimated at EUR 23 921, while in the SSCF, labour productivity (EUR 13 328) decreased by 24%, relative to 2021. Average wage in 2022 was EUR 9 915 per FTE (-6% in relation to 2021). Compared to the period before COVID-19, when the trend had begun to follow an increasing tendency, both RoFTA and GVA/FTE declined significantly in 2020; in 2021 an upward trend is established again.

Resource productivity and fleet efficiency are dependent on many external factors; weather conditions, resources availability (also migration of fish), spatio-temporal closures, but are also affected by the structure of the fleet - ageing inefficient vessels in the most important fleet segments, like bottom trawlers, and at the same time fuel intense fishing operations.

Fuel intensity, i.e. fuel consumption per landed tonne, was estimated at 384 litres/tonne in 2022, with an overall upward trend in the period. In contrast, productivity has been declining since 2014, when it peaked at 329 kg/day, while in 2022 the vessels on average landed 190 kg/day.

Overall, the fleet operated most efficiently in 2014, 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 main reasons for that is catch and effort limits imposed on purse seiners for small-pelagic fish and bottom trawlers. Lower volume of landings of purse seiners mostly affected productivity and fuel intensity since these vessels have the best ratio between landed weight and energy use, therefore affecting the productivity and efficiency of the overall fleet.

In 2022, the Croatian fishing fleet operated at 30% fuel efficiency (fuel costs as a proportion of income from landings).

Structural changes in the fleet, due to scrapping of LSF vessels, and restrictions on fishing activity for purse seiners and bottom trawlers, have caused the reduction of fuel consumption and landings for specific fleet segments. The positive effect of these changes on fuel efficiency was negated by a significant increase in fuel prices, which was only partially offset by the market effect, i.e. the increase in fish prices.

Compared to 2021, the average fuel efficiency in 2022 increased by 14% due to increased fuel costs, while average fuel intensity decreased by 12% due to lower fuel consumption and slightly increased volume of landings; indicating a change in fishing operations (reducing speed, shorter fishing trips, shortening towing time of fewer hauls etc.), along with increased fish prices, both needed to mitigate increased costs in 2022.

In the table below, fuel indicators are presented for selected fleet segments. Overall, purse seiners are the most efficient vessels in the Croatian fishing fleet, spending on average 121 litres of fuel per landed tonne in 2022 with fuel efficiency of 18% and high short-term and long-term break-even fuel prices. In contrast, fuel intensity of bottom trawlers was 2 473 litres/tonne in 2022 and fuel efficiency 59%. In 2022, average fuel consumption per LSF vessel decreased by 12% and fishing effort (expressed as fishing days) by 6%, relative to 2021.

Table 4.3. Croatia. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel price	Short-term Break-even fuel price	Long-term Break-even fuel price	Fuel efficiency	Fuel intensity
HRV MBS PS 2440 NGI	1.11	4.39	3.53	24%	138
HRV MBS PS 1824 NGI	1.11	1.84	1.08	19%	113
HRV MBS DTS1824 NGI	1.11	0.83	0.55	63%	2 702
HRV MBS DTS1218 NGI	1.11	0.43	0.09	56%	2 254
HRV MBS DFN0612 NGI	0.43	1.61	1.22	30%	4 995
National average	0.90	2.20	1.64	30%	384

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

Bottom trawlers and dredgers demonstrate the weakest fuel efficiency, ranging from 43% to 63%, and fuel intensity between 2 123 and 2 813 litres/tonne. High fuel consumption is a result of a specific type of fishing operation, i.e. bottom trawling, which is fuel intensive. In turn, purse seiners demonstrated better performance in 2022, at 13% to 24% fuel efficiency, and lowest fuel intensity (between 81 and 153 litres/tonne), due to large quantities landed. The largest part of fuel

consumption during the fishing operations in the purse seine fleet occurs while searching for fish and fishing grounds.

Due to small quantities landed, small-scale fleet segments demonstrated low productivity and fuel efficiency performance results, but considering the value of landed products, their performance was better than some large-scale fleet segments. The most favourable results regarding energy efficiency have vessels using other mobile gears (MGO); this segment is also characterised by more favourable social indicators and a higher proportion of modern, newer vessels (MA-DoF, 2023).

4.3.3 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 2022, 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).

Small-scale coastal fleet

SSCF covers 86% (5 348) of active vessels and 3% and 18% of landed weight and value, respectively, in 2022. Number of fishers has remained stable in 2022 amounting to 5 714 persons and corresponding to 1 415 FTEs.

Average age of vessels in SSCF (excluding PGP vessels) was 37 years in 2022, and 68% of vessels are from 6-12m LoA. Therefore, fishing activities are mostly limited to fishing grounds near the port and to one-day fishing trips. The main fishing gears are set gillnets, trammel nets, set longlines hooks and lines, pots and traps, and harpoon (main gear targeting common octopus). The main target species are European hake, gilthead sea bream, common sole, bluefin tuna, mullets (*Mugilidae*), Norway lobster, common octopus, common cuttlefish and red scorpionfish. Majority of catch is placed on the local markets or restaurants, and income from fishing is supplemented with other sources of income using the same vessel, such as fishing tourism, passenger transport, diving or underwater works; or from other activities such as tourism, aquaculture and agriculture. The average share of income from other sources in SSCF revenue was 56% in the last 5-year period.

The amount of revenue generated by SSCF in 2022 was EUR 29.9 million or 27% of total revenue. Landing income constitutes 40% of total SSCF income and has increased by 12% to EUR 13.4 million, relative to 2021, and by 36% compared to the 2013-2021 average. Income coming from other sources, EUR 16.5 million in 2022, has the highest share in revenue (49% in 2022). Operating subsidies increased in 2022 by 30%, compared to 2021, amounting to EUR 3.5 million.

Estimated (depreciated) replacement value was EUR 67.7 million of which 36% belongs to low-activity polyvalent passive gear vessels (PGP). Investments by the fleet increased by 9% compared to 2021, amounting to EUR 6.7 million in 2022.

Expenditure in 2022 amounted to EUR 21.9 million of which 77% were operating costs.

In 2022, total effort (expressed in days at sea) increased by 4% (around 231 000 days representing 70% of total effort of the Croatian fishing fleet), hence energy consumption and energy costs increased by 3% and 37%, respectively, compared to 2021, while landings increased by 12% in both volume and value. Since 2019, labour costs have gradually declined, but there was no change compared to 2021, amounting to EUR 4.6 million in 2022. Crew wages per FTE in SSCF are apparently low compared to LSF and considering minimum wages. However, most of the fishers are also vessel owners, in that case there is no wage, only remuneration after operating costs is

deducted from revenue. The ratio between unpaid and paid fishers is much higher than in LSF, as 77% (4 395) fishers in SSCF are unpaid (self-employed, family workers or retired). The estimated unpaid labour cost represents 26% of total labour costs in SSCF.

Following the transfer from the previous non-commercial fishery into the commercial one, Croatia included around 3 500 small-scale vessels "for personal needs" (i.e. *mali obalni ribolov*, MOR) in the commercial PGP segment during 2015-2017. This segment is characterised by low activity, as most fishers are retired and only occasionally engaged in fishing activities. Due to legal restrictions, MOR vessel owners 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 MOR vessel owners contribute to the large share of unpaid labour in SSCF. Still, this category with many participants is of great social importance and relevant for food security

Overall, SSCF is economically profitable. However, compared to 2021, GVA (EUR 19,3 million), gross profit (EUR 13.1 million) and net profit (EUR 6.2 million) in 2022 decreased by 20%, 27% and 39%, respectively, as revenue decreased by 14%.

Considering the above, the role of SSCF is both as an important source of livelihoods (in terms of income and employment), but also food security, most notably in the PGP segment.

Large-scale fleet

The number of LSF (882 vessels in 2022) has been gradually reduced since 2013 (-4% compared to 2021, and -22% compared to 2013). Between 2013 and 2023, the number of vessels declined at an average annual rate of 3%. In the period since 2013, total gross tonnage and engine power were reduced by 17% and 20%, respectively.

Employment in 2022, 2 200 engaged crew corresponding to 1 892 FTEs, has decreased by 5% and 3%, respectively, compared to 2021, which is consistent with the reduction of number of vessels. The ratio between paid and unpaid workers is reversed in comparison to SSCF as 80% of persons in 2022 were paid workers.

Majority of LSF in Croatia is constituted of highly active purse seiners and bottom trawlers which are subject to strict catch and effort management regimes and contributed to the landing volume and value in LSF with 98% and 89% in 2022, respectively. A smaller portion of total landing volume, only 1%, had mobile gears (hand-held tools for harvesting other marine organisms), which contributed to 7% of the total landing value in LSF, due to higher value of targeted marine organisms (mainly sea urchins, molluscs and sponges).

The main target species in LSF are small-pelagic species, European pilchard (sardine) European anchovy, Atlantic chub and horse mackerels, and round sardinella, which contributed to the landing volume and value in 2022 by 95% and 74%, respectively. Species mainly caught in demersal fishery, European hake, Norway lobster, deep-water rose shrimp, red mullet, and musky and horned octopus, contribute to the volume of landings by only 5%, but due to higher prices of these species, higher income is generated (24% of total LSF landings income in 2022).

Effort in 2022 was around 97 700 days at sea, decreasing by 5% compared to 2021; on average 116 days at sea per vessel were spent at sea, due to effort restrictions imposed on purse seiners and bottom trawlers. The fleet consumed 16.7 million litres of fuel in 2022 (mostly blue diesel fuel), 15% less than in 2021, however fuel costs increased by 19% compared to 2021 due to 56% rise in the price of blue diesel fuel.

In 2022, volume of landings (60 885 tonnes) and landing income (EUR 59.8 million) increased by 2% and 5%, respectively, compared to 2021. However, in line with management goals, landings have been gradually decreasing (-22% compared to 2014), to reach sustainable levels of exploitation of small-pelagic and demersal resources in the Adriatic. Despite the reduced landings, due to the increase in fish prices, compared to the average value in the period 2013-2021, there was no decrease in landings income in 2022. In 2022, landings income (EUR 59.8 million), income from other sources (EUR 20.2 million) and operating subsidies (EUR 6.5 million) constituted 69%, 23% and 8% of revenue in LSF, respectively.

Due to strict management measures and reductions both in effort and catch, the viability of LSF highly relies on financial support. At the end of the EMFF period, operating subsidies in 2022 have decreased by 10% compared to 2021.

Expenditure in 2022 amounted to EUR 70.6 million of which 87% were operating costs.

Operating costs in LSF (EUR 61.6 million) have decreased in 2022 by 5% compared to 2021, with an increase of 2% compared to 2013-2021 average, mainly due to increase in fuel costs (+19% compared to 2021).

In 2022, GVA (EUR 45.2 million), gross profit (EUR 18.4 million) and net profit (at 3.5%) (EUR 4.8 million) increased, indicating an improved economic development trend.

LSF had an estimated (depreciated) replacement value of EUR 130.6 million. Investments by the fleet amounted to EUR 6.4 million in 2022.

4.3.4 Economic performance of selected fleet segments

Wide range of fishing techniques used to target different species and assemblages makes the Croatian fishing fleet highly diversified. Active fishing gears, used mainly in LSF, include mobile hand-held tools used for harvesting species such as sponges, molluscs and sea urchins, and harpoon for targeting common octopus and common cuttlefish, as well as highly industrial purse seiners, bottom trawlers, seiners and dredgers. Passive gears, including gillnets and trammel nets, pelagic and set longlines, pots and traps as well as hooks and lines, are used mainly in SSCF. This diverse fleet is divided into 23 fleet segments.

In 2022, based on the net profit margin, six fleet segments showed high profitability (dredgers 6-12m, hook and line vessels below 6m, vessels using other active gears below 12m, purse seiners 12-18m and purse seiners 24-40m), one segment showed reasonable profitability and 16 segments weak profitability. Net losses are registered for 15 segments, while only 10 segments showed an improved economic development trend.

In 2022, the most important segment in terms of landing was purse seiners (161 PS vessels, 3% of active fleet) contributing by 90% and 50% to total volume and value, respectively, whereas the largest number of vessels (17% of active fleet) operated in the DFN segment (in Croatia – gillnets and trammel nets, 1 057 active vessels contributing by 2% and 10% of total volume and value, respectively). Bottom trawlers and demersal seiners, counting 320 vessels in 2022 (5% of active fleet), represented 6% and 23% of total volume and value, respectively.

Most important fleets in terms of contribution to total revenue are purse seiners above 12m, fixed netters below 12m and bottom trawlers from 12-24m, with 47%, 13% and 13% share in total revenue, respectively.

Purse seiners 24–40 metres

In 2022, this fleet segment included 61 vessels (2.5% of active fleet) and employed a total of 579 FTEs; on average, purse seiners spent 147 days at sea. Landings income amounted to EUR 19.9 million, representing 59% of revenue of the segment. This segment has the highest contribution to the revenue of the overall fishing fleet (31% in 2022).

Vessels using purse seines for small pelagic fish target predominantly European pilchard =sardine) and European anchovy, contributing to 95% and 96% of the landings volume and value in 2022. Although landings decreased by 2% in 2022 compared to 2021, however, due to increase in fish prices, landings income increased due to higher share of more valuable species, contributing to increased revenue (+36% relative to 2021). There were no oscillations in the prices of sardine and anchovy in 2022; introduction of non-compulsory temporary cessation of fishing activities aided in securing the market for remaining active fishers.

In total 17 purse seiners 24-40m were authorised to participate in the ICCAT BFT PS fishery, with allocated individual quotas for bluefin tuna in 2022. Most of the Croatian BFT PS quota is allocated for farming purposes, therefore there is no landing per se, and all bluefin tuna caught in purse seine operations is transferred to farming cages. Estimation of the value of bluefin tuna caught using average price is not appropriate since quota is caught within Joint fishing operations, and it is mostly owned by the farms and not the vessels. This means that the value of catch does not represent the vessel's income. Most vessels are, however, owned by farming companies or are contracted by them (MA-DoF, 2023).

Overall, purse seiners 24-40m registered a gross profit of EUR 14.1 million and a net profit of EUR 8.6 million. Profitability of the segment is high, and the economic development trend is improving.

Bottom trawlers 12–18 metres

In 2022, this fleet segment included 154 vessels and employed a total of 305 FTEs (on average 2 FTEs per vessel). Landings income amounted to EUR 6.6 million, representing 100% of revenue of the segment; in 2022, the segment's revenue contribution to total fleet revenue was 6%.

Bottom otter trawlers 12-18m spent on average 105 days at sea targeting different demersal species, mostly European hake, red mullet, deep-water rose shrimp, musky and horned octopus, common squid, and Norway lobster, which contribute to over 70% of the landings volume and value of this segment.

Compared to 2021, the value of landings and revenue decreased by 14%, mainly because of the reduction in the effort (-7% compared to 2021). Although energy consumption decreased by 15%, relative to 2021, fuel costs increased by 33%.

The fleet segment registered a gross loss of EUR 2.3 million and a net loss of EUR 4.1 million in 2022. The economic performance deteriorated, and the profitability of this fleet segment is weak, as is the case for all DTS segments. On these vessels, which have high fuel intensity (3 164 litres/tonne) and fuel efficiency at 57%, energy crisis in 2022 had the highest impact.

Fixed netters 6–12 metres

In 2022, this fleet segment included 698 vessels (11% of active fleet) and employed a total of 601 FTEs. Despite having the largest percentage of active commercial vessels (28% in 2022, PGP

excluded), this segment's proportion of the overall landing volume and value was comparatively low, at 1% and 7%, respectively.

These fishers operate predominantly in coastal areas targeting different species and using gillnets and trammel nets, hooks and lines, pots and traps, and longlines. Catch is highly diverse, over 125 species landed in 2022, and fishing activities have a distinct seasonal character with spring and autumn peaks, depending on seasonal migrations of target species, but also depending on other integrated activities – tourism, maritime transport, or agriculture. Two seasons are characterized by peaks in landings value and volume, April–June and a higher peak during October–December. During the summer season (June–September), stability of landings income is regulated by increasing fish prices as the catches decrease. Typically, income from other sources increases in this period as well. Species that contribute to over 55% and 60% of the landings volume and value of this segment, respectively, include gilthead sea bream, common sole, European hake, red scorpionfish, European spiny lobster, common cuttlefish, commercial sharks, and red mullet.

Landings income was EUR 5.3 million, or 48% of the segment's revenue of EUR 11.1 million; in 2022, the segment's revenue contribution to total fleet revenue was 10%.

The fleet segment registered a gross profit of EUR 6 million and a net loss of EUR 12 million in 2022. Profitability of the segment is reasonable, and the economic development trend is improving.

4.3.5 Drivers affecting the economic performance

The total GVA, gross profit and net profit had a gradual increasing trend from 2017 until beginning of 2020, when the sector experienced losses due to effects of the COVID-19 pandemic; as revenue in 2021 increased, the economic performance recovered, exceeding levels before 2020. However, improving trend did not continue in 2022, since a new crisis emerged resulting from Russia's military aggression against Ukraine, having a significant impact on Croatian fisheries, since, after personnel costs, fuel costs are the most significant component of operating costs.

State of resources, as many target species are still not exploited at sustainable levels, is negatively affecting economic performance as well (FAO, 2024).

In 2022, considering fleet segment level, economic performance deteriorated as 15 out of 23 active fleet segments experienced net losses, counting in total 4 626 vessels and 1 560 FTEs, and corresponding to 75% and 47% of total active fleet and employment, respectively.

First sale prices

In 2022, average landed price of 2.03 euro/kg increased by 11% compared to 2021 (1.83 euro/kg), and by 25% compared to the 2013–2021 average landed price.

Important factor in first sale price oscillations is seasonality, in several different aspects. Firstly, availability of resources has a seasonal characteristic. Also, fisheries management is oriented to spatio-temporal closures which influences market availability and first sales prices for some species (e.g., European lobster, spinous spider crab and common spiny lobster or groupers). Finally, increased demand during the tourist season causes price increases in first sales (MA-DoF, 2023).

Considering total landed value, five species dominate, including European pilchard (sardine), European anchovy, European hake, Norway lobster, and deep-water rose shrimp, together around 88% and 64% of total landing volume and value in 2022, respectively. Of the top five commercially most important species, Norway lobster, deep-water rose shrimp and European hake had higher

prices (16.1, 3.6, and 4.2 euro/kg, respectively) in 2022. Sardine and anchovy are sold at relatively low prices in Croatia (0.55 and 0.94 euro/kg, respectively).

In the following figure nominal first prices are shown for top commercial species, highlighting the change in price between 2022 and 2021. Decrease in price was recorded only for common sole (−3%), for which volume and value of landings decreased by 12% and 15%, respectively.

Figure 4.3. Croatia. Average nominal prices of top species in the period 2013–2022.
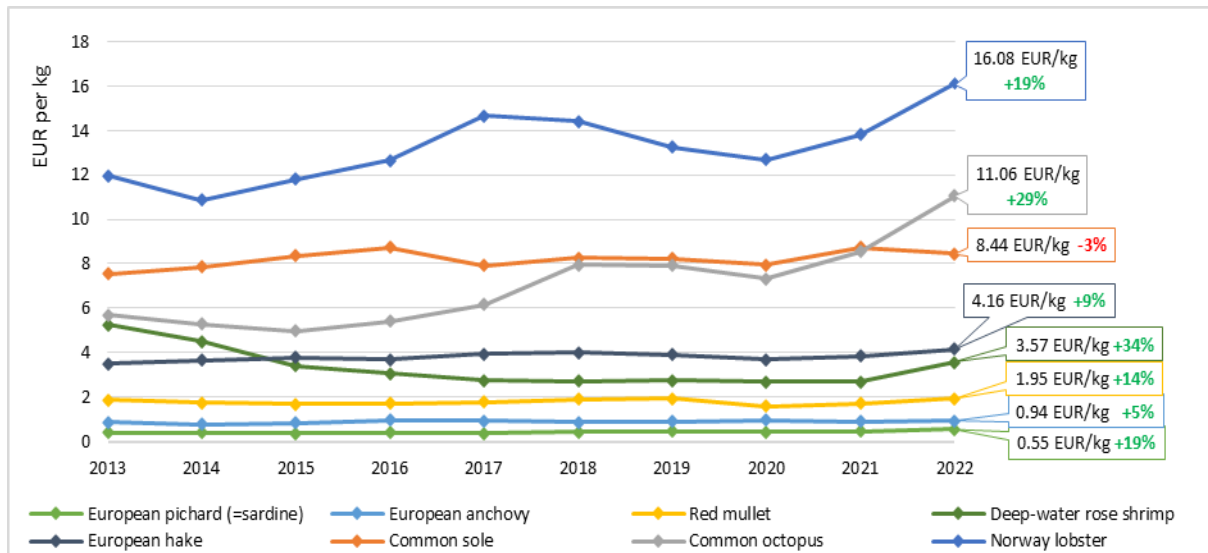
Data source: MA–DoF, 2023.

Markets and trade

Domestic market for products of marine capture fisheries is highly diverse and fragmented. There are around 1 300 registered first buyers in Croatia, including fish storage and/or processing facilities, traders, and fishmongers, but also producer organisations (five in total) and fisheries cooperatives with approved establishments. Channels for sale are different for small pelagic fish, large pelagic fish, and demersal fish. The largest share of marine capture fisheries of demersal fish following first sale is intended for placing on markets outside Croatia (export) and placement at local restaurants and markets, whereas large quantities of small pelagic fish are destined as raw material for the fish processing sector and in the aquaculture sector, exclusively as animal feed in bluefin tuna farming.

Croatia is a net exporter of fisheries and aquaculture products. From 2013, both import and export of fisheries products in terms of volume and value have increased. In 2022, import amounted to 63 798 tonnes in net weight (EUR 249.2 million) of which 23%, 19%, 9% and 8% in value were imported from Spain, Italy, Netherlands and Slovenia, respectively. Total export was 66 543 tonnes in net weight (EUR 312.85 million); main countries of destination were Italy (31%), Japan (12%), Spain (11%) and Slovenia (8%) (Croatian Bureau of Statistics CBS, 2023

Outside of the EU, the most important market for the export is Japan for farmed bluefin tuna, whereas within the EU, Italy, Slovenia, and Spain are the leading export destinations for fishery and aquaculture products. Cephalopods (primarily squid) and demersal fish (fresh/chilled) are exported primarily to Italy. In terms of imports, cephalopods (squid), skipjack tuna, salmon and others are the most represented fisheries and aquaculture commodity, originating predominantly from Spain, Italy, Slovenia, and the Netherlands (MA–DoF, 2023).

Consumption

Fish consumption in Croatia is slightly lower than the EU average (23.71 kg per capita in 2021) with a highly seasonal demand. Apparent consumption was estimated at 22.12 kg per capita, a 1% increase compared with 2020 (EUMOFA, 2023). During 2020, the input of raw materials to processing facilities increased due to higher demand for canned products as a direct result of the implementation of governmental measures caused by the of the COVID-19 pandemic and the partial closure of the HoReCa sector (MA-DoF, 2/2023).

Operating costs (external factors)

The increase in fuel prices in 2022, as well as prices of consumables and durable equipment, due to market disruption resulting from the effects of Russia's military aggression against Ukraine, had a significant influence on the Croatian fishing fleet in 2022.

Prices of petroleum derivatives were periodically determined by the Government of the Republic of Croatia, fixing the maximum retail price by type of fuel. This stabilized fuel price oscillations in the short term, which allowed fishers to plan refuelling and fishing activities depending on the announced fuel price change, lowering fuel costs as much as possible. Still, the average annual price of blue diesel fuel, a type of fuel predominantly used in LSF, increased in 2022 by 56%, compared to 2021, from 0.71 euro/litre to 1.11 euro/litre.

These external factors caused a change in the cost structure in 2022, especially in LSF. In 2022, share of fuel cost in total expenditures (28%) increased by 27% compared to 2021. In turn, labour costs (37% in 2022) decreased by 2%. Other cost categories, including other variable costs, repair and maintenance, and other non-variable costs, have been stable over the period accounting for 12%, 10% and 8%, respectively, in 2022.

To mitigate the effects of the energy crisis, financial compensations have been provided to the vessel owners (based on fishing days and depending on the rate of monthly fuel price change).

Other external factors affected fisheries as well. Climate change and changing environmental conditions affect fisheries both directly and indirectly, affecting species productivity and distribution, causing safety concerns, loss of fishing opportunities and income, and increasing costs. Loss of fishing days, caused by more frequent and pronounced extreme weather events, is especially significant for purse seiners and bottom trawlers, due to effort-based management.

Damages to fishing gears and operations, caused by protected marine species (like dolphins, marine birds and turtles) are frequently reported by fishers. Fishers are compensated for the loss of income and increased costs due to damage to fishing gears by marine mammals by the Ministry of Agriculture in the form of State Aid. Total compensation in 2022 amounted to EUR 0.11 million, (1.65% of total operating subsidies), 79% to DTS segments and 13% to DFN.

Status of Key Stocks, changes in TACs and quotas

TACs and quotas:

Fishery in Croatia is based mostly on catch and effort management, spatio-temporal closures while only Bluefin tuna and swordfish fishery is restricted by TACs.

- Bluefin tuna: National quota was set at 950.3 tonnes of which up to 855.27 tonnes for farming purposes. Quota was nationally allocated to commercial fleets: PS and HL fleet, by-catch and non-commercial fleets (sports, recreational and scientific). After PS fishing season the

remaining quota was reallocated to HL and by-catch. Remaining 100 tonnes were transferred to Greece through SWAP mechanism.

- Swordfish: National quota was set at 13.74 tonnes (season from 1 April to 31 December). After two quota swaps (+16.316 tonnes from Spain + 25 tonnes from Greece), the adjusted Croatian swordfish quota was 55.056 tonnes for 2022. Individual quota per vessel was allocated per vessel for swordfish LL fishery, while swordfish HL fishery operates under the "Olympic" system with only the overall quota for the segment set.

- Small pelagic species in Adriatic Sea: National maximum catch limit for sardine and anchovy in 2022 set to 56 304 tonnes (Recommendation GFCM/43/2021/20, Council Regulation (EU) No 2022/110).

Status of priority species:

Based on the scientific advice validated in 2023 at the level of GFCM, key species under the multiannual management plan for demersal fisheries (Recommendation GFCM/43/2019/5), common sole, Norway lobster and red mullet, had reached the F_{MSY} level, while for European hake and deep-water rose shrimp there was a good indication that fishing mortality had been steadily decreasing, providing evidence of the effectiveness of both the management plan and the Jabuka/Pomo pit Fisheries Restricted Area (FRA). Further decrease in fishing effort for 2024 towards reaching the goal of sustainable exploitation by 2026 was advised, considering the fishing mortality reductions proposed by the scientific advice (FAO. 2024). Improved status of demersal resources is expected to affect all DTS and DRB segments as well as DFN and FPO segments.

In relation to small pelagic fishery, the updated assessments of the status of European anchovy and European sardine showed a worrying progressive deterioration in stock status. For both species, fishing mortality remains high, and biomass continues decreasing, apparently not responding to the measures in place and triggering the need for further reduction in catch limits (FAO. 2024).

Management instruments

Management measures implemented as a result of unsustainable exploitation have a significant influence on the economic performance of the sector.

An array of measures for spatial and temporal restrictions of fleet activities were implemented. These were based on a complex scheme of closed areas, temporal closures, different technical measures applicable in different areas and overall managing of the effort in all segments.

Small pelagic fleets which have been under strong restrictions from 2015. In 2022, temporal closures included a total of 97 days of closure for the entire PS fleet targeting sardine and anchovy. The number of fishing days were reduced by 6% compared to 2021, and by 22% compared to baseline year 2014. As a result, catch of sardine and anchovy has decreased by 25% since 2014 (MA-DoF, 2023).

For bottom trawlers, in 2022 temporal closure was implemented in the period from 15 September to 14 October (total of 30 days). Number of fishing days of DTS fleet was lowest in 2022 in the period 2014-2022, decreasing by only 12% in 2022 compared to 2021. The effect of catch/effort management was a 18% reduction in the number of fishing days in 2022 in the DTS fleet compared to baseline year 2015. As a result, in 2022 total catch of demersal species in the bottom otter trawl net (OTB) was reduced by 9% compared to average catch in the period 2015-2021, and by 16% compared to 2015 (MA-DoF, 2023).

These measures were also followed with appropriate measures from the EMFF which compensate their effect to a certain level.

Innovation and Development (role of the EMFF)

Key challenges in the Croatian fisheries sector are in ensuring competitiveness and sustainability of enterprises, including SSCF, considering the structure of the fleet and social dimension.

In 2022, the average fishing vessel in the Croatian fishing fleet was 40 years old. Vessels were traditionally made of wood while metal vessels, which are on average 28 years old, were introduced in the fleet in the recent period. Newer, fibreglass vessels dominate in small-scale fleet segments, using mostly hooks and lines, and pots and traps. A specific type of vessels – fibreglass vessels with glass bottom are used for highly selective harpoon fishing (common octopus, common squid). By fuel type, in Croatian fishing fleet dominate vessels with diesel engines. Gasoline fuelled engines dominate in small-scale fleet segments, particularly vessels below 6m LoA. Considering energy consumption, the most demanding vessels are trawlers and purse seiners with different patterns of consumption during the fishing trip and high consumption and energy cost in total (MA-DoF, 2023).

Considering this, 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 EMFAF. In 2022, investments (EUR 13.1 million) remained at levels recorded in 2021. Compared to the average in the period 2013-2021, in 2022 investments increased by 11%. Average in-year investments per vessel were low, EUR 1 253 and EUR 7 672, in SSCF and LSF, respectively. Subsidies on investment were EUR 0.73 million in 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 the 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, to increase the income of fishers, as gradual annual decrease of catch limits income from these species.

At national and regional scales many projects aim to increase selectivity of fishing gears, mitigation trials are conducted for reducing bycatch of vulnerable and protected species and new technical solutions are developed and tested aimed at decreasing fuel intensity. Cooperation between scientists and fishers is supported also from the EMFF. GFCM, as part of the MedFish4Ever initiative, awarded the Faculty of Mechanical Engineering and Shipbuilding (University of Zagreb) for innovative contributions in the field of decarbonisation of fishing boats and fishing operations.

Social impact

The social characteristics of fisheries in Croatia presents several challenges for the Croatian fishing fleet, including a lack of skilled fishers, the ageing of vessel owners, and an evolving scarcity of intergenerational succession. Complex reasons contribute to this situation, among others, non-competitive fish prices, insufficiently developed infrastructure, insufficient investment capacity when starting a business, harsh working conditions and uncertain or irregular income, uncertainty due to managing measures (including area closures) as well as global changes and shocks (COVID-19 pandemic, war in Ukraine, global climate changes), difficulty in finding skilled crew members, and competition with other activities and recreational fishery.

The average age of the vessel owners in the Croatian fishing fleet in 2022 was 52 years, excluding owners in small-scale artisanal fisheries segments "for personal needs" (MOR vessels). For this group of vessels (around 3 500 vessels), special, socially sensitive criteria are applied in ranking applicants for the specific fishing licence, namely, older applicants are given an advantage in the ranking so the average age of vessel owners in this segment is above 65. According to the DCF's age group classification, and excluding MOR, 37% of vessel owners in the Croatian fishing fleet are between the ages of 50 and 64, 30% are between the ages of 40 and 49, 12% are over 65, and only 21% are under 40 (MA-DoF, 2023).

4.3.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results and outlook

According to preliminary data, the number of vessels active in 2023 remained stable (6 047 vessels), while landed weight and value decreased by 12% and 10%, respectively.

In 2023, over 55 215 tonnes were landed by the Croatian fleet, with a value of over EUR 65.7 million (provisional figures). Overall effort measured by days-at-sea decreased by 4% (317 111 days); accordingly, energy consumption decreased by 7% (22 353 thousand litres) and energy costs by 18% (EUR 16.3 million).

According to the results of the nowcast model, the revenue, GVA and net profit decreased in 2023, primarily due to the decreased landings; estimated GVA reached EUR 61.6 million, gross profit EUR 30.2 million and the net profit EUR 26.5 million in 2023. Increase in the gross and net profit margins are estimated.

In 2024 and upcoming years, an important influence on the economic performance will be management measures imposed in the Adriatic Sea, primarily catch and effort regimes for the purse seiners for small pelagic fish and bottom trawlers. Following Croatia's Action plan to achieve balance of the fishing capacity and available resources, several capacity limiting measures are implemented, including permanent cessation of fishing activities (intended for purse seiners for small pelagic fish and bottom trawlers) and buy-off of fishing rights for certain fishing gears (seine nets, small purse seine nets, red coral harvesting gears), which are expected to mitigate the effects of management measures by improving economic opportunities for the remaining fleet.

4.3.7 Methodological considerations and data issues

All fleet segments with major contribution to the total catch of the Croatian fleet have been sampled with satisfactory response rates. Where possible, administrative sources were used to include data for all vessels (including energy consumption, energy costs and subsidies). 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.

The majority of small-scale vessels included in the PGP segment, around 3 500 vessels, transferred into the commercial SSCF during 2015-2017, fall under a special commercial category, i.e. *mali obalni ribolov*, MOR, according to national legislation. These fishers are not full-time engaged in fisheries, and most have very limited activity, with imposed gear restrictions and daily catch limitations. Although the landing value is estimated for these vessels, most MOR vessels cannot place their catch on the market due to national legislation in force. Therefore, economic indicators for the PGP segment should be taken with caution.

For the conversion of values of historical DCF economic data from the previous national currency (HRK, Croatian kuna) to Euro, the average annual exchange rate was used for reference years 2013–2022 and fixed rate for 2023.

Figure 4.4. 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 (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.4 Cyprus

4.4.1 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 is present in the area being fished and caught by the fishing gear no matter if these species are not the targeted ones.

Fleet capacity in 2022 was decreased slightly by 3% compared to the previous year; following the declining trend during the period 2013-2022. It consisted of 847 registered vessels with a combined gross tonnage of 3 877 GT and total engine power of 40 265 kW, 785 (around 93%) of these were active vessels with a combined gross tonnage of 3 580 GT and total engine power of 37 022 kW.

Despite the reduction of 3% in the number of vessels compared to the period 2013-2021, both the combined gross tonnage and the total engine power increased by 7% and 1%, respectively, meaning that some vessels exit the Fleet Vessel Register and some vessels have substituted their engines with others with higher engine power and greater gross tonnage.

Even though the active small-scale vessels decreased by 4% during the period 2013-2021, the large-scale ones increased by 13%. This is strengthened by the fact that both the total vessel tonnage and engine power for the large-scale vessels group, were increased by 21% and 22%, respectively, for the same time period.

The reduction in the number of SSCF vessels during the period 2013-2021 had a negative impact of 3% on the total engine power and 4% on the combined gross tonnage.

It is noted that 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 part of the SSCF.

Fleet structure

In Cyprus, the fishing fleet related with the active vessels can be divided into a LSF consisting of vessels over 12 metres length overall with a total engine power of 8 160 kW in 2022, showing a small decrease of 1% compared to previous year 2021 and SSCF consisting of vessels of less than 12 metres length overall with total engine power of 28 862 kW in 2022, a small reduction of 2% comparing to 2021.

The LSF 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 to the 12-18m length group 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 metiers since these vessels target the same group of species with the same gears despite their vessel's length. The vessels of this fleet segment are engaged in two fisheries; mainly in the large pelagic fishery using drifting longlines and operating in 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 on an annual basis.

Demersal trawlers range from 19-27 metres. The demersal trawlers fleet segment below 24 metres are only two vessels and thus, for confidentiality reasons as it is impossible to report data without identifying these companies, they were regrouped in the over 24 metres length group. 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 vessel 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 (two) of licenses is provided every year, and an extended closed season (from 1 June until the 7 November) is employed.

The SSCF is mainly operated using bottom set nets and bottom longlines, targeting demersal species. Cyprus Fisheries Law[16] 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 category C' (periodic activity in fisheries). The professional fishing license category C' was introduced by a new national law in 2008 and based on this law their fishing activity is performed on a periodic basis since they are allowed to fish only a total of around 100 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.

Fishing activity and production

An estimated 47 099 days were spent at sea in 2022, being more or less at the same level as in 2021 (47 121 DaS) but there is a significant decrease of 15% if compared to the period 2013-2021. The same picture stands for the fishing days for the SSCF which were at the same level in 2022 (43 777) as in 2021 (43 814) but it shows a rise of 17% comparing to the period 2013-2021. On the other hand, the LSF shows a small reduction of 3% between the current year 2022 (3 195) and the previous year (3 106). Yet, LSF shows considerable increase of 10% when compared to the period 2013-2021.

Due to the COVID-19 pandemic many measures were taken by governments to stem the spread of the virus like lockdowns that 'froze' the market and significantly reduced the demand. The reduction in fishing days in 2022 compared to 2021 is explained by the fact that Cyprus has implemented a scheme of voluntary temporary cessation of fishing activities for 3 months for the large-scale fleet segment in 2022 as a measure to alleviate the economic consequences to fishers, resulting in the reduction of fishing effort and thus, of fishing days in 2022 for this particular segment. Some of the vessels did not want to join the scheme or did not meet its terms and conditions and thus could not join it but most of the vessels enter in the scheme. This scheme was not implemented in 2021.

The SSCF performs shorter (closer to the shore) fishing trips than the LSF and thus it consumes lower amount of fuel in each trip. Despite the fact that fishing days and fishing trips performed by the small-scale fleet segment were steady between the current year 2022 and 2021, the amount of energy consumed was significantly decreased by 31%. This implies that the vessels were performing shorter fishing trips. Nevertheless, the energy cost increased by 10% in 2022 compared

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[16] 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.

to 2021. The increase of the energy cost is explained by the rise in the fuel prices which increased from 0.732 euro/litre in 2021 to 1.267 euro/litre in 2022.

As for the LSF the days spent at sea and fishing trips performed were decreased by 2% and 3% respectively compared to the previous year 2021. This is mainly explained, that in contrary to 2021 a temporary cessation scheme was implemented for 2022, which resulted in the reduction in the number of fishing trips performed and the amount of energy consumed by 11% and 6%, respectively in 2022 compared to 2021 continue following its declining trend by 2% and 18%, respectively compared to the period 2013-2021. Despite the reduction in energy consumption, the energy cost increased remarkably by 50% in comparison to 2021 due to the rise in in fuel price, resulted in the current energy cost being much higher than the average of the period 2013-2021.

The total weight of seafood landed including the production from the bluefin tuna purse-seiner, reached 1 269 tonnes a significant decrease of 8% (1 381 tonnes in 2021), with a value of EUR 7.55 million in 2022 (EUR 8.057 million in 2021) representing a decrease of 6% compared to 2021. The landed weight per sea day (kg/day) decreased reaching 27 kg/day in 2022 (29 kg/day in 2021), continuing its declining trend (34 kg/day in 2017).

The bottom trawl fishery in the territorial waters and the inshore fishery with polyvalent passive gears targets 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 the first time in 2017, Atlantic bluefin tuna has been caught by a purse seiner.

Employment and average salaries

Employment was estimated at 1 210 jobs in 2021, a slight decrease of 5 jobs (1 215 jobs in 2021) compared to 2021 and a minor decrease of 1% against the period 2013-2021 too.

In 2022, the total jobs corresponded to 750 FTEs, a slight decrease of 1% compared to 2021 (755 FTEs). No difference is considered if compared to the period 2013-2021.

4.4.2 Economic results for 2022 and recent trends

The economic results refer only to the part of Cypriot fishing fleet that was active in 2022.

National fleet performance

The Cypriot national fleet was in a net loss-making position in 2022 with a net loss of –EUR 1.45 million and its economic performance was significantly worse when compared to the previous year 2021 (around –EUR 0.92 million net loss in 2021) showing a significant decrease of over 100%. Yet, the economic performance was much improved if compared to the period 2013-2021, 15%.

The total revenue obtained by the Cyprus fleet in 2022, basically the income generated from landings since there is no other source of income, was estimated at EUR 6.68 million (EUR 7.26 million in 2021). It is noted that the total revenue from the purse -seiner is excluded from this

figure. The decrease in total value of landings in current year by 8% compared to last year, is the main reason driving the negative economic results since it is not able to cover all expenses.

It is important to have in mind, when comparing the year 2021 with the current year 2022 or with other period, that in 2022 fishers enjoyed significant direct subsidies. Most of the operating subsidies given to fishers concern the scheme of temporary cessation of fishing activities as a measure to mitigate the effects of COVID-19. LSF Fishers had no fishing activities for 3 months and thus no income for that period. Operating subsidies were not included in other income and thus, not in the estimation of calculating Net Profit. This is one of the main reasons for the big Net Loss in 2022. In 2022, another important operating subsidy was granted through the structural funds and specifically the EMFAF to professional fishers, this one for the fuel subsidy due to the rise in fuel prices as a result of the invasion of Russia in Ukraine. The plan provided for the grant to fishers of the whole difference in fuel price between 2021-2022 (0.732 euro/litre in 2021, 1.267 euro/litre in 2022), namely a total subsidy of nearly EUR 0.679 million. It is emphasized that the payment of this aid was made in 2023 and so it does not appear in 2022 operating subsidies' estimations.

The Gross Value Added (GVA) reduced by 31% in 2022 compared to 2021, and it was estimated at EUR 2.4 million (EUR 3.5 million in 2021). Moreover, it is showing a considerable decrease of 14% compared to the period 2013-2021. Gross profit and net profit in 2022 were estimated at EUR 0.671 million and -EUR 1.45 million, respectively, (EUR 1.505 million and -EUR 0.92 million in 2021) showing a significant deterioration in the economic performance compared to the previous year 2021, especially in the case of net profit which decreased by over 57%.

The energy costs (fuel), the consumption of fixed capital (annual depreciation) and the variable cost are the main cost items for the Cyprus national fleet for 2022 of 26%, 21% and 20%, respectively. In 2022, the share of energy cost was much higher than in 2021 (21%) estimated at EUR 2.02 million (EUR 1.59 million in 2021) had the bigger increase from all the expenditure variables of nearly 27% comparing to the previous year 2021. On the other hand, in 2022 the consumption of fixed capital to the total expenditure was much lower than in last year (25%) estimated at EUR 1.87 (EUR 1.64 million in 2021). The variable cost, estimated at EUR 1.49 million in 2022 compared to EUR 1.45 million in 2021.

Another operating cost item, the personnel costs (wages and salaries) which in 2022 contributed around 10% to the total expenditures, decreased by around 14% compared to 2021. This variable is related only to the LSF and thus it does not affect the economic results of the SSCF. Value of unpaid labour, which is mostly related to the SSCF and its share to the total expenditure reaches 13% showed a small decrease (EUR 0.962 million in 2022 against EUR 1.074 million in 2021).

The total expenditures in 2022 were rather constant compared to 2021 having no significant impact on the profitability of the sector. However, the significant decrease by 8% in total value of landings in 2022 had a negative effect on the profitability of the fleet leading to a deteriorated economic performance and to a net-loss making position of the Cyprus fishing sector.

Resource productivity and efficiency

The gross profit margin in 2022 was positive, approximately at 10%, indicating operating efficiency of the fisheries sector but at a much lower rate (21%) compared to last year's one. The net profit margin in 2022 was negative estimated at -3.8% showing a significant decrease of 52% compared to 2021 which was estimated at -0.6%. In addition to this, it is deteriorated at 42% in comparison to the period 2013-2021.

The RoFTA turned to -6% in 2022, showing a significant deterioration compared to 2021 which was estimated at -2%. Furthermore, it shows a decline of 9% when compared to the whole period 2013 to 2021. Apart from the years 2017, 2018 and 2019 that RoFTA was positive, it has been negative for the whole period 2013 to 2021.

There is an overall downward trend when compared to previous year 2021 in all indicators and the same deteriorated situation stands for most of them if compared to the period 2013-2021. This picture is also reflected in labour productivity (GVA/FTE) worsening the economic performance since it decreased significantly by 30% in 2022 at EUR 4 636 per FTE, compared to 2021(EUR 3 228 per FTE in 2021). In addition, in 2022 GVA estimated at EUR 2.42 million decreased significantly compared to previous year (EUR 3.5 million in 2021) and GVA to revenue estimated at 36.24% reduced as well (48% in 2021).

Nevertheless, in 2022 the number of total people employed was rather estimated at 1 210 persons (1 215 in 2021). The same picture stands for the number of FTE which went down slightly, by 1% at 750, compared to 755 in 2021.

Fuel consumption per landed tonne continue its decreasing trend in 2022 and it reduced at 1.255 litres/tonne (1.46 litres/tonne in 2021), having a positive impact on the profitability of the Cyprus fleet. In 2018, this indicator was at 1.18 litres per landed tonne, reaching the lowest value of the whole period 2013 to 2022.

In 2017, landed weight per sea day was at its peak reaching 34 kg/day. The upward trend of the variable landings in weight per unit of effort (in weight per Days at Sea) during the period 2013-2017 followed a declining trend from 2018 and in 2022 the landings went down to 27 kg/sea day (in 2021 was 29 kg/ sea day).

Table 4.4. Cyprus. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price (€)	Long-term Break-even fuel price (€)	Energy Efficiency	Energy intensity
CYP MBS PG 0612 NGI	1.27	2.56	1.79	26.6%	1 482
CYP MBS PGP1218 NGI	1.27	0.93	-0.48	25.1%	800
CYP MBS DTS2440 NGI	1.27	1.92	1.35	42.6%	2 500
CYP MBS PG0006 NGI	1.27	1.23	1.05	45.4%	2 833
National average	1.27	1.83	0.93	29.0%	1 280

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

National average of short-term break-even fuel price (STBEFP) in 2022 was EUR 1.83 per litre, whereas average fuel price in 2022 was in 1.27 euro/litre. Difference between average fuel price and STBEFP indicates that to make total costs equal to revenues, average fuel price can be increased up to 1.44 times. However, this is not the case for the national average of long-term break-even fuel price (LTBEFP) since the LTBEFP is EUR 0.93 whereas the fuel price in 2022 was in 1.27 euro/litre. This is a big problem for the polyvalent vessels PGP1218 where LTBEFP becomes negative. The economic performance and sustainability of this segment, the most important segment in terms of value and weight of landings, is greatly affected by the high fuel prices. A small increase in fuel price has great effect in its economic performance. DTS2440 and PGO0606 have the highest energy intensity of 42.6% and 45.4% respectively, whereas the PGP1218 the

lowest at 25.1%. It is noted that the PGO0006 and PGO0612 segments are of low activity segments with fishing effort restrictions.

Socioeconomic Impact

The fishery sector contributes very little 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 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. Also, it is significant, for other activities closely related to fishing activities like fish taverns and restaurants.

4.4.3 Performance by fishing activity

Small-scale coastal fleet

The Cyprus fleet is dominated by the SSCF, which is by far the most significant segment of the Cyprus fleet representing around the 95% of the total fleet both in 2021 and in 2022 in terms of number of vessels and employment. In addition, it represents 37% of the total weight of landings and accounts for 44% of total value of landings in 2022. 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 the differences in quality linked to freshness and the size of the products, but also by the marketing channels. The selling prices of SSCF are high. The same species caught by SSCF are much higher than the ones caught by demersal trawlers (LSF).

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 nautical miles), use of one or more passive gears even in 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 was rather steady between the years 2020-2022. It decreased by only one vessel in 2022, compared to 2021, with a combined gross tonnage of 1 701 GT and a total engine power of 28 862 kW.

An estimated 43 814 days were spent at sea in 2022 for the SSCF, remaining relatively stable compared to 2021 (43 777 sea days), which account for 93% of the total sea days of the Cyprus fleet for 2022. This part of the fleet consumed half of the energy consumption of the Cyprus fleet, around 0.8 million litres of fuel in 2022 a great reduction of 31% in respect to 2021 (1.17 million litres of fuel in 2021).

The income generated from landings was enough to cover all expenses made by SSCF and thus, it is in a net profit-making position in 2022 of EUR 146 211, but much lower (55%) than that of 2021 of EUR 327 877. However, if taken into account the net profit %, the sector is in in net-loss making position, at -EUR 403 725, compared to -EUR 60 791 in 2021. The tremendous decrease in Net profit compared to 2021, indicates the significant deterioration of economic performance of this fleet segment. One of the main reasons that contributed in being the sector less profit making, is the reduction in value of landings by 14% compared to the previous year 2021 and the rise in energy cost by 10% due to much higher fuel prices despite the decrease in fuel consumption.

Unsurprisingly, in 2022 the GVA went down by 26% as well compared to 2021, reaching EUR 1.54 million (EUR 2 million in 2021).

It is worth noticing that when considering the operating subsidies as part of other income, the fleet segment in 2022 will be further improved.

Large-scale fleet

The LSF is composed of polyvalent passive gears vessels and trawlers with length ≥12m. In 2022 the number of vessels decreased slightly reaching 40 vessels (one vessel less than in 2021) with a combined gross tonnage of 1 880 GT, resulted in a decrease of 1% compared to 2021 and a total engine power of 8 160 kW, a very small decrease of 1% compared to 2021.

In 2022, there was a reduction of 2% in the days spent at sea compared to 2021, reaching the 3 285 days. Additionally, the fishing trips were decreased as well but with a much higher rate, by 11%, performing 1 725 trips in 2022. Performing fewer fishing trips resulted in the energy consumption to decline in 2022, as 6% less litres were consumed by this part of the fleet compared to the previous year 2021.

Weight of landings in 2022 went down by 9% compared to 2021, whereas the value of landings went slightly up by 1%, meaning that the prices for some of the most important commercial species for this part of the fleet, such as bluefin tuna (BFT) and albacore (ALB) increased. Indeed, the price of BFT reach EUR 9.7 per kg in 2022 compared to EUR 8.43 per kg in 2021 and ALB reach EUR 2.39 per kg in 2022 compared to EUR 2.16 per kg in 2021. Income generated from landings was not enough to cover all the expenditure of the LSF resulting in a net loss-making position (approximately to EUR 446 000). Some cost items went down, and some items went up in comparison to 2021. In 2022 the cost item that had the biggest negative impact on the profitability of this part of the sector is the energy cost, due to much higher fuel prices, which was risen by 50% compared to previous year. Although non-variable cost recorded an amazing upward trend of 40% compared to 2021, it is a small cost item contributing very little to the economic performance. Variable cost, the cost item with the higher share in expenditure increased significantly by 11% reaching EUR 1.02 million in 2022 compared to EUR 0.92 million in 2021. Repairs and maintenance cost item increased, as well by 18%. On the other hand, personnel cost was reduced by 14% against 2021 and depreciation by 17%. The economic performance was deteriorated compared to 2021 mainly due to the increase of some of the most important expenditure, as described above. Yet, it was significantly improved compared to the period 2013-2021.

4.4.4 Performance results of selected fleet segments

Polyvalent 'passive' gears 6-12 metres

The most important SSCF segment is the Polyvalent 'passive' gears with length 6-12m since it represents 37% of the total number of active vessels and thus of employment. In 2022, there were 290 active vessels of this small-scale part of the fleet operating in territorial waters, i.e., less than 12 n.m., a decrease of 7 vessels compared to 2021 where there were 297 vessels. It is noted that 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 2022 the FTEs decreased to 426 from the 439 in 2021.

In 2022, the value of landings amounted to EUR 2.89 million, 43% of the total value of landings of the Cyprus fleet (excluding the landings from the bluefin tuna purse-seiner), compared to EUR 3.16

million in 2021. The income obtained was sufficient to cover all the operating expenditures and this fleet segment generated gross profit of EUR 0.786 million. Despite the decrease in value of landings of around 8.6% compared to 2021 and as a consequence of the deterioration in revenues, the segment could cover all the expenditures resulting in being in net-profit making position. The segment had Net Profit of EUR 179 205 (EUR 358 090 in 2021). Another important indicator is the net profit margin whose economic development deteriorated compared to previous year, reaching the 6% (11% in 2021). However, the opposite picture appears for this indicator when we compare it towards the period 2013-2021 where it shows tremendous improvement. Nevertheless, the economic development trend is improved if compared to the period 2013-2021. All the above estimated indicators, clearly show the deterioration of economic position for the year 2022, mainly due to increase in some of the most important, for this part of the fleet, expenditures. The biggest increase, nearly 20%, is recorded in energy cost due to the high increment in fuel prices between the years 2021 and 2022 (0.732 euro/litre in 2021, 1.267 euro/litre in 2022). The variable cost increased nearly 9%.

The GVA reached the amount of EUR 1.6 million in 2022 a reduction of approximately 17% compared to 2021 (EUR 1.9 million). The GVA to revenue is at a lower level in 2022, at 55.4% than in 2021 which was at 61.3%.

Fuel consumption was estimated at 1 482 litres per tonne of landed fish in 2022, a significant downfall compared to 2021 which was estimated at 2 057 litres. On the contrary, the landed weight per sea day went slightly down from 12.23 kg per sea day in 2021 to 12.16 kg per day in 2022.

There was a decrease in the overall days-at-sea of the segment since the vessels spent 34 929 DaS in 2021 but 33 726 DaS in 2022. The fuel consumption in 2022 continued its declining trend observed since 2016 showing a sharp reduction of over 20% compared to 2021. Moreover, in 2022 the energy cost was well above the one in 2021 since it was increased by 19.4% due to higher fuel prices despite the fact they performed fewer fishing days.

Overall, the main economic indicators in 2022 deteriorated compared to the year 2021 and also worsen when compared to the period 2013-2021.

Vessels using Polyvalent 'passive' gears with length above 12 metres

The most important LSF segment is the *Polyvalent 'passive' gears with length ≥12m*. It is the second most important segment in terms of revenues (35% of the total value of landings, excluding the value from the BFT purse-seiner) after the *Polyvalent 'passive' gears with length 6-12m* segment. The vessels of this category range from 12-26m (the large majority from 12-18m) and 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 2022 this fleet segment consisted of 35 active vessels, one less vessel than in 2021. Yet, the FTE national increased from 140 in 2001 to 143 in 2022. It is noted, though, that the vast majority of the crew comes from third countries (mainly Egypt) for as long as the duration of the fishery of albacore lasts.

In 2022 the value of landings amounted to EUR 2.37 million, being the same as last year, and it accounted for 35% of total value of landings of the Cyprus fleet (excluding the landings from the bluefin tuna purse-seiner). The income generated from landings was such that not all the operating

expenditures could be covered, and the fleet segment could generate negative gross profit of EUR 159 513 for the year 2022. In addition to this, the fleet segment was operating at a net loss-making situation in 2022; net loss –EUR 1 million, a deterioration compared to 2021 where the net loss reached –EUR 0.98. The main factor behind this economic deterioration is the great increase in some of the cost items like the tremendous increase in energy cost by 52% compared to 2021. The variable costs were also well above the ones of last year by 22%.

4.4.5 Drivers affecting the economic performance trends

The good condition of some of the main commercially exploited fish stocks may have a positive impact on the revenue of the sector.

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 fleets and of the polyvalent *'passive' gears* vessels *with length ≥12m*.

Recreational fishery is another driver that can negatively affect the economic performance of the professional fishers. The sport fishers are large in numbers and can have an important production in some species even in overfished species.

A significant reduction in the number of SSCF vessels, 107 in 2013 and 66 at 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. Cyprus after many years has issued a purse seiner license for bluefin tuna. Thus, from 2017 a new fleet segment, with only one vessel, exists. Since 2017, swordfish is the second species that it is managed by quotas. The allocation of quotas between the EU countries and the recovery plan for the species has been implemented since 2017. This fact could have a negative impact on the activities and economic performance of the *Polyvalent 'passive' gears with length ≥12m* fleet segment at least in the short run. From 2022 onwards, albacore, the most important species of Cyprus pelagic fishery, will also be managed by quotas. The annual quota allocated to Cyprus is much less than the average quantity fished by the *Polyvalent 'passive' gears with length ≥12m* fleet segment the last 5 years and thus, it is expected to seriously affect the income of this specific fleet segment.

Markets and trade

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 is the Cyprus trade deficit of fresh products.

It is noted that the small-scale fishery has small daily landings that are of high quality and thus they can enjoy higher selling prices compared to the ones obtained by trawlers for the same species.

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, the catch of the large-scale-vessels is channelled to domestic wholesalers or, for the case of the large pelagic fishery, exported.

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 nor 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 LSF fleet owners (trawlers and polyvalent passive gears with length ≥12m) employ crew from third countries and these crew members are paid based on an agreed salary. It includes temporary, seasonal as well as rotation crew. These wages can vary from year to year but not remarkably. Currently, the crew wages are much higher during the period of the albacore fishing season, which it is the main fishing activity of the LSF and the vessels' owners hire a significant number of fishers from Egypt.

Fuel prices, from 2015 follow an upward trend with the exception of 2020 and 2021 that declined significantly during the COVID-19 pandemic. There has been a significant increase in fuel prices from to 0.732 euro/litre in 2021 to 1.267 euro/litre in 2021.

Status of key stocks, TACs and quotas

In 2017, Cyprus 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.

In 2018, Cyprus performed a stock assessment for one of the main commercially important demersal stocks in GSA 25, common pandora (*Pagellus erythrinus*) which was found to be in a sustainable exploitation status with high SSB. The time series used was 1975-2017. The stock assessment was endorsed by the GFCM relevant scientific group.

In 2019 two stock assessments were presented and validated by the GFCM WGSAD, using a number of methods. Scientific advice for red mullet (*Mullus barbatus*) was given based on Extended Survivor Analysis (XSA) and diagnosis of the stock status showed a slight over-exploitation with intermediate SSB. An auxiliary cross validation and comparison exercise was also presented with four other models (LB-SPR, LBB, AMSY, and CMSY BSM) showing similar qualitative indications. The second stock for that year, common pandora (*Pagellus erythrinus*) was assessed based on Surplus Production in Continues Time method (SPiCT). The stock was found to be in sustainable exploitation with relatively high biomass. Similar results were obtained from runs using JABBA, LiME (length based), LBB (length based), LBSPR (length based), AMSY (survey based), CMSY BSM and an empirical

indicator derived from the length trend of the 95th percentile of the larger individuals of the species from MEDITS survey data.

In 2020, a transitional assessment of red mullet was presented from XSA to the more robust Statistical Catch At Age (SCAA) type of models. A number of methods (XSA, LBSPR, LBB, Empirical Indicators) and variations were presented in order to demonstrate all possible combinations to the group and prove the concept. Scientific advice was given based on SAM SCAA model and the stock was found to be in over-exploitation with high SSB.

In 2022, within the framework of the GFCM WGSAD which was held online in February 2022, four stock assessments were presented. More specifically, a preliminary study of the alien species SRI was presented, showing a consistently steady biomass, despite the high rates of exploitation. The species CBR and MUR were accepted as qualitative assessments with the first one showing a sustainably exploited stock (F/F_{MSY}=0.669, B/B_{MSY}=1.28) and the second one a stock in overexploitation status with relatively low biomass (F/F_{MSY}=3.48). For the species SBA the assessment was endorsed as quantitative showing a stock in low overfishing status (F/F_{MSY}=1.05) with intermediate levels of biomass.

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 to the *Polyvalent 'passive' gears with length ≥12m* fleet segment operating with drifting longlines. The bluefin tuna TAC for 2017, 2018, 2019, 2020 and 2021 increased, and Cyprus was entitled to 117.7 tonnes, 138.65 tonnes, 153.4 tonnes, 169.35 tonnes and 168.94, respectively. In 2022 the quota is the same as in 2021. For the first time, in 2017 Cyprus distributed part of the quota, 60 tonnes, to a purse seiner targeting bluefin tuna leaving the rest of the quota for the *Polyvalent 'passive' gears with length ≥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 was 75 tonnes, 85 tonnes for 2019, 95 tonnes for both 2020 and 2021 and 90 tonnes for 2022.

Since 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, was entitled to 59 tonnes in 2017, 57.2 tonnes in 2018, 55.5 tonnes in 2019 and 53.85 tonnes in 2020, 52.23 tonnes in 2021 and 50.66 tonnes in 2022. 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.

During the ICCAT annual meeting in November 2021, a new multiannual plan was adopted for the restoration of the albacore (*Thunnus alalunga*) reserve in the Mediterranean (ICCAT Rec.21-06). The plan started being implemented from 2022 and includes, among other measures, the adoption of a quota for the species. The distribution of the quota allocated to the Republic of Cyprus for the year 2022 amounts to 431.94 tonnes which corresponds to 19.9% of the total quota of the EU (2 169.68 tonnes). This is the most important species for the LSF and it is expected to negatively affect its viability at least in the short run.

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 MCRS are employed, in accordance with national and European regulations.

Regarding 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 MCRS, 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 EMFF 2014-2020 and their licences were cancelled, resulting in a significant reduction in the number of licenced vessels. The good news for these two fleet segments were the 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 *Spicara smaris* species for a certain period (25 February to end of April), 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 period, with a maximum of 100 working days and strict 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 June until the 7 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 ≥12m, a closed period for the swordfish is applied as required by the EU law.

An action plan was proposed by Cyprus in the 2020 Balance Report for demersal trawlers operating in territorial waters, with main measure the permanent cessation of fishing activities. The target of this cessation concerns the two trawlers operating in Cyprus waters and it is expected to be implemented in 2024 through the European Fund 2021-2027. The plan is expected to result in a capacity reduction of 218 GT and 696 KW. In the Action Plan Cyprus explains that in the case the permanent cessation is not achieved due to unwillingness of the trawlers' owners to join the plan, Cyprus will take other management measures such as the replacement of the diamond meshed trawl net of 50 mm by a square meshed net of 40 mm.

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 European Fund 2021-2027. 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.

4.4.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Nowcasts suggest improvement in the economic performance for the entire fleet segment for 2023 compared to 2022, driven by the reduced fuel prices. Gross Profit, is significantly improved for 2023 and 2024 suggesting that the fishery sector is economically viable.

4.4.7 Methodological considerations and data issues

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 even though 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.

In 2022 an important operating subsidy was granted through the Fisheries Fund to professional fishers, this one for the fuel subsidy due to the rise in fuel prices as a result of the invasion of Russia in Ukraine. The plan provided for the grant to fishers of the whole difference in fuel price between 2021-2022 (0.732 euro/litre in 2021 compared to 1.267 euro/litre in 2022), namely a total subsidy of nearly EUR 0.679 million. It is emphasized that the payment of this aid was made in 2023 and so it does not appear in 2022 operating subsidies' estimations.

Figure 4.5. 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 (in weight and value) and average price (euro/kg) of top species; variation in income and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024
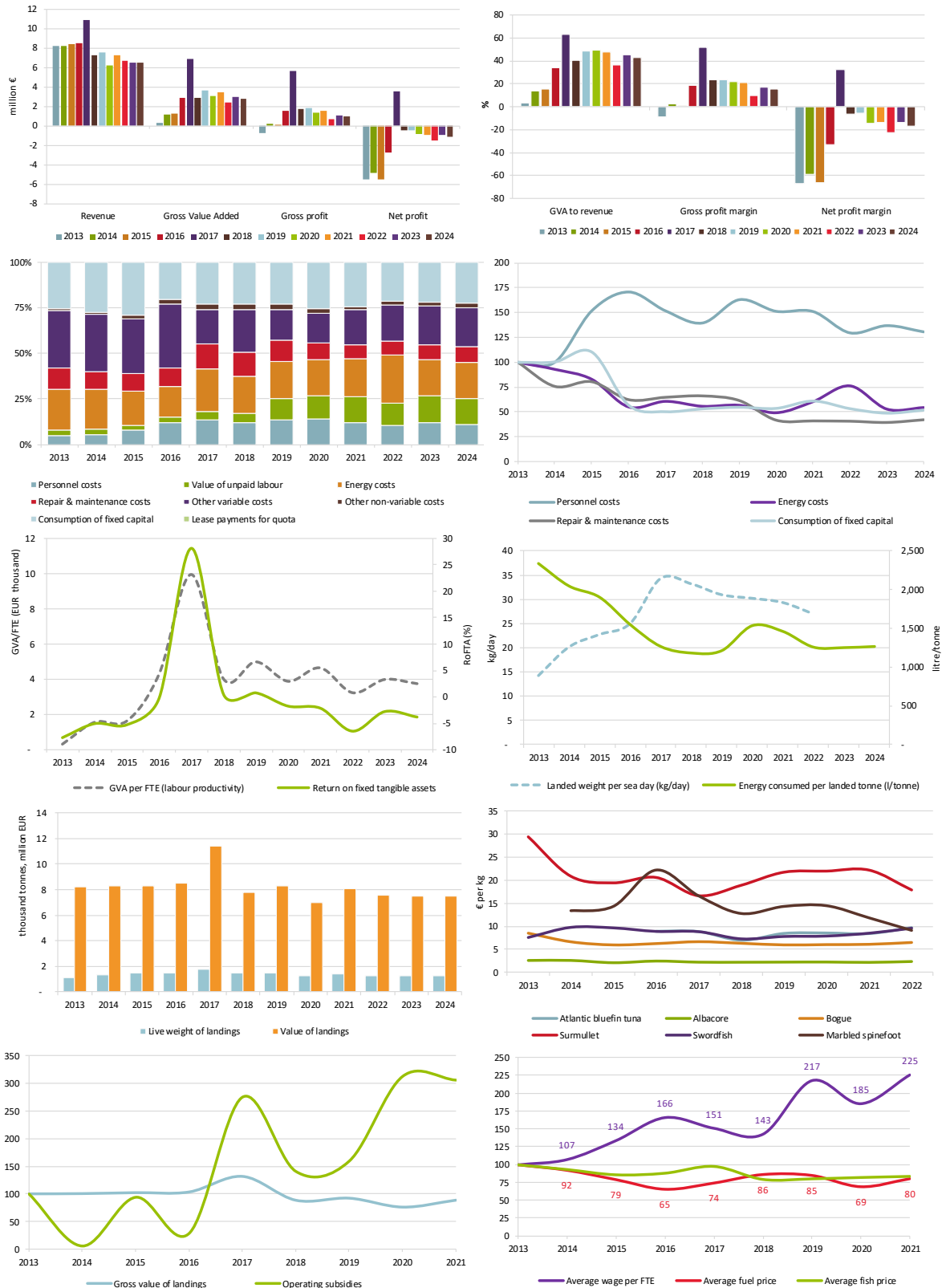
Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.5   Denmark

4.5.1 Short description of the national fleet

In 2022, the Danish fishing fleet consisted of 1 989 registered vessels, with a combined vessel tonnage of 75 929 GTs and engine power of 236 208 kW. In 2022, there were 1 226 active and 763 inactive vessels. In previous years, the number of vessels was counted as production units, but from 2022, it is changed to the vessel level. This change has not been possible to implement for previous years, thus comparing the capacity measures from previous years with the 2022-figures is not possible.

In 2022, around 74% of the active part of the fleet consists of vessels below 12 metres in 2022. These made up an even larger part of the fleet when including inactive vessels, because a major part of these inactive vessels are below 12 metres. The vessels between 24-40m and the ones above 40 metres corresponded to less than 5% of the total number of active vessels in 2022 but accounted for 65% of the total landings value. 70% of the Danish active vessels used passive gears only, 22% used demersal trawls or seine or both gears, while a minority of vessels (8%) used dredge, pelagic trawl, or beam trawl. The largest landings in 2022 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 fishmeal and fish oil production (sprat, sandeel, and blue whiting).

Fishing activity and production

In 2022, the Danish fleet spent a total of around 67 000 days at sea (DaS). The total number of DaS decreased by 16% between 2021 and 2022. Fuel consumption was 74 million litres in 2022 being a decrease of 23% compared to 2021.

In 2022, the total weight landed by the Danish fleet was 458 000 tonnes of seafood with a real landing value of EUR 361 million, which is almost unchanged compared to 2021. Compared to 2020, the total weight of landings decreased from 2020 to 2022 by 44%, while the value of landings decreased by 20%.

Also in 2022, the primary species driving the development in total weight landed were the industrial species, primarily sprat, herring. However, landings of central consumptions species such as cod decreased by 17%, primarily driven by the biological situation in the Baltic Sea.

Employment and average salaries

Total number of employees in 2022 was estimated to be 1 764 jobs, which is an increase compared to 2021, but this is due to the reasons explained in the introduction. Converting into FTEs there were 951 FTEs employed in 2021, but 888 FTEs in 2022. This decrease of 7% compared to 2021 is primarily considered to be due to the difficult biological situation in the Baltic Sea.

Average crew wage per FTE increased 2% from EUR 87 384 in 2021 to EUR 89 349 in 2022.

4.5.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Danish fishing fleet that was active in the year 2022.

National fleet performance

The total income generated by the active Danish fleet in 2022 was EUR 421 million, a decrease of 6% compared to 2021. The total income generated from direct fishing activities accounted for EUR 399 million, which was at the same level in 2021, EUR 10 million in non-fishing income (-69% compared to 2021) and EUR 12 million from leasing out fishing rights (-21% compared to 2021).

The three major variable costs consisted of labour (excl. the value of unpaid labour), energy and repair & maintenance. The costs for crew were EUR 79 million (5% less than in 2021), energy costs were EUR 70 million (+38% compared to 2021) and repair & maintenance costs, which decreased 28% to EUR 36 million compared to 2021.

The annual depreciation costs, which are the major group of capital costs, decreased 1% compared to 2021 to EUR 106 million.

In terms of economic fleet performance, GVA decreased a 9%, gross profit decreased 10% and net profit decreased a 191% compared to 2021.

In 2022, the Danish fleet had a value of physical capital (estimated replacement value) of EUR 813 million and an estimated value of fishing rights of around EUR 1.5 billion. Compared to 2021, the value of the physical capital decreased 21%, while the estimated value of fishing rights decreased by 9%.

Resource productivity and efficiency

The Danish fleet had a gross profit margin of 32% in 2022, which is a reduction compared to 2021, where it was 34%. The net profit margin was -0.6% in 2022, thus being 1 percentage points lower than in 2021, and the lowest value of the whole 2013-2021 period.

Labour productivity, measured as GVA against FTE decreased 3% compared to 2021 and is thus lower than the record high level in 2020. However, it is still 21% higher than the mean of the 2013-2021 period.

The total energy consumption was 74 million litres in 2022, thus being 23% lower than in 2021. Per landed tonne, the fuel use was in 2022 on average 162 litres/tonne compared to 208 litres/tonne in 2021.

Table 4.5. Denmark. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
DNK NAO TM 40XX NGI	0.96	5.04	2.25	12.7%	78
DNK NAO DTS2440 NGI	0.95	1.52	0.85	30.3%	983
DNK NAO DTS40XX NGI*	0.99	3.32	1.94	17.1%	152
DNK NAO DTS1218 NGI	0.96	1.35	0.72	21.3%	416
DNK NAO DTS1824 NGI	1.01	1.82	0.91	21.0%	401
National average	0.95	2.72	1.29	17.6%	162

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

The weight of landings per unit of effort (in DaS) in 2022 increased 19% compared to 2021. In 2021, almost 6 tonnes were landed per day at sea on average, while it increased to 7 tonnes in 2022.

4.5.3 Performance by fishing activity

Small-scale coastal fleet

The Danish SSCF operates mostly on the Baltic Sea, the Sounds and Kattegat, and consisted in 2022 of 832 vessels, which was one vessel lower than in 2021. The SSCF-fleet has a total vessel tonnage of 2 641 GT (-14%) and a total engine power of 34 687 kW (-7%) in 2022. Compared to the average of the period 2013-2021, the number of vessels decreased by 10%, total vessel tonnage decreased 25% and total vessel power decreased 12%.

The value of the landings decreased 31% from 2021 to 2022 being EUR 15 million in 2022, which is 4% of the national landings value for fisheries, the same level as previous years. Total costs including crew costs were reduced by 33% from 2021 to 2022, primarily due to reduced crew costs and repair & maintenance costs. Crew costs were thus reduced with 53% to EUR 8.4 million, while repair & maintenance costs fell with 56% to EUR 1.9 million. Other variable costs decreased with 29%, while non-variable costs decreased with 21%, when comparing 2021 and 2022, thus being EUR 2.8 million and EUR 2.2 million, respectively. Crew costs (incl. unpaid labour value) are a major expense for the SSCF, although it decreased with 24% from EUR 12.0 million in 2021 to EUR 9.1 million in 2022.

Looking at the economic performance indicators, gross profit decreased from -EUR 1.5 million in 2021 to -EUR 2.0 million in 2022. Net profit continues being negative for this fleet, despite that a minor improvement was observed in 2022 compared to 2021. In 2022, net profit was -EUR 2.9 million, while it was -EUR 3.8 in 2021.

Large-scale fleet

The Danish LSF operates to varying degree in all waters around Denmark, i.e. the Baltic Sea, the Sounds, Kattegat, Skagerrak, the North Sea, and some even further away in the Norwegian Sea, Faroese water, the Bay of Biscay, the English Channel etc. In 2022 the LSF consisted of 394 vessels (+12% compared to 2021) with a total vessel tonnage at 67 419 GT (+1%) and a total vessel power of 169 456 kW (+3%). Compared to the average of the period 2013-2021 number of vessels has increased 1%, total vessel tonnage has increased 7% and total vessel power has increased 10%. However, as mentioned previously this primarily due to the revised way of calculating the number of vessels and thus the capacity.

The value of the landings increased 2% to EUR 384 million, which is 96% of the national landings value for Danish fisheries. Total cost including crew costs decreased 10% to EUR 334 million in 2022. For the LCF, crew costs are the primary expense followed by energy costs. Crew costs decreased 7% to EUR 105 million (incl. unpaid labour value) in 2022. Energy costs increased 41% to EUR 69 million, maintenance costs decreased 26% to EUR 34 million, while the other variable costs were at the same level as in 2021 being EUR 34 million.

For the key economic performance indicators, gross profit increased 9% to EUR 134 million in 2022, while net profit increased 30% to EUR 81 million in 2022.

4.5.4 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 26 DCF fleet segments in 2022. Looking at gross profit, ten fleet segments made losses, while 16 fleet segments had a positive gross profit. The Annex 2 provides a breakdown of the 2022 key performance indicators by all 26 fleet segments. The importance of a fleet segment can be based on an array of indicators, ranging from the number of vessels in a segment, their share of the total value of Danish landings, severe management impacts or a combination of several indicators.

The following fleet segments have thus been selected for a more detailed presentation of their economic performance:

– DFN 00-10m is selected due to number of vessels and having their main fishing activity close to Denmark.

– DTS 12-18m is selected to reflect a fleet segment conducting a diversified fishery in several fishing waters also in the Baltic Sea, have a reasonable share of the total Danish landings value and involving around one hundred fishing vessels.

– TM 40XXm is selected because they take a high share of the total value of Danish landing and furthermore do it in primarily do it in the economic exclusive zone of the UK.

Drift and fixed netters (DFN) below 10 metres

DFN 0010m (drift and/or fixed netters 00-10m) consisted of 405 vessels in 2022. Their overall importance in the Danish fishery is limited, they took around 2% of the total Danish landings value in 2022. However, most of these vessels have historically been dependent on fishing in water close to Denmark, i.e. Skagerrak, Kattegat, and the Baltic Sea. The Baltic Sea has historically been more important for this segment, but as the biological situation has worsened there, the importance has been reduced. This has implied that the vessels must either find other quotas to fish on or alternatively stop fishing, and Denmark therefore initiated a decommissioning scheme for vessels having a major Baltic Sea fishing dependency.

In 2022, the total value of landings for this fleet was EUR 7.0 million and 51 FTEs were employed in this fleet segment. The total gross profit was –EUR 1.4 million and the net profit was –EUR 1.7 million.

Comparing with previous years is not possible due to the change in segmentation approach, which implied that this fleet segment was not reflected in the dataset previously. However, the economic situation in 2022 is considered to be worse than previous years, because the decommissioning scheme was first in effect by 2023, and because the biological situation and thus quotas deteriorated even further for especially cod. Thus, no vessels were yet removed from the fleet by this scheme.

Demersal trawl (DTS) 12-18 metres

The fleet segment DTS1218m (demersal trawl 12-18m) consisted of 122 vessels in 2022. These vessels contribute to approximately 10% of the total Danish landings value in 2022, which is a bit higher than in 2021. These vessels fish in all the fishing areas around Denmark, but primarily

Skagerrak (50%), Kattegat (40%) and the North Sea (10%) and only to a minor extend the Baltic Sea (4%).

Lobster is the most important species for this fleet accounting for around 58% of their landings value, while European plaice, sandeel and Atlantic cod account for 12%, 6% and 5%, respectively. Sole (3%), haddock (3%), and European sprat (2%) are other, but less important, species in their landing distribution. This fleet is thus an example of the multispecies and multiarea fishery that many Danish vessels conducts. Such a diversified behaviour gives them some robustness with respect to their economic performance, at least looking at it from an overall perspective.

In 2022, the total value of landings for this fleet was EUR 40 million and 184 FTEs were employed in this fleet segment. Total gross profit was EUR 3.0 million in 2022, which is an improvement from EUR 2.2 million in 2021. Net profit also improved compared to 2021 from –EUR 2.9 million to EUR 1.6 million. The reason for this improvement in economic performance is not completely clear, but it is most likely related to the increase in the sales price for lobster, which increased by 22% from 2021 to 2022.

Pelagic trawl (TM) above 40 metres

TM 40XXm (Pelagic trawl >40m) consisted of 20 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, European sprat, and blue whiting. These vessels have been affected by Brexit and the reduced fishing opportunities for their important species.

This fleet segment is without question the one taking the highest share of the total Danish landings value, which in 2022 was 37%. In 2022, the total value of landings was EUR 147 million and 102 FTEs were employed in this fleet segment. This fleet segment reported a total gross profit of EUR 86 million and total net profit of EUR 52 million in 2022.

As mentioned in the beginning, Brexit has reduced the fishing opportunities for these vessels. Since Brexit was formally made, there has been a process regarding setting and paying out compensation for these lost opportunities to the vessels influenced by Brexit. These compensations were thus paid out in the end of 2023 with a large amount to the vessels in this fleet segment. In the future years, it will therefore be interesting to see, how this influence the behaviour of the vessels having a compensation, and there especially the TM 40XXm is interesting to follow due to the high compensation for them.

4.5.5 Drivers affecting the economic performance trends

Markets and Trade

The average landed fish price of the five by value most important species in the Danish fishery in 2022 all increased. For the most important species, herring, the price increased with 17% from 0.63 euro/kilo in 2021 to 0.73 euro/kilo in 2022, Norway lobster by 22% from 7.17 euro/kilo to 8.77 euro/kilo, Atlantic Mackerel with 15% from 1.30 euro/kilo to 1.50 euro/kilo, European sprat by 17% from 0.30 euro/kilo to 0.35 euro/kilo, and plaice 33% from 2.37 euro/kilo to 3.17 euro/kilo.

Management instruments

Most of the Danish fishing fleet is managed through variations of individual property rights schemes. These schemes have 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 in number of vessels, tonnage and engine power.

The schemes have generally been in place for more than 10 years, and despite that restructuring is still occurring the indications are that this is happening at a reduced speed compared to the first years. New vessels are built, generally being larger and having new engines with better efficiency. In addition, focus is towards making the work environment and work safety conditions better for the crew.

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 to account for unwanted situations, such as quota concentration.

Also, major 'shocks' such as Brexit and the deteriorating stock situation in the Baltic Sea have required considerations about how to assist fishers with adapting to these situations. Given that these are 'shocks' have an effect within a short time, the fleets have potential problems with adapting to this without, at least from a political perspective, severe negative effects.

Therefore, as mentioned, a decommissioning scheme has been effectuated in the Baltic Sea targeted the vessels with a high dependency on quotas in this fishing area. In total, 31 vessels have been scrapped.

Regarding Brexit, a compensation scheme for the loss of future fishing opportunities combined with a scrapping scheme has also been implemented. In total, 28 vessels have been scrapped and around EUR 150 million have been paid to vessels as compensation for lost fishing opportunities.

Status of Key Stocks, TACs and quotas

The Danish quotas of the most valuable species to the Danish fishery were in 2022 the following: Atlantic herring 92 000 tonnes, Norway lobster 9 000 tonnes, Atlantic mackerel 22 000 tonnes, European sprat 135 000 tonnes, and plaice 38 000 tonnes.

Compared to 2021, only the quota Atlantic herring increased (+14%), but decreased for Norway lobster (−24%), Atlantic mackerel (−36%), European sprat (−31%) and plaice (−5%).

The historically most important consumption species, Atlantic cod, has gradually lost its economic importance measured in landing value. However, it is still an important species in Danish fisheries. Cod is a central in many fisheries, and a low quota can influence the possibility to utilise other quotas, where cod is also caught. The quotas for Atlantic cod were reduced with 34% from 2021 to 2022. However, in 2019 and previous years, the Danish cod quotas were 22 000 tonnes or above. The main reason for this reduction is due to the deteriorated biological situation for cod in the Baltic Sea, but the cod quota in the North Sea has also been reduced from 6 300 tonnes in 2019 to 2 000 tonnes in 2022.

United Kingdom has decided to reserve Dogger Bank as a protected sea bird area, thus prohibiting Danish fishers from fishing sand eel there. Currently Danish fishers catch around EUR 20 million worth of sand eel in primarily this area. Thus, it can have a significant economic impact for especially the large trawlers.

Innovation and Development

Danish fishers work in a competitive environment, where focus is on delivering a high-quality product and making an economic outcome securing a profit for the owner(s) and an attractive salary for the crew.

A range of initiatives can contribute to this. High product quality will also have an influence on the price obtained for the landed fish. Danish fishery is focused on this together with the processing industry in order to find innovative solutions to get the best product and the highest price. In addition, using invasive species and landings because of the landing obligation has been investigated, but it takes time for such innovations to be analysed and potentially put into a production process.

An important part of the economic outcome comes from the cost side. For instance, optimising the fuel use, sometimes by installing new engines, improving the engine technology etc. will have a direct effect on the cost of any fishing activity. Also, improving selectivity will reduce the cost of sorting and handling the fish afterwards. All such initiatives are ongoing in partnerships between the fishers, processors, gear technologists, researchers etc. to identify, test and implement the most promising ideas.

Also, the first experiments with electric propulsion are initiated due to the governmental decision of having a CO_2-tax of EUR 100 per tonne of CO_2 emission, being gradually implemented from 2025 to 2030. However, given that the fishing sector is generally of a minor importance in the Danish shipping fleet, the sector will be highly dependent of other actors taking the lead regarding development of future propulsion techniques, fuel types and engines. Especially, the container shipping sector is in focus here.

4.5.6 Nowcasts for 2023-24 and beyond

Model results

Preliminary results for 2024 forecast after years of a relatively stable situation that an improvement will be observed in 2024. This is despite many uncertainties in Danish fishery, especially related to the extremely deteriorating situation in the Baltic Sea and the controversy with United Kingdom regarding the sandeel fishery in Economic Exclusive Zone of UK. However, the forecast predicts a rise in revenue for Danish fishers, which is larger than the expected cost increase, thus giving rise to a positive development in Gross Value Added, Gross profit and Net profit.

Outlook

The TACs and thus quotas continue to be one of the most important factors that influence the Danish fleet performance, and the unclear situation regarding the Baltic Sea and now also the sandeel fishery combined with the gradual implementation of the Brexit-agreement are expected to put pressure on the Danish fishers and their economic performance.

4.5.7 Methodological considerations and data issues

Identify changes in respect to previous years.

In previous years, the number of vessels was counted as production units, but from 2022, it is changed to the vessel level, thus all vessels within a production unit are now included. This change has not yet been possible to implement for previous years, thus comparing the capacity measures from previous years with the 2022-figures is not possible.

Improvements achieved

The above-described change is considered to be an improvement in future data calls.

Problems identified

There is an issue regarding the fact that the number of seadays is less than the number of fishing days.

Fish days are counted as calendar days, where the vessel is active.

Sea days are counted as 24-hour periods that begins when the vessel leaves the harbour and ends when the vessel returns to harbour.

So, if a vessel leaves in the evening at 22.00 and returns next morning at 05.00, it will result in two fishing days and one seaday. This has also been described in the Nicosia report from 2016:

https://op.europa.eu/en/publication-detail/-/publication/8c5583fa-c360-11e6-a6db-01aa75ed71a1.

Figure 4.6. Denmark: 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.6   Estonia

4.6.1 Short description of the national fleet

Fleet structure

In 2022, there were 2 015 vessels registered in the Estonian national fishing fleet with a capacity of 16 323 GT or 49 572 kW; 1249 (62%) of these vessels were active. This is a 3% increase compared to 2021 and a 21% increase considered to the overall time series since 2008. Increase in the total number of vessels was related to the registration of SSCF boats into the fishing fleet register. However, the estimated number of active vessels decreased by 5% compared to 2021. The active fleet was divided in 2% of LSF (30 vessels) and 98% of SSCF (1 219 vessels). The LSF can be divided into trawlers operating in the Baltic Sea (24 vessels) and outside the Baltic Sea (NAFO and Eastern Arctic; two and four vessels, respectively). The SSCF operates in Estonian coastal waters using mainly passive gears. The estimated value of physical capital of the Estonian fleet was EUR 20 million of which 3% corresponds to the inactive fleet.

Fishing activity and production

An estimated 55 292 days were spent at sea in 2022; decreasing 2% compared to 2021.

The live weight landed by the Estonian Baltic Sea fleet in 2022 was 55 485 tonnes of seafood, with a landed value of EUR 14.9 million. The total weight of landings remained stable compared to previous year. However, the total value of landings decreased 13%.

In 2022, European sprat generated the highest value (EUR 5.8 million) landed by the Estonian Baltic Sea fleet, followed by Atlantic herring (EUR 5.3 million) and European perch (EUR 2 million). In terms of landings weight, European sprat landings were 27 551 tonnes, Atlantic herring 25 313 tonnes and European perch 760 tonnes.

Employment and average salaries

Employment was estimated at 995 jobs, corresponding to 224 FTEs in 2022. The big difference between numbers of total employed and FTE refers to that there are many persons in the sector for whom fishing is not the only source of income. It mainly concerns the SSCF. Compared to 2021, the number of engaged crew and FTE decreased 14% and 16% in 2022, respectively. Average wage per FTE amounted to EUR 24 522, an increase 8% compared to 2021.

4.6.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Estonian fishing fleet that was active in the year 2022.

National fleet performance

The fleet as a whole was profitable in 2022. However, a deterioration of the situation can be detected compared to 2021.

Revenue, estimated at EUR 16.4 million in 2022, decreased by 11% compared to a year ago.

GVA, gross profit and net profit were estimated at EUR 8.9 million, EUR 3.4 million and EUR 0.5 million, respectively. Compared to 2021, GVA, gross profit and net profit decreased 24%, 40% and 54%, respectively.

Total costs amounted to EUR 15.7 million. Compared to 2021, total costs decreased 6%.

The (depreciated) replacement value of the fleet was estimated at EUR 19.5 million in 2022 and investments amounted to EUR 1.8 million, which was 21% less than in 2021.

Resource productivity and efficiency indicators

The gross profit margin in 2022 was 21%. Net profit margin was estimated at 3%, which showed a decline compared to 2021.

The RoFTA was estimated at 6% in 2021 (7% in 2021). Labour productivity (GVA/FTE) was EUR 39 615, decreased 10% compared to 2021.

Fuel consumption per landed tonne has been quite stable compared to time period since 2013, with 53 litres per tonne in 2022. Compared to 2021, landings in weight per unit of effort (in DaS) increased in 2022 with 1 003 kg per sea day and has shown increasing trend since 2013.

Table 4.6. Estonia. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy Intensity
EST NAO TM 2440 NGI*	1.35	2.41	1.83	34.6%	53.7
EST NAO PG 0812 NGI	1.37	3.76	2.98	11.0%	26.0
National average	1.36	2.51	1.92	29.8%	49.7

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2023)); All monetary values have been adjusted for inflation; constant prices (2022).

4.6.3 Drivers affecting the economic performance trends

There was decrease in average first-sale prices of the key species (herring, sprat and perch) in 2022. This was a reason for the decrease in the total value of landings although the total weight of landings remained stable compared to previous year. In 2022, the average first-sale prices of sprat and herring were 0.21 euro/kg for both.

Energy costs went through a strong increase. Behind this change was mainly the increase in fuel prices. The average fuel price in 2022 was 1.36 euro/litre, which is 0.42 euro/litre higher than in 2021.

Markets and Trade

Key species as sprat and herring were mainly landed at Estonian ports by the Estonian Baltic Sea trawlers, 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 and Poland. The proportion of catch landed at foreign ports decreased from 9% in 2021 to 7% in 2022.

Compared to 2021, the export volume of frozen fish (sprat and herring) of Estonian origin remained stable in 2022. The main export market for this product continued to be Ukraine, but the export volume decreased by 7%, which may be affected by the Russian invasion to Ukraine. Large quantities of sprat and herring were also sold to Belarus, Latvia and Lithuania.

Operating costs (external factors)

Main change took place in energy costs. Compared to 2021, energy costs increased 61% in 2022. Behind this change was the increase in fuel prices.

Status of key stocks, changes in TACs and quotas

Herring, sprat and cod have been main internationally regulated/managed fish species targeted by the Estonian Baltic Sea fishing fleet.

According to the ICES fisheries overview the sprat stock was exploited above FMSY in 2022. 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 status of Gulf of Riga herring is regarded as relatively good, but the stock size of Central Baltic herring has dropped and was considered not sustainable by ICES in 2022.

In 2022, the Estonian trawl fleet's final sprat and herring quotas (after exchanges and transfers) were 28 734 and 23 601 tonnes, respectively. After a 16% decrease in 2021, the total herring quota increased again by 25%, while the sprat quota continued to rise for the second year, increasing by 7% in 2022. Changes in the quotas were also reflected in catches. The catch of sprat landed in 2022 increased by 7% compared to the preceding year, while the herring catch increased by 3%. However, quota uptake varied by species, standing at 96% and 78%, respectively. Unlike sprat and herring, there was no directed fishing for cod in 2022.

Management instruments

The main management tools 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. However, in case of coastal fisheries the annual allowable catch for herring has been established on per pound net from 2015. 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 63% between 2008 and 2022 (from 64 to 24 vessels). The main reason for that change was capacity reduction to achieve balance between the size of the fishing fleet and fishing opportunities.

Innovation and development (role of EMFAF)

Innovation and development of the Estonian fishing fleet were supported through EMFF for three actions in 2022:

- Support for gear improvement. The support was used for reduction of unwanted by-catches and mitigation of negative impact of seals.

- Support for innovation in fishing. The purpose of the support is to maintain the good state of fish stocks, to develop sustainable and environmentally friendly solutions for fishing, to develop innovative technologies to add value throughout the supply chain and to make efficient use of new, untapped living aquatic resources.

- Support for cooperation between scientists and fishers. The purpose of the support is to increase the competitiveness and economic performance of the fisheries sector.

4.6.4 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 2022 was 46 174 tonnes of seafood, with a landed value of EUR 9.7 million. Compared to 2021, the weight of landings increased 6%. However, the value of landings remained same. The main reason of this was decrease in average first-sale prices of sprat and herring. Overall, the fleet was profitable. GVA, gross profit and net profit in 2022 were estimated at EUR 5.8 million, EUR 2.6 million and EUR 0.8 million, respectively. GVA, gross profit and net profit decreased 18%, 31% and 51%, compared to 2021. Total costs amounted to EUR 9.8 million in 2022 (EUR 8.7 million in 2021) and increased mainly due to the rise in energy costs. The (depreciated) replacement value of the LSF was estimated at EUR 11.6 million and investments amounted to EUR 0.7 million in 2022 (EUR 0.5 million in 2021).

Small-scale coastal fleet

The SSCF operates in Estonian coastal waters. The largest catches taken in 2022 were of herring, followed by perch and smelt. The live weight landed by the SSCF in 2022 was 9 310 tonnes of seafood, with a landed value of EUR 5.2 million. Compared to 2021, the weight and the value of landings decreased 21% and 29%, respectively. GVA, gross profit and net profit in 2022 were estimated at EUR 3 million, EUR 0.8 million and –EUR 0.2 million, respectively. Total costs amounted to EUR 6 million in 2022 (EUR 8 million in 2020) and decreased mainly due to the reduction in unpaid labour value and consumption of fixed capital. The (depreciated) replacement value of the SSCF was estimated at EUR 7.8 million and investments amounted to EUR 1.1 million in 2022, decreased 37% compared to 2021.

4.6.5 Performance of selected fleet segments

Pelagic trawlers (TM) 24-40 metres

The 24-40 metres pelagic trawlers are the most important segment in the Estonian fishing fleet in the Baltic Sea. In 2022 this fleet segment consisted of 24 active vessels. The number of vessels decreased by four compared to 2021. Employment in 2022 was estimated at 119 jobs, corresponding to 90 FTEs. The segment targets pelagic species such as sprat and herring. The total value of landings was EUR 9.7 million in 2022. Profitability of the segment was weak in 2022. GVA, gross profit and net profit were estimated at EUR 5.8 million, EUR 2.6 million and EUR 0.8 million, respectively. Economic development trend shows stable situation.

Passive gears (PG) below 8 metres

The segment with the highest number of vessels and employment in the Estonian fleet is the 0-8 metres passive gears segment that operates in the coastal fishery. In 2022, this segment consisted of 1 048 active vessels. The employment in 2022 was estimated at 641 jobs, corresponding to 94 FTEs. The fleet targets mostly freshwater species, such as perch, pikeperch, but also marine species such as flounder. The total value of landings was EUR 2.7 million in 2022. Profitability of the segment was weak in 2022. GVA, gross profit and net profit in 2022 were estimated at EUR 1.9 million, EUR 0.3 million and –EUR 0.5 million, respectively.

4.6.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

An improved situation is projected for both 2023 and 2024. For 2023 an overall positive and increased profitability of the fleet compared to 2022 is forecasted. For 2024, the model predicts slightly lower profitability as was obtained in 2023.

Overall increase in prices is having an impact on the whole Estonian economy and society. Estonian inflation rate has been one of the highest in the euro zone and local producers are struggling increasing costs. Increase in the price of inputs is also affecting fishing sector; which in turn affects the selling price of fish. According to the official data the average first-sale prices of the key species as sprat, herring and perch increase 71%, 52% and 15% in 2023, respectively. This may be a reason for profit growth in 2023 and 2024. Also the number of trawlers decreased in 2023, which reduced the total cost of the fleet compared to 2022.

Although fuel price growth stabilized in 2023 and 2024, it continues to remain high mainly due to military activity in Ukraine.

4.6.7 Methodological considerations and data issues

Data for 2018 and following years is affected by a change in the data collection which was done to ensure better data availability. It affected the data of SSCF. 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 SSCF.

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 four vessels, respectively.

Figure 4.7. 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; landings (in weight and value) and average price (euro/kg) of top species; productivity and efficiency indicators; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.
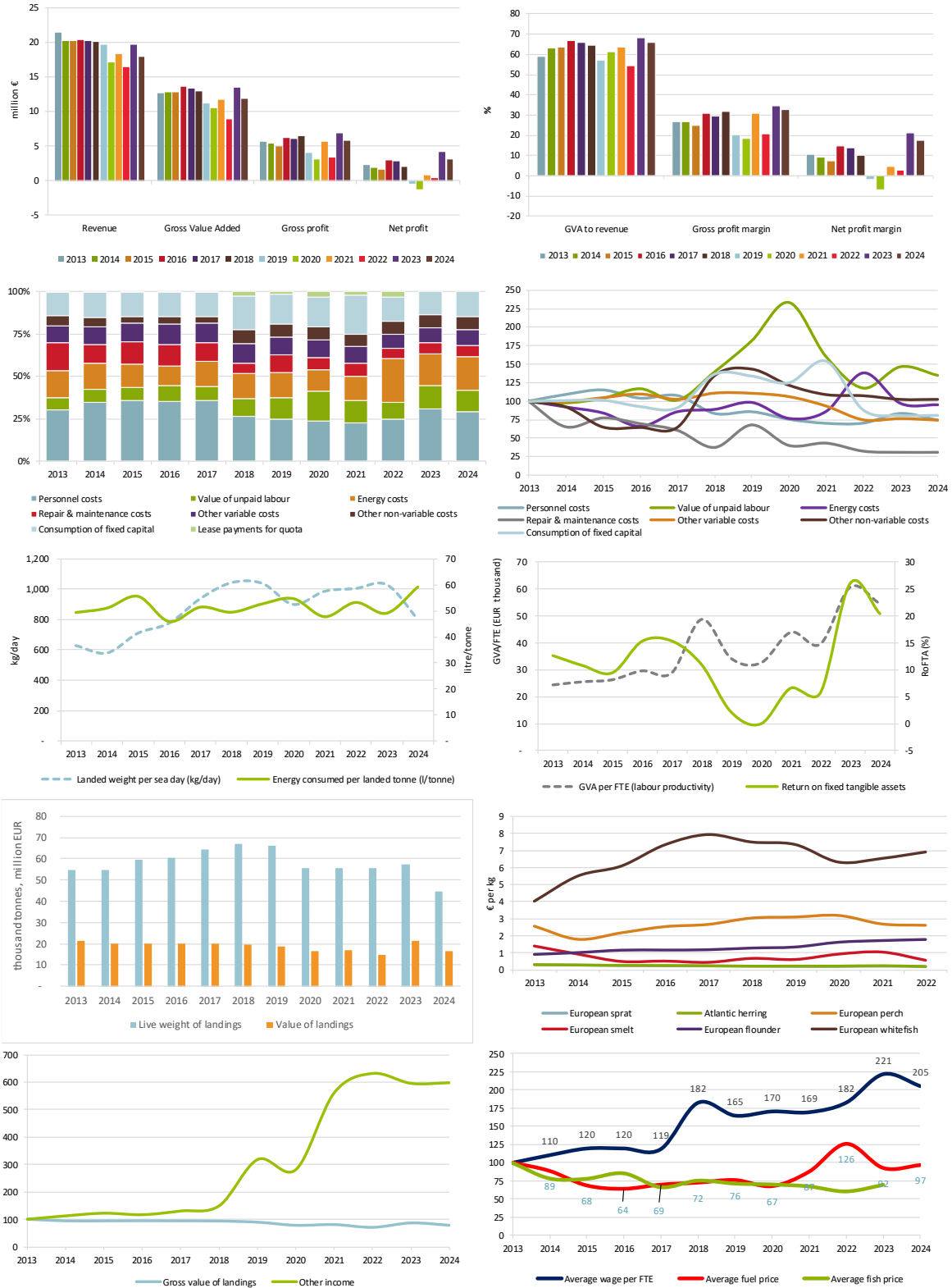
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.7 Finland

4.7.1 Short description of the national fleet

The Finnish fishing fleet in 2022 consisted of 3 281 registered vessels of which 2 119 were inactive in 2022; the active fleet consisted of 1 162 vessels, with a combined gross tonnage of 8 990 GT and a total power of 76 600 kW. The capacity of active fleet decreased some 5% with the number of active vessels from 2021.

Fleet structure

The Finnish fishing fleet is dominated by small-scale vessels: 1 121 out of 1 162 (96%) active vessels were operating in SSCF. However, the 41 trawlers (LSF) accounted for the majority (72%) of the total fleet capacity in terms of vessel tonnage. The estimated value of physical capital of the Finnish fleet was EUR 92.6 million of which 53% corresponds to the inactive fleet.

Fishing activity and production

The total effort in 2022 was 54 000 fishing days, which is 11% less than in the previous year. The SSCF accounted for 94% of the total effort, and there has been a declining trend during the past decade. After the implementation of the ITQ system in pelagic fisheries in 2017, the effort of LSF has also been decreasing. Effort in terms of fishing days decreased 11% from previous year, totalling 54 000 days in the year 2022. During the 2000s, the number of trap fishing and trawling days almost halved, and that of gillnet fishing decreased to one third, while that of hook and line fishing decreased to a tenth.

Finnish fleet operates exclusively in the Baltic Sea. The bulk of the catch was fished from the Bothnian Sea, while Finnish fishing vessels also operated throughout the Finnish coastline and in the southern Baltic Sea. One-fifth of the Baltic herring catch, and half of the sprat catch were landed abroad, in Sweden, Estonia or Denmark. In Finland, the largest catch volumes were landed at the port of Uusikaupunki (16 Mkg) followed by the port of Kasnäs (14 Mkg). Outside Finland, the largest volumes were landed in Estonia at the southern port of Paldiski (14 Mkg) by the Gulf of Finland and in Sweden at the port of Norrsundet (7 Mkg) near Gävle. In Finland, one-fifth of the Baltic herring catch was utilized in food production, while the remainder served as fodder or raw material for fishmeal. As for the sprat catch landed in Finland, 99 percent was used as fodder.

The Finnish fleet landed a total weight of 86 000 tonnes of seafood in 2022 with a value of EUR 28.1 million. The trawler fleet caught the majority of this catch, which consisted mainly of Baltic herring and European sprat. The catches of these pelagic species had been increasing until 2017 due to the strong herring stocks, particularly in the most important fishing grounds for the Finnish fleet in the Bothnian Bay. However, since 2018, the TACs for Baltic herring were reduced and the catches have decreased significantly. In 2022, the weight and value of landings for LSF decreased by approximately 10%. Similarly, landings in SSCF dropped by one-fifth, but the value of landings still managed to increase by 6% from 2021.

In 2022, the live weight of landings for Baltic herring dropped by 8 500 tonnes, totalling 68 000 tonnes. European sprat landings decreased by 1 300 tonnes from the previous year, resulting in a total of 13 500 tonnes of landings. Baltic herring accounted for the highest landed value (EUR 15.4 million), followed by European sprat (EUR 3.0 million).

The SSCF sector primarily focuses on various freshwater fish species, with perch, European whitefish, vendace, salmon and pikeperch being the most important species for this segment. Notably, vendace catches reached their highest levels since 1980. Perch catches also exceeded the long-term average (1980-2021). However, catches of whitefish, pikeperch, and salmon remained below average. Fishing under ice during temperate winters poses a challenge, affecting landings. Additionally, the presence of seals and the impact of large cormorant populations continue to impede small-scale coastal fishing efforts.

Employment and average salaries

Total employment in 2022 was estimated at 1 138 jobs, marking an 18% increase from the previous year. However, most of these jobs (90%) are created by the SSCF, which primarily engages in seasonal fisheries, resulting in predominantly part-time employment in that segment. In the LSF segment, total employment increased by 7% but remained 18% below the long-term average.

In terms of FTE, the total fleet amounted to 186 FTE, reflecting a 7% increase from the previous year. However, compared to the long-term average, the National FTE fell by 50% for the SSCF and by 18% for the LSF.

4.7.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Finnish fishing fleet that was active in the year 2022.

National fleet performance

The total revenue generated by the Finnish fleet in 2022 was EUR 36.7 million, with an increase of 7%. Income consisted of EUR 35.2 million in landings income and EUR 1.5 million in other income.

GVA of the national fleet in 2022 was nearly EUR 37 million with an increase of just over 7%. However, for the LSF GVA remained almost 50% below long-term average and decreased 30% from the previous year. Gross profit remained unchanged and was around EUR 7.7 million for the national fleet. Yet there were significant changes between fishing techniques: gross profit of SSCF increased around EUR 4 million while gross profit of LSF declined accordingly. The gross profit margin decreased to 21% and remained significantly below the long-term average.

The net profit improved from previous year but was -EUR 2.8 million (negative) and stayed below long-term trend. SSCF managed to perform positive net profit of EUR 300 000.

Resource productivity and efficiency

The energy consumed per landed tonne decreased in 2016 and has since remained consistently lower. This suggests improved energy efficiency, especially within the pelagic trawler fleet, where some older vessels have exited the business. The relative share of energy costs has been decreasing for the total fleet; however, in 2022, energy costs increased and still accounted for almost 25% of total costs.

Although the landed weight per fishing day remained high, its value stayed below the peak years of 2018 and 2019. There was a notable drop in labour productivity (GVA/FTE) from 2021, but it still remained well above the long-term average. This is primarily due to the significant decline in reported full-time equivalent (FTE) of the SSCF in recent years.

Table 4.7. Finland. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
FIN NAO TM 2440 NGI*	1.27	1.50	0.95	50.4%	103.3
FIN NAO PG 0812 NGI	1.64	3.07	-0.33	23.4%	136.3
FIN NAO TM 1824 NGI	1.27	2.22	0.99	14.8%	35.2
FIN NAO TM 1218 NGI*	1.27	2.23	0.68	18.1%	62.1
National average	1.30	1.67	0.83	40.4%	97.5

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.7.3 Performance by fishing activity

Small-scale coastal fleet

Since 2015 fishing law, commercial fishing enterprises are classified into two groups: the first category (I) includes enterprises that are value-added tax liable (annual turnover over EUR 10 000), while the rest are classified as the second category (II) fishers. The first category fishers have priority in fisheries management and are eligible for EMFF funding. These units account for around 90% of the total value of landings in the SSCF segments.

The Finnish fishing fleet is mainly composed of small-scale vessels, with 96% (1 121 out of 1 162) of active vessels operating in the SSCF. As the value of landings for the LSF keep falling, the economic impact of SSCF for the national fleet has been increasing. In 2022, the SSCF accounted for 34% of the national total value of landings, with EUR 9.5 million. The SSCF is also important from a social perspective, as it covers majority of all fishers and employs above half of the national FTE.

The value of landings in the segment increased by 6% in 2022, resulting in total revenues of EUR 14.8 million. The segment generated EUR 8.7 million of GVA and gross profit of EUR 5.6 million which are considerably above the long-term averages. However, considering the consumption of capital of all vessels, including low-activity ones, the net profit is just below EUR 300 000. However, the profitability of the most active part of the segment is much higher compared to those with low activity.

4.7.4 Performance of selected fleet segments

The Finnish fleet operates exclusively in the Baltic Sea and is based on two main fisheries: pelagic trawlers (LSF) and small-scale fisheries (SSCF). Pelagic trawlers are divided into three segments according to vessel length and operates mostly in the Bothnian Sea and Bothnian Bay. The SSCF is highly diversified with a range of vessel types mainly using nets and traps targeting various species in waters along the Finnish coastline.

Passive gears (PG) below 8 metres and 8-12 metres (SSCF)

The coastal fleet is operating mostly seasonally, and there is also a high variation in the activity of the vessels. The most active part of the segment classified as category I fishing units, covers

approximately 85% of the total SSCF landings value. These most active vessels tend to be more profitable compared to the low activity vessels which have relatively high capital costs.

The SSCF stands as the largest Finnish fleet segment, boasting 1 162 vessels in 2022. Comprised of diversified vessels targeting mainly freshwater fish species such as perch, European whitefish, vendace, salmon and pikeperch. In 2022, the total revenue of the SSCF was EUR 14.8 million, resulting in a gross value added of EUR 8.8 million. Despite this, the net profit was barely positive, amounting to EUR 300 000. Conversely, for the smaller segment operating vessels under 8 metres, the net profit reached as high as EUR 2.1 million. However, the segment operating vessels above 8 metres recorded a loss of –EUR 1.8 million.

Pelagic trawlers (TM) 24–40 metres

Pelagic trawlers 24–40m is economically the most important fleet segment in Finland targeting herring and sprat in the Baltic Sea. In 2022, these 15 vessels accounted for more than half of the total revenue of the Finnish fleet and employed 70 FTE. The fleet segment generated a GVA of EUR 5.0 million and the gross profit margin was 8%. In 2022 the economic development trend of the segment improved but profitability was weak with negative net profit of –EUR 2.8 million.

Pelagic trawlers (TM) 18–24 metres

Pelagic trawlers 18–24m segment consisted of six vessels in 2022, also targeting Baltic herring and sprat. The average vessel revenue was EUR 390 000, second highest in the Finnish fleet and average on-board employment is 1.7 FTE. The segment generated EUR 1.4 million of GVA and made gross profit of EUR 250 000. In 2022 the economic development trend of the segment improved but profitability was weak with negative net profit of –EUR 120 000.

Pelagic trawlers (TM) 12–18 metres

The Pelagic trawlers 12–18m represent the smallest trawler segment in terms of individual vessel size, comprising 20 vessels. In 2022, the segment generated EUR 765 000 of GVA and EUR 218 000 gross profit with a 14% margin. The economic development trend of the segment deteriorated, and the profitability was weak with negative net profit of –EUR 180 000.

4.7.5 Drivers affecting the economic performance trends

The most important driver for economic performance is the state of fish stocks. For several years, due to the good status of the most important fish stocks for the Finnish fleet, namely pelagic stocks, the total weight of landings broke the all-time record year after year. However, since 2018, there have been quota reductions in Baltic pelagic stocks, with significant cuts in the most important Baltic herring stocks for Finnish fisheries. In 2022, the Baltic herring quotas were cut approximately 8%. Also, the weight of herring catches in recent years has been lean and small which makes fulfilling the quota harder.

Other main drivers for economic performance are the prices of fish and inputs, especially fuel prices. Prices for pelagic species remained stable in 2019 and 2020, while the price of herring for human consumption increased significantly in 2020 and remained high in 2021. The price development of the most important species for coastal fishing has been rather favourable compensating for low catches. This trend continued in 2022 and in general prices for fish increased. Species with the most notable changes were salmon, sprat and pikeperch. On the other hand, the price of vendace declined drastically.

Fuel costs are a major expense, particularly for the trawler fleet. In 2016, fuel prices hit their lowest point in a decade, but have since risen, impacting the sector's profitability. Fuel prices increased between 2016 and 2019, but the economic slowdown caused by the COVID-19 pandemic in 2020 led to a sharp drop in global fuel prices. During that year, fuel prices reached a record low, significantly impacting the energy costs of larger vessels. However, this favourable situation has since reversed, and fuel prices in 2022 have hit a record high, which have had a significant negative impact on the trawlers' profitability.

Markets and trade

Russia used to be an important market for Baltic herring and sprat. The continued Russian embargo on EU food stuff as a countermeasure to EU sanctions due to the Ukraine crisis has forced Finnish fishers to find alternative markets in Finland and neighbouring countries for pelagic species. The average prices of pelagic species dropped significantly in 2015 as landings have been used more as feed and domestically in fishmeal factories. The COVID-19 pandemic has had an impact on fish markets: especially the fresh fish markets have been down which had a price impact on most valuable species affecting the profitability of 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 freshwater species that do not have quotas but are managed with licences and other time and gear restrictions.

Starting in 2017, the Finnish pelagic fisheries and salmon fishery adopted an ITQ regime. The allocation of fishing rights was based on grandfathering. The new management regime has had a significant impact to the trawler fleet structure and performance. In 2022 there were 41 active trawlers operating under ITQ. This implies 15 vessels less than when the ITQ was introduced.

Operational costs (external factors)

Fuel prices are the most significant cost item, especially for larger pelagic trawlers. Between 2016 and 2020, fuel prices steadily increased. However, in early 2020, there was a severe decline in fuel prices due to the impact of the COVID-19 pandemic. Depending on the fuel type, fuel prices decreased by approximately 10-20%. The consumer prices for gasoline and diesel decreased by 7% and 10%, respectively, while the consumer price for light fuel oil decreased by 22%. This favourable trend in fuel prices affected the profitability of trawlers, with the energy costs of larger vessels reaching record lows.

Since, the price of marine fuel oil began to surge, and in 2022, prices were around to two times higher than year before. Throughout the year, there were substantial fluctuations in fuel prices, leading to uncertainties within the industry. Labour costs represent the second major expense, closely following revenue trends.

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 biomass levels compatible with producing MSY in 2017.

Baltic herring stocks have been exceptionally strong in the past especially in the most important fishing grounds in the Bothnian Sea. However, after the highest recorded catches of herring in 2015-2017 there was a cut of TACs and catches in 2018.

Since 2018, there have been reductions in Baltic pelagic quotas, including significant cuts to the most important Baltic herring stocks for Finnish fisheries. This has had a notable impact on the economic performance of the pelagic trawler segments, as well as downstream activities in the value chain. In 2022, the Baltic herring quotas were cut approximately 8%. For the second consecutive year the quota of Baltic herring was underused and only just above 60% of the quota was landed.

Salmon is the main quota species for the SSCF and its TACs have been decreasing substantially since the early 20th century due to weak stocks. However, in 2022, there was a slight increase in the quotas, but only 56% of that was landed.

Innovation and development

The Finnish government has launched a development program aimed at promoting the use of domestic fish, with the goal of doubling the quantity of domestic fish consumed by Finns in 2027. The biggest potential for increasing the supply of domestic food fish lies in the trawler fishing of Baltic herring but there is also some potential among the freshwater species targeted by the SSCF.

Currently, majority of the herring catch is utilized in the fishmeal factories. These fishmeal factories use some one third of the total Baltic herring catch in Finland. If used for human consumption the Baltic herring catch would bring more income for fishers through considerably higher prices and boost the profitability of trawlers. The price of foodstuff Baltic herring can be even quadruple the one that is paid for the herring for feed. Negligible amount of herring catch is still used for feed in fur farming.

There are some positive indications regarding the effectiveness of the seal repellent, which could mitigate the damage caused by seals in coastal passive gear fishing. Officials have announced an increased investment subsidy, which is expected to have a positive impact on the landings of the SSCF. The Ministry is also trying to find out whether the fishing rights could be used as collateral for loans to ease the financial situation of fishers.

Socioeconomic impact

The number of fishers in the Finnish fishing industry has been decreasing for a long time, and the average age of those remaining has been increasing. This trend has been especially visible in the SSCF segment.

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 has been seen in the Finnish pelagic segment. By 2022, the number of trawlers has decreased around 30% since introducing the ITQ.

A fifth of the catch was landed abroad, either in Estonia, Sweden or Denmark and many of the pelagic trawlers in the Finnish fleet have a foreign owner. The fisheries management together with the industry are urgently seeking new solutions for improving the domestic demand to improve the economic situation of the Finnish fleet and to maintain the employment.

4.7.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Live weight increased slightly by about 3% in 2023 compared to 2022, with a –2% decrease in landed value. Overall, the gross profit for 2023 remained positive and increased by 28% compared to 2022, due to lower energy costs.

Projection results for 2024 report still a positive gross profit but much lower than the one estimated for 2023. This trend is mainly explained by the expected reduction in live weight and value of landings (–49% and –46%, respectively compared to 2023).

4.7.7 Methodological considerations and 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 logbooks and smaller vessels are covered by the coastal fishing reports.

However, in the SSCF the method for correcting non-response was changed in 2014 based on the response loss survey. Furthermore, the fishing law reform sanctioned the coastal fishing reports mandatory for all SSCF 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 TM VL1824 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 additional account surveys for coastal fishers and trawlers. Starting from 2016, the account data 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.

Figure 4.8. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.8   France

4.8.1   Short description of the national fleet

In 2022, the national fleet capacity consisted of 6 205 vessels (including 975 inactive), having a combined GT of 180 660 tonnes and engine power of 975 979 kW. The number of vessels increased by 1% compared to 2021 and decreased by 9% compared to 2013.

Fleet structure

The French fishing fleet is divided into:

- A SSCF (71% 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 metiers and an important part of polyvalent vessels operating in the Atlantic, Mediterranean and outermost regions.

- A LSF (28% of total active vessels) which was mainly made up of vessels using active gears, mainly 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 operated in North East Atlantic and North Sea. As they were most of time larger than SSCF vessels, they represented a major part of the fleet regarding the gross tonnage (67%).

- A DWF[17] composed of 21 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 12% of the national fleet's income.

The estimated value of physical capital of the French fleet was EUR 985 million of which 6% corresponds to the inactive fleet.

In 2023, 3 913 fishing companies were considered active in the sector with the vast majority (85%) owning a single vessel. The percentage of individual companies slightly decreased by 3% between 2022 and 2023 showing an increasing concentration in the sector.

Fishing activity and production

In 2022, the whole fleet operated 566 000 days at sea, 1% lower than in 2021. It is the same for the fishing days, reaching 546 000 days. After a COVID year 2020 at lowest level ever reached, fuel consumption increased significantly by 48% in 2022. The highest increase was for LSF and DWF with an increase of consumption of 46% and 69%, respectively knowing that the major part of fuel was used by LSF, (66% of the whole fleet consumption). After a decrease in 2020, and a slightly increase in 2021 (0.51 euro/litre), fuel price increased highly in 2022 with an average price of 0.85 euro/litre. Energy costs increased was 48% compared to 2021.

After an increase of 8% between 2020 and 2021, national production in value increased by 2% between 2021 and 2022 reaching EUR 1.39 billion. Landings in weight also increased by 6% in 2021 and also by 3% in 2022 at 527 500 tonnes. In 2022, great Atlantic scallop landings generated the highest value by the national fleet (EUR 126 million), increasing to 2021 by 12% and also at the same rate for weight of landings. Price of great Atlantic scallop hasn't changed

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[17] In the AER report, the French distant water fleet takes into account a vessel using hooks of 33m length.

compared to 2021 (2.86 euro/kg). This species was followed by European hake (EUR 104 million), yellowfin tuna (EUR 98 million) and monkfishes (EUR 92 million). The high average landed price of common sole and European seabass (17 and 15.6 euro/kg, respectively) allowed these species to reach a value of EUR 61 million and EUR 39 million, respectively. SSCF landings represented 96 636 tonnes with a value of EUR 320 million, comprising 18% (in volume) and 23% (in value) of the national production. The total production landed by the French LSF increased in weight from 2021 to 2022 by 4% while the value increased by 1% reaching EUR 894 million in 2022. It represented 61% of the total landings weight and 64% of the total landings value of the national fleet.

Employment and average salaries

Employment was estimated at 12 316 crewmembers on board in 2022, distributed as follows: 50% to the SSCF, 47% to the LSF, and 3% to the DWF. With smaller vessels, the SSCF displayed an average of 2 jobs per vessel, comparing to 4 for LSF and 25 for DWF. In 2022, the level of employment decreased by 1% compared to 2021, continuing a constant decrease observed since 2013. Between 2013 and 2021, the average wage by FTE decreased by 7%. In 2022, this average again decreased by 2% compared to 2021.

4.8.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the French fishing part that was active in the year 2022.

National fleet performance

At the national level, the French fleet, after reaching in 2016 its highest economic performances since 2008, driven by a high revenue, increased by 6% in 2022 compared to 2021 after a previous increase by 9% in 2021. Revenue, estimated at EUR 1.45 billion, consisted mainly of landed value (97%) and other income (3%). Other income increased by 33% compared to 2021. Operating subsidies amounted to EUR 32 million, with an increase by 12% in 2022 (compared to 2021) and 424% compared to 2019 (EUR 6 million in 2019). Increases in these two items were mainly due to COVID-19 related vessels stops, established to compensate the lack of income in 2020 and 2021 but also to the fuel compensation plan established to deal with the economic consequences of the Ukraine crisis (see below). Operating subsidies represented 2% of total revenues. There is no income from fishing rights in France because of the transferability of rights is forbidden by law.

Total operational costs represented 89% of the total income (excluding operating subsidies). Fuel costs represented 18% of the revenue in 2022 (compared to 13% in 2021). Aside from the increase in fuel dependence, the operating cost structure have remained stable since 2018.

GVA and gross profit in 2022 were estimated at EUR 716 million and EUR 166 million, respectively. GVA increased by 3% compared to 2021, and gross profit increased strongly by 15% compared to 2021. The net profit at 3.5% was negative, estimated at -EUR 34 million, but increasing by 37% compared to 2021. These results indicated an improved trend for economic performance of the French fleet after sharp fall in performance in the years 2021, 2020 and 2019.

Resource productivity and efficiency

At the national level, the national landings weight continued to increase in 2022 compared to 2021 by 3%. Energy consumption per landed tonne decreased in 2022 compared to 2021 (-10%) after an increase in 2021 (14%). Because of that, the gross profit margin in 2021 was 11% (increased by

8% compared to 2021), indicating an operating profitability of the French fisheries sector, close to 2021 and 2020, but down compared to the last 4 years (2015-2018). The net profit margin at 3.5% was –3% in 2022, increasing by 37% compared to 2021. This indicator is lower compared to the 7% in 2017.

Based on an average price of 0.85 euro per litre fuel in 2022, energy efficiency and energy intensity of the national fleet were estimated as 19% and 1.37 kg of fish landed per litres respectively. The following table presents data on the fuel prices, short-term and long-term break-even revenues, as well as energy efficiency and intensity for more energy-intensive segments of the French fleet.

Table 4.8. France. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
FRA OFR PS 40XX IWE *	0.92	0.87	0.13	36%	597
FRA NAO DTS1824 NGI *	0.80	0.99	0.75	29%	1 200
FRA NAO DTS2440 NGI *	0.83	0.72	0.41	29%	1 199
FRA NAO DTS1218 NGI	0.83	1.19	0.94	25%	1 329
FRA MBS PS 2440 NGI *	0.87	21.57	19.91	2%	313
National average	0.85	1.37	0.84	19%	589

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.8.3 Performance by fishing activity

Small-scale coastal fleet

The French SSCF with 3 725 active vessels covered almost 71% of the whole national active fleet in 2022 for 42% of total horsepower (kW), 8% of total tonnage (GT) and 50% of total crew members. Heterogeneous in size and gears, the SSCF spread over all the supra-regions with 36% in the NE Atlantic, 27% in the Mediterranean Sea and 37% of vessels in the outermost regions.

In 2022, SSCF operated for 339 300 days at sea (60% of the total). Total landings were 96 640 tonnes and EUR 319.7 million (3.3 euro/kg average price including seaweeds) and gross added value was EUR 203 million accounting respectively for 18%, 23% and 28% of the total at national scale. GVA per vessel was EUR 54 480 when GVA per crew member and FTE was 33 250 and 73 230, respectively. Compared to 2021, the number of vessels and the number of days at sea in 2022 remained stable. Since 2013, the active SSCF and crews decreased by 15% and 16%, respectively. Value and weight landings increased by 3% and 1%, respectively. The largest increases were in operating subsidies (36%) and energy costs (29%). Revenue increased by 4% and GVA by 2%. Because of the increase of crew costs by 6%, the gross profit decreased by 8%.

However, the situation was very different from a supra region to another. In 2022, 1 330 vessels and 2 357 crew members operated in the Atlantic for 141 267 DaS. Their landings in weight and value were 82 439 tonnes and EUR 210 million (2.5 euro/kg average price). This relative low price is explained by the seaweed with high volumes and low prices. Total GVA was EUR 131.3 million and GVA per vessel and crew member were EUR 98 730 and EUR 55 723, respectively. Average fuel consumption per vessel was 14 370 litres and 135 litres per DaS. In the Mediterranean area, 1 003

vessels were considered as SSCF in 2022 with 1 252 crew members. These vessels spent 104 149 DaS for total landings weight and value of 6 510 tonnes and EUR 53.5 million (8.2 euro/kg average price). Total GVA was EUR 36.1 million and GVA per vessel and crew member were EUR 35 984 and 28 835, respectively. Average fuel consumption per vessel was 6 032 litres and 58 litres per DaS.

In the outermost regions as whole, most of vessels are SSCF. 1 392 vessels and 2 495 crew members spent 93 857 DaS for a total landing weight and value of 7 687 tonnes and EUR 56.2 million (7.3 euro/kg average price). Total GVA was EUR 35.5 million and GVA per vessel and crew member were respectively EUR 25 534 and EUR 14 245, but a significant number of vessels are weakly active in certain segments. Average fuel consumption per vessel was 6 232 litres per year and 92 litres per DaS.

Distant water fleet

The French industrial fleet of purse seiners consisted of 20 vessels in 2022 (including four vessels registered on the island of Mayotte) clustered with one vessel HOK VL2440. The number of fishing vessels in this fleet has remained relatively stable over the years, but the situation is set to change over the next few years, for different reasons outlined below.

The overwhelming majority of this fleet is made of freezer tuna seiners operating both in the Indian Ocean (half) or Atlantic Ocean (half). The average age of those 20 active vessels reached 21.3 years in 2022. The average length reached by the vessels amounts to 78 metres. Average FTE onboard was around 24 employees by vessel in 2022 (fishers employed come from both France and foreign countries, mostly African).

In 2022, total landings weight of tropical seiners amounted around 110 000 tonnes for the vessels of the fleet segment and were stable compared to the previous year.

At global level of the segment, tuna species caught were mainly skipjack (54.3%), yellowfin tuna (37% of the total volumes of landings), and big eye tuna (6.7%). More than 64% of skipjack catches are made in the Indian Ocean. In the Atlantic Ocean, yellowfin and skipjack account for almost 88% of the catches, followed by bigeye tuna (about 8.4%), in 2022. Overall, and taking all species together, the Indian Ocean zone accounts for 60.7% of the volumes caught by the vessels of this fleet segment, while the Atlantic zone accounts for the remainder (39.3%).

Total landing income for this fleet segment reached almost EUR 168 million in 2022. According to the economic data collected, the three main cost items in 2022 were energy costs, crew wages, and non-variable costs. They represented 35.8%, 30.6% and 17.0% of the total income in 2022, respectively.

As a result, operating profitability of the first segment of the French fishing fleet (in terms of landed value), is negative in 2022, as in the previous year. The deterioration in macroeconomic conditions has led to a sharp rise in operating costs over the last few years (fuel, logistics, etc.), while prices have risen only slightly. At the same time, demand for canned tuna has fallen between 2020 and 2022.

The French tropical fishing segment is going through a period of crisis, and important decisions are being taken by the owners of the vessels concerned: cessation of activity and sale of vessels in particular, observed in 2023 and 2024. The survival of vessels in this fleet segment (and all jobs on board and ashore affected by this activity) will depend on improved competitiveness in the years ahead. The professional organization representing French frozen tuna producers has been certified to the MSC Fisheries Standard (a set of requirements for sustainable fishing) for Atlantic tuna in

2024, for a period of 5 years, giving fishing companies hope that their catches will be better valued in the future.

4.8.4 Performance results of selected fleet segments

The French fleet is highly dispersed over the Atlantic and Mediterranean coasts and considering the outermost and distant fleets components. The fleet is very diverse with a wide range of vessel types, a significant diversity of gears used, and species landed. A short description of a selection of five important segments is provided hereafter. 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.

Drift and fixed nets (DFN) 10-12 metres in NE Atlantic

132 vessels and 400 engaged crew (225 FTE) made up this segment which operated 18 394 DaS in the NE Atlantic. Landings were composed of a large variety of species including common sole, spinous spider crab, monkfish, European seabass, common spiny lobster and pollack accounting for 23%, 14%, 7%, 6%, 6% and 5% of the total value of landings of this fleet segment, respectively. In 2021 and 2022, the total value of landings recovered to pre-COVID situation with around EUR 46 million but with reduced landings, 8 166 tonnes compared to 9 377 tonnes over the period 2017-2019. In 2022, operating subsidies reached EUR 1.6 million. GVA was EUR 28.5 million and gross profit EUR 8.4 million. Net profit was EUR 4.11 million. The fleet decreased by –27% between 2013 and 2022 but average annual landings per vessel remained relatively stable (59 tonnes for a value of EUR 0.311 million). GVA per vessel and per crew member were EUR 171 788 and EUR 51 996 on average over the same period. In 2022, annual fuel consumption and cost were 32 328 litres and 27 452 euro per vessel, respectively, representing 232 litres per DaS. Despite fuel price increase, fuel efficiency remained at low levels (8%). Landed weight and value per energy consumed was at 1.9 kg/litre of fuel and around 11 euro/litre of fuel, respectively.

Drift and fixed nets (DFN) 6-12 metres of the Mediterranean Sea

With 454 vessels and 564 engaged crew (250 FTE), this segment operated 50 362 DaS in 2022 (110 DaS per vessel). The fleet landings were mainly composed by gilthead seabream (26% of the total value of landings of this fleet segment) and a wide range of species contributing from 9% to 2% of the total value of landings (by decreasing order spiny lobster, European seabass, scorpionfishes, common octopus, common sole, surmullet, European hake, urchin and bluefin tuna). In 2022 total landings were 2 973 tonnes for a value of EUR 24.8 million with a decreasing trend in value since 2017. GVA also decreased by –50% to reach EUR 14.9 million. Gross profit and net profit were EUR 2.54 and EUR 0.713 million, respectively. A significant reduction in the number of vessels (–14%) occurred between 2017 and 2022. Average annual landings per vessel tends to increase since 2017 (+31%) but revenue tends to decrease (–20%) as to GVA per vessel (–43%). In 2022, average landings in weight and value were 6.5 tonnes and EUR 54 705 when GVA per vessel and per crew member were respectively EUR 33 015 and EUR 26 590. Annual fuel consumption and cost per vessel were 5 621 litres and EUR 4 669 representing 51 litres (EUR 42) per DaS with an increasing trend compared to the previous years. In 2022, fuel efficiency remained at low level (8.5%) Landed weight and value per energy consumed was at 1.2 kg/litre of fuel and around 10 euro/litre of fuel, respectively.

Demersal trawlers & seiners (DTS) 12-18 metres

134 vessels make up this segment in 2022 and they are predominantly based in the NE Atlantic, (almost half of the vessels are located in the two ports of Lorient and Guilvinec, in the Brittany region). With a total of 369 FTE, this segment operated 27 512 days at sea in 2022.

These vessels target a variety of species. The top three species in terms of landed value in 2022 were Norway lobster, great Atlantic scallop and Inshore squids (27.0%, 11.1% and 7.4% of the total value of landings of this fleet segment, respectively).

Total income was EUR 79.9 million for this segment in 2022, accounting for 5.5% of the national fleet income. It increased by 4.8% compared to 2021. Volumes increased also by 10.1% in 2022.

It generated a gross profit of EUR 8.3 million in 2022, in line with the previous year (gross profit represents 10.3% of the income).

After wage costs, energy costs are the most important for those vessels. Fuel costs account for a quarter of landed value in 2022, with an energy efficiency at a high level of 25.3%. Annual fuel consumption was 172 500 litres per vessel on average, representing 840 litres per DaS.

Even though the economic performance was slightly lower than the previous year, profitability of this fleet segment remained positive in 2022. Net profit was EUR 1.2 million.

Demersal trawlers & seiners (DTS) 18-24 metres

164 vessels made up this segment in 2022 (considering the incremented cluster with 14 vessels MGP1824 in Atlantic in particular). The vast majority of these vessels operate in the Atlantic, North Sea and Channel, and the others in Mediterranean Sea.

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 (23.4% of the total values of landings of this fleet segment), squids and common cuttlefish (10.4% and 6.6%, respectively). In terms of volumes landed, monkfishes and whiting represented 17.5% and 7.3% of the total volumes of landings in 2022, respectively. In the Mediterranean Sea, vessels targeted common octopus, (10.8% of the total values of landings of this fleet segment), octopuses and hake (10.6% and 10.3%, respectively).

In 2022, total income value for this fleet segment was EUR 151.4 million, contributing to 10.4% of the total income from landings generated in the national fishing fleet. Income values increased by 2.5% between 2021 and 2022. This fleet segment produced a gross profit of around EUR 8.5 million in the Atlantic area and EUR 1.6 million in the Mediterranean.

Economic profitability fell in 2022 on both coasts observed (-31.5% and -26% respectively in the Atlantic and Mediterranean for gross profit), due to, particularly, the significant increase in energy costs. Rising fuel prices had a negative impact on profitability in 2022, with high fuel efficiency: 29.1% in the Atlantic and 33.4% in the Mediterranean. Net profit became negative in the Atlantic in 2022 (net profit margin reached -3.6%).

An important point for this segment is that a fleet French decommissioning plan has been signed in 2022, and a significant number of vessels will no longer be in operation. The movement began in 2022, and the impact of these retirements will be felt even more strongly on the economic results of the year 2023 and beyond.

Dredgers 12-18 metres

99 vessels, plus eight dredgers between 18 and 24 metres and one vessel between 24 and 40 metres, made up this segment in 2022 (108 vessels for this cluster), which operates exclusively in the North Atlantic. The fleet mainly targets great Atlantic scallop (almost 80% of the total value of landings of this clustered segment in 2022).

Year 2022 was again satisfactory for vessels targeting scallops, in term of volumes. Landings increased significantly over the period (+12%), even if these good tonnages required fishing companies to adapt in order to sell their production at the best price.

The scallop fishery is regulated 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 catch limits per trip, or by suitable fishing times.

Total income was around EUR 61.6 million in 2022 for all the vessel of the cluster, accounting for 4.2% of the national fleet.

The fleet segment registered a gross profit of EUR 9.8 million, equivalent to a 15.9% gross profit margin. This rate was slightly lower than in 2021, due to, particularly, high fuel costs. In 2022, annual fuel consumption and cost were 86 433 litres and 74 929 euro per vessel, respectively, representing 665 litres per DaS. Energy efficiency reaches 13.7% for the segment.

Even though the economic performance was slightly lower than the previous year, profitability of this fleet segment remained good in 2022. Net profit was 4.0 million.

4.8.5 Drivers affecting the economic performance

Operational costs (external factors)

In 2022, the major cost items for the whole French fleet were labour, non-variable and energy costs, representing 39.1% 12.9% and 18.9% (13.4% in 2022) of the gross value of landings, respectively. Due to dependence on fuel, the fleets especially large scale and distant fleets are sensitive to fuel price increase. In 2023, gross profit margin was 11.4% compared to 10.5% in 2022 and 11.5% in 2020 and 11.6% in 2019. These 4 years were the lowest gross profit margin since 2013 knowing that maximum was reached in 2016 and 2017 with 19.4% and 21.6%, respectively. In France mainland, the annual average fuel price (diesel fuel) increased from 0.35 euro/litre in 2020 to 0.51 euro/litre in 2021 to reach a maximum of 0.85 euro/litre in 2022. In 2023, fuel price remained very high with 0.78 euro/litre and the beginning of 2024 highlighted a limited decrease to 0.71 euro/litre. Different measures including a tariff shield were adopted by national authorities at the end of the first quarter 2022 to attenuate the impact of these increases for fishing companies including a discount at pump and/or direct additional aids (from 0.25 to 0.35 euro/litre depending on the period) in France mainland and also in outermost regions. Since March 2022, an economic and social resilience plan including different phases was put in place to deal with the economic consequences of the Ukraine crisis on the fleets' economic situation. The support to the fishing vessels applying to the schemes was 0.2 euro/litre.

Markets and trade

The mainland French fishing sector was supplied daily by landings made in 60 ports and 35 auction halls operated along the coastline where landings are sorted, checked, weighted, and kept in a cold room while awaiting their first sale. Marketplaces are connected including remote sales with positive effect on the fish prices. In 2022, the top three species in terms of value landed were great Atlantic scallop, monkfish, and common sole representing 11.5%, 9.0% and 7.7% of the total landed values sold in auctions, respectively. However, direct sales are still particularly developed for species such as the great Atlantic scallop (which 2022 season remained correct) or some species of crustaceans. For some species such as whelks, horse mackerel or anchovies, the amounts sold off-auction can represent more than half of the total amounts sold. In outermost regions, most of the landings are sold locally to consumers or fishmongers but ports are not equipped with auctions halls. A lot of vessels did not use this sales method to sell their production. Indeed, depending on the target species or destination markets, companies may sell their fishing products directly, for example under a contractual agreement (tropical tuna, for example, is sold via private contracts and fished to supply the canning industry, without going through the auction process).

Regarding foreign trade, total seafood imports were around EUR 7.8 billion in 2022, and seafood exports were EUR 2.2 billion leading to an overall trade deficit of EUR 5.6 billion in 2022. France exported species like tuna to Africa countries, smoked salmon, frozen shrimp, fresh species like cuttlefish, or squid to Italy, Spain, Germany, Belgium, etc. France also imported major species like salmon (Norway and the United Kingdom), shrimp (Ecuador, India, Venezuela, etc.), cod (Iceland) and tunas (Spain, Seychelles, Ghana, Ecuador and Mauritius).

Other external drivers

The Brexit exerted constraints on specific segments of the fleet operating in the Atlantic area. The development of windfarms parks is also seen as a potential threat for vessels active in coastal areas concerned by these projects. Specific fleets, especially those harvesting scallop or shellfish in general, could be concerned by fishery bans due to phytotoxins blooms mainly in the Channel. In some outermost regions (Guadeloupe and Martinique), fishing areas were definitively closed in the 2010s due to contaminations to pesticides used in agriculture hampering their activity or forcing fishers to leave the sector concerned.

Stock status, TACs and quotas

- Common sole (8 stocks, 4 main stocks for France): stocks still mostly degraded

  The Eastern English Channel stock (7d) is still degraded as the biomass levels are lower than the MSY levels. However, F= F_{MSY}.

  The Western English Channel stock (7e) is considered overfished with fishing mortality above F_{MSY}, but the biomass is above reference points (and slightly decreasing). Attention should be taken as biomass is decreasing.

  For the Bay of Biscay stock (VIIIabd), biomass fall below the reference biomass, and fishing mortality is below Fmsy – thus the stock is considered degraded.

  Biomass for the North Sea stock is now considered overfished with its status improving; however, biomass is still below reference points. Fishing pressure has decreased rapidly in the last 10 years.

- Rays (3 stocks, SRX/2AC4C ; SRX/67AKXD ; SRX/89C): good news for multispecific ray TAC

Advice for single species stocks have led to higher multispecies (SRX) TAC for the 3 stocks. A method for the calculation of the final TAC for these 3 multispecific TAC will be set up from 2023.

- Gadoids in the Celtic Sea (7 e-k, 3 stocks): Worrying stock status except for haddock

Status of cod is worrying as biomass is still under reference point, and F is higher than F_{MSY}, and the stock is considered overfished. For whiting, F is now below F_{pa} and getting closer to F_{MSY}, but the biomass is still low. The biomass of haddock is higher than MSYBtrigger and stable, but the fishing pressure is still too high compared to MSY levels.

- European seabass (2 stocks, 2 main stocks for France):

The fishing pressure for the North Sea / Irish Sea / English Channel / Celtic Sea stock (4bc,7a,d-h) strongly decreased between 2012 and 2019, and is now way below F_{MSY} – caution should be still taken as F is recently increasing. Biomass is still below reference, though recently increasing.
For the Bay of Biscay stock (8ab) fishing pressure is lower than F_{MSY} and slightly decreasing, whereas the biomass is stable and within MSY ranges.

- Horse mackerel (1 stock):

F is in the range of F_{MSY}, but the biomass of this stock is still lower than the MSYBtrigger.

Total available quota (TAC) for the French fleet in 2022 was 362 000 tonnes.

Table 4.9. France. Five main stocks (four species) in terms of tonnes in 2022

YFT (IOCT)	27 696
ANF (07)	24 624
HKE (8ABDE)	23 182
HKE (571214)	20 497
HER (4AB)	19 365

Data source: FIDES/Oceanstore

Table 4.10. France. Five main stocks in terms of quota uptake in 2022 (for quota representing more than 1000 tonnes total)

YFT (IOCT)	97.91%
MAC (2CX14)	95.90%
BFT (AE45WM)	96.98%
JAX (2A-14)	99.98%
MAC (2A34)	95.60%

Data source: FIDES/Oceanstore

Management instruments

Depending on the fisheries, fleets are managed through several management tools such as TACs and quotas related to areas and fishing stocks, fishing licenses or multiannual management plans. Fishers' representatives (Fisheries Committees and producers organisations) are also involved in the regulation of the sector through catch limits and authorizations also called licenses. Fishing authorizations (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.

In 2022 and 2023, decommissioning schemes of fishing vessels were established in the North Atlantic and Mediterranean Sea. The first also called "individualized support plan" (PAI) was organized by national authorities in relation to the Brexit context. 86 vessels were concerned with this plan, mainly VL1824 demersal trawlers but also other segments, with significant impacts on the fleets and supply chains in areas concerned by these schemes. The second implemented in the Mediterranean area in the context of the Western Mediterranean management plan adopted in 201, with the aim to restore stocks, notably hake and red mullet, concerned 14 trawlers.

In 2022 and according to EMMFA rules, temporary stops of fishing vessel were also implemented in the Atlantic area, specifically for the Bay of Biscay common sole fishery following a -37% decrease in the TAC.

Innovation and development

Without seeking completeness, several R&D projects are or were recently conducted with the objective to improve knowledge in different areas:

- Stocks assessment (RECCRU, DREAM, Langolf-TV, eDNAbyss, etc.),

- Selectivity of fishing gears and discards (Game of Trawls, CASEP, APASE CELSELECT, etc.),

- Impacts of fishing gear on habitats (REIP PECHE, CONTRAST, BIOMARIS, etc.),

- Interaction with marine mammals and birds (DELMOGES, HYDROPHIN, CARIP3P),

- Vessels Footprint reduction and energy consumption/costs savings (AREC, AMAREE),

- Value chains and quality of fish products (DEFIPEL, PSG).

Projects were funded through different ways including EMFFA or France Filière Pêche support.

In 2023, a decarbonization roadmap for the fishing fleet was also established in accordance the national "Climate and resilience" law.

4.8.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

The reduction of the French fleet due to the decommissioning scheme of fishing vessels also called "individualized support plan" (Brexit plan) impacts economic performance in 2023. Compared to 2022, the model presents a decrease in the number of active vessels by −1% and a reduction in the

engaged crew by −5%, more strongly for LSF (-16%). The model therefore predicts a revenue that falls by −5% in 2023, due to a light decrease of weight of landings (-1%) and a stronger decrease for the value (-5%).

All costs fall in 2023, according to the model based on lower prices. Energy costs in 2023 reduce sharply (-32%). In the same way, personnel costs decrease by −4%. Thus, the GVA increases by 11% and the gross profit increases considerably by 61%. In 2023, economic performance indicators improve significantly, despite a decrease of revenue.

For 2024, the model results indicate the same trend than for 2023, that is a decrease of revenue, and an improvement of the economic performance indicators.

Outlook

The French fishing industry is currently going through a major crisis. The global economic context, particularly in terms of price levels, is having a major impact on the fishery sector, as well as the consequences of Brexit, not to mention space-time closures due to cetacean by catches.

The quota for stocks as hake, anglerfish, herring, blue whiting and saithe increase in 2023. The drastic reduction in pollack quotas for 2024 will penalise the Finistère coast, and especially the trawlers at the tip of Brittany, who are highly dependent on this species.

Initial results from the French information system indicate a -7% drop in the number of days at sea and an -11% drop in the weight of landings by 2023. Vessels between 18 and 24 metres long will see the biggest falls (-22%). This drop in the activity leads to a decrease in revenue of around 6%.

4.8.7 Methodological considerations and data issues

Data source: effort and production data

In France, detailed landings and effort data per vessel are available through the SACROIS platform. SACROIS[18] is a cross-validation tool for the fisheries statistics, aiming at providing the best possible fishing statistics data by cross-checking available data from the different declarative control regulation sources, as requested in article 145 of the EU control Regulation (EC Reg. 404/2011). The application is crossing information, at the most disaggregated level, from the fishing fleet register, logbooks and coastal logbooks, sales notes data, geolocation data (VMS) and vessel fishing activity calendar census survey (VFACCS), in order to build the most accurate and complete dataset compiling French fleet' fishing trips with their associated features (dates, fishing area, metier, gear and mesh size, total weight and value of landings by species). Additional data collection is currently implemented for fleets for which coverage of declarative data is considered as insufficient. This is the case of the less than 12 metres length fleets operating in A) the Outermost regions (French Guiana, Guadeloupe and Martinique, La Réunion and Mayotte) for which complementary on-site

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[18] IFREMER SIH (2022). SACROIS – Algorithme de consolidation des données déclaratives. IFREMER https://doi.org/10.12770/6510e8e0-788d-45ba-9792-3d0585fe1009IFREMER SIH (2022). https://sih.ifremer.fr/Debarquements-effort-de-peche/Sacrois.

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sampling data are collected and calculation of their reference fishing activity' estimates is applied on this basis and B/ the supra-region Mediterranean for which a re-evaluation methodology19 on the basis of the annual fishing activity calendars survey is applied to calculate their reference fishing activity' and landings estimates.

Survey for economic data

A probability sampling method was carried for the 2022 data as was the case since 2012. Vessels have been selected by using a systematic random sampling, and the fleet has been classified inside each segment by length and maritime district, 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 were processed. Direct subsidies and other income are not available for few segments, in particular, segments of over 40 metres, and some less than 12 metres segments in outermost regions.

In 2022, the distant water fleet gathered 20 purse seiners over 40 metres length, all of them operating in the Indian Ocean and in the South Atlantic Ocean. Data for purse seiners are provided for 17 vessels. Another source enables to get all landings for those two missing vessels which were included in the analysis, then values were computed with species' prices (mainly tuna). For those of French hooks 12-18m and 18-24m in the Indian Ocean, economic data are available from 2011 to 2022. Economic data for less than 12 metres in Guadeloupe, and French Guiana are available since 2010. In other fishing regions, consisting mainly of vessels less than 12 metres based in the islands of Reunion and Martinique economic data are not collected but estimation calculated since 2019 in Reunion and since 2010 for Martinique. Economic data are available in Mayotte from 2015 to 2022.

Data on total personnel costs of vessels is available for all the vessels sampled. Currently, it is considered that they represent wages and salaries of crew for all vessels. Value of unpaid labour is null for France, considering that it is a marginal practise in the sector.

Identified changes in respect to previous years

Since 2017, a calibration on direct margins has been carried out as a method of processing non-response. The new weights were spread and dispersion properties very comparable to the old ones. The impact on the macroeconomic results is small and is much more the result of calibration than the abandonment of a prior response model.

Improvements achieved

Thanks to the methodology change 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. Series for the Outermost regions are now complete. However, estimation of economic data has been calculated for less than 10 metres in Martinique for only 2010 and 2022 and in Mayotte from 2015 to 2022. Estimation for less than 12 metres fleet in La Reunion Island has been calculated since 2019.

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[19] Details about the re-evaluation methodology applied is described in the 9th IFOMC proceedings p°105-108, https://ifomcvigo.com/wp-content/uploads/2018/08/proceedings-9th-ifomc.pdf.

Issues still remaining

Economic data are not complete because data is missing for a fleet segment in French Guiana. This concerned seven vessels of more than 18 metres in 2022.

Issues still remaining

Economic data are not complete because data is missing for a fleet segment in French Guiana. This concerned seven vessels of more than 18 metres in 2022.

Figure 4.9. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.9   Germany

4.9.1 Short description of the national fleet

Fleet capacity

The national fleet capacity continued to decline, with a total of 1 174 vessels, 316 of which were inactive in 2022. The total fleet had a combined GT of 51 969 tonnes and engine power of 120 021 kW. In 2022, the total number of vessels decreased by 68 compared to 2021. 295 of the 316 inactive vessels belong to the smallest length classes (below 12 metres). In these length classes about 31% of the 938 registered vessels have reported no activity in 2022 (35% in 2021). The percentage of inactive vessels decreases with increasing length – in the length classes above 18 metres only 10 vessels were filed inactive.

Vessels targeting blue mussels are not included in the analysis even though they are included in the fishing fleet. They are defined as operating in the aquaculture sector and are therefore covered in the aquaculture report.

Fleet structure

In 2022, the German LSF consisted of 230 active vessels (27% of active fleet), whereas 628 active vessels (73% of the active fleet) were accounted for the SSCF. The decrease in number of vessels applied to both the SSCF (22 vessels less) and the LSF (17 vessels less). The decrease in number of vessels was similar to previous years. Both the total engine power and the gross tonnage of active vessels decreased slightly by about 3% in 2022, while their number decreased by about 4%.

The estimated value of physical capital of the German fleet was EUR 181.8 million, of which 4% corresponds to the inactive fleet.

Fishing activity and production

About 74 000 days were spent at sea by the German fleet in 2022, a sensible decrease from 2021 (82 200 days). The energy consumed in 2022 amounted to an estimated 57.9 million litres, a 15% decrease from 2021 figures. However, as fuel prices increased sensibly again in 2022, the energy costs of the fleet increased from about EUR 34.9 million in 2021 to EUR 54.6 million in 2022 (+50%). The pelagic fleet had fuel cost of about EUR 12.3 million. The average fuel price in 2022 was about 72% above the 2013–2021 average.

German SSCF operates 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 in some years in Southern Pacific waters.

Total production shows an increasing trend from 2013 up to 2018 with a live weight of landings increasing from 219 000 tonnes to 258 000 tonnes. Since 2019, however, the weight of landings shows a steep decreasing trend from 207 000 tonnes in 2019 to 174 000 tonnes in 2021 (-33% since 2018). Catches in 2022 amounted to 165 000 tonnes, a slight increase from 2021. Between 2019 and 2022 catches were considerably lower than the average between 2013 and 2018. The main species are herring, blue whiting, cod, mackerel, common shrimp and Greenland halibut. In terms of weight herring was the dominant species in 2022, whereas the highest revenue was generated through common shrimp.

Employment and average salaries

Employment was estimated at 1 184 jobs in 2022, corresponding to 764 FTEs. These figures follow the overall decreasing trend over time. Average wages per FTE are estimated at EUR 86 000. However, it has to be taken into account that until 2019 data on the number of jobs were estimates, while from 2020 official totals are available. This results in a discontinuity in the time series.

4.9.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the German fishing fleet that was active in the year 2022.

National fleet performance

For confidentiality reasons, data on the German fleet contain no cost data for the pelagic fleet until 2021. This has to be borne in mind when interpreting time series. Overall, the German non-pelagic fleet generated a net profit from 2013 to 2018. In 2019, however, the economic performance turned into a significant loss. The situation improved slightly in 2020, but the result remained negative. In 2022 the active German fleet again faced a net loss which amounted to –EUR 32.8 million. Of this, the net losses of the high seas fleets were particularly high in 2022: –EUR 18 million for the demersal vessels and –EUR 13 million for the pelagic vessels. Net profits were negative also for the other fleet segments of the German fleet, except for beam trawlers between 12 and 24m.

The total revenue of the German fleet, excluding direct income subsidies, was estimated at EUR 196 million for 2022 – an increase of 9% compared to 2021, but a decrease of –20% compared to the 2013-2021 average.

Direct income subsidies accounted for about EUR 5.6 million in 2022, a 64% decrease, compared to 2021. Figures were still high compared to preceding years, mainly due to payments for temporary cessation in the Baltic Sea.

In 2022, total operating costs of the German fleet increased considerably (+8%) with EUR 192 million in 2022 compared to EUR 178 million (2021). From 2021 to 2022, fuel costs of the German fleet increased considerably (+56%), repair and maintenance costs decreased –6%, and other variable costs –7%, while crew costs increased 9%. For the entire fleet, GVA, gross profit and net profit in 2022 were estimated at EUR 77.7 million (+3%), EUR 11.5 million (–12%) and –EUR 14.6 million (+48%), respectively.

The (depreciated) replacement value of the German fleet was estimated at EUR 181.8 million in 2022, about 24% less than in 2021 (one large trawler had left the fleet), while investments amounted to EUR 39.5 million (–28%). Overall, the cost structure has undergone some alterations, mainly due to the changing energy costs. Personnel costs develop proportional to the value of landings as wages are in most cases paid as crew share.

Resource productivity and efficiency indicators

The gross profit margin in 2022 was 5.7%. Net profit margin was estimated at –8%. The rate of RoFTA remained negative also in 2022 at –15.9%. Labour productivity (GVA/FTE) for 2022 was estimated at EUR 101 700 per FTE, almost unchanged from 2021.

In 2022, the fuel consumption rate was around 358 litres/tonne of catch for the German fleet, grossly varying between fleet segments. The fuel consumption rate shows no clear trend. However, the fuel consumption per tonne is determined not only by vessel characteristics, but also by the catch per unit of effort, which also depends on the stock status. As, until 2020, the figures exclude the pelagic fleet with its very high fuel efficiency, the national total might appear high for that time compared with other fleets.

Figure 4.10. Germany. Weight of landings per unit of effort and energy efficiency (Pelagic Trawlers available only from 2021 onwards)
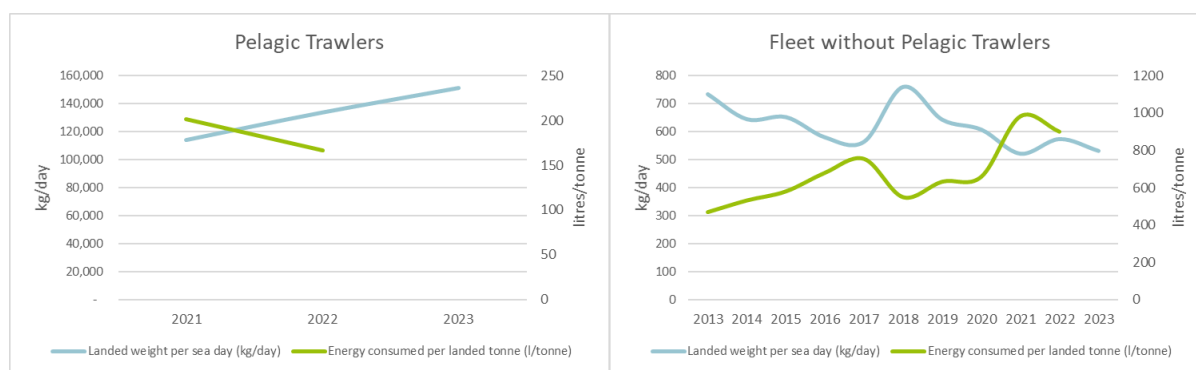
Data source: MS data submissions under the DCF 2024Fleet Economic (MARE/A3/ASC(2024)).

The weight of landings per unit of effort (in days-at-sea) has fluctuated considerably throughout the time series since 2013 between 2028 kg/day in 2013 and 2 677 kg/day in 2018. The value for 2021 was 2 117 kg/day. However, this figure is grossly determined by the segment of vessels below 10m, accounting for more than 60% of the total days, but less than 5% of the catch.

Energy efficiency varies grossly across fleet segments (see Table 4.11). Overall, the sharp increase in fuel costs has an impact on the entire fleet. Energy intensity was lowest for the pelagic fleet as the catches per unit of effort are highest. Yet 35% of the revenue was required to cover fuel cost. Large demersal trawlers had a higher fuel intensity, but energy efficiency was lower than for the pelagic trawlers, i.e. only 25% of the revenues was required to cover fuel cost.

Table 4.11 Germany. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
Pelagic trawlers >40m	1.00	1.09	0.46	35.2%	66
Demersal trawlers >40m	0.95	0.79	-0.18	25.3%	699
Beam trawlers 12-18m	0.91	2.23	1.83	17.3%	1 077
Beam trawlers 18-24m	0.88	1.85	1.44	20.7%	1 332
Beam trawlers >24m	0.79	0.80	0.38	49.0%	3 790
National average	0.94	1.10	0.45	28.0%	356

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)).

The highest energy intensity was observed for the large beam trawlers (49%). These vessels are using heavy gear with high towing resistance to target flatfish. Moreover, the catch per unit of effort is low. As the targeted species are of high value, the share of revenues to cover fuel cost is not affected to the same extent. According to the 2022 figures, the 12-18m beam trawlers are

most resilient to changes in fuel prices in short-term as the break-even fuel price is the highest. From the segments under consideration the actual fuel price was above the short-term break-even price only for the large demersal trawlers. On the long term, though, the break-even fuel prices are below the current price. The difference between short- and long-term is that the latter accounts also for depreciation. Both high seas segments contain newly constructed vessels, hence the capital cost is extraordinarily high. However, on the long run most segments can operate economically sustainable only with increasing income or decreasing fuel cost.

4.9.3 Performance by fishing activity

Large-scale fleet

In 2022, 230 active vessels were assigned to the LSF. 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. Economic data for pelagic trawlers are only included from 2021 onwards. 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 LSF increased from 2021 to 2022 by about 10%. However, this is -19% below the 2013-2021 average. The weight of landings also decreased: about -7% compared to 2021 and -26% compared to the average 2013-2021.

Labour costs increased 13% in 2022, but energy costs increased considerably by 57%, and were even 142% above the average of 2013-2021. Repair and maintenance costs decreased by -16% and other variable costs by -5%, while consumption of fixed capital dropped by -23% and other non-variable costs dropped by -15%. Gross profit decreased considerably (-20%) to EUR 12.7 million, and overall, the German fleet faced a net loss of -EUR 30 million. The difference of these two indicators reflects depreciation and opportunity cost.

The number of people employed in the LSF was estimated at 706 in 2022, a slight decrease of -14 persons since 2021.

Small-scale coastal fleet

In 2022, 628 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 -21% from 2021 to 2022 (1 995 vs 2 538 tonnes) while the value of landings dropped by -9% from EUR 5.1 million to EUR 4.6 million. Compared to the 2013-2021 average, the dramatic decrease is even more evident: -66% in weight and -45% in value. The estimated total effort in terms of days-at-sea decreased from 51 954 days in 2021 to 47 769 in 2022. The overall operating costs for the SSCF decreased by about -20% in 2022. Personnel costs (-64%), as well as other variable cost (-22%) decreased substantially, while energy costs (+14%) and other non-variable costs (12%) increased sensibly. Repair and maintenance costs increased only slightly (4%).

In 2022, the SSCF ended up with a gross loss of -EUR 1.2 million and a net loss of -EUR 2.5 million.

The number of people engaged on-board, including the skippers, was estimated at 478 in 2022.

4.9.4 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 24-40 metres

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 brown 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. Prices for brown shrimp increased slightly and together with higher catches the value of landings increased considerably. However, energy costs increased sharply once again. Overall, shrimp fishery was profitable in 2022 after three unsatisfactory years.

The brown shrimp fishery, backbone of the cutter fleet, was severely hit by both a price drop and a decrease in landings in 2019 already (54% of average weight 2008-2018, 48% of value). In 2020, the catch could be increased only slightly (60% av. weight, 70% av. value). In 2021 the situation did not improve sensibly (75% av. weight 2013-20, 78% av. Value 2013-2020). After this series of unprofitable years, catches increased slightly in 2022 (5%) in 2022 while revenues (+25%) increased sensibly due to increased prices.

In 2022, the fuel consumption in the brown shrimp fishery increased slightly (+5%), while fuel costs increased substantially (+48%) in 2022. After an economically weak year 2021 (net loss -EUR 2.1 million) the fleet of shrimp beam trawlers up to 24 metres faced a net profit of EUR 4.9 million in 2022 which is still below the average net profit during the period 2013-2021.

Five 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. In 2021, a ban of this technique has become effective, thus increasing the energy consumption considerably. Therefore, this fleet shrunk by two vessels. The catch is landed exclusively in the Netherlands. In 2022, the value of landings was EUR 4.0 million for these vessels, a 58% decrease from 2021. The segment of beam trawlers above 24 metres (including one shrimp trawler) experienced a net loss of -EUR 1.3 million in 2022, after a net loss of -EUR 0.9 million in 2021.

Demersal trawlers

The German demersal trawler fleet can be divided into high seas trawlers above 80 metres, large cutters between 23 and 38 metres and smaller cutters below 23 metres. The four 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. It has to be pointed out that in 2022 and beyond the quota of these Baltic stocks has been too low for a targeted fishery.

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. For 2022, a net loss for high seas demersal trawlers over 80 metres was estimated at -EUR 17.1 million was estimated after a net loss of EUR 14.6 million in 2021. As two of these four vessels are rather new, depreciation and opportunity costs are relatively high.

For 2022, a net loss of EUR 3.1 million was estimated for the ten demersal trawlers between 24 and 40 metres after a net profit of -EUR 350 000 in 2021.

The profitability of the high seas vessels is partly estimated upon internal prices as the vessels are part of companies that also operate in fish processing. This 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. Two new high seas' demersal trawlers of 80m entered the fleet in 2017. Two newly built vessels slightly below 40 metres entered the fleet in 2019. These investment activities are a clear indication of long-term profitable fisheries. However, due to uncertainties in the context of Brexit and negotiations with Greenland and Norway one of the newly built large trawlers was sold in 2021 and replaced by a smaller, but older trawler. This trawler is planned to be replaced by a newly built larger trawler in 2024. One more newly built high seas demersal trawler, entered the fleet in early 2024, thus replacing an older one. Hence, soon the oldest vessel in this segment will be from 2014.

For the segment with nine medium sized demersal trawlers (18-24 metres) net losses of -EUR 351 000 were determined for 2022. As mentioned, this is a mixture of North Sea and Baltic Sea vessels. For the vessels between 12 and 18 metres, net losses were estimated at -EUR 479 000. In both cases, the poor status of Western Baltic cod had a negative impact on the profitability.

Vessels using fixed nets and other passive gears 24-40 metres

Larger fixed netters and potters (between 26 and 32 metres) operated almost exclusively in Western waters, targeting anglerfish or red crab. 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. All the smaller vessels fishing in the Baltic Sea suffered from very low TAC of Western Baltic cod and herring, making a targeted fishery impossible. Two former beam trawlers switched to pot fishery on lobster and brown crab in the North Sea.

As the number of vessels in all related segments further decreased, they had to be clustered into one segment for confidentiality reasons. This cluster is quite heterogeneous, though. For the cluster a net loss of -EUR 35 000 was estimated for 2022, after a net loss of -EUR 2.6 million in 2021.

Vessels below 12 metres using passive gear are covered under the small-scale chapter.

4.9.5   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. In 2022, fuel expenses of the total fleet increased considerably (about +56%) from 2021 due to increased prices (+84%), in spite of a -15% decrease in consumption.

Prices for brown shrimp have a significant influence on the performance of the national fleet, as it has been the most important species of the German fleet in terms of value (except for 2019). In 2019, landings decreased considerably by about 51% from an average level, while prices per kg also dropped (-25%), and thus the total value of brown shrimp landings decreased dramatically by about 63% compared to 2018. In 2020, both prices and landings increased slightly, but due to still low catches the revenues remained very low compared to years prior to 2019. In 2021, slightly higher average prices could be achieved (+10%). This trend continued in 2022 (+28%). Cod prices increased 33% in 2022. Prices for Greenland halibut increased 13% in 2022 after a -24% drop in 2021. For all other species with major importance only minor price alterations could be observed.

The MSC certification remains important 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, important pelagic fisheries (North Sea herring, Atlanto-Scandian herring, blue whiting), were MSC-certified until the end of 2020. In March 2019, the mackerel certificate was suspended due to a lack of comprehensive international agreement on quotas (according to MSC), while by the end of 2020, MSC certificates on Atlanto-Scandian herring and blue whiting were suspended, due to an insufficient stock management (according to the MSC). Before the suspension, the Atlanto-Scandian herring catches accounted for about 50% of the total MSC-certified herring catches. In March 2020, the European South Pacific mid water trawl jack mackerel fishery was certified for five years. In 2020, the Baltic sprat fishery was certified. North Sea herring was the only pelagic high seas fishery in European waters with relevance for the German fleet which was MSC certified in 2022.

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 Western Greenland halibut was finalised. All 2022 audits were successfully finalised. The North Sea cod certification was suspended in 2019 as the stock dropped below safe biological limit.

Since 2017, the cutter fishery on brown shrimp is MSC-certified.

Markets and Trade

Brown shrimp has been the most important species. It 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 until 2019, thus increasing the profitability of the related fishery. However, in 2019 the market was saturated as a considerable amount of the catch had been deposited in cold storage. As a consequence, priced dropped considerably, even though the catch dropped as well. In summer 2019 there was a temporary closure of the shrimp fishery.

Overall, in 2022 only about 17% of the total catch was landed in German ports, corresponding to about 40% of the total value, a sharp decrease from 2020 (28% and 50%, resp.). Almost the entire catch of pelagic species, with high volume, but low price, is landed abroad, mainly in the Netherlands. About 54% of the catch was landed in the Netherlands, about 15% in Denmark, and about 5% in Morocco. 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 are TACs.

The introduction of the LO was 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.

In 2022, the closure of fisheries due to choke species could be avoided by quota exchange, to a considerable amount with the United Kingdom. The initial ban of quota exchange with the United Kingdom in 2021 was a problem for certain fisheries in the North Sea.

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, the contract was finally concluded in spring 2021, suggesting extended catch opportunities for the high seas pelagic fleet in the future.

Status of key stocks, TACs and quotas,

Several stocks targeted by the German high seas fleet, e.g. Arctic and Greenland cod, Arctic haddock and saithe are managed at MSY level. However, the certificates for Atlanto-Scandian herring and blue whiting were suspended by the end of 2020 due to an insufficient stock management, according to the MSC. In 2022, only about 43% of the catch of the German high seas fleet in the Northern Atlantic was MSC certified (2020: 67% and 2021: 33%).

High seas pelagic fisheries targeted herring, mackerel, horse mackerel and blue whiting in European waters as well as sardine and mackerel in Moroccan waters. Quota for 2022 increased 21% for the most important herring stocks and remained almost unchanged for mackerel while the blue whiting dropped again by about -20%. Horse mackerel quota dropped again by about -13%. In 2022, no fisheries in South Pacific waters were performed. According to the industry, high seas pelagic catches in European waters remained stable in 2022, while catches in Moroccan waters dropped 23%.

In 2022, the demersal sector was affected by reduced Arctic cod quotas (-28%), while the other cod quota remained almost unchanged. Quota on redfish stocks in Greenland waters targeted by the high seas fleet were lowered -33%. The quota for Greenland halibut remained unchanged. With an overall increase of 12% of quota, fisheries in Norwegian waters, Svalbard and the Barents Sea were regarded satisfactory by the industry in 2022.

For a short period, a directed fishery on saithe took place in the North Sea, with mediocre results. Again, Greenland halibut fisheries in Eastern and Western Greenland waters were highly efficient. However, due to poor weather conditions and the delayed begin of the season the Eastern Greenland halibut quota could not be fully exploited. Western Greenland cod and halibut as well as redfish quota could be fully exploited.

Brown shrimp, for most years the most important species of the German fleet, is not subject to TAC. Catches depend mainly on abundance, effort and prices. Catches in 2022 remained rather low (+5% from 2021, but only 79% of the 2013-2021 average), while revenues increased 25% (94% of 2013-2021 average). Prices increased 19%.

Most relevant North Sea stocks (herring, saithe, plaice, haddock, sole and *Nephrops* are managed at MSY level. In 2022 North Sea herring quota increased 22%, and North Sea cod remained almost

unchanged (–2%) while North Sea plaice quota were cut by –10%. Haddock quota remained almost unchanged (+1%) while saithe quota decreased by –25%.

The quota for Eastern Baltic cod stock was kept at a pure bycatch level in 2022, thus resulting in a continuation of the moratorium for the targeted fishery. The same approach was applied to the Western Baltic cod stock, based on a –88% quota cut for 2022. In the past, the Western cod 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. 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 –50% in 2022, thus amounting to less than 500 tonnes. The sprat quota increased slightly in 2022 (+13%). Baltic plaice quota increased +25% in 2022. Overall, the ongoing unfavourable development of the Baltic Sea stocks is seriously threatening the existence of commercial fisheries. Several fishers have quit the business in recent years.

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 2020 the bag limit was set at five per day. Conditions for the closed season were kept constant. For 2021, the bag limit for western cod was set at 5 fish per day, and 2 fish during the spawning season. Corresponding with the poor stock status, the bag limit for cod was set to one fish per day in 2022.

Innovation and development (role of EMFAF)

For the German fleet, only limited initiatives for innovation can be observed. Most of the large vessels have been replaced in recent years or will be replaced by newly built vessels, all of which are equipped with cutting edge technology. This investment was not eligible for co-funding by public money. Due to this investment the depreciation costs have increased in the related segments. Yet the return on the investment in modern equipment could has not fully become effective as external impacts, especially Brexit consequences, have outweighed these benefits. However, all these vessels are more fuel-efficient than their predecessors and thus help reducing energy cost.

The group of vessels <35m is overaged. Investment in new vessels is scarce and can be observed only in the small-scale range. In general, the industry is reluctant to invest in new vessels as recent years were economically detrimental for most enterprises while the outlook remains uncertain. The amount of subsidies used for investment in innovation is very limited. According to the industry, the funding conditions are too restrictive to be attractive.

4.9.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results and outlook for 2023

Live weight increased slightly by about 2% in 2023 (165 000 tonnes) compared to 2022, with a –7% decrease in landed value (EUR 183 million). Projections suggest that operating costs of the German fleet decreased by 11% in 2023. Thus, the decrease in value of landings in 2023 was offset by lower operating costs. Gross value added increased 15%, while gross profit increased even further to EUR 26 million in 2023 (+198%) from a very low level (EUR 8 million in 2022), while net profit remained negative (–EUR 14 million). Projection results, suggesting that the German fleet operated at a net loss in 2023, are in line with recent statements from the industry.

One main driver for an ongoing low profitability in 2023 was the continuing low level of revenues, combined with still high fuel cost. This is due to a decrease in quota for important stocks, e.g. North Sea herring (-9%) and mackerel (-5%), while quota for North Sea saithe (+17%), North Sea cod (+60%) and haddock (+25%) were substantially increased. The high seas fishery suffered from consequences of the Brexit which consist not only of quota cuts, but also of difficulties in renewing fisheries agreements especially with Norway and to a lesser extent with Greenland. In contrast to 2019-2021, revenues from the brown shrimp fishery remained stable. Brown shrimp is a species without TAC and the most important species for the cutter fleet.

Fuel prices had increased sharply in 2022 as consequence of the Russian invasion to the Ukraine. These peak prices could no longer be observed in 2023, but prices and thus cost were still considerably higher than before 2022.

In 2023, the impact of the COVID-19 pandemic on fisheries had ceased as lockdown measures or other restrictions which might have an influence on fisheries had been cancelled.

Parts of the fleet were suffering from uncertain fishing opportunities in Norwegian and Svalbard waters. Some fisheries highly depend on quota exchange with the United Kingdom. This applies in particular to Norway lobster. The industry welcomed this option becoming effective in 2022 again.

High seas fleet

Overall, 2023 was regarded negative by the high seas fisheries sector. Total landings slightly increased about 4% from 2022, but the value of landings dropped by 7%. The catch of the demersal sector again dropped 12%, thus reaching only 75% of the 2013-2022 average. Correspondingly, the value of landings dropped 16% from 2022 at 82% of the 2013-2022 average.

The pelagic sectors achieved a 7% increase in landings and 1% increase in value. On the long perspective, consequences of Brexit on quota play an important role for the pelagic fishery. Therefore, one high seas pelagic trawler was decommissioned in 2023, hence the fleet is going to consist of only two large trawlers.

The results of the four German high seas demersal trawlers were mixed. Main target species are cod, Greenland halibut and redfish. Catches of Barents Sea cod and redfish were substantially reduced. No directed fishery on saithe took place in the North Sea, due to limited success in 2022. The Greenland halibut fisheries in Eastern and Western Greenland waters were characterised by decreased efficiency. Due to poor weather conditions the Greenland halibut quota could only be fully exploited on Dec. 31. Thus, the fishery on redfish, which usually takes place thereafter, could not be exerted.

Three German high seas pelagic fisheries in European waters targeted herring, mackerel, horse mackerel and blue whiting in European waters. In some years, jack mackerel in the South Pacific is targeted by one vessel, this was the case in 2023. Fisheries in Moroccan waters did not take place as the fishing agreement could not be extended. One of the vessels was decommissioned in 2023, another one underwent some major modernisation and was out of service for four months.

As in previous years the LO was not a limiting factor for the high seas fleet.

In 2022, MSC certificates on Atlanto-Scandian herring and blue whiting were suspended, due to the unilateral claim of extra quota by Norway and Faroe. Hence, the only herring fishery with certificate was the one on North Sea herring. All demersal whitefish fisheries (cod, haddock, saithe) in Norwegian and Svalbard waters as well as the Greenland halibut fishery were certified, as well as

the North Sea saithe fishery. The European South Pacific mid water trawl jack mackerel fishery is MSC-certified as well. All annual audits were finalized successfully in 2023.

Cutter and small-scale fleet

After four subsequent challenging years the cutter and small-scale fleet was again facing economically severe circumstances in 2023. High fuel prices as consequence of the Russian war in the Ukraine as well as increased prices on equipment continued to be a challenge for the industry.

The brown shrimp fishery, backbone of the cutter fleet, faced a substantial drop in landings (-33%). Thanks to substantially increased prices, the value of landings remained rather stable. Overall, 2023 was regarded satisfactory by the industry after this fishery had seen three detrimental years in a row (2019-21).

The action plan of the Commission to impose a ban on demersal trawls in Natura 2000 and National Park areas created high uncertainty amongst fishers and caused substantial opposition from the industry across borders. A consequence of that plan would have been the cessation of the entire shrimp fishery. Due to that uncertainty, fishers stopped any investment, and young fishers reconsidered changing their profession. With some relief fishers received the information that the action plan was changed to a discussion paper.

The North Sea roundfish fishery (mainly saithe and cod) was regarded satisfactory by the industry. The North Sea flat fish fishery is affected by the ban of pulse fishing, as fishing with traditional gear is very fuel-intensive. Only 30% of the sole quota was exploited. As the German Nephrops quota is very low, the fishery has been based grossly on quota exchanges with the United Kingdom. This mechanism could be applied again in 2023, and this fishery was regarded satisfactory.

Baltic fisheries suffered from another year with quotas remaining at very low level for all relevant species. In 2023, the moratorium on targeted cod fisheries was extended, all the quota for cod and herring was used for bycatch only. Plaice quota was increased 25% and sprat quota decreased -11%. The increased plaice quota could not compensate for the losses on cod and herring quota. Payments for temporary and permanent cessation have been carried out by the German authorities.

Model results and outlook for 2024

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. The fuel prices showed a substantial increase in 2022 as a consequence of the Russian invasion in the Ukraine and have dropped since, but not to the initial level. A partly favourable quota development affects the performance of the German fisheries also in 2024. Mainly the pelagic fleet is suffering from quota reductions as a consequence of the Brexit.

The quota exchange opportunities with the United Kingdom have been an issue for the German fleet in 2021 as these exchanges have been to mutual benefit for both parties. However, these opportunities were effective in 2024 again.

As far as the model results, they might be partly biased by some changes in the underlying data. Mainly the introduction of a complete dataset for the German pelagic fleet may cause some inconsistency in time series as well as in model results. Therefore, the figures for 2022 and the model results for 2023 and 2024 should be used with caution.

High seas fisheries

For 2024, North Sea herring quota increased 30% after a 9% decrease in 2023. Mackerel in the North-Eastern Atlantic further decreased 9%, Arctic cod quota dropped 21%, while quota of cod in Norwegian waters increased 9%. Cod in Greenland waters remained unchanged as well as Greenland halibut quota in both Eastern and Western Greenland waters. Redfish quota in Greenland waters dropped 12%.

One more demersal high seas vessel is under construction and expected to enter the fleet in late 2024, replacing an older vessel of the same kind.

Cutter and small-scale fleet

The quotas for North Sea stocks relevant for the German cutter fishery underwent some changes in 2023. The main demersal roundfish quotas in the North Sea were increased by 18% (saithe), 12% (cod), 66% (haddock), and plaice (22%). 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. Almost all enterprises managed to survive three detrimental years in a row (2019-2021) and, concerning catch and revenues, average years 2022 and 2023.

All Baltic cod and herring quota remained unchanged or dropped (Western cod −30%) in 2024 at a very low level which is barely sufficient for bycatch in flatfish fisheries. A directed fishery on these stocks has been ceased. Plaice (+25%) quota increased, but this cannot compensate for the ongoing losses for the main species herring and cod. Overall, the German fishery in the Baltic remains at stake.

Payments for temporary and permanent cessation by the German authorities are likely to be continued, but can only compensate for a fraction of the loss due to the quota cuts.

4.9.7 Methodological considerations and 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 requested exhaustively (100%), but for 2022 two vessels could not be covered. Their figures were estimated based upon the results of the other vessels with very similar characteristics.

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 are hence subject to confidentiality. In 2023, the related company gave

permission to publish the data for 2021 onwards. Therefore, the data for recent years are comprehensive, but the time series is interrupted.

As up to 2020 most data for the pelagic fleet are excluded from the dataset, the regional analysis for that time is affected as well. 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. Usually, the only catch of these vessels are blue mussels.

For the year 2020 and beyond the total number of jobs will be available exhaustively (see below under "Changes..."). On this basis, fulltime equivalents are estimated with reference to the days-at-sea and the crew size. This information is also used to estimate the figures by fleet segment.

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 20 days or less during the year is not accounted for one employed person. If one day at sea would qualify for counting a "person employed" figures would exceed official statistics by at least 50%.

Changes in respect to previous years

From 2020 onwards, employment and demographic data are exhaustively available from the totals from the Employer's Liability Insurance Association. This results in a break in the time series as data from former years were estimated with reference to days at sea and crew size, thus resulting in some cases in an over-estimation. Insurance Association data are not resolved at fleet segment level. Therefore, the figures are assigned proportional to effort and vessel information.

For 2021 and 2022, all data could be provided for the segment of pelagic trawlers due to permission from the company owner. This will result in a completed picture for the national fleet. However, consistency in time series could not be achieved for all data. Therefore, some figures and data should be taken with care.

Improvements achieved within data collection for 2022

The aforementioned change in data availability for employment and demographic data is a step forward in quality. Moreover, the inclusion of the pelagic fleet results in a complete overview for the German fishing fleet from 2021 onwards.

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 4.11. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.10 Greece

4.10.1 Short description of the national fleet

Fleet capacity

In 2022, the Greek fishing fleet consisted of 11 849 registered vessels with a combined gross tonnage of 61 696 GT and a total power of 354 485 kW. The average vessel age is 32 years, and the mean LOA of vessels is 7.7 metres. The overall capacity of the Greek fleet has a falling trend between the previous decade and 2022. The size of the Greek fishing fleet decreased, with the number of vessels falling by 19%, while total tonnage and power also reduced by 12% and 15%, respectively. The decreasing number of vessels stemmed from the reduction in large-scale vessels (-37%) and small-scale vessels (-25%). A significant reason is the ageing of the population without any attractive motive for successors to stay in business. Furthermore, in 2020, the Greek fishing fleet significantly decreased due to EMFAF Measure 6.1.10 under Union Priority 1 for permanent cessation (751 vessels decided to be excluded from the registry). Finally, the high inactivity (19%) that the Greek fleet faces, the problems caused by the COVID-19 pandemic and the soaring prices for energy must be mentioned.

Fleet structure

In 2022, the Greek fleet had 9 614 active vessels. Most active vessels (8 978) were part of the SSCF with a combined gross tonnage of 19 929 GT and a total power of 183 332 kW. Additionally, there were 636 vessels belonging to the LSF with a combined GT of 35 181 and a total power of 124 069 kW.

The estimated value of the physical capital of the Greek fleet was EUR 157 million, of which 12.4% corresponds to the inactive fleet. Moreover, the total investments in physical capital in 2022 were around EUR 28 million.

Employment and average salaries

Employment was estimated at 16 292 jobs, corresponding to 10 402 FTEs with a very low average annual wage per FTE and total employed (EUR 10 770 and EUR 6 900, respectively) in 2022. As a result, employment in the sector faces a decreasing trend. Total jobs decreased only by 0.5%, but FTE decreased by 18% in 2022 compared to 2021.

Fishing activity and production

In 2022, the Greek fleet spent 1.39 million days at sea (DaS), a decrease of 12% compared to 2021, of which 7.6% refers to the LSF and 92.4% to the SSCF. The amount of energy consumed was estimated at 65 million litres and thus was lower than in 2021 (-6%). The average amount of energy consumption was 6 804 litres per vessel. Energy costs increased from about EUR 57 million in 2021 to EUR 67 million in 2022. This increase is due to the fuel price increase despite the lower activity level due to the reduced number of vessels. The fishing effort is concentrated mainly in the Aegean (GSA 22), at approximately 69%, and the remaining effort is deployed in the Ionian (GSA 20) 28% and Crete (GSA 23) 3%.

The Greek fishing fleet targets a variety of species. The leading Greek species regarding the landing weight are European anchovy (13.1 million kg), European pilchard(=Sardine) (7.1 million kg), Marine Fishes Nei (6.1 million kg), (European hake (3.2 million kg), red mullet (1.6 million kg), common

octopus (1.2 million kg), common cuttlefish (1.06 million kg), caramote prawn (0.87 million kg), and surmullet (0.82 million kg). Therefore, the core Greek species regarding landing value are European hake (EUR 30.3 million), European anchovy (EUR 20.1 million), red mullet (EUR 16.9 million), European pilchard (EUR 15.1 million), Marine Fishes Nei (EUR 13.1 million), surmullet (EUR 13.1 million), common octopus (EUR 12.2 million) caramote prawn (EUR 10.5 million) and common cuttlefish (EUR 8 million).

4.10.2 Economic performance for 2022 and recent trends

The economic results refer only to the part of Greek fishing that was active in 2022.

National fleet performance

Total revenue (income from landings and other income) earned by the Greek fleet in 2022 was estimated at EUR 273 million, following a significant reduction of 12% compared to 2021. This reduction happened due to the lower activity of vessels at sea (-12%), with decreased landings value (-17%). The reasons for the decreasing trend of fishing activity could be the COVID-19 pandemic, the increase in fuel prices and the high levels of inactivity in the sector. The 50.6% of the revenue of the Greek fleet was generated by the LSF (EUR 138 million) and 49.4% (EUR 135 million) by the SSCF. Greek fishing vessels' primary source of income comes from landings and payments from the EMFAF for financial compensation from the military aggression of Russia against Ukraine, while some segments also receive direct subsidies stemming from duty refunds. Recently, fishing tourism activities gained importance with the increase in the appearance of income streams. However, there were no income sources from fishing rights or recreational fishing.

Moreover, for 2022, it is essential to mention that the Greek Ministry of Rural Development provided support to alleviate the fishing sector from the financial consequences of Russia's military aggression against Ukraine. More specifically, under Measure 3.1.9 of the Greek Operational Program 2014-2020, 6 057 vessels received the aid of approximately EUR 21.2 million. More specifically, 5 756 SSCF vessels were supported with roughly EUR 16.8 million, while the remaining 301 were LSF vessels supported with approximately EUR 4.4 million.

Regarding the unusual situation for 2022, the income generated from landings covered the expenses for the Greek fleet. Therefore, the amount of GVA, gross profit and net profit at 3.5% generated by the fleet in 2022 were EUR 120 million, EUR 8.6 million and -EUR 23 million, respectively. Overall, the Greek fleet made a loss without including the operating subsidies for the financial support to alleviate the consequences of Russia's military aggression against Ukraine. Once we have the measures to alleviate the consequences of Russia's military aggression against Ukraine, the sector's subsidised net profit will be EUR 2.1 million (positive).

Moreover, including the imputed value of unpaid labour provides the activity with a high positive income for fishers in 2022. As most Greek fishing vessels are mainly based on family labour, this figure clarifies 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 ongoing financial recession, the opportunity cost of labour is lower or even zero.

The total expenses of the Greek fleet were EUR 305 million, which decreased compared to 2021. The main expenses of the fishing vessels were personnel costs (37%), more precisely, wages and salaries (14%), and the imputed value of unpaid labour (22%). Energy and other variable costs

follow with a 22% share, respectively. Energy costs exceed a total of EUR 67 million, which means an increase (15%) compared to 2021. Specifically, wages and salaries were equivalent to EUR 44 million, derived mainly from LSF. Imputed labour costs were estimated at EUR 67 million and derived mainly from small-scale vessels.

Other variable costs, including commercial and other operating costs, were also significant and present a slight decreased compared to the previous year. These costs were estimated at EUR 57 million. The non-variable costs were EUR 7.5 million, representing only 2% of total expenses, while repairs and maintenance costs reached around EUR 21 million, revealing lower levels compared to 2021. Finally, the annual depreciation costs accounted for 13% of total costs (EUR 40 million).

Overall, operational costs have been decreasing. Only energy costs increased, mainly due to higher fuel prices in 2022. Wages and unpaid labour followed a decreasing trend, mainly due to the limited activity in some fishing areas.

Resource productivity and efficiency

The fleet average gross profit margin in 2022 was 3%, indicating a weak operating efficiency for the sector. The Net profit was negative, following a significant reduction due to Russia's exceptional military aggression against Ukraine, which had serious implications for the sector due to the intensified increase in energy prices. However, the Subsidised Net profit was positive, reflecting the assistance provided to Greek fishers.

Labour productivity (GVA/FTE) for 2022 was estimated at EUR 11 603 per FTE, following a decrease in contrast to the period before COVID-19, when the trend had started to follow an increasing trend. The average crew wage per FTE was estimated at EUR 15 759, following a slight increase from the previous year.

Fuel consumption per landed tonne was estimated at 1 134 litres/tonne of landed fish in 2022, and it has followed a decreasing trend. The landed weight per sea day was estimated at 41 kg/day, presenting an increase of 20% compared to the previous year.

Table 4.12. Greece. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
GRC MBS DFN0612 NGI	1.42	-0.06	-0.93	31.0%	2 068
GRC MBS DTS2440 NGI	0.76	1.42	1.04	32.2%	2 037
GRC MBS PS 1824 NGI	0.86	1.83	1.37	16.4%	376
GRC MBS HOK0612 NGI	1.29	1.29	0.50	28.0%	2 086
GRC MBS PS 2440 NGI	0.86	2.19	1.78	20.8%	428
National average	1.06	1.15	0.58	26.0%	1 081

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

The short-term Break-even Fuel price and long-term Break-even Fuel price indicators indicate that the average fuel prices for LSF are acceptable. However, the SSCF and mainly segments like DFN0612, DFN0006, and FPO0006, which comprise most of the Greek fleet, severely affected economic performance and financial sustainability due to high fuel prices. DTS2440 and HOK0612

had high energy intensity compared to PS segments. However, the DTS2440 and HOK0612 segments indicated high energy efficiency (32% and 28%, respectively) above the national average (26%) compared to PS1824, which had the lowest among all the Greek fleet segments.

4.10.3 Performance by fishing activity

Small-scale coastal fleet

In Greece, 93.4% of the vessels were SSCF. Specifically, there were 8 978 SSCF vessels with a combined 19 929 GT and a total power of 183 332 kW in 2022. The number of SSCF vessels decreased significantly by 4% from 2022 to the previous year, following the general trend of the Greek fishing fleet. In 2022, the value of landings of the SSCF was estimated at EUR 113 million, accounting for 46.8% of the value of the Greek landings. However, the value of landings (-19%) and the revenue (-15%) faced a significant reduction compared to 2021, mainly due to increased fuel prices.

In 2022, SSCF spent 92.4% of the Greek days at sea and consumed 23.6 million litters of fuel, 5% less than in 2021. Nevertheless, the corresponding energy costs continue to be significant for Greek fishers. This is because 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 their very short-term needs. This is the main factor for increases in energy costs because they do not take full advantage of the reduced fuel prices.

The income generated from landings was significantly less than the expenses for the SSCF fleet. Therefore, the Greek SSCF suffered losses despite the improvement in economic performance before the COVID-19 period. The amount of GVA and the gross profit generated by the SSCF fleet in 2022 were EUR 59 million and -EUR 20 million, respectively. The resource productivity and efficiency indicators are low compared to the same indicators calculated for all the Greek fleets. The labour productivity indicator (GVA/FTE) was EUR 6 754, lower than the national average labour productivity (EUR 11 603), and the revenue per vessel was EUR 15 067, indicating a decrease of 11% compared to 2021.

The SSCF employs a total of 12 536 engaged crew and 8 757 FTEs, thus contributing to 77% of the total national employment of the sector and 84% of the total national FTEs of the sector. Most of the engaged crew is unpaid labour, mainly members of the captain's 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 (specifically 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 than the LSF and 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, isolated areas with few alternative economic activities. Therefore, this segment contributes highly to coastal communities' social and economic sustainability.

Large-scale fleet

The LSF contained 636 active vessels with a combined 356 181 GT and a total power of 124 069 kW. Larger vessels with higher engine power levels can conduct more fishing operations in deeper

fishing grounds. However, these vessels mainly use active gears (bottom trawlers and purse seiners) and are characterized by high operating costs.

The LSF employed a total of 3 756 engaged crew, thus contributing to 23% of the total national employment of the sector with 1 645 FTE. However, in 2022, LSF employment was reduced (2% in FTE terms and 1% in total jobs).

In 2022, LSF spent 7.6% of the Greek days at sea and consumed 41 million litres of fuel. The income generated from landings was high enough to cover expenses for the LSF fleet. The amount of GVA, the gross profit and the net profit at 3.5% by the LSF fleet in 2022 were EUR 61 million, EUR 29 million, and EUR 10 million, respectively, presenting a significant decrease. Overall, the Greek LSF made a positive profit. Still, economic performance has been affected by the exceptional event of Russian military aggression against Ukraine and the significant market disruption caused by substantial cost increases. Nevertheless, the resource productivity and efficiency indicators were positive. The labour productivity indicator (GVA/FTE) for LSF was EUR 37 423, presenting a decrease (-9%). The profitability measured in terms of net margin is higher for the fleet segments DTS24-40m and PS24-40, with positive profitability also for PS18-24m, PS12-18m, and DTS18-24.

4.10.4 Performance of selected fleet segments

The Greek fleet is highly diversified, with a broad range of vessel types targeting different species. The national fleet comprised 14 (DCF) segments and 9 614 active vessels in 2022. Overall, the Greek fleet made losses. More specifically, four fleet segments had high profitability, three reasonable, and seven had weak profitability. The performance results of selected fleet segments are presented below.

Netters 6-12 metres

This is the largest fleet segment of the Greek fishing fleet, containing 4 555 vessels. The total value of landings was EUR 62 million, having the first position with a 26% share of the Greek total landings value. DFN06-12m segment employed 5 198 FTEs, having the first rank in terms of employed persons, representing 50% of the Greek fishing fleet. In recent years, DFN0612m faced a decreasing trend in the number of vessels (-3.6%). Furthermore, in 2022, the DFN 06-12m segment faced significant effects due to COVID-19.

It is also important to mention that this segment produces the highest GVA among fleet segments, equal to EUR 25 million, revealing its substantial importance. In 2022, the GVA faced a significant decrease compared to the previous year. Considering that most of these vessels operate 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 (34% of total expenses) and represents the family contribution to labour. In 2022, the fleet segment of DFN0612 had weak profitability with losses. This segment spent on average, 142 DaS per year, indicating a decrease of 15% compared to 2021. The average wage per FTE is EUR 8 923, and the labour productivity at EUR 4 930. Moreover, the profit and the imputed value of labour provide a substantial income to the families of many coastal areas.

Netters below 6 metres

It is Greece's second most crucial fleet segment in terms of the number of vessels employed with 2 001 small vessels. These vessels target multi-species (e.g. *Mullus barbatus*, *Mullus surmuletus*, *Merluccius merluccius* and others). The total value of landings is EUR 11 million, remaining at the

same levels compared to 2021. This fleet segment employed 1 240 FTEs, referring to an average FTE of 0.59. They spent on average, 113 fishing days at sea, with a landed weight per fishing day of 6.3 kg/day and a landed value of EUR 47 per day. Most of these vessels are family-owned and usually utilize only family labour. Therefore, the segment's share in the total national value of landings and the national contribution to employment indicates its high importance (5% and 12%, respectively).

Unlike large-scale fisheries, the main cost element is the imputed value of unpaid labour (50%), followed by labour cost (10%) and energy costs (18% 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 4.7 million) and provides livelihood and income for fishers with limited alternative employment. Admittedly, the economic performance is weak, and the net profit is negative, but it also has a social contribution to providing labour to the families of many coastal areas. The average wage per FTE was EUR 9 177, and labour productivity was EUR 3 820.

Longliners 6-12 metres

Longliner's total fleet is made up mostly of small vessels less than 12 metres, around 2 160 vessels. This segment has a substantial contribution either to landings or employment. It contributes 2 430 FTEs, representing 23% of the Greek fishing fleet unless there is a significant reduction in 2022 from the related restrictive measures on the activity due to the COVID-19 pandemic. This figure highlights the major importance of 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 job alternatives in some specific coastal areas.

HOK06-12m is the third largest fleet segment of the Greek fishing fleet, with 1 349 vessels. The total value of landings was EUR 21.6 million, and the total FTEs employed in this fleet segment were 1 566, representing 15% 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 was the primary type of cost (33% of total expenses), and as in the previous segment, it represents the family contribution to the labour. This segment spent on average, 168 DaS per year. Energy costs are also important, contributing to 18% of total costs. It is essential to mention that this segment has a GVA of EUR 13.9 million, revealing its high importance to rural economies. However, the economic results were weak and made losses in 2022. The labour productivity was only of EUR 8 886.

Bottom trawlers 24-40 metres

The bottom trawlers' fleet segment included 203 active vessels with a total value of landings of EUR 59 million, following a decrease compared to 2021 and total employment corresponding to 581 FTEs. Bottom trawlers have multi-species characteristics and capture numerous fish species, such as *Penaeus kerathurus*, European hake, deep-water rose shrimp, red mullet, surmullet, *Pagellus erythrinus*, picarel, common octopus, bogue, and many others. This segment spends, on average, 198 DaS per year. Management regulations include seasonal (June 1–September 30) and spatial closures, net size changes, and a minimum landing size. Overall, bottom trawlers had positive profitability and followed an improved economic development trend.

DTS 24-40m segment had 129 vessels, with 42 634 GT and a total power of 17 874 kW. The average age of these vessels is low (28 years), indicating increased welfare. They spent on average, 205 DaS per year with a total value of landings of EUR 42 million. The total FTEs is 352, representing around 3.3% of the FTEs in the sector. The main expenses are energy costs (37%), wages and salaries (18%), and other variable costs (16%). Regarding the value of physical capital, it

represents 21% of the total national value of physical capital, while it represents 14% of the total national investment for 2022. Finally, it should be noted that this segment appears to have reasonable economic performance in the sector. It has a high net profit margin (28.1%) and returns on fixed tangible assets (18.6%), which provide high profitability for this fleet segment. The landings contributed 28% of this segment to the national economy and 19% to the total revenue. The labour productivity is very high (EUR 58 507) and decreased (17%) compared to 2021. Overall, the DTS24-40m had a reasonable profitability development.

Purse seiners 18-24 metres

This segment included 201 vessels operating predominately in areas Aegean (GSA 22) and Ionian GSA 20. Aegean make up 86% of the fishing effort and Ionian 14%. Purse seiners fishery is the main fishing gear for small pelagic species, mainly European anchovy and European pilchard, which consist of about 97% of the weight and volume of the landing. 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 spent on average, 187 DaS per year. Management regulations currently in force for the purse seine fishery include mesh size regulations (14 mm), technical measures such as time closure (15 December–February), area closure, and fishing prohibitions within specific distances from the coast (100 m).

PS18-24m segment included 116 vessels with a value of landings equal to EUR 29 million (12% of the total national landings), followed by a decrease (10%) compared to 2021 due to COVID-19. Each vessel spends, on average, 178 DaS per year. The segment employs a total of 245 FTEs, and thus, it contributes to 2.3% of the national total. Variable costs, wages, and salaries are the largest cost elements in this segment, representing 61% of the total cost. This year's economic performance was reasonable, with a net profit margin of 11.3%. Moreover, it also presented high labour productivity (EUR 60 477) and a high average wage/FTE, equal to EUR 37 017.

Pots and Traps 6-12 metres

This fleet included 313 vessels, with the majority (269 vessels) to be categorized in the 6-12m class. It offers 278 FTEs, representing 2.7% 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 these fishing gear targets are the common cuttlefish, Norway lobster, black seabream, and picarel. Each vessel spends, on average, 338 DaS per year. 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. Therefore, in 2022, the FPO0612m segment faced high profitability. Furthermore, it also presented high labour productivity (EUR 42 295) and a high average wage per FTE, equal to EUR 15 366.

4.10.5 Drivers affecting the economic performance trends

The main drivers affecting the Greek fishing sector's economic performance involve the COVID-19 shock, the significant market disruption caused by soaring prices for energy, the general economic environment with the inflation increase, and specific sector characteristics. Results show that the overall economic performance of the Greek fleet has had a significant impact due to the exceptional event of Russia's military aggression against Ukraine and the increase in energy prices.

Specifically, part of the Greek fleet has limited fishing activity because of the decreased profitability.

Many challenges are ahead, like the cash flow shortage, limited access to credit, increasing social security contributions, taxation, and high fuel prices, which create unfavourable conditions for fishers and their activities. In addition, low prices of the main target species and inflation are also linked to the low spending power of Greek households.

Furthermore, one of the main problems that fishers report is the fishing gear damage 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. Moreover, the invasion of alien species, such as *Lagocephalus sceleratus*, can cause damage to the fishing gear but, more importantly, can negatively affect the biodiversity of Greek seas and contribute to significantly lower catches and income for fishers.

Additionally, the reduction of fishing stocks in the Mediterranean Sea affects the economic performance of the Greek fishing sector. Pressure on stocks has increased due to the competition of Greek fishing vessels with vessels from other countries that do not have to follow EU legislation and restrictions, such as Turkey. Various vessels also operate in the same fishing areas, which can lead to conflicts. In particular, there is an intense conflict between the small-scale and large-scale fleets, highlighted by fishers as a significant 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

Regarding the market structure, fishers reported that, on average, 35% of their catch is channelled to wholesalers and fish auctions, while 34% involves direct sales to consumers. Direct sales refer mainly to small-scale vessels. However, if only large-scale vessels (bottom trawlers and purse seiners) are considered, fishers report that about 93% of the catch is channelled to wholesalers and fish auctions.

Analysing from the consumer's point of view, and specifically consumer preferences on purchasing channels, Greek consumers prefer to buy mainly from fishmongers or specialist shop (68%) and secondary from the grocery store, super, or hypermarket (56%), while at the EU level, consumers prefer to buy mainly from the grocery store, super, or hypermarket (79%) and secondary from fishmongers or specialist shop (43%) (EUMOFA, 2023). 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, 2022). Young people (15-24) are less inclined to consume fish in Greece and at the EU level (EUMOFA, 2023). However, regular consumers in this category cover 70% of the total, which is higher than at the EU level (67%) (EUMOFA, 2023). Furthermore, Greeks consume mainly fresh products; loose fish is much more frequently consumed (92%) than at the EU level (68%) (EUMOFA, 2023). Regarding the purchasing factors of fish, Greek consumers place more emphasis than other EU consumers on the factors: product's appearance (73% vs. 58%), cost of the product (68% vs. 54%), and origin of the product (67% vs. 49%) (EUMOFA, 2023). However, compared to other EU consumers, they place less emphasis on factors such as: brand or quality labels (19% vs. 26%), how easy and quick it is to prepare (11% vs. 24%), and environmental, social, or ethical impact (10% vs. 16%) (EUMOFA, 2023). In addition, Greek consumers reveal a greater preference for wild products over farmed products (53% vs. 4%), while a significant percentage of consumers (22%) are indifferent between wild products and farmed products (EUMOFA, 2023).

Operational costs (external factors)

In 2022, the overall economic performance of the Greek fleet revealed a deterioration. This refers to the result of the COVID-19 pandemic effects and the military aggression of Russia against Ukraine. The sector had lower operating costs, particularly low wages and reduced value for the variable and non-variable costs. However, the energy cost increased by 29% due to the fuel price increase. Notably, the number of inactive vessels continues to grow with a significant reduction in fishing efforts and landings.

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 costs increased (29%) compared to 2021. On the other hand, the average fuel price increased even the small-scale vessels have a higher fuel price than LSF. The wages and salaries of the crew, which are also important cost elements, have been reduced (14%) compared to the previous year. The same direction we had with unpaid labour, which decreased (22%). This was mainly due to the limited activity of the fishers due to either COVID-19 effects or the impossibility of offsetting the increase in the price of energy.

Another external factor affecting fishing activity costs is damage caused to fishing gear, especially nets, from mammals like dolphins, sea turtles, crabs, and sea birds. These damages are frequent and reported by most 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 little room for new and innovative techniques for small-scale fisheries and large vessels since the latter also face high running costs. However, as mentioned above, the Greek Operational Programme for 2014-2020 aimed 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, eight fishing vessels are funded for modernization through supportive investments. These investments will ensure a higher level of hygiene, safety, and energy efficiency of ships (Measures 3.1.8 and 4.1.20). The funding budget is around EUR 317 000.

Moreover, EMFAF, through the Greek Operational Program, provided financial resources under measure 3.1.9 to the fishery sector operators for their income forgone and for additional costs they incurred due to the market disruption caused by Russia's military aggression against Ukraine. A total of 6 057 vessels were supported with EUR 21 million. Specifically, the DFN segment received EUR 13 million (4 413 vessels), the HOK segment EUR 3.9 million (1 168 vessels), the PS segment EUR 2.1 million (114 vessels), the DTS segment EUR 1.3 million (101 vessels), the FPO segment EUR 0.69 million (241 vessels), and the DRH segment EUR 0.053 million (20 vessels).

At this point, it should be noted that in the framework of the National Fisheries Data Collection Program for the reference year 2022, most fishing enterprises in the sample expressed a willingness to participate in measures related to the modernization of the vessels and fishing gears. Also, most fishing enterprises showed significant interest in fishing education, stating that they would be interested in education through seminars such as sustainable fishing, sustainable fish stock management, and new fishing technologies.

Furthermore, the Greek Fisheries Institute, the Hellenic Centre for Marine Research, and the Greek Agricultural Economics Research Institute provide the necessary scientific knowledge for successful management instruments and policies that can promote sustainability and the development of the fisheries sector.

4.10.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Nowcasts suggest a decrease in 2023 and 2024 results compared to 2022, driven by the decreasing number of fleet and the increasing level of inactivity of the small-scale fleet resulting in lower landings in weight and value. In 2023 and 2024, the economic indicators will further deteriorate the economic performance due to the increased fuel prices.

4.10.7 Methodological considerations and data issues

There have not been significant data issues in producing this chapter. The implementation of the DCF National Work Plan did not face difficulties in 2022 like in previous years, which resulted in an interrupted time series on the economic data. The cost figures come from a survey based on probability sampling, and the response rate was satisfactory for 2022.

Figure 4.12. Greece: 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2018=100). Nowcast figures for 2023 and 2024.
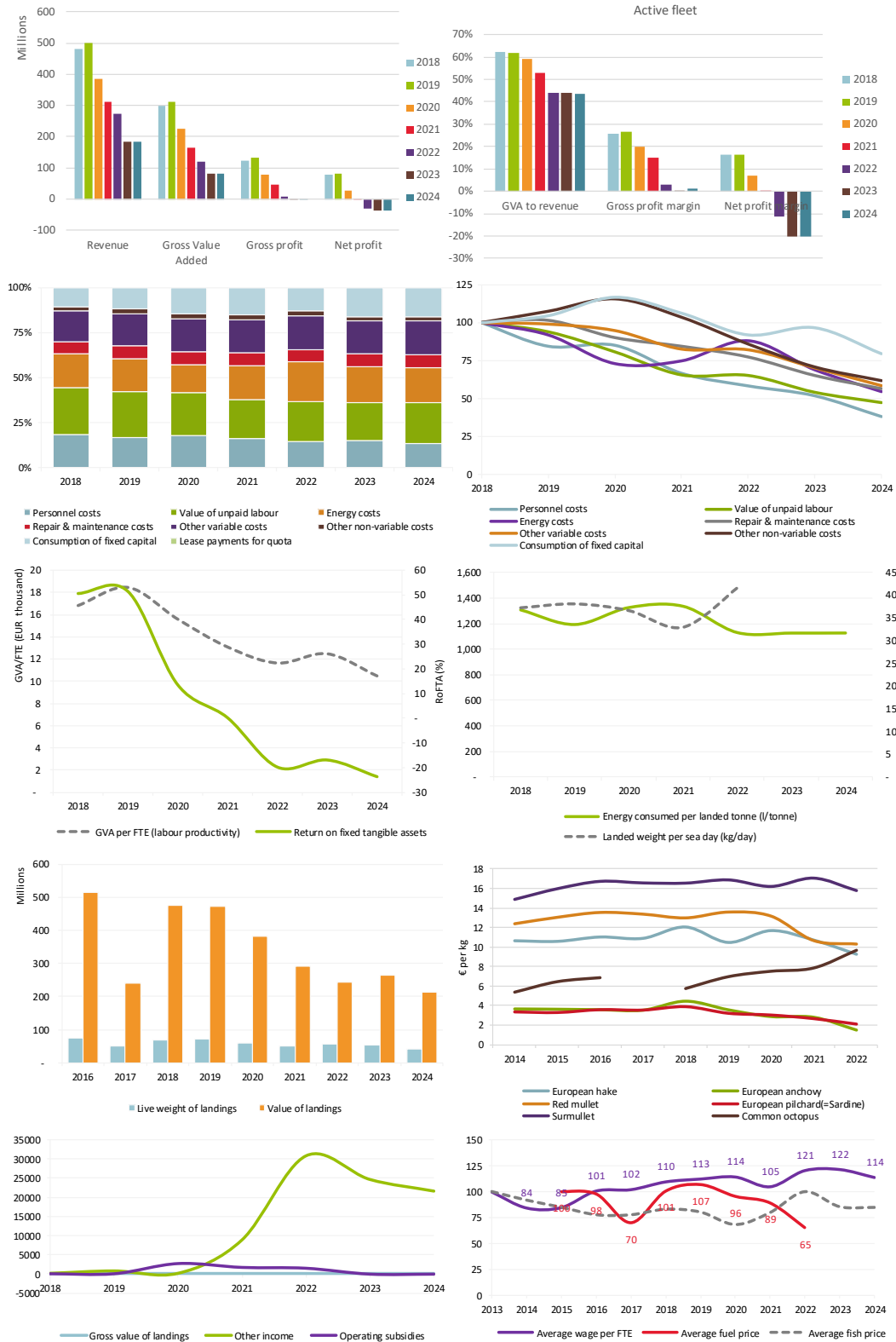
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.11 Ireland

4.11.1 Short description of the national fleet

In 2022, there were 2 036 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 69 786 GT and 193 260 kW. The capacity of the national fleet has remained relatively stable since 2013. The estimated total number of inactive vessels in 2022 was 718, the majority of which (87%) are in the less than 10m segments. While inactivity for vessels over 10m LOA is known from logbook data, inactivity in the less than 10m LOA fleet has been estimated using data from sales notes and survey returns.

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 (i.e., 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 monkfish 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 trawlers and gillnetters targeting whitefish (e.g., haddock, hake, monkfish, whiting) and prawns, pelagic fish such as mackerel, herring, and albacore tuna on a seasonal basis.
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.

The estimated value of physical capital of the Irish fleet was EUR 550.9 million of which 8% corresponds to the inactive fleet. In 2022, the average age of the vessels is high at 33 and on average has increased since 2013 with very few new built vessels being added to the fleet. Investments increased by 42% in 2022 reflecting an overall upward trend since 2013.

Employment and average salaries

In 2022, 2 687 jobs were supported by the Irish fleet. This represents a decrease of 3% on 2021 employment figures (2 776) but remains below pre-COVID levels of 2 944 in 2019. The fleet FTE is estimated to be 1 745, with an average of four and one FTE per vessel for the LSF and SSCF, respectively (excluding inactive vessels).

It is important to note that from 2020 onwards, FTE was calculated based on the number of average daily hours worked and total annual sea days which reflects a change in methodology in the estimation process. Previously, a self-reported indicator of full-time, part-time, or casual status

was requested in the economic survey to calculate FTE. Therefore, 2020, 2021, and 2022 FTE figures represent a break in the time series.

Average crew wage for the entire fleet and per FTE both increased significantly in 2022. Average crew wage grew by 32% to EUR 43 295 per job and average wage per FTE by 33% to EUR 66 667 which are both higher than the average national annual earnings of EUR 41 824. However, the average crew and FTE figures mask considerable variations in the average wage depending on the size and gear of the vessel, target species, and the systems of crew share in place. As such these figures should be used with caution.

Fishing activity and production

The Irish fishing fleet operates primarily in the North Atlantic, Celtic, and Irish Seas. As the impacts of COVID-19 were minimal in 2022 compared to 2020-2021, figures for total Days at Sea (DaS) indicate an increase of 31% to 69 126 compared to 2021. However, these totals are still down on pre-COVID DaS when the national fleet reported 77 000 total DaS on average each year between 2015 and 2019[20]. Similarly, fishing days increased by 42% in 2022 to 60 317 but this is still -13% down on pre-COVID-19 data potentially linked to a series of Brexit-related temporary tie-ups for certain segments of the fleet from June to December 2022.

Landings by weight in 2022 decreased significantly by 15% to 175 773 tonnes (valued at EUR 287 million, a reduction reflecting the decrease in fish prices of some of the many species) from 207 400 tonnes (valued at EUR 325 million) in 2021. Adjusting for price errors in the landings data and including improved estimates for income for the less than 10m segments, revenue for 2022 is estimated as EUR 311.8 million. Provisional figures for 2023 indicate that total landings will be close to 186 000 tonnes (with an associated landings value of approximately EUR 260.6 million) reflecting the continued downward trend in fish prices.

Production trends are highly influenced by quota changes for pelagic species, particularly mackerel. Indeed, many of the historical fluctuations in the national value and weight of landings have been driven by mackerel, as mackerel quota accounted for approximately 34% of the total Irish quota from 2015 to 2022. Quota reductions of 26% for mackerel as a result of Brexit from 2021 onwards will influence production trends in Ireland.

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 and was reduced again in 2019 to 55 000 tonnes but increased again to over 78 000 tonnes in 2020. In 2021, the quota decreased to over 61 000 tonnes in line with the quota reductions as a result of Brexit. In 2022, there was a further decrease of 10% to just under 55 000 tonnes. Mackerel has again been one of the top species by value in 2022 with estimated values of EUR 46.7 million.

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[20] Note: Prior to 2015, effort was estimated using only data for the over 10m segment. In the absence of a regulatory requirement, 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 limited results from the inshore Sentinel Vessel Programme that collects daily effort and economic data from a small sample of the SSCF and sales notes data.

4.11.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Irish fishing fleet that was active in the year 2022.

National fleet performance

The economic performance of the fleet in this section refers to the 1 318 active vessels only.

In 2022, the Irish fleet recorded a gross profit. GVA was estimated at EUR 137.5 million, gross profit at EUR 17 million and a net profit of -EUR 38.9 million. These values represent significant decreases in GVA (-30%), gross profit (-82%) and net profit (-217%) from 2022. It should be noted that these figures are strongly influenced by the larger pelagic vessels (TM VL40XX). The value assigned to its cost structures and capital values along with fish prices can greatly affect their total landings revenue and profit due to the large volumes of their catches on an annual basis. 2022 was a particularly challenging year for this segment and also others in in the LSF (e.g. DTS2440, DTS1824, TB2440) which has had a significant impact on the national fleet performance.

Total landed values for the SSCF and LSF have decreased by 9% and 12% with values of EUR 41.9 million and EUR 224.6 million, respectively.

Overall, the cost structure of the fleet in 2023 has increased across most operating costs. Operating costs totalled EUR 331.5 million representing an increase of 14% from 2021. Energy costs spiralled in 2022 increasing by approximately 54%.

Resource productivity and efficiency

The fleet average gross profit margin in 2022 was 6% representing a decrease of 80% from 2021. The Net profit margin was -12% representing a significant decrease from 10% in 2021 to -12% in 2022, and the RoFTA at -4%, was a decrease from 9% in 2021.

In 2021, fuel consumption was estimated to be 348 litres per tonne landed; the corresponding figure for 2021 was 365 litres, representing a 5% decrease. In terms of a time series trend, the data demonstrates a sharp increase in fuel consumption each year from 2014 until 2019 (141%) from 245 litres to 591 litres before decreasing by 45% in 2020 and then increasing again in 2021 and then falling again in 2022.

Energy consumption for the fleet fell from 75.6 million litres in 2021 to 61.6 million litres in 2022, a reduction of 19% potentially linked to the sharp increases in fuel prices that year. In terms of trends, whilst fuel prices fell for a period in 2020 due to the reduction in demand as a result of the COVID-19 pandemic, overall, there was an increase of approximately 21% in the cost of fuel in between 2019 and 2021 from 0.42 euro/litre to 0.51 euro/litre. In 2022, there was a sharp increase of 92% reaching an average fuel price of 0.98 euro/ litre which had a considerable negative impact on overall economic performance of the national fleet.

Total average fleet Landings per Unit of Effort (LPUE) (i.e., DaS) have fluctuated since 2013. In 2021, the fleet LPUE was estimated at around 3.0 tonnes /day; in 2022 the corresponding figure decreased by 36% to 2.5 tonnes/day. This average fleet figure may mask performance in specific segments.

Based on an average price of 0.98 cent per litre fuel in 2022, energy efficiency and energy intensity of the national fleet were estimated as 21% and 3.5%, respectively. The following table presents

data on the fuel prices, short-term and long-term break-even revenues, as well as energy efficiency and intensity across several segments that make up a representative sample of the Irish fleet.

Table 4.13. Ireland. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
IRL NAO DTS2440	0.94	1.21	0.87	26.2%	1 214
IRL NAO TM 40XX	0.88	0.14	-1.59	13.7%	90
IRL NAO DTS1824	1.06	0.99	0.81	35.8%	1 603
IRL NAO TM 2440	0.60	1.57	0.53	10.9%	139
National average	0.98	1.23	0.68	21.0%	353

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.11.3 Performance by fishing activity

Small-scale coastal fleet

There were an estimated 858 active vessels registered in the SSCF in 2022. The number of active vessels in this fleet has been relatively stable with a change of only -1% on average since 2013. There were 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 includes all vessel under 12 metres irrespective of gear being active or passive.

In 2022, the SSCF activity recorded a GVA of EUR 24.5 million, gross profit of EUR 1.5 million and net profit of -EUR 3.4 million, demonstrating a significant decrease in these economic indicators since 2021. While the SSCF makes up 17% of the total revenue of the Irish fleet in 2022, its importance to local coastal communities should not be underestimated.

SSCF offer employment in often deprived, peripheral areas and bring much needed money to local communities and their hinterlands. While total employment in the SSCF increased annually between 2019 and 2021, estimates for total jobs indicate there was a decrease of 11% to 1 124 in 2022 coupled with an 11% increase in total hours worked. Similarly, the number of FTEs decreased by 6% from 826 in 2021 to 779 in 2022. The estimation process of employment figures for the Irish fleet was revised from 2020 onwards. Further data and analysis will be needed to robustly establish if the current changes in employment numbers reflects a real trend.

Large scale fleet

There were an estimated 460 active vessels registered in the LSF in 2022. Long-term data highlights a -5% decrease in active vessels in the LSF on average since 2013. Landings by weight decreased significantly by 15% since 2021 to 159 000 tonnes reflecting the reduction in quotas arising from Brexit and a -28% decrease on average since 2013.

In 2022, the LSF recorded a GVA of EUR 111.6 million, gross profit close to EUR 14.8 million and net profit of -EUR 31.3 million, demonstrating a significant decrease in these economic indicators 2021. This fleet category contributed 83% of the total revenue of the Irish fleet in 2021.

In terms of employment in the LSF, FTE, total jobs, and total hours worked remain below pre-COVID levels reflecting challenges reported by industry in terms of crew shortages. In 2022, total employment by LSF increased slightly by 4% from 1 503 in 2021 to 1 563 in 2022. FTE in the LSF fleet decreased in 2022 to 966 from 1 086 in 2021. This may be driven by the increase in personnel costs reported in 2022 coupled with escalating fuel costs.

4.11.4 Performance of selected fleet segments

The Irish 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 (i.e., Rockall, Northwest Coast of Scotland, and North Ireland) and 27.7 (Irish Sea, West of Ireland, Porcupine Bank, Eastern and Western English Channel).

In 2022, the national fleet consisted of 21 (EU MAP/DCF) fleet segments, there were 12 segments (both clustered and un-clustered) that had sufficient data to calculate profitability. Of these, four demonstrated high profitability and eight, weak profitability. Overall, this shows a deteriorating economic development trend for the industry in 2022.

The fleet is dominated by the polyvalent segment (nationally defined), a diverse group including small inshore vessels (netters and potters), medium and large offshore vessels targeting Norway lobster (*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 (i.e., mackerel, horse mackerel, herring, blue whiting, and boarfish) and equated to the TM VL40XX segmentation.

Pelagic Trawl over 40 metres

Pelagic Trawlers over 40 metres (TM VL40XX) are part of the, nationally defined, RSW segment. In 2022, there were 21 vessels classified as TM VL40XX and typically these are generally considered to be amongst the best performing components of the national fleet. These vessels land large quantities of pelagic fish (e.g., Atlantic mackerel, horse mackerel, herring, blue whiting, albacore tuna and boarfish) and operate mainly in ICES divisions 6a and 7b,c,j,k. Atlantic mackerel and horse mackerel constitute 16% and 4%, respectively of the total value of landings and 30% and 9% of the total landings by weight in 2022. Ireland's pelagic fleet tends to operate seasonally (i.e., January to early April and in the autumn months), reflecting both the annual distribution patterns of the target species as well as quota limitations.

In 2022, landings (all species) by pelagic trawlers over 40m amounted to just over 86 800 tonnes (live weight), down 11% from 2021 and valued at EUR 50.3 million, representing a sharp decrease of 42% from 2021. This is linked to reduced quota available to Irish vessels coupled with price decreases for certain species (e.g., mackerel prices have decreased by 33% and blue whiting prices decreased by 30% since 2021). GVA for the segment in 2022 was EUR 22.7 million generating a gross profit of –EUR 5.8 million (down 120% from 2021). Total revenue for the 21 vessels in this segment was EUR 57.7 million accounting for 19% of the total revenue of the fleet (down from 27% in 2021). 2022 was the first year this segment was not the highest contributor to total revenue of the Irish fleet since data collection commenced in 2008. At 19%, this was considerably lower than the average percentage total of revenue 25% between 2013 and 2022. On-board employment is estimated to be comprised of 64 FTE in 2022 or 4% of total fleet employment nationally.

Demersal Trawl 18-24 metres

In 2022, there were 57 polyvalent vessels (down from 52 in 2021) classified as Demersal Trawlers 18-24m. They target a wide variety of species including Norway lobster (*Nephrops*), whiting, and monkfish. In 2022, the total value of landings for this segment was EUR 48.4 million (up from EUR 43.3 million in 2021) contributing 17% of the total income from landings (up from 13% in 2021). Landings by weight were down 9% to 10 300 tonnes in 2022. With 194 FTEs employed, this fleet segment contributes 11% of total FTE generated by the Irish fishing fleet.

This fleet segment recorded a gross profit of -EUR 1.2 million (down from EUR 2.6 million) and net profit of -EUR 5.4 million (down from -EUR 4.5 million) in 2022 representing a significant decrease in profitability since 2021.

Demersal Trawl 24-40 metres

In 2022, there were 49 polyvalent vessels classified as Demersal Trawlers 24-40 metres. They target a wide variety of species including Norway lobster (*Nephrops*), Atlantic herring, whiting, and European sprat. In 2022, landings by weight were up by 7% on the previous year to 15 600 tonnes. The total value of landings was EUR 68 million (up by 30%) with 275 FTEs employed, contributing 22% and 16% of the total revenue and FTEs generated by the Irish fishing fleet, respectively. This segment was the highest contributor to revenue in 2022 whereas typically this would be the Pelagic Trawl over 40m.

In 2022, this fleet segment generated a gross profit of over EUR 5 million a decrease of 22% and net profit of -EUR 3.9 million (down from EUR 1.6 million). This indicates a significant decrease in profitability for 2022 compared to 2021.

Potters below 10 metres

There are currently an estimated 531 active polyvalent and polyvalent potting vessels classified as Potters 0-10 metres. They make up a large and important segment within the SSCF and target a wide variety of species including brown crab, lobster, and whelk. Collectively these species constitute 34% of the total landed value of the SSCF. In 2022, the total value of landings was over EUR 14.6 million contributing 35% of the total value of the SSCF. With an estimated 430 FTEs employed, this fleet segment generated a gross profit of over EUR 4.7 million in 2022 compared to EUR 2.8 million in 2021.

4.11.5 Drivers affecting the economic performance trends

Significant increases in inflation, and the impact on operating costs, particularly fuel, coupled with the ongoing quota reductions as a result of Brexit were the main driving forces behind a severe deterioration in the economic performance of the Irish fleet in 2022. This deterioration was somewhat offset by EUR 23.9 million in operating subsidies financed under the Brexit Adjustment Reserve (BAR, detailed below) fund and EMFAF. However, the income from direct subsidies is not factored into gross profit or net profit calculations for 2022.

Inflation, the fuel crisis and the impact on operating costs

Increasing energy costs and wider inflation posed a significant challenge to Ireland's fishing sector in 2022. In the last number of years, Ireland has experienced a period of inflationary change not seen in decades. Inflationary pressures were exacerbated by the outbreak of conflict in Ukraine,

resulting in gas supply shortages and increased energy prices worldwide. Other sectors experienced spillover effects from this energy price shock as increased input prices drove core inflation on general prices upwards during 2022 (Central Bank of Ireland, 2023). In 2022, Ireland experienced the highest inflation rates in decades with an increase of 8%, driven by a 40% increase in energy, 7% in food and 4% in other inflation contributing components (European Commission, 2023).

In 2022, energy costs increased by 54% to EUR 59.4 million representing 18% of total operating costs. The energy crisis exposes the vulnerability of the Irish fleet to fuel price volatility. This is driven, in part, by its dependency on fossil fuels.

Brexit and the impacts on the Irish fleet

The withdrawal of the United Kingdom (UK) from the EU has reshaped fisheries relations in the North-East Atlantic to an unprecedented degree, with far-reaching consequences for the fishing sector in the region and beyond and most acutely for Ireland as the UK's closest neighbour. The EU/UK Trade & Cooperation Agreement (TCA) deal, agreed at the end of 2020, brought a sudden and dramatic shift in the landscape for the entire Irish seafood sector from 2021 onwards and 2022. The deal saw quota transfers across EU Member States to the UK, totalling almost EUR 200 million. The Irish fleet lost access to 15% of its annual quota with the largest impact on two key fisheries – Atlantic mackerel and *Nephrops*– which saw quota reductions of 26% and 14% respectively, the results of which have been demonstrated by the highly deteriorated economic performance of some segments of Ireland's LSF: Pelagic Trawlers over 40 metres (TM VL40XX), Demersal Trawl 24m-40m (DTS VL2440), Demersal Trawl 18m-24m (DTS VL1824).

Following the departure of the UK from the EU, the EU Commission established the Brexit Adjustment Reserve (BAR). The BAR aimed to mitigate the economic impacts of the withdrawal of the UK on Member States across multiple sectors including the seafood sector. Ireland was the biggest beneficiary of BAR funding, receiving just over €1 billion, just over 20% of the entire Reserve. Significant funding from the BAR came on stream in the second half of 2022.

In terms of mitigation of the Brexit impacts, at a national level, the Irish Government set up a Seafood Task Force in 2021 to examine the implications of the TCA for the fishing industry and coastal communities and to consider initiatives to address those implications. The Task Force recommended a suite of initiatives[21] including 16 funding schemes, with a proposed overall funding requirement of EUR 423 million. Amongst the recommendations were longer-term fleet re-structuring measures in the forms of voluntary decommissioning scheme with the aim of restoring balance between fishing capacity and available fishing opportunities. One of the main schemes launched in 2022 under the BAR was a Voluntary Permanent Cessation ("Decommissioning") Scheme. The purpose of this scheme was to restore balance between fleet capacity and available quotas following the quota reductions arising from the TCA, ensuring the future profitability of the fleet. It was targeted at whitefish and beam trawl vessels and opened for applications in September 2022.

The Seafood Taskforce, which recommended this scheme, agreed a target of approximately 60 whitefish and beam trawl vessels with total capacity of 8,000 gross tonnes to ensure the future profitability of the Irish whitefish fleet, with approximately 170 vessels remaining in the fleet. Over 9 000 tonnes of quota fish valued at EUR 30-35 million annually will be available for remaining whitefish vessels to catch which will ensure the economic viability of the remaining fleet into the

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[21] Report of the Seafood Task Force. Navigating Change The way forward for our Seafood Sector and Coastal Communities in the wake of the EU/UK Trade & Cooperation Agreement October 2021. https://bim.ie/wp-content/uploads/2022/01/Report-of-the-Seafood-Taskforce.pdf.

future. Applications to the scheme closed in November 2022 with 57 vessels (with total gross tonnes of 8 700 GTs) applying to decommission. Whilst 43 of the overall 57 applicants originally accepted offers, a total of 39 LSF vessels were decommissioned in 2023.

Another significant recommendation funded under the BAR was a temporary voluntary fleet cessation scheme to counter the impact of the reduction in quotas on the whitefish sector in the short-term. This scheme paid out different monthly payments, for approved applicants, according to the size of the vessel. A scheme was first put in place for the last three months of 2021 for polyvalent and beam trawl vessels most impacted by loss of quota because of the TCA. The objective of the scheme was to manage quotas for the final months of 2021 while keeping continuity of supply to fish processors. In 2022, an additional Brexit temporary fleet tie up scheme was introduced from June to November 2022. In total, 340 approved applications availed of the scheme in 2022 at a cost of EUR 18.9 million.

Another scheme financed under BAR in 2022 was the Brexit Inshore Fisheries Business Model Adjustment Scheme. Under this scheme, fishing vessel owners from the SSCF and small vessels in the LSF (i.e., fishing vessels up to 18 metres in length) could apply for grant aid if they could demonstrate that they were actively fishing between January and June 2021.

To receive their grant, applicants had to complete at least one of five online training courses that were designed to provide the sector with the skills to adapt to the new market realities post-Brexit. These courses were designed to enable vessel owners to explore finding new market opportunities for their catch to mitigate the impacts of Brexit, adjust their business plans to account for the new market conditions, use digital technology to reach customers directly, help maximise the value of their catch and show how they can access alternative markets. During 2022, under this scheme 801 projects were completed at a cost of EUR 2.7 million.

Markets and Trade (including fish price)

During 2022, average prices for many species experienced varied changes. Nephrops (25% of total value of landings) increased by 36% in value from 8.67 euro/kg in 2021 to 11.76 euro/kg in 2021. Prices for pelagic species tend to have a dramatic effect on the total income given the scale of the pelagic TAC. The average prices indicated from the national regulatory authority (SFPA) responsible for landings declarations indicate that the average prices of Atlantic mackerel (25% of total value of landings in 2022) decreased significantly by 33% to 0.89 euro/kg from 1.33 euro/kg in 2021. Similarly, the average prices for blue whiting decreased by 30% from 0.37 euro/kg in 2021 to 0.26 euro/kg in 2022. Conversely, the higher value demersal species saw increases in average prices in 2022. Haddock increased by 6% from 2.00 euro/kg in 2021 to 2.17 euro/kg 2022 and hake increased by 8% from 3.00 euro/kg in 2021 to 3.30 euro/kg in 2022.

Compared to 2021 prices, high value non-quota species such as European lobster decreased slightly by 2% from 20.08 euro/kg to 19.59 euro/kg in 2022 while edible crab increased by 6% 2021 from 13.62 euro/kg to 18.15 euro/kg and from 2.29 euro/kg to 2.93 euro/kg, respectively.

Operating costs (external factors)

In 2022, total operating costs incurred by the Irish fleet were EUR 331.5 million, an increase of 14% compared to EUR 290.8 million in 2021. Energy costs accounted for 18% of total operating costs in 2022. Energy costs increased by 54% from 2021 reflecting the spiralling costs linked to war in Ukraine and increasing inflation throughout 2022. The average fuel cost from 2013-2021 was 0.49

euro/litre and increased from 0.51 euro/litre to 0.98 euro/litre in 2022. The extent of the price increase in one year had a serious impact on the economic performance of the Irish fleet.

Personnel costs accounted for 35% of total operating costs in 2022. Personnel costs increased by 21% to EUR 116.3 million from EUR 96.1 million in 2021 reflecting the end of COVID-19 restrictions and increased inflation rate. This increase reflects the overall trend of increased average wages per FTE from 2013 to 2022. Other variable costs increased in 2022 by 20% to EUR 54 million, while non-variable costs decreased by 21% to EUR 22.6 million.

Status of some key stocks, TACs and quotas

Ireland's State agency for marine research, technology development and innovation, The Marine Institute, publish an annual report which provides the latest impartial scientific advice on the commercially exploited fish stocks of interest to Ireland. *The Stock Book 2022: Annual Review of Fish Stocks in 2022 with Management Advice for 2023* provides advice on 63 stocks.

Several of the stocks of interest to Ireland are or have been at one time managed under long term management plans. In 2022, the number of sustainably fished stocks increased to 40 (over half the stocks evaluated; 53%). The percentage (21%) and number of stocks (16) overfished increased by four compared to 2021. The number of stocks with unknown status decreased to 19 (25%). The number of stocks with biomasses higher than sustainable trigger reference levels increased from 26 (in 2021) to 36 (in 2022) out of 75 (48%).

Some of the key stocks have seen significant decreases in quotas in 2022 compared to 2021. Examples include blue whiting down by 19% to 28 438 tonnes, Atlantic mackerel down by 10% to 54 993 tonnes, *Nephrops* down by 7% to 5 842 tonnes and monkfish down by 6% to 3 416 tonnes.

Management instruments

Under the remit of Ireland's Department of Agriculture, Food and the Marine (DAFM), 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.

In Ireland, quota is a public resource and is managed to ensure that property rights are not granted to individual operators. This is seen as a critical policy in order to ensure that quotas are not concentrated into the hands of large fishing companies whose owners have the financial resources to buy up such rights. In Ireland, any movement towards privatisation and concentration of rights into the hands of large companies would seriously risk fishing vessels losing an economic link with Ireland's coastal communities and undermining the socio-economic importance of the fishing industry in the coastal communities dependent on fishing. The result of this long-standing policy is that the Irish fishing fleet involves a balanced spread of sizes and types of fishing vessels who have retained a strong economic link with our coastal communities and have delivered economic activity including vital employment in these communities, where there are very limited alternative economic activities.

Bord Iascaigh Mhara (BIM), Ireland's Seafood Development Agency, in partnership with other marine-focused state agencies, the Marine Institute and the Sea Fisheries Protection Authority developed an online Fisheries Management Platform for different species to accommodate the significant amount of legislation, which a paper chart in terms of space, is limited. The development of this online platform overcomes this and allows the presentation of technical measures at a fishery and area level. This permits users to access the information they require easily and efficiently. The chart is a user-friendly guide which informs users about options available to reduce unwanted catches and promotes sustainable exploitation of fisheries resources. A pdf version of the chart is also available.

Innovation and development (role of EMFAF)

A new European Maritime Fisheries and Aquaculture Fund (EMFAF) 2021– 2027 became operational in 2022 with EUR 258 million of funding available to the seafood sector which built on other investments made provided under the BAR. Support from EMFAF along with a national investment programme contributed to a wide range of projects including the improvement of infrastructure in fishing ports and harbours, grant aid for fishers, R&D and innovation projects.

In terms of R&D into gear technology and conservation, BIM on behalf of Ireland, have worked closely with the Irish fishing industry to develop technical solutions that reduce unwanted catches. This helps address challenges posed by the EU landing obligation and boost fisheries sustainability and marine biodiversity by decreasing landings of small (juvenile), over-quota and non-target species.

A new study conducted by BIM in 2022, Carbon Footprint Report of the Irish Seafood Sector found that Irish produced seafood is among the lowest carbon food produced in Ireland with carbon emissions for the sector just under 400 000 tonnes of CO_2 – less than 2% of those produced in other key food sectors. This study provides the Irish seafood sector with access to reliable data for the first time. It identifies areas for targeted strategies to help minimise the carbon emissions associated with the production of seafood and a useful starting point to strive to achieve Net Zero emissions for the sector by 2050.

4.11.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

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 10m segments, (FPO and DRB). As such, the results provided should be interpreted with caution.

Model results

Estimations for 2023 demonstrate an improved economic performance compared to 2022 (but this is still considerably lower than pre-COVID 2013-2019 averages) with an increase in gross profit combined with a decrease in revenue. This is primarily driven by fluctuations in fish prices, a reduction in energy costs compared to 2022 and the ongoing impact of reduced quotas linked to Brexit. In 2023, the 18% increase in landed weight is counteracted by low fish prices, resulting in a –9% decrease in value. Data projections for 2023 indicate decreasing revenue (–20%) to EUR 284.3 million and GVA is predicted to decrease (–1%) to EUR 136 million. In addition, gross profit in 2023 is predicted to increase (66%) from EUR 17.5 million compared to EUR 29 million. There is an estimated negative net profit of –EUR 25 million compared to –EUR 39 million in 2022. However, it is important to note that 39 vessels from the Irish LSF were decommissioned at different stages in

2023. The potential economic effects are as yet unknown and are likely to emerge from 2024 onwards when financial data becomes available.

Nowcast for 2024 suggest an overall higher economic performance compared to 2023 driven by an overall reduction in operating costs despite a predicted decrease in landings by weight and value compared to 2023. In terms of economic indicators, revenue is predicted to increase (2%) combined with increases in GVA (8%), gross profit (26%) and an estimated negative net profit of –EUR 12.6 million (52%).

Given the projections and underlying factors, the Irish fishing industry is set to experience several positive outcomes by the end of 2024 and beyond. A key driver contributing to this optimism is the anticipated reduction in operating costs, particularly in energy expenses, which had a significant impact on profitability in 2022. Additionally, strategic initiatives aimed at enhancing the efficiency and sustainability of the industry, such as improved management practices and technological advancements, are expected to improve economic performance.

The government's continued support for the sector through policies and funding and the roll out of BIM administered EMFAF support grants will also play a crucial role in stabilising and promoting growth. Moreover, global market trends indicate a potential rebound in fish prices, which, combined with increased export opportunities, could further enhance the revenue streams for the industry. Overall, these elements collectively suggest a more resilient and prosperous outlook for the Irish fishing industry following the numerous economic shocks the industry has faced over the last few years.

4.11.7 Methodological considerations and data issues

Identify changes in respect to previous years

The survey returns for the 2022 reference year were considerably higher than recent years, particularly for certain segments in the SSCF. This has improved the precisions of many of the variables and indicators.

Improvements achieved

In recent years, a condition of payment of EMFAF grant aid to vessel owners was the requirement to complete an economic survey. In addition, following engagement with the pelagic sector, survey returns from the TM VL40XX have increased steadily since 2020. As a result, 12 segments (both clustered and un-clustered) had sufficient data to calculate profitability in 2022.

Efforts are ongoing to improve data availability for the data poor SSCF segments through engagement with industry. All vessels under 12m are now contacted to complete to complete the economic survey. Response rates from certain segments under 12m improved this year. These include, FPO VL0010 (which represents 62% of the SSCF) as well as DRB VL0010 and DTS VL1012. This data is augmented by supplementary data collection through an inshore Sentinel Vessel Programme which targets a representative sample of the SSCF. This has resulted in more data for several key variables than previous years.

Remaining and novel issues

For some segments (e.g., FPO1012, HOK0010), survey returns continue to be low despite engagement with the sector. In these cases, data submission is not possible for some variables, which must be imputed based on known data for similar segmentations.

An ongoing issue is that the effort data in the tables and graphs is not complete for some segments less than 10m due to the lack of logbook data for these segments (i.e., no mandatory requirement for under 10m vessels to fill in logbooks (Article 18 of (EC) No 1224/2009 (Control Regulation)). 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 sales note 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.

Subsidies data includes EMFAF funding programmes administered by BIM, Ireland's Seafood Development Agency, including programmes on sustainability, safety grants, and assistance to young fishers. Fishers may also be receiving subsidies from other state agencies such as Enterprise Ireland or Údarás na Gaeltachta but these are unknown and not reported.

The operational division of the fleet into SSCF and LSF fisheries is not a satisfactory aggregation for the Irish Fleet. The exclusion of active gears from the EU SSCF definition means that many segments for which there is data, vessels under 10m, are eschewed from this fishing activity and added to the LSF fishery instead. Therefore, the definition of SSCF used in this report excludes a large part of the Irish fleet in vessel numbers (around 171 in 2022) as they are below 12m in length and use active gears and thereby excludes important economic data for the small-scale inshore fishery which instead are added to the large-scale fishery.

Figure 4.13. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.12 Italy

4.12.1 Short description of the national fleet

In 2022, there were 11 807 vessels registered in the Italian national fleet with a capacity of 142 043 GT or 921 123 kW; 9 649 (82%) of these vessels were active. This is a 5% decrease compared to 2021 and a 9% decrease considering the overall time series.

Fleet structure

The Italian fishing fleet is nationally divided into:

- a small-scale coastal fleet (65% of total active vessels, but 9% of the whole active gross tonnage).

- a large-scale fleet (35% of total active vessels), which was mainly made up of vessels using active gears, especially demersal trawlers.

- a distant water fleet of three active vessels: two trawlers operating in the Eastern Central Atlantic and one vessel operating as a purse seiner in the Indian Ocean.

At the end of 2022 the number of fishing enterprises amounted to 7 222, with the vast majority (84%) owning a single vessel. The percentage of individual companies slightly decreased over the years, at an average rate of 2% between 2013 and 2023, while the number of fishing enterprises with 2 to 5 vessels steadily increased since 2017, showing an increasing concentration in the sector.

The estimated value of physical capital of the Italian fleet was EUR 512 million of which 13% corresponds to the inactive fleet.

Fleet activity and production

In 2022, the fleet spent a total of around 1.0 million days-at-sea (DaS). Effort, in DaS, decreased by 23% between 2013 and 2022. The reduction over the last 10 years is linked to the entry into force of several national and European regulation enforcing an effort regime which aims to reduce the fishing days for certain fleet segments in different fishing area (DTS in Adriatic and Tyrrhenian Sea, PS and TM in Adriatic Sea). In 2022, the economic crisis caused by the increase in fuel price since the beginning of 2022 had a direct impact on the level of activity. During the first 6 months of 2022, fishers reduced the days spent at sea or stopping activity. In 2022, the average days-at-sea per vessel has been 107 (over the period 2013 to 2021, the average days-at-sea per vessel was 121).

In 2022, the total volume of landings decreased by 9% compared to the previous year. The drop in the productive performance was almost due to the LSF, which decreased by 9% compared to 2021. The total value of landings slightly decreased by 9%; despite the decline in local production, the ex-vessels prices remained stable.

European anchovy, common cuttlefish, deep-water rose shrimp, giant red shrimp, European hake and striped venus contributed more than a third to the total production, both in volume and value.

Employment and average salaries

In 2022, Italian fishing sector employed 20 999 jobs (fishers and on-shore jobs), corresponding to 14 875 FTEs. 47% of the total jobs were employed in small-scale fishing operations. The total

employment and the FTE decreased by 15% and 28%, respectively between 2013 and 2022, while the GVA per FTE increased by 5%.

4.12.2 Economic performance for 2022 and recent trends

The economic results refer only to the part of the Italian fishing part that was active in the year 2022.

National fleet performance

The economic performance of the Italian fleet worsened in 2022 mainly because of the fuel price crisis; the level of activity decreased significantly (-23% over the period analysed); as a result, landings in volume reached the lowest level since 2013.

The total amount of income generated by the national fleet in 2022 was EUR 776.2 million, a decrease of 9% compared to 2021. The total income generated from direct fishing activities accounted for EUR 741 million (similar decrease as total income), EUR 24 million in non-fishing income (-22% compared to 2021) and EUR 1 million from leasing out tuna fishing rights (-36% compared to 2021). Operating subsidies amounted to EUR 11 million, with an increase by 29% in 2022 (compared to 2021).

The three major variable costs consisted of labour, energy costs and repair & maintenance. The costs for labour were EUR 225 million (3% less than in 2021), energy costs were EUR 190 million (+10% compared to 2021) and consumption of fixed capital (annual depreciation), which decreased a 6% compared to 2021, were EUR 154 million.

In 2022, the Italian fleet had an estimated (depreciated) replacement value of EUR 580 million; 69% of the capital value belongs to LSF.

In terms of economic fleet performance, GVA, gross profit, and net profit generated by the national fleet in 2022 were EUR 446 million, EUR 220 million and EUR 46 million, respectively. This corresponded to decreases of 14%, 23% and 54%, compared to 2021. These results indicated a significant declining trend for economic performance of the Italian fleet started in 2020; in 2021, gross and net profit improved compared 2020 but remain well below the 2019 levels; in 2022, all the economic indicators have fallen to the lowest levels of the observed period (2013-2022).

Resource productivity and efficiency

The gross profit margin in 2022 was 29%, indicating an operating efficiency of the sector. This percentage decreased compared to 2021 (gross profit margin of 34%) and this may indicate a reduced operating efficiency of the sector compared to previous years; several factors, first of all, high fuel prices and fishing effort limitations, affected the profitability of the sector.

Net profit margin was estimated at 6% and the Rate of Return on Fixed Tangible Assets (RoFTA) was at 11%; both indicators in declining compared to 2021.

Labour productivity (GVA/FTE) decreased in 2022: EUR 33 146 per FTE. The decrease in FTE (-11%) has been proportionally lower than the decrease in GVA (-14%).

The following table presents data on the fuel prices, short-term and long-term break-even revenues, as well as energy efficiency and intensity for more energy-intensive segments of the Italian fleet. Fuel consumption per landed tonne was estimated at 1 540 litres/tonne of landed fish in 2022, and it has followed a slightly decreasing trend since 2017. All the selected segments had

high fuel intensity compared to national average; fuel consumption is estimated at around 1 540 litres/tonne of landings for the national average to exceed 5 428 for the DTS2440; fuel consumption is directly related to the size of the vessel, the duration of the trips and the use of the gear.

In 2022, fuel costs as a proportion of revenue, were estimated at 26% (21% in 2021); the worsening of the energy efficiency indicators is due to higher fuel prices over the period; fuel prices decreased by an average of 0.73 euro/litre in the period 2013-2014 to an average of 0.57 euro/litre in the period 2019-2021. In 2022, an average of 1.00 euro/litre was registered for the national fleet.

Differences are also highlighted in terms of energy efficiency. The DTS2440 fleet segment includes the fleet dedicated to deep-sea shrimp fishing characterized by a high fish price and, therefore, high revenues. For this segment there is an energy efficiency (37.7%) among the highest at national level. The incidence of the fuel cost on revenues is above 43% for the trawlers in the length classes 12-18 and 18-24 meters. The energy efficiency indicator worsened for all the fleet segments if compared to 2021. On the contrary, an improvement in energy intensity indicator was recorded: the increase in the fuel price led to a reduction in fishing effort and to the adoption of more virtuous behaviours by fishers (limiting the duration of use of the gear or reducing the speed to reach the fishing areas). The quantity of fuel consumption was estimated around 190 million litres, a decrease of 30% from 2021.

Table 4.14. Italy. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
ITA MBS DTS1218 NGI	0.96	1.08	0.75	46.0%	3 596
ITA MBS DTS1824 NGI	0.97	1.42	0.88	43.2%	3 610
ITA MBS DTS2440 NGI	0.97	1.62	0.79	37.7%	5 428
ITA MBS TM 1824 NGI	0.95	5.75	5.05	12.7%	445
ITA MBS TBB1218 NGI *	0.98	-0.51	-0.85	39.7%	3 199
National average	1.00	2.08	1.38	26.5%	1 540

Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.12.3 Drivers affecting the economic performance

Almost all economic indicator worsened in 2022; the fishing sector was significantly affected by the fuel crisis. LSF suffered a major decrease compared to SSCF, as the higher impact of fuel costs on operational costs.

The effort reduction was proportionally higher than the decline in the volume of landings and this led to an increase in productivity. The landings per unit of effort (LpuE) recorded the highest level since 2019. LpuE was around 129 tonnes per day at sea in 2022, an increase of 8% compared to 2021. The status of certain stocks improved in the last years, even if the achievement of a long-term sustainable exploitation of the resources is still far for the majority of the stocks exploited (STECF, 2023).

Markets and Trade (including first sale prices)

In 2022, a slight increase in the average price is detected (+6% compared to long term average 2013-2021); the first sale prices of two of one of the most important target species (European hake) showed a negative trend, while the average prices of striped venus, European anchovy and common cuttlefish increased compared to 2021. Giant red shrimp and Norway lobster were the two species with the highest prices (30.40 euro/kg and 24.00 euro/kg, respectively). The price of bluefin tuna reached 11.12 euro/kg, the highest level after the COVID crisis.

Highly fragmented sales channels, dominated by regional wholesalers and traditional fishmongers were still characterizing the fresh seafood distribution, but some best practices are emerging in some fishing harbours in Northern Adriatic Sea and Central Tyrrhenian Sea for the marketing of the landings of certain fishing fleets (e.g. DTS, TBB and TM). In addition, the role of Producers Organizations in supply concentration and marketing is increasing, especially in dredges, small pelagic and hook fleet segments.

Regarding foreign trade, Italy is a net importer of fish and seafood; due to increased imports, the trade balance deficit in 2022 worsened (EUR 2.43 billion, 13% higher than in 2021). According to EUMOFA (EUMOFA, 2023), Italy, historically having the highest total expenditure on fishery and aquaculture products, experienced the largest absolute increase in household spending, with a rise of over EUR 1.4 billion in 2022, representing an 11% relative increase. The per capita consumption of fishery and aquaculture products in Italy in value, reach EUR 219 in 2022, +12% compared to 2021.

Operating costs (external factors)

The most important operational costs are the wages and salaries of the crew members and the fuel costs. The operational cost structure changed slightly between 2013 and 2022. The incidence of labour costs on total operational costs remained stable to 33%.

Average crew wage per FTE was EUR 14 269 in 2022; a slightly increased trend compared to 2021; the positive trend of the average crew wage per FTE was due to the huge reduction in the FTE; fishers worked for less days and hours in 2022 because of the strong rise in energy costs; these factors negatively affected the FTE.

In addition to crew wage, energy costs represent the most important operational costs. The average fuel price in 2022 was higher than in 2021 and, consequently, the incidence of fuel costs increased from 24% to 27%. The increasing trend of the fuel price had a direct impact on energy costs, further deteriorating the profitability in some typical fuel intensive fleet segments as demersal trawlers. To mitigate fuel cost impact, financial compensations have been provided to the owners of the fishing vessels (a one-off contribution in relation to vessel size) and a tax credit incentive equal to 20% of the expenditure incurred for the purchase of fuel in the first 6 months of 2022.

Status of Key Stocks, changes in TACs and quotas

Most stocks for which validated assessments are available, continue to be fished outside biologically sustainable limits. Nevertheless, the recent trend shows some little improvements; according to GFCM working groups on stock assessment, the percentage of stocks in overexploitation and fishing pressure exerted have decreased in the last years; the F/F_{MSY} ratio decreased by 31% since 2012 (FAO, 2023). 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, 23-09 and 23-12). Biomass is increasing for red mullet and hake in all

the GSAs, for sole shrimp in GSA 17 and for Norway lobster in GSA 9 and GSAs 17-18. A decreasing trend in biomass for deep-water rose shrimp in Adriatic and Ionian Sea and giant red shrimp in Western Mediterranean Sea.

In 2022, four fisheries were managed through TACs and quotas in Italy:

- Bluefin tuna: quota is allocated among purse seines, longlines, cages, a quota set aside for compensations (slightly less than 5%), and recreational fishing (0.5%). A TAC of 4 745 tonnes was set in 2022.

- 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.

- Small pelagic species in Adriatic Sea: the catch limit for small pelagic species in the Adriatic Sea was set on 2022 (35 394 tonnes of anchovy plus sardine - Council Regulation 2022/110).

- Blue and red shrimp and giant red shrimp in Ligurian Sea, Tyrrhenian Sea and Sardinia Island: a maximum catch level was set on 2022 (615 tonnes - Council Regulation 2022/110); quota was allocated among the authorized vessels (299 demersal trawlers in 2023).

Management instruments

Over the past 10 years, the GFCM has adopted several adaptive multiannual management plans directly affecting Italian fishing fleet. The first multiannual management plan was adopted in 2013 for small pelagic fisheries in the Adriatic Sea (Recommendation GFCM/37/2013/1). It established management measures and harvest control rules; a transitional fishing regime was established foreseeing national catch limits aligned with annual reductions of 5% for European anchovy and 8% for sardine in 2022. In order to address issues related to the Adriatic Sea's multispecies demersal fishery, in 2021, GFCM adopted the Recommendation GFCM/44/2021/1; this management plan was the first to include a detailed effort regime in the Mediterranean Sea; after an initial transitional fishing effort regime in 2020–2021, a yearly fishing effort quota have been set in 2022.

Finally, trawl fisheries targeting giant red shrimp and blue and red shrimp in the eastern-central Mediterranean (geographical subareas 12–16; 19–27) were regulated through the adoption of other two recommendations (Recommendation GFCM/43/2019/6 and Recommendation GFCM/42/2018/4). These plans foresee transitional periods of three years (2023–2025) and long-term management measures applicable over the period 2026–2030. The transitional period foresees a freeze in fishing capacity/effort, an effort regime for authorized vessels and catch limits.

2022 was the third year of the implementation of the Multiannual Plan for the fisheries exploiting demersal stocks in the western Mediterranean Sea (Regulation (EU) 2019/1022). The maximum allowable fishing effort was reduced by 30% compared to the baseline. Fishery Restricted Areas (FRAs) were implemented in the Ligurian and the Tyrrhenian Seas in order to reduce the catch of undersized hake. These FRAs add to other fishing areas closed in the previous years (the Pomo/Jabuka Pit in the Adriatic Sea and the three fisheries restricted areas in the Strait of Sicily (Reg. (UE) 2019/982).

The new management measures introduced in the last two years (in particular, the restrictions of the fishing effort introduced with the West Med MAP and GFCM multiannual management plans) had socioeconomic impact on fishers in so far as they need technical and behaviour adaptations. Fishers are concerned that these measures will have a negative impact on their profits in the future.

A direct impact of these effort regime was the reduction in the fishing days for the LSF (a reduction of the days at sea of 27% over the period 2013–2022).

Innovation and Development (role of the EMFF)

In 2022, investments decreased by 17% compared to 2021. The level of investment is very low (an average of 1 700 euros per vessel in 2021) despite the large part of the fleet would need vessel modernisation (the average age of the vessels is 36 years). Large scale accounts for 66% of total investments; small scale fleet has few or no investments because of the low financial resources and low propensity to risk-taking and innovation. In general, investments are limited due to the economic crisis; only the most profitable segments continued to invest in R&D; this is the case of Tuna purse seiner fleet segment and DTS2440; to improve the quality of the Giant red shrimps, the target species for the segments, owners continued to invest in freezing technologies on board and fish packaging.

There are several projects for energy transition supported by the predecessor EMFF and now EMFAF programmes. The BlueInvest programme supports the development of hydrogen technology that can be installed on smaller vessels, sailing or motorboats; start-up companies are developing new propulsion and power supply system 100% electric, rechargeable directly from photovoltaic panels.

4.12.4 Economic performance by fishing activity

Small-scale coastal fleet

The Italian SSCF with 6 307 active vessels covers almost 65% of active vessels. In 2022, the SSCF production was EUR 176 million accounting for 23% of the Italian landings value.

The Italian SSCF is mainly concentrated in length class 06-12m (70% of SSCF). SSCF is spread along the Italian coasts, mainly in Sicily (more than 1 000 vessels), Sardinia and Campania region. The main gears are set gillnets, trammel nets, pots and traps, set longlines. The main target species are common cuttlefish, common octopus, swordfish, European hake, mullets, blotched picarel, surmullet and spottail mantis squillid; these species are among the most commercially valuable species and the average prices are very high consequently; products are mostly sold on the local market directly to consumers or restaurants.

The SSCF employs a total of 9 769 engaged crew, thus contributing to 47% of the total national employment of the sector. Around 2 000 of the engaged crew is unpaid labour; several employees in the small-scale fishing are the owners themselves with no paid crew.

In 2022, total activity expressed in sea days decreased by 18%; landings in volume and value substantially decreased (-3% and -8%, respectively). These negative trends did not impact the labour costs, stable in the last years; the salary per crew member is already at the lowest possible level, consider the guaranteed minimum wages. Most of the fishers are also the owners' vessel and their remuneration is given by the revenue minus the operational costs (the unpaid labour costs is estimated at 21% of total labour costs of SSCF).

Overall, the SSCF is profitable, generating a profit of EUR 23 million in 2022 (half of the net profit in 2021). The resource productivity and efficiency indicators are very low if compared with the same indicators calculated for all the Italian fleet. The labour productivity indicator (GVA/FTE) was EUR 23 749 in 2022 (the national average labour productivity was estimated at EUR 33 146) and the revenue per vessel about EUR 27 831.

Large-scale fleet

Large-scale fleet segments, with 3 339 active vessels cover almost 35% of active vessels in 2022. They represent a major part of the active fleet regarding the gross tonnage (80%) and the engine power (68%). The LSF is mainly made up of vessels using active gears, especially demersal trawlers and beam trawlers.

Demersal trawlers operate mainly in the Adriatic Sea and in the Strait of Sicily (about 60%), while the pelagic fleet is prevalent in the Northern Adriatic (pelagic trawlers) and in the Tyrrhenian Sea (purse seiners). Employment was stable in 2022 (11 230 jobs); almost 10% of the employed persons were estimated as being unpaid labour (vessel owner's own labour, considered to be self-employed). In the period 2013-2022, the number of vessels belonging to LSF decreased by 11%; over the same period, a huge reduction in activity has been reported (-27% fishing days); TM1218, DTS1218 and DTS2440 were the two fleet segments with the greatest reduction of fishing days; this trend can be linked with the limitation imposed on the fishing effort by regulations in force.

As a consequence of the effort reduction, both volume and value of landings decreased by 29% and 23%, respectively compared to the average 2013-2021. At the same time, energy costs which accounted for 32% of total LSF costs, increased by 15% in one year and this tightened the impact of the reduction of income on the main economic performance indicators.

LSF fleet segment was profitable, with a reported net profit of around EUR 44 million in 2022, although the net profit has significantly decreased compared to last year, a decreased by almost 40%.

4.12.5 Economic performance of selected fleet segments

In 2022, the Italian fleet consisted of 23 fleet segments. Economic performance for two segments has not estimated for confidentiality (OFRPS40XX and PFRDTS40XX).

Based on the net profit margin, seven fleet segments showed high profitability, two a reasonable profitability and twelve a weak profitability. Net losses are registered for ten segments.

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 SSCF, which includes the fleet segments PGP0006m and PGP0612m.

Demersal trawlers 12-18 metres

In 2022, this fleet segment included 1 003 active vessels producing a total value of landings of EUR 102 million and employing a total of 2 204 FTEs. Demersal trawlers have a multi-species landings composition, capturing several species, such as deep-water rose shrimp, European hake, common cuttlefish, spottail mantis squillid, blue and red shrimp, red mullet, caramote prawn and Norway lobster.

In 2022, this fleet contributed to the total national landings in weight and value by 10% and 13%, respectively. Compared to 2021, the value of landings decreased by 12%, mainly because of the reduction in the effort (-2% of the active vessels and -12% of the days at sea).

The fleet segment registered a gross profit of EUR 6 million and a net loss of EUR 12 million. The economic performance was lower than in the previous year and the profitability of this fleet segment is weak.

Demersal trawlers 24–40 metres

In 2022, this fleet segment included 166 active vessels producing a total value of landings of EUR 69 million and employing a total of 927 FTEs. This fleet segment is concentrated in the GSA 16 (Strait of Sicily) and mainly in the port of Mazara del Vallo. Giant red shrimp, blue and red shrimp and deep-water rose shrimp are the main target species representing 68% of the landings in value and around a half of the landings in weight. In the last years, the activity of the fleet is more and more concentrated in fishing areas distant from the coast (like the eastern Mediterranean). This has changed the composition of the landings with an increasing quota of giant red shrimp in place of the deep-water rose shrimp. The longer time needed to achieve fishing zones far from the coast also determined an increase in fuel cost. Compared to 2021, because of the decreased number of days at sea, the value of landings decreased by 16%.

In 2022, the fleet segment registered a gross value added of EUR 27 million, a gross profit of EUR 17 million, respectively 35% and 17% lower than the figures registered in 2021. The fleet segment produced net losses of EUR 8 million in 2022 compared to net losses of EUR 0.4 million in 2021.

In 2022, the GFCM adopted the Recommendation GFCM/45/2022/5 on a multiannual management plan for the sustainable exploitation of giant red shrimp and blue and red shrimp stocks in the Strait of Sicily; 94% of fishing vessels authorized for deep-water shrimp fisheries in the Strait of Sicily belong to Italian fleet. A TAC of about 900 tonnes for giant red shrimp was set for 2023.

Dredges 12–18 metres

This fleet segment consisted of 635 vessels operating mainly in GSA 17 and predominantly in the Adriatic administrative Regions of Marche, Veneto and Abruzzo. This segment employed 1 477 jobs equivalent to 546 FTE during the same period.

In 2022, the total value of landings was about EUR 61 million. Striped venus (*Chamelea gallina*) is the main target species, representing 92% of the landing value and 88% of the landing weight. The fishing activity is traditionally managed by local Consortia, which can enforce limitations to the fishing days and the maximum quantities of daily catch. The derogation from minimum size rules made possible to reduce the daily fishing hours with a positive effect on operating costs and, therefore, on profitability; in 2021 and 2022 profitability of the fleet segment continued to be reasonable. This was largely due to the positive trend in the average prices of the target specie that steadily increased from 2013 onwards. In 2022, this segment recorded a net profit of EUR 446 013; 2021 profitability was deemed reasonable with an improved economic trend.

In the last months, Italian fishing communities in the Northern Adriatic Sea are fighting an invasion of predatory blue crabs; it is an adaptable species that reproduces very quickly, and it is threatening the clam farming industry of the Po River delta in the Veneto and Emilia-Romagna regions. Fishers are concerned about the damage to their gear and the impact on target species.

4.12.6 Assessment the economic performance for 2023 and 2024 (nowcasts)

Model results

Overall, it is expected that the Italian fleet will be more profitable in 2023 than in 2022 as a consequence of the decrease in energy costs (a decrease in the fuel price of around 23% in 2023 compared to 2022). Despite an expected decrease in revenues (almost due to the expected decrease in the volume and value of landings), the model forecasts, for 2023, a 7%, 16% and 24% increase in GVA, gross profit and net profit, respectively. It is estimated that GVA will reach EUR 474 million, gross profit EUR 255 million and the net profit is estimated to reach EUR 112 million in 2023. Increase in all the economic margins are also expected.

Nowcast for 2024 suggest a still positive and almost stable (if compared to 2023) economic performance, driven by a slight increase in total revenues and in the still lower level of operational costs, compared to 2022. In terms of economic indicators, GVA and gross profit are predicted to remain at around the same level of 2022 (increase/decrease in the range of +/- 0.5%).

Another important factor that will impact the performances of the Italian fisheries will be the reduction in the fishing days for demersal trawlers in Tyrrhenian Sea and Adriatic Sea imposed by the current effort regimes. The enter into force in 2023 of a new regime of TAC for blue and red shrimp and giant red shrimp in Ligurian Sea, Tyrrhenian Sea and Sardinia Island (GSAs 8-9-10-11) will have likely economic impact for the fleet segments targeting these species and new concerns may arise among fishers.

4.12.7 Methodological considerations and data issues

All fleet segments have been sampled with satisfactory response rates.

Economic data for the segments OFRPS40XX and OFRDTS40XX have not been provided for confidentiality reasons (only one and two active vessels, respectively, were operative in 2022).

The value of quota and other fishing rights and lease/rental payments for quota have been estimated applying the methodology suggested by the SECFISH Project, but further methodological refinement will be investigated in order to produce more reliable estimations in line with RCGECON 2023 recommendation n.7.

Since 2022, employment figures (tojob) include also people working on fishing related activities onshore.

Figure 4.14. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.13 Latvia

4.13.1 A short description of the national fleet

In 2022, the Latvian Baltic Sea fishing fleet consisted of 290 registered vessels, including 97 inactive vessels, with a total of 5 569 GT, a total engine power of 16 373 kW and an average age of 35 years. The size of the fleet followed a decreasing trend between 2013 and 2022. The gross tonnage and the total engine power of the fleet decreased by 15% over the period analysed from 2013 to 2022. The changes were due to the scrapping of vessels in accordance with the multi-annual management plan, which aims to achieve a better balance between fishing capacity and available resources. Fishing vessels were "reassigned to non-fishing activities (by scrapping or sale)".

Fleet structure

The Latvian fleet is divided into several segments according to length, fishing gear and area of operation: the Baltic Sea fleet (segment trawlers VL2440 m), the fleet operating mainly in the Gulf of Riga (trawlers VL1218 m), the two segments of the small coastal fleet (operating with polyvalent fishing gears VL0008 m and VL0812 m) and the distant water segment (trawlers VL40XX m operating in the Atlantic NEAFC Barents Sea FAO area 27 and CECAF Morocco and Mauritania FAO area 34).

From 2011, a number of the small coastal vessels less than 12 metres in length are excluded from the economic analysis. In the 2022, the excluded 344 small vessels from the segment VL0008 and 12 from VL0812 were licensed and obliged to fill in coastal logbooks, but fished only for their own consumption and were not involved in a commercial fishing. The excluded volume represents 0.98% in gross tonnage and 2.9% in main engine power for segment VL0008 and 0.26% in gross tonnage and 0.75% in main engine power for segment VL0812 of the total Latvian fleet in 2022. The exclusion of recreational vessels does not affect the total engine power and gross tonnage of the fishing fleet.

The estimated value of physical capital of the Latvian fleet was EUR 3.9 million of which 20% corresponds to the inactive fleet.

Fishing activity and production

The Baltic fleet spent a total of around 10 943 days at sea (DaS) in 2022, but the total number of fishing days calculated for each gear was 10 772. The number of DaS decreased by 19% and the number of fishing days decreased by 1% between 2021 and 2022, while the live weight per day at sea increased by 28%. Fuel consumption per tonne landed decreased by 9% to 42 litres per tonne in 2022, mainly due to changes in the fishing behaviour of the small-scale fleet, which spent 31% fewer days at sea. The VL1218 trawler segment operating in the Gulf of Riga and the VL2440 trawler segment operating in the Baltic Sea used 77% and 64% of their capacity respectively in 2022, while the coastal segments VL0008 and VL0812 used 18% and 13% of their gross tonnage in 2022.

The total weight landed by the Baltic Sea fleet in 2022 was 61 142 tonnes of fish with a landed value of EUR 19.9 million. The total weight of landings increased by 4% between 2021 and 2022, while the landed value did not change significantly over the same period. These changes are due to an increase in the available quotas for European sprat and Atlantic herring and a decrease in landings of high value coastal species.

In 2022, European sprat and Atlantic herring were the most landed species in terms of weight (31 356 tonnes and 27 655 tonnes, respectively). The European sprat also generated the highest value of landings of EUR 10.7 million for the national fleet, followed by Atlantic herring with EUR 7.7 million in 2022. European sprat and Atlantic herring accounted for 54% and 39%, respectively of the total value of landings in 2022 and contributed to 51% and 45%, respectively of the total weight of landings.

Employment and average salaries

Fishers on the Baltic Sea vessels are usually local Latvian residents. Crews on board distant water vessels may also include residents of developing countries.

Employment in the Baltic Sea fleet is estimated to be around 474 jobs, corresponding to 184 FTE in 2022. Total employment and FTE decreased by 19% and 31%, respectively between 2021 and 2022, while the GVA per FTE increased by 61%. The average wage per FTE increased by 52% between 2013 and 2022 to EUR 26 875.

4.13.2 Economic performance results for 2022 and recent trends

The economic results refer only to the part of the Latvian fishing fleet part that was active in the year 2022.

National fleet performance

The economic performance of the Latvian fleet improved in 2022 compared to 2021. The revenues generated by the Latvian national fleet in 2022 amounted to EUR 21.7 million, of which EUR 19.9 million of income from fish sales and EUR 1.8 million from non-fishing revenues. Revenues decreased by half a percent in 2022 compared to 2021.

Total operating costs decreased by 14% between 2021 and 2022, due to the sharp decrease in the repair and maintenance costs (34%), other variable and non-variable costs (31% and 29%, respectively) and personnel costs (12%). In addition, an increase of 52% in energy costs was observed in 2022.

In terms of profitability, the total amount of GVA, gross profit and net profit generated by the Latvian Baltic Sea fleet in 2022 was around EUR 13.8 million, EUR 8.9 million and EUR 8.345 million, respectively. All three variables increased between 2021 and 2022: GVA increases by 11%, while gross and net profits increased by 30% and 38%, respectively.

The profitability of the fishing enterprises in the Baltic Sea fleet as a whole remains positive between 2013 and 2022.

Resource productivity and efficiency indicators

The gross profit margin increased by 31%, reaching 41% in 2022, indicating the sector's high operating efficiency. The net profit margin was estimated at 31% in 2022 (an increase of 39%) and the share of GVA to revenue is estimated at 63% in the same year (an increase of 12%). Labour productivity (GVA/FTE) increased by 61% between 2021 and 2022, while the number of FTE decreases by 31%.

Capital productivity, as measured by the return on fixed tangible assets of the Latvian fleet, increased by 54% compared to 2021. In 2022, the increase is mainly driven by the LSF segment, which grows by 74%. In 2022, the SSCF decreased by 12%.

The following RoFTA values are given for 2022: 319 (increase of 81%), 447 (increase of 50%) for the segment Baltic Sea trawlers VL2440 and trawlers VL1218 operating in the Gulf of Riga. In the coastal zone, the RoFTA values for the segments VL0008 and VL0812 were 71 and 433, respectively. The positive RoFTA and the higher than low risk long-term rate indicate that fishing was profitable in the long term for all segments.

The potential fleet capacity could be 20-30% higher than the current one for some vessels in segments such as VL1218 and VL2440. If the fishing intensity of some vessels in the VL1218 and VL2440 segments increases, these segments could achieve a higher volume of catches and higher revenues from sales, which in turn could facilitate profit growth. However, the main impact on the productivity of the Latvian fleet is exerted by the available fish stocks for the two main target species: European sprat and Atlantic herring.

In 2022 and 2023, the capacity of the entire Latvian fleet is reported, including all inactive vessels, including distant-water fisheries. There is no major difference in the number of vessels, while the increase in engine power and gross tonnage is 125% and 332% respectively. The number of days at sea decreased by 19% in 2022, while the number of fishing days remains almost the same, mainly due to a 31% decrease in the activity of the coastal fleet in 2022. In 2022, fishing efficiency in terms of weight landed per fishing day (kg/day) increases by 28% and is 47% higher than the multiannual average for 2013-2021. In 2022, the fishing efficiency of the VL2440 segment improved by 5% to 16 628 kg/day, while that of the VL1218 segment decreased by 14% to 5 555 kg/day.

Table 4.15. Latvia. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
LVA NAO TM 2440 NGI	1.00	4.86	4.71	11.2%	36.0
LVA NAO TM 1218 NGI	1.00	2.41	2.37	24.9%	77.3
National average	1.00	4.16	4.04	13.3%	42.6

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.13.3 Performance by fishing activity

Small-scale coastal fleet

The number of the SSCF vessels decreased by 27% between 2021 and 2022, mainly due to the inactivity of the part of the fleet as a result of strict by-catch rules for Atlantic cod. The SSCF vessels are divided into two segments, VL0008 and VL0812, using polyvalent or passive gear and targeting Atlantic herring, round goby, European flounder, European smelt and other coastal freshwater species. The SSCF production is geared to the local market. The typical fishing trip lasts less than 24 hours and the weather conditions, such as cold winters, can have a significant impact on the turnover of the segment. Coastal species achieved the highest average price (3.05 euro/kg). Despite the high prices for coastal species, their share in the overall composition of landings was negligible, representing in 2022, 4% and 6% of the total weight and value of landings, respectively. The SSCF did not have a significant impact on the overall economic performance of the entire fishing fleet. The decrease in weight and value of landings for the SSCF was 30% and 36%, respectively, amounting to around 2 196 tonnes and EUR 1.15 million, respectively in 2022. The

SSCF is important for employment in coastal regions, which was estimated at 247 jobs, equivalent to 53 FTE. The GVA and gross profit decreased by 36% and 40%, respectively. Despite the decrease, the profit of the SSCF segment was around EUR 0.9 million in 2022.

Large-scale fleet

An increasing trend was observed for the LSF operating in the Baltic Sea and the Gulf of Riga. The LSF targets at European sprat and Atlantic herring and consists of 38 vessels divided into two segments, VL2440 and VL1218 metres. These segments contributed 95% of total revenue and 90% of net profit in 2022. Total employment was estimated at 227 jobs in 2022, equivalent to 130 FTE. Total employment decreased by 8% between 2021 and 2022, while FTE increased by 5%. Revenue from landings increased by 4% between 2021 and 2022, while net profit increased sharply by 58% over the same period, due to a 34% decrease in repair and maintenance costs, a 31% and 29% decrease in other variable costs and other non-variable costs respectively, and a 12% decrease in personnel costs.

Distant water fleet

In 2022, there were five active distant water vessels in the segment of vessels over 40 metres with a total of 14 418 GT, a total engine power of 17 604 kW and an average age of 32 years, owned by four Latvian companies. Three vessels with an average length of 64 metres were mainly active in the NEAFC area, targeting Northern prawn and Atlantic cod. A further two vessels with an average length of 105 metres operated in the CECAF area, targeting Atlantic horse mackerel, mackerel, sardines, Atlantic bonito and Atlantic pomfret. In 2022, the main landing ports for these vessels were Cuxhaven, Tromsø, Dakhla and Nouadhibou. In 2022, the total weight of catches in the Atlantic was 41 129 tonnes of fish with an estimated value of landings of EUR 31.8 million.

4.13.4 Performance of selected fleet segments

The Baltic Sea fleet in 2022 consists of four active fleet segments. A brief description of the segments is given below.

Pelagic trawl 24-40 metres

In 2022, there were 26 vessels in this segment, mainly operating in the Baltic Sea. These vessels target species such as European sprat and Atlantic herring. The total value of landings was EUR 15.9 million and around 93 FTE were employed in the fleet segment in 2022, contributing 80% and 51% to the total income from landings and FTE in the national fleet, respectively. The fleet segment was profitable, with a reported gross profit of around EUR 6.9 million and a net profit of around EUR 6.6 million in 2022.

Pelagic trawl 12-18 metres

There were nine vessels in this segment in 2022, mainly operating in the Gulf of Riga. These vessels targeted at Atlantic herring and European sprat. The total value of landings was EUR 2.9 million and only 37 FTE were supported in 2022, contributing 15% and 20% of the total income from landings and FTE generated in the national fleet. The segment is profitable in 2022, so the gross profit in 2022 was estimated at EUR 1.02 million and the net profit at EUR 0.98 million.

Polyvalent or passive gears below 8 metres

In 2022, the new segment of the SSCF was created according to the guidelines of the AER data call and consisted of 116 vessels operating mainly in the coastal zone of the Baltic Sea and the Gulf of Riga. These vessels targeted a variety of Atlantic herring, round goby, European flounder, European smelt and other coastal freshwater species. The total value of landings was EUR 0.7 million and 43 FTE were supported in 2022, contributing to 3% and 24%, respectively to the total income generated from landings and FTE in the national fleet. The segment was profitable in 2022, with an estimated gross profit of EUR 0.6 million and a net profit of EUR 0.48 million.

Polyvalent or passive gears 8-12 metres

In 2022, the new segment of the SSCF was created according to the guidelines of the AER data call and consisted of 37 vessels operating mainly in the coastal zone of the Baltic Sea and the Gulf of Riga. These vessels targeted a variety of Atlantic herring, round goby, European flounder, European smelt and other coastal freshwater species. The total value of landings was EUR 0.5 million and 10 FTE were supported in 2022, contributing to 2% and 6%, respectively to the total income generated from landings and FTE in the national fleet. The segment is profitable in 2022, with an estimated gross profit of EUR 0.3 million and a net profit of EUR 0.31 million.

4.13.5 Drivers affecting the economic performance

Markets and Trade (including first sale prices)

The average price of European sprat increased by 17% between 2021 and 2022, while the price of Atlantic herring increased by 12%.

The fisheries sector in Latvia depends on the economic situation of external markets as well as on the turnover of the fish processing enterprises. The main buyers of fresh fish are fish processing enterprises in Latvia and in neighbouring countries. The main types of products produced are fresh or frozen fish and prepared or canned fish. The total export value of the production to the EU countries increases by 19% and amounts to EUR 169.3 million in 2022, while the exported volume of the production decreased by 7% or about 3 268 tonnes between 2021 and 2022. Exports to non-EU countries increase by 36% or EUR 25.5 million between 2021 and 2022.

Lithuania ranks first (16%) in terms of the value of Latvia's total exports, followed by Ukraine, Estonia and Denmark with shares of 11%, 10% and 10% respectively in 2022. Ukraine, Lithuania, Estonia, Germany and Poland are important in terms of the volume of Latvia's total exports, with shares of 25%, 11%, 8%, 7% and 6%, respectively in 2022.

Operating costs (external factors)

Between 2021 and 2022, the total operating costs of the Latvian fishing fleet decreased by 14% to EUR 12.9 million. Repair and maintenance costs decreased by 34%, other variable and non-variable costs by 31% and 29%, respectively, and personnel costs by 12%. The average fuel price almost doubled to EUR 1.00 in 2022, increasing energy costs by 52%.

Status of key stocks, changes in TACs and quotas

The economic efficiency of the Latvian fishing fleet is entirely dependent on the quotas received for the European sprat and Atlantic herring. The quota for European sprat increases by 13% between 2021 and 2022, reaching 34 855 tonnes. The quota for Atlantic herring increased by 25% in the

Gulf of Riga and decreased by 45% in the Central Baltic. In 2022, the quota for the Gulf of Riga herring stock is 25 671 tonnes and for the Central Baltic herring stock 1 488 tonnes. Historically, Latvia has almost fully exploited its quotas for European sprat and Atlantic herring.

Management instruments

As a result of the reduction in quotas for European sprat and Central Baltic herring in the following years, and in order to avoid an imbalance between fleet capacity and fishing opportunities, a scrapping programme will be introduced from 2023 and a number of the most active vessels will be withdrawn from fishing.

4.13.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

In 2023, the number of active vessels has decreased by 10% due to the reduction of fishing opportunities in the Baltic Sea, and this trend will continue in the following years due to the reduction of TACs for major species. In 2023 the activity of the SCF in terms of fishing days increased by 19%, while the effort of LSF increased by only 2%. In 2023 the weight of landings remains at the same level, with an increase of half a percentage point, while the value of landings decreases by 8% due to fluctuations in fish prices.

4.13.7 Methodological considerations and data issues

Identify changes in respect to previous years

Cost estimates for 2015 and 2022 have been used, with a restructuring of costs between fleet segments in relative proportion to the value of landings. The main reason for restructuring the costs is that the data collected from the companies that own vessels are included in different segments. In some of these cases, the value and volume of landings correspond exactly to the segment, but the expenditure is allocated to the largest segment.

Improvements achieved

The R script is used from the year 2020 for the more accurate method of calculating days at sea and fishing days for the SCF segments. This approach does not allow to the values for fishing days to be higher than the values for days at sea. The algorithm is based on the following formulas:

- Day at sea = 1/maxGears;

The days at sea are counted for each vessel (a day is divided proportionally between all the fishing gears used).

- Fishing day = 1/maxVessels.

Fishing days are counted for each fishing gear (one day is shared proportionally between all vessels).

The Integrated Control and Information System (ICIS) is used in Latvia for the implementation of the National Fisheries Policy (general management of fishing licences, control and enforcement of fishing activities). The database contains information from the electronic logbooks of both LSF and SSCF vessels. In 2022, the traceability of landings was implemented for the SSCF, allowing the validation of average prices per species.

Problems identified

Data for the depreciated replacement value were obtained from the questionnaire for 2011–2017. The PIM method is used from 2018 for the variable's consumption of fixed capital and value of physical capital.

Remaining issues

Data for the distant water fleet (segment VL40XX) operating in the Atlantic Area 27 (NEAFC) and Area 34 (CECAF) have been collected but have not been submitted in order to ensure data confidentiality. In the requested format, the data should be disaggregated by supra region and by fishing technique. There were two segments operating in the Atlantic in 2022: VL40XX TM NEAFC AREA 27 (three vessels) and VL40XX TM CECAF AREA 34 (two vessels). The economic data cannot be provided for a single vessel or for the vessels belonging to a single enterprise (four enterprises in 2023).

Figure 4.15. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.14 Lithuania

4.14.1 Short description of the national fleet

In 2022, Lithuanian fishing fleet consisted of 135 vessels and compared to 2021 it decreased by 4%. From total fleet population, 75 (56%) vessels were active during 2022 and number of it remained unchanged from 2021. Concerning capacity indicators of nation fleet in terms of GT and kW it shows an annual decrease by 2% and 3%, respectively and compared to the 2013-2021 multiannual average, GT and kW declined by 20%.

Fleet structure

Lithuanian fishing fleet is composed of SSCF segments operating in the coastal area of the Baltic Sea (75% of active vessels and 0.5% of total GT), LSF segment operating in the Baltic Sea (17% of active vessels and 8% of total GT) and LDF (8% of active vessels and 91% of total GT) fleet. Fleet structure remained unchanged compared to 2021. SSCF segments consists of coastal vessels below 8 metres length (52 vessels) fishing with passive gears, vessels 8-12 metres (four vessels). In 2022 LSF consisted of 13 pelagic trawlers operating in Baltic Sea. From 2019 due to the closure of cod fisheries in Baltic Sea, demersal trawler segment was not present in the fleet structure. LDF was dominant in terms of landings and capacity. It consisted in demersal trawlers and/or demersal seiners over 40 metres (two vessels) and pelagic trawlers over 40 metres (four vessels).

The total estimated value of physical capital of the Lithuanian fleet was EUR 7.38 million of which 3.24% corresponds to the inactive fleet. In 2022 estimated value of physical capital decreased by 34% compared to 2021 and was 31% lower compared to 2013-2021 multiannual average.

Fishing activity and production

Lithuanian fishing fleet is highly diversified, the largest share of seafood landings in 2022 was generated from Area 34 (36%), Area 87 (30%), Area 27, except Baltic Sea (20%), Baltic Sea and coastal area (13%) and minor part from Area 41 (0.6%).

In 2022, fleet spent 5 754 days at sea decreasing by 12% from 2021 and compared to 2013-2021 multiannual average effort dropped by 31% to the lowest level in overall time series indicating a substantial decline of fishing opportunities in the Baltic Sea. However, long distance fishing fleet in 2022 has 8% higher fishing effort compared to 2021 which resulted in the 10% higher weight of landings at national level. In 2022, value of landings of Lithuanian fleet increased by 10% and compared to 2013-2021 multiannual average it was 13% higher. Atlantic horse mackerel generated the highest value of landings, contributing by 23% of total value of landings, following by Northern prawn with 21%. As pelagic trawlers are dominant in the long distance fleet, small pelagic species compose the vast majority of weight of landings. Concerning large scale fisheries in the Baltic Sea weight and value of landings in 2022 decreased by 13% and 19%, respectively, corresponding to 13 600 tonnes and EUR 3.7 million. The weight and value of landings from Baltic Sea was at the lowest level in overall period. Decrease was mostly influenced by significant decline in herring quota. The largest share of the LSF production value in 2022 came from the Baltic sprat, corresponding to 87% (EUR 3.21 million) of the total value from Baltic Sea, followed by Baltic herring with 13% (EUR 0.5 million) with significant drop in landings, compared to 2021. In 2022 the SSCF landed 262 tonnes of seafood production, corresponding to EUR 0.47 million and compared to 2021, weight and value of landings decreased by 30% and 28%, respectively.

Employment and average salaries

In 2022, the total number of employees in the Lithuanian fishing fleet decreased by 9%, reaching a count of 423—the lowest level observed during the entire period. Comparing to the multiannual average from 2013 to 2021, the number of FTEs also declined by 9%. The Lithuanian fishing fleet is characterized by significant diversification, and average salaries depend on the type of fisheries. Over the past few years, there has been a pause in the growth of wages and salaries and in 2022, there was a 1% increase compared to 2021. In the SSCF segments, the annual average wage per FTE declined by 5%, amounting to EUR 7 565 per FTE in 2022. For the LSF segments, there was a 10% drop, resulting in an average of EUR 26 140 per FTE per year. Conversely, the LDF segments showed a 2% increase compared to 2021, reaching an average of EUR 29 402 per FTE per year in 2022.

4.14.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Lithuanian fishing fleet part that was active in the year 2022.

National fleet performance

Adjusted for inflation, all economic indicators presented in the national chapter are closely tied to the LDF segments. While factors affecting other fleet segments have a minimal impact at the national level. The LDF fleet plays a dominant role, contributing approximately 95% of the total national revenues.

In 2022, the total revenue surged by 3%, reaching EUR 114.7 million, compared to the previous year. This figure was 15% higher than the multiannual average from 2013 to 2021. The revenue composition reveals that approximately 91% of the total revenues were generated from income from landings, while the remaining 9% came from other income, including income from fishing rights. Other income was mostly generated by the leasing of the vessel to other operators. Notably, the LSF segment held the largest share of other income within the overall revenue structure, accounting for 22%. Additionally, significant trades of fishing rights were observed in large scale fleet operating in Baltic Sea in 2022.

In 2022 all profitability indicators generated by the Lithuanian national fleet had a decrease, compared to 2021. For example, GVA in 2022 declined by 41% to EUR 22 million but compared to 2013-2021 average it was 14% higher. Gross profit declined by 55% to EUR 12.3 million, whereas net profit (including 3.5% nominal interest rate for opportunity costs of capital) declined to EUR 1.85 million. The primary factor driving this decline in profitability was the substantial increase in energy costs, which doubled during the 2021-2022 period.

Resource productivity and efficiency

In 2022, labour productivity of national fleet dropped by 38% to the EUR 60 853 per FTE, however it was 24% higher than multiannual average of 2013-2021. National fleet efficiency indicators are highly dependent on LDF economic performance and has a volatile pattern as well as huge difference between fisheries. Compared to 2021 GVA/FTE in LDF declined by 39% to EUR 72 078. In LSF operating in Baltic Sea labour productivity decreased by 26% to EUR 26 359, whereas in SSCF it was 4 614 EUR per FTE.

Capital productivity in terms of Return on fixed tangible assets (ROFTA) in Lithuanian fleet decreased to 5.7% in 2022. Long distance vessels generated 8% return on fixed tangible assets in 2022 when year before it was 14%. SSCF and LSF fleets has a negative return on capital corresponding to -20% and -9% ROFTA.

In 2022 fishing efficiency in terms of landing weight per fishing day (CPUE) increased by 27% and was 33% higher compared to 2013-2021 multiannual average. Long distance fleet CPUE, in 2022 compared to 2021 improved by 5% to 68 206 kg/day, LSF increased CPUE by 7% to 21 144 kg/day, whereas SSCF CPUE continuously decreased by 11% to 112 kg/day.

Energy consumption per landed tonne increased by 12% in 2022, but it was 18% lower compared to average of 2013-2021, indicating better energy efficiency in the 2021-2022 period.

Table 4.16. Lithuania. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
LTU OFR TM 40XX NEU *	0.84	1.19	1.00	29.7%	379
LTU NAO TM 2440 NGI *	0.63	0.64	0.29	28.7%	128
LTU NAO PG 0010 NGI	0.83	1.42	0.7	11.8%	139
National average	0.83	1.16	0.97	29.6%	346

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

National average of short-term break-even fuel price (STBEFP) in 2022 was 1.16 euro/litre, whereas average fuel price in 2022 was in 0.83 euro/litre. Difference between average fuel price and STBEFP indicates that to make total costs equal to revenues, average fuel price must increase 1.4 times. However, in 2022 average fuel price in the segment of pelagic trawlers, operating in Baltic Sea was almost equal to STBEFP for that segment (0.64), indicating that fuel price in short term leads segment's economic activity to the losses. The highest difference between STEBEFP indicator and average fuel price was observed in SSCF segment NAO PG 0010 as the segment using passive gear for fisheries has low dependency on fuel prices.

4.14.3 Performance by fishing activity

Small-scale coastal fleet

SSCF consists of two fleet segments – NAO PG 0-10 and NAO DFN 10-12 corresponding to 56 active vessels. Number of vessels in SSCF fleet remained unchanged compared to 2021. Fishing effort showed a further decline by 18% to 3 290 days at sea in 2022 to the lowest level considering the whole time series. From 2019 to 2021 the decrease of effort was related to the COVID-19 impact, whereas further decline in days at sea is related to the poor stocks on key species for coastal fisheries. European smelt landings by SSCF in 2022 decreased by 25%, whereas cod fisheries are closed since 2019 leaving only bycatch. European smelt fishery is seasonal and is concentrated late autumn and winter periods. Weather conditions and water temperature are one of the main factors for fishing European smelt. In 2022 water temperature was not favourable and smelt migrated for spawning to more to north of Baltic Sea leaving low fishing opportunities for Lithuanian SSCF fleet. As expected, decline of effort and revenues from landings resulted in the significant drop of profitability indicators. GVA declined by 33% to EUR 248 000 compared to 2021

and was 42% below the average of 2013-2021. Gross profit turned to negative. Net losses decreased to –EUR 69 600. However, subsidised net profit was estimated at EUR 170 700. SSCF segments are eligible and subsidised for compensation schemes, funded by EMFF. Employment indicators tend to decrease. SSCF fleet employed 107 fishers (crew and people on shore, related to fisheries) corresponding to 34 FTE. Compared to 2021, FTE declined by 9% and was 19% lower than 2013-2021 multiannual average.

Large-scale fleets

In 2022, Lithuanian LSF fleet consisted of pelagic trawler segment only, as demersal fisheries were closed due to insufficient cod stocks in Baltic Sea. LSF consisted of 13 active vessels with 2 839 GT with no changes from 2021. Fishing effort for large scale Baltic Sea fleet decreased by 21% to 800 days. Compared to 2013-2021 multiannual average days at sea were 55% lower, reaching the lowest level since 2013. It was driven by the decline of Baltic herring TAC in Baltic Sea together with existing limitations of Baltic cod fisheries. Weak conditions in fishing opportunities and remarkable increase in fuel prices resulted in further decline in economic efficiency in LSF fleet. GVA declined by 36% to EUR 1.1 million, whereas gross profit dropped by 97% compared to 2021. The major driver for decline in gross profitability was a remarkable increase in fuel costs. Average marine fuel price in 2022 jumped by 144% and for LSF fleet reached the short-term break-even prices for fuel (STBEFP) to drive down economic performance to losses. Net profit decreased to –EUR 0.83 million. Deterioration of economic performance led to constant decrease of employment. In 2022 LSF employed 60 fishers corresponding to 40 FTE and compared to 2021 number of employees and FTE declined by 17% and 13%, respectively to the lowest level in all-time series.

Distant water fleet

In 2022, LDF consisted of six active vessels, corresponding to 31 524 GT and 30 191 kW, not changed from 2017. Fishing effort in terms of days at sea slightly increased by 8% compared to 2021 and was at the level of 2013-2021 multiannual average. Lithuanian LDF segments are operates in CECAF, SPRFMO, North Sea and East Arctic regions predominantly in SECAF and SPRFMO targeting small pelagic species such as Atlantic horse mackerel and chub mackerel, whereas from demersal fleet segment the largest share of landings generated for northern prawn fisheries in Barents Sea. 2022 weight and value of landings increased by 15% and 11% respectively. GVA and gross profit of LDF dropped by 42% and 54%, respectively, mostly influenced by sharp increase in fuel costs and other variable costs, related to fishing effort. Gross profit margin in 2022 decreased to 11% compared to the 26% in 2021. Gross profitability was reduced by the high fuel prices and inflation driven increase in other variable costs. In comparison to 8% increase of days at sea, other variable costs in LDF fleet jumped by 31% compared to 2021. Total number employees and FTE in 2022 decreased by 7% and 4%, respectively but remained at the level of 2013-2021 multiannual period. Due to LDF segment specificity, number of FTE is always higher than average number of employees.

4.14.4 Performance of selected fleet segments

In 2022 national fleet consisted of four main fleet segments, representing four type of fisheries, SSCF, LSF pelagic trawlers operating in the Baltic Sea and the LDF.

Passive Gears (PG) below 10 metres

In 2022, 52 active vessels represented NAO PG 00-10 segment and it operated entirely in coastal area of Baltic Sea with the passive gears. Segment represents 69% of total active vessels and 0.2% of total GT in national fleet. Compared to 2021, total vessel tonnage increased by 4% and was 1% higher than multiannual 2013-2021 average. The main species for this segment was European smelt corresponding to 68% of total share in value of landings. In 2022 total revenue declined by 27% to EUR 0.47 million and was 19% lower than multiannual 2013-2021 average. Following general decline trend of Lithuanian fishing fleet in 2022, NAO PG 00-10 segment generated 34% lower GVA, compared to 2021 and obtained gross losses. Total number of FTE increased by 9% but remained at the level of 2013-2021 period.

Pelagic Trawlers (TM) 24-40 metres

In 2022, pelagic trawler segment consisted in 13 active vessels and compared to 2021 it remained unchanged. This segment represents large-scale fleet operating in Baltic Sea and main economic indicators are presented under the section "Performance by fishing activity" under Large-scale fleet section.

Pelagic Trawlers (TM) above 40 metres, distant water fleet

This fleet segment represents Lithuanian long-distance fisheries and main economic indicators are presented under the section "Performance by fishing activity" under Distant water fleet section.

4.14.5 Drivers affecting the economic performance trends

Markets and trade

All production, from long distance fleet, which mainly operates in CECAF, SPRFMO, North Sea and East Arctic is exported. In 2022, around 42% of LDF catches, mainly small pelagic species, were landed in West African ports (Mauritania and Morocco). Compared to 2021 share of landings in West African ports increased by 2%.

After a break in 2019-2020 period, long distance fleet started fishing in SPRFMO area and landed 32 000 tonnes of seafood production in 2022. Part of pelagic trawlers capacity moved to South Pacific waters due to the uncertainty with fishing opportunities in Morocco territories as bilateral agreement terminates in 2023. In 2022, the average price for the main pelagic species had a mixed trend. Prices of Horse mackerel increased by 16% compared to 2021, whereas average price for Cunene horse mackerel and chub mackerel declined 18% and 14%, respectively. Growth of global fishmeal production for aquaculture industry and livestock farming increase the demand for small pelagic species. In 2022, the average price of blue whiting, which had a significant share in the weight of landings decreased by 8%. The price of Northern prawn in 2022 had a 39% increase to 3.45 euro/kg live weight. Norway and Iceland are the main markets for Northern prawn landed by Lithuanian fleet.

In 2022, total after a decline of Baltic herring TAC, weight of sprat landings in LSF amounted 88% (11 885 tonnes) of total catches, whereas Baltic herring landings contributed by 12% (1 678 tonnes) and compared to 2021, decreased by 60%. Around 96% of total landings from large scale Baltic Sea fleet were exported. The main export market for sprat was Denmark, accounted for 55% of total sprat export, following by Estonia with 29% of total sprat exports. Exported production in Denmark and Estonia is used in fish processing industry for fishmeal and fish oil. From total sprat

landings, only 0.7% is landed in Klaipeda port for internal market. In 2022 volume of sprat export is increased by 6% compared to 2021, whereas landings in national port declined by 64%. In 2022 average price for Baltic sprat increased by 10%. Since 2021 the main market for Baltic herring was Denmark, for example, 62% of total herring export in 2019 was landed in Danish ports, in 2020 – 37% and only 4% in 2022. The largest part of Baltic herring export was supplied to Latvia – 54% of total landings. Around 27% of Baltic herring landings (451 tonnes) were landed in national port for internal market. In 2022 average prices for Baltic herring increased by 17% compared to 2021.

The main species, supplied by SSCF are European smelt with 70% of total coastal value of landings, round gobby, Baltic herring and European flounder together contributing 30% of coastal landings. All SSCF seafood production are landed to local ports and distributed with large share to Latvia and internal market for fresh production. In 2022 supply of fresh seafood production from SSCF decreased by 30% in volume compared to 2021 resulting a 22% increase of European smelt average landing price to 4.23 euro/kg. According to LAFPMIS data, in 2022 average retail price for fresh European smelt in local market increased by 25% to 7.5 euro/kg (excluding VAT) compared to 2021. Baltic herring is landed by SSCF to local market mostly for fresh consumption. Average landing price of Baltic herring increased by 6% to 0.37 euro/kg in 2022. The retail price for fresh Baltic herring in local market increased by 7% to 2.32 euro/kg.

Coastal fisheries still lack logistics facilities and infrastructure to store landed production which could be distributed to local markets and supply fresh seafood production to internal market. Investments to the infrastructure of landing sites are foreseen according to the EMFAF funding.

Operational costs (external factors)

In 2022, total operating costs of Lithuanian fishing fleet increased by 22% to EUR 102.5 million, compared to 2021. Energy costs and other non-variable costs (including fishing rights costs) accounted for the 30% and 28.8% of total operating cost respectively. In 2022, expenditures on energy products increased by 93% and were 46% higher than multiannual 2013-2021 average. Labour costs declined by 5% in 2022 and was 11% lower compared to 2013-2021 multiannual average. Structure of operating costs depends on the type of fisheries.

In SSCF fleet wages and salaries had the largest share of operational costs contributing by 50%, following by non-variable costs (including fishing right costs) – 25% and energy costs of 11% in total cost structure. Compared to 2021, SSCF personnel costs and other non-variable costs declined by 13% and 34% respectively. Energy costs decreased by 4%, considering that fuel consumption decreased by 31%. In 2022 LSF non-variable costs (including fishing right costs) and energy costs took the largest share in operational cost structure with 41% and 22% respectively. Non-variable costs, compared to 2021 increased by 37%, mostly related to the costs related to the acquisition of fishing rights and quotas. Energy costs in 2022 increased by 25% due to the jump of prices of energy products. After the increase in fuel prices, energy costs were the major cost item in LDF fleet (31% of total operational costs) followed by other non-variable costs including expenditures on quota and other fishing rights. Compare to 2021 personnel costs declined by 2% but was in line with 2013-2021 multiannual average. Increase in days at sea and surge of the inflation in 2022 boosted variable costs by 25% compared to 2021.

Status of Key Stocks, changes in TACs and quotas

In the Baltic Sea, Lithuanian fleet has quotas for cod, herring, sprat and salmon. In 2022 large scale fishing fleet targeted sprat and herring as cod fisheries are closed since 2020, leaving only bycatch option. Cod bycatch in Baltic Sea in 2022 decreased by 9% to 1.5 tonnes. Remarkable cut in bycatch

and landing obligations could lead to choke effect for commercial fisheries, but in 2022 such case was not observed. Recent declines in Baltic herring quota impacts a balance of fishing opportunities and fleet capacity in Baltic Sea. Baltic herring quota in 2022 decreased by 45% compared to 2021. In 2023 herring TAC recovered to 2 100 tonnes, but in 2024 dropped by 45% to the 1 100 tonnes. This decline will likely have a significant effect on the Baltic Sea fleet in 2024. Small pelagic species in the Baltic Sea is the main source of income to LSF fleet after cod fisheries were closed. As Baltic hearing landings had a decreasing trend, the economic performance was based on sprat fishing opportunities. Increase in sprat quota by 13% in 2022 could lead to continue fishing operations, because significantly reduced herring TAC and closed cod fisheries had a huge impact on large scale fleet. However, TAC for sprat, the main pelagic species for large scale fleet in Baltic Sea is reduced by 11% to 11 100 tonnes in 2023 and further decreased by 10% to 10 100 tonnes. In Mauritania and Morocco, the Lithuanian fleet operates under EU fishery partnership agreements. In 2022 long distance fleet quotas remained unchanged, whereas SFPA agreement between EU and Morocco is expiring in July 2023.

Management instruments

In 2020, 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 (bycatch) and salmon.

Due to the misbalance between fishing opportunities and fleet capacity for cod dependent fleet segments, from 2021 vessel scraping program was started and part of unbalanced capacity of 24–40 m vessels terminated fishing business.

Innovation and development (role of EMFAF)

In 2021–2027 Operational programme of Lithuanian fisheries sector, innovations and fisheries development is foreseen by these actions:

- Investing in sustainable fishing businesses. The programme will support investments on board and/or ashore to increase the added value of catches (in particular through processing, marketing and direct trade); to preserve and improve the quality of catches; to recover and manage unwanted by-catches related to landing obligation; to improve the health, hygiene, safety and working conditions of fishers; to improve energy efficiency and the deployment of advanced technologies on board fishing vessels, such as innovation, digitalisation, circular economy, which contribute to the reduction of the environmental impact. These measures are most relevant for the SSCF segments but are also relevant for the sustainable Baltic Sea segment and the distant-water fishing fleet.

- Collaborative activities between scientists and fishers to test and implement advanced technologies and techniques in the fishing sector and to exchange knowledge. The action will identify, test and apply advanced technologies and techniques in the fisheries sector (related to gear selectivity, measures to protect aquatic birds and mammals, decarbonisation and other measures to reduce the negative environmental impacts of fishing) and exchange knowledge, contributing to the implementation of the European Green Deal, the EU's Biodiversity Strategy and the CBSS objective of protecting the sea.

4.14.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Outlook

In 2023, number of active vessels decreased by 13% due to the declining fishing opportunities in the Baltic Sea and distant water fleet in 2023 and 2024. Compared to 2022, days at sea for national fleet declined by 5%, weight and value of landings by 6% and 21%, respectively. In 2023 the decrease in effort was observed in LSF and LDF fleets, with 18% and 21% decline in days at sea, respectively, whereas SSCF had a recovery in effort by 7%.

Decrease in LDF fishing effort reduced weights of landings by 6%, however, income from landings declined by 21% compared to 2022 reaching a EUR 79.9 million. It was related with expiration of SFPA agreement between EU and Morocco in July 2023. Based on the forecast model results, in 2023 LDF fleet is expected to generate EUR 14 million GVA and EUR 6 million gross profit with 32% and 50% decline, compared to 2022 respectively. According to the preliminary results, average prices for small pelagic species remained at the level of 2023, whereas price for northern prawns tends to increase in 2024.

LSF Baltic Sea fleet effort in 2023 was lower due to the decline in TAC of sprat which is the major target of large-scale fleet after closure of cod fisheries and declining trend of herring fishing opportunities. However, a remarkable increase in prices of key species, was a main driver to the growth of revenues in 2023. Average price of sprat and herring surged by 59% and 69% compared to 2022 resulting in the 38% increase in gross value of landings. In 2022 after the record high fuel prices, it considerably declined by 32% resulting in the better outlook for the profitability. Energy costs depending on the year contributes by around 20% to the total operating costs. Based on the forecast model results, in 2023 Baltic Sea pelagic trawlers fleet is expected to generate EUR 3.8 million GVA and EUR 2.3 million gross profit. Quota for sprat and herring in 2024 decreased by 10% and 45% respectively without an increase in average landing price, according to the preliminary data. This indicates a weak profitability outlook for 2024.

Concerning SSCF fleet segments, due to the better availability of European smelt stocks in 2023 winter and temporary increase in herring quota, weight and value of landings increased by 19% and 11%, respectively. Average price for European smelt in 2023 remained stable, whereas for herring and round goby price increased by 25% and 18% respectively, compared to 2022. It had a positive effect on profitability. Based on the forecast model results, in 2023 GVA increased by 34% to EUR 0.33 million, whereas gross profit increased to EUR 33 800. In 2024 the average price for main species increased considerably – 44% for European smelt and 21% for round goby. Higher prices for highly demanded species and stable operating costs are expected to maintain a good outlook for economic indicators in 2024.

4.14.7 Methodological considerations and data issues

Improvements achieved

Variable "value of quota and other fishing rights" for 2017-2022 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).

Methodological considerations

Revenues and value of landings reported from two separate data sources. Value of landings is estimated as the weight of landings from logbooks times average price, whereas income from landings is collected from fishing enterprise accountancy. In Lithuania, income from landings together with other socio-economic indicators, such as expenditure, employment and capital value are collected through census survey with a one-year lag whereas estimated value of landings is available 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.

For long distance fleet and in 2020, FTE was higher than the number of employees and it is sector specific deviation. According to national law, one person can be employed for 1.5 FTE and conversion to 1 FTE per employed person in the case it exceeds would misrepresent the employment statistics for national fleet.

Figure 4.16. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.15 Malta

Malta has submitted only partial data for 2022, therefore, this section remains the same as in the AER 2023 report (2008-2021 data only)

4.15.1 Short description of the national fleet

The Maltese fishing sector is relatively small and is comprised mostly of typical Mediterranean artisanal or small-scale fishing operations. It is generally described as a multi-species and multi-gear fishery, where the majority of the fishers switch from one gear to another several times throughout the year. Most of the Maltese active fishing fleet is composed of SSCF vessels (91% of total active fleet) with an engine power of 37 785 kW and a combined 1 511 GT (31% of the total active gross tonnage).

Fleet structure

In 2021, the Maltese fishing fleet consisted of 859 vessels, having a combined gross tonnage of 6 421 GT and an engine power of 71 100 kW. The average age of the fleet is 31 years. Out of the total vessels in the fleet 624 were active, a 2% increase over 2020, though the number of vessels continues its declining trend, as the number of vessels decreased by 5% over 2020. Both total number of vessels and active vessels in the fleet in 2021 remain lower than the 2013-2021 average by 12% and 11%, respectively. This continues to evidence the declining trend in the Maltese fishing fleet's overall capacity. The same trend also occurs when considering the fishing capacity in terms of GT and kW, being 8% and 4% lower than in 2020, respectively.

The Maltese Fishing Vessel Register (FVR) did not open for new registrations during 2021, though registrations were accepted for recreational vessels, 27% of the fleet was inactive in 2021, with most of the inactive vessels being below 12 metres. Out of the vessel power and tonnage registered in the fleet, 25% (1 621 GT) and 27% (18 857 Kw) pertained to the inactive vessels.

Figures shows that the COVID-19 pandemic did not significantly affect the fleet composition though the number of active vessels has not returned to pre-2019 levels before the severe storm that had occurred, potentially indicating that a number of vessels are either still onshore being repaired or in the process of being replaced.

Fishing activity and production

The Maltese fleet spent a total of around 23 919 days-at-sea (DaS) in 2021. 21 598 of which were fishing days. Effort, in Das increased by 21% between 2020 and 2021, similarly fishing days increased by 22% over the same period. Both the SSCF and LSF saw increments in effort, 23% and 15%, respectively.

DaS appears to have returned to pre-2018 levels so much so that the change from the 2013-2020 average was less than 1%. If the previously mentioned shocks that occurred in 2019 and 2020 are excluded, it can be assumed that whilst the number of active vessels has been decreasing effort has instead increased. Most of this effort derives primarily from the SSCF, as the LSF only recorded relatively small changes across this period.

On average each vessel spent 38 DaS in 2021, a 19% improved on 2020 and 13% higher than the 2013-2020 average.

The total weight landed by the Maltese fleet in 2021 was 2 494 tonnes, with a landed value of EUR 13.7 million, a 34% increase on 2020. Such increment, both in terms of weight and value was mostly contributed by the LSF. Though it should be noted that whilst the total weight landed for the SSCF decreased by 10% the income from these landings were 15% higher than the value recorded in 2020. In fact, on average, landed weight and income per vessel for the LSF increased by 12% and 39% respectively whereas for the SSCF average landed weight decreased by 12% whilst landed income increased by 93%. This indicates a recovery in average prices per kilo of top landed species by the SSCF.

The main exploited species, in terms of weight, include Atlantic chub mackerel, swordfish, Atlantic bluefin tuna, common dolphinfish, albacore and silver scabbard fish. These species contributed to more than three-quarters of total production. It should be noted that the fleet also targets several 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.

Employment and average salaries

The Maltese fishing sector employed 973 fishers in 2021, a relatively small decrease over 2020 (1%) yet still a record low in employment since 2008. Its FTE corresponds to 529 full-time fishers, 81% of the fishers are employed in the small-scale enterprises, implying this sector's fundamental importance to the social and economic environment of the Maltese fishing fleet. It should be noted that the decrease in total employment and its FTE equivalent derived from the SSCF as the LSF recorded a 3% increase in both indicators over 2020. Employment continues to decline following the pandemic's recorded decrease, overall total employment in 2021 is 19% lower than the 2013-2020 average. Given that the number of active vessels in the SSCF has increased in 2021, it may indicate that most operations are possibly transitioning to one-man operations and are not engaging any other crew members. On average, each vessel within the SSCF and LSF employs circa 1 and 4 fishers, respectively.

Data shows that the average wage across all wage indicators (including per vessel, per FTE etc.) increased over 2020, GVA per FTE also increased, a 61% improvement over 2020.

4.15.2 Economic results for 2021 and recent trends

National fleet performance

The total amount of revenue generated by the Maltese national fleet through fishing activity in 2021 totalled EUR 13.6 million, a 33% increase from 2020. When considering also other revenue streams generated by the sector through non-fishing activities (such as fish tourism by SSCF; towing/auxiliary support operations during the BFT season etc), the amount tallies to EUR 15.2 million. Other income increased by 70% over 2020. It should also be noted that in 2021 the Maltese fleet received EUR 0.8 million in operating subsidies and generated EUR 1.6 million from leasing out fishing rights.

There are many contributing factors to the increase in revenue, mostly that of recorded increases in effort (DaS), potentially higher prices for top landed species, and a potential improvement in efficiency in the relationship between landings weight/value per unit of effort with respect to cost elements consumed for the same units of effort (e.g. Energy consumption).

The operating costs in 2021 amounted to EUR 10.5 million. In terms of total costs, labour (personnel costs and value of unpaid labour), energy and repair & maintenance costs were the three major expenditure items (EUR 5.2 million, EUR 2.2 million, and EUR 1.5 million, respectively). However, EUR 2.7 million of crew costs were estimated for unpaid labour which remained in the hands of the fishers as working capital. Between 2020 and 2021 operating costs increased by 24%.

Economic performance indicators such as GVA, gross profit and net profit significantly increased in 2021 in relation to 2020. The total amount for these indicators were estimated at EUR 9.9 million, EUR 4.6 million and EUR 2.1 million, respectively. This indicates that the resilience shown during the COVID-19 served as a basis for the significant improvement in the economic position of the Maltese fishing fleet.

In 2021, the Maltese fishing fleet had an estimated (depreciated) replacement value of EUR 39.6 million, with 68% of this capital belonging to the LSF. The fleet also invested EUR 1.6 million worth of capital in 2021, showing a quasi-constant level of investment since 2019.

The improvement in economic performance of the overall fleet derives mostly from the LSF, as it recorded significant increases across all indicators. The SSCF only recording increases in GVA for 2021.

Resource productivity and efficiency

In 2021, the Maltese fleet's gross profit margin was recorded at 31%, a 27% improvement in the operating efficiency levels for the sector from the 24% recorded in the previous year. Overall, the Maltese fleet has been recorded a positive and rather growing trend in this indicator since 2017. Net profit margin was estimated at 14% and the RoFTA was at 5%.

Labour productivity (GVA/FTE) increased (+61%) in the period analysed to EUR 18 700 per FTE. The increase in GVA (+63%) has been proportionally much greater than the increase in FTE (+1%).

Fuel Efficiency, overall, has been on a declining trend since 2013. It is fair to consider that the fleet's fuel efficiency is being affected by several factors. The first one being the fleet's age. A 31-year average vessel age is considered to be high; it may be the case that the engines on these vessels are less efficient, require more maintenance and potentially cause inconsistency in the fleet's consumption output. Looking further in depth, when dissecting fuel efficiency between the SSCF and LSF and taking into consideration days at sea it can be observed that for the SSCF fuel efficiency remains rather stable across the days at sea recorded between 2013-2021. On the other hand, for the LSF fuel efficiency fluctuates much more, even though the days at sea have remain relatively stables over the same period. This could be because the distance travelled between these two categories varies. Often SSCF vessels go out at sea on shorter trips and within small distances (either near the coast or within the Maltese 25NM) conversely LSF vessels generally have longer trips and at larger distances. It should also be noted that within the SSCF the vessel type is often similar whereas in the LSF one finds more differentiation as within the category there exist trawlers, purse seiners and longliners.

Fuel consumption per landed tonne was estimated 1 251 litres/tonne further continuing this indicator's decreasing trend. Also, fuel cost increased by 27% over 2020. The landed weight per sea day was estimated at 104 kg/day, a 4% decrease from the previous year.

At a national level, both the short-term and long-term breakeven fuel price (BER) indicators indicate that the sector's gross and operational profit respectively are significantly larger than the energy costs incurred. This shows that overall, the fleet is less sensitive to changes in fuel prices. When

dissected at the SSCF and LSF level, the indicator indicates that their respective average fuel prices the LSF's has positive results implying less sensitivities to shocks in fuel prices. The SSCF's results vary, excluding the PGP0612 cluster which recorded positive results given its average fuel price, the remaining segments/clusters in the SSCF either indicates that energy costs are a significant portion of the gross/operational profit, indicating that the business is sensitive to changes in fuel prices. Or even worse, the operation is not generating enough revenue to cover its energy expenses (loss-making).

Whilst all segments all recorded a positive indicator, 4 out the 10 segments/clusters within the Maltese fleet had energy efficiency scores lower than the industry average, suggesting a relatively low indicator.

With respect to energy intensity, the Maltese registered an estimate of 1.25 kg of fish landed per litre of fuel consumed. The majority of the segments/clusters, excluding PS1824, have an energy intensity between 1 and 2. It should also be noted that the majority of these segments have an estimated energy intensity value that is below the national average.

Table 4.17. Malta. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2021.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
MLT MBS PS 1824 NGI *	0.68	12.75	12.30	4.0%	195
MLT MBS PGP0612 NGI *	0.71	1.59	1.21	17.8%	1,437
MLT MBS PMP0612 NGI	0.71	-0.52	-0.89	23.9%	2,313
MLT MBS HOK1824 NGI *	0.65	4.43	3.27	11.9%	1,253
National average	0.73	2.22	1.62	16.8%	1,251

Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2023)); All monetary values have been adjusted for inflation; constant prices (2020)

4.15.3 Drivers affecting the economic performance trends

Post COVID-19, thanks to the resilience shown in the economic indicators during 2020. 2021 economic performance indicators signal a positive development over the previous year as indicators such as gross profit margin, net profit margin, GVA, and RoFTA all showed signs of growth. Thanks to the latter, potential diversification of non-fishing activities (generating growth in other income), the recovery in average fish prices, and through the COVID-19 scheme launched by the Maltese Government, 2021 recorded figures comparable to 2019.

Between 2021 and 2020, there was a 17% and 34% increase in the weight and value of landings respectively. Expenditure amongst the fleet has increased by 25%, mainly due to increases in labour costs and depreciation. At the same time all revenue streams recorded growth with total income (excl. quota rental income) increasing by 35% over 2020. The main drivers of these two factors being an increase in fishing activity and possible other marine activity not related to fishing.

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 as only a selective number of species are

exported. In recent years, the status of the fish stock may have potentially reduced, consequently leading to responses and fluctuations in the prices for some of the key species.

Giant red shrimp (ARS), red porgy (RPG), John Dory (JOD), red scorpionfish (RSE), seabream (SBR and SBA) attained the highest first sale 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 across both local and international markets yet they are caught in much small quantities than other key species such as the ones below.

In 2021, the real landed prices of key species such as swordfish, Atlantic bluefin tuna, common dolphinfish, and silver scabbard fish saw increases over 2020, by 3%, 45%, 80%, and 12%, respectively. The high value species also registered relative increases in their first sale prices. On the other hand, key species such as Giant red shrimp, recorded a 4% decrease.

In 2021, swordfish produced the highest landed real value (EUR 3.2 million), followed by Atlantic bluefin tuna (EUR 1.9 million), Atlantic chub mackerel (EUR 1.9 million) and common dolphinfish (EUR 1.5 million). The total revenue of landings for a previous key specie such as silver scabbardfish dropped due to decrease in the landings recorded for the year.

These aforementioned species contribute to 68% of the total value of landings for the fleet. In terms of landings weight for these species. Atlantic chub mackerel amounted to 587 tonnes, swordfish to 391 tonnes, Atlantic bluefin tuna to 380 tonnes and common dolphinfish to 220 tonnes. Compared to 2020, these species, excluding common dolphinfish, recorded increases in their landed weight.

It should be noted that Atlantic chub mackerel is generally sold in other areas of the value chain, mostly to aquaculture operators as feed, hence the relatively low first sale value for this species. Most quantities are also landed from the PS segment/cluster.

According to EUMOFA, in 2021 Malta recorded a per capita household expenditure on fishery and aquaculture products of EUR 116 (7% more than the previous year), overall, this is equivalent to EUR 60 million. Malta remains a net importer of fish and seafood. It is reasonable to say that Malta's market generally offers fish all year round and efforts are made from the authorities to promote sustainable fish consumption through local publicity campaigns which aim at educating consumers, increasing consumer awareness, and diversifying national consumption patterns. Building on previous operational programmes (EFF 2007-2013 and the EMFF 2014-2020) through EMFAF, it is being expected that further interventions to increase consumer awareness of local fish species, their diversity and seasonality to shift local consumer purchases of fish species through increased knowledge awareness shall be undertaken over the course of this programmes period.

Operational costs (external factors)

In 2021, both the small and large-scale fishing vessels in Malta experienced an overall increase in their operating costs, by 37% and 9%, respectively over 2020. Most significant increases were recorded particularly in crew costs (both paid and unpaid labour) and capital costs, though overall the overall operational cost structure remain unchanged.

Looking further into personnel costs, specifically the average crew wage per FTE, in 2021 this variable increased by 43% over 2020 to EUR 4 782, further emphasising a possible increasing trend registered in 2018. Given the nature of the operation and often how engaged crew are paid, the trend moves quite closely to fluctuations and trends in landings income.

Status of key stocks. TACs and quotas

The status of some of the fish stocks in the Mediterranean are overexploited with 90% of the fish stocks being overfished, F and FMSY or F0.1 are unavailable for most of the fish stocks for Malta. In 2022, the following stocks were validated at the GFCM meetings (WGSAD and WGSASP):

Table 4.18. Stock status of key fish stocks for Maltese fishing fleet

Species	GSAs	Assessment Status
Aristaeomorpha foliacea	12-16. 21W	Overexploited and in overexploitation
Merluccius merluccius	12-16	Overexploited and in overexploitation
Mullus barbatus	15	In overexploitation with relatively low biomass
Coryphaena Hippurus	50, 10, 12-16, 19	Sustainably exploited

The bluefin tuna fishery in Malta has been managed under an Individual quota (IQ) system. In 2009, the transferability of quotas was allowed and the system changed from IQ to ITQ.

In 2021, bluefin tuna represented the third most landed species for Maltese fleets in terms of landings (379 tonnes), just after swordfish and Atlantic chub mackerel and the second most important species in terms of income generated from landings (EUR 1.9 million). In 2021, bluefin tuna recorded an average first-sale price of 5 euro/kg a 45% increase from 2020. Whilst the price appears to have recovered from the shock incurred due to COVID-19, first-sale prices are still far off pre COVID-19 prices.

With respect to the bluefin tuna quota distribution, the Maltese government is committed to implement a robust distribution plan each year with the aim of securing the sustainability of the resource, and the resilience and the regeneration of the fishing sector. The vision of the Government is to distribute new fishing opportunities across the fishing sector to incentivise further investment by existing fishers as well as providing new opportunities to fishers who have to date been unable to benefit from this fishery. Such avenues are entrenched in the principles of equity to resource access and the rewarding of hard work amongst the artisanal fishing fleets, in line with the UN Sustainable Development Goals.

In 2021, out of the 390 tonnes allocated to Malta, approximately 295 tonnes were allocated to vessels fishing with longlines, which were allocated a quota from the first year of quotas introduction by ICCAT, 46 tonnes to 'Sectoral' fishers (fishers with vessels of a length less than 12 metres, and others who had swordfish or albacore catches either in 2019), 20 tonnes to applicants of the young fishers scheme, and 11 tonnes were allocated to full-time commercial fishers which opt to fish for BFT. The remaining quota refers to contingency, by-catch and recreational fishers' allocation. It should be noted that the vast majority of the quota allocated to those fishers that were allocated a quota from the first year of quotas introduction by ICCAT, often rent out their quota to commercial vessels which eventually shift the 'catches' of bluefin tuna into the tuna-fattening operation.

The established quota on swordfish has been in place since 2017. This catch limit has impacted the landings of swordfish immediately after the quota came into effect, as Malta recorded drop in landings at the time, though it appears that landings post 2018 (excluding 2020 due to COVID-19), landings in terms of weight have increased once more. It should be remarked that the total allowable catch for 2022 across the Mediterranean is expected to decrease further. This could potentially impact the Maltese fishery, though this expectation may be alleviated when factoring in

the fact that revenue earned from targeting this specie has remained above pre-TAC levels consistently following its implementation.

Management instruments

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 was implemented. Malta has continued its monitoring activities and launched a Lampara sampling plan, acting as a monitoring programme to scientifically assess the catch composition of the lampara fishery to revise the reporting of the lampara catches. This measure is targeting an increase in biomass.

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).

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.

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;

- 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.

Innovation and development (role of EMFAF)

Investment levels in 2021 decreased slightly from the previous year (5%). Whilst investment in the SSCF increased by 35% over the previous year, the LSF recorded a 14% decrease over the same period. Given the larger number of vessels, the majority of the investment in absolute terms comes from the SSCF (EUR 1 million), though on average whilst a small-scale vessel invested approximately EUR 1 900 in 2021, a large-scale vessel invested circa EUR 10 900. This gap is obviously due to differences in access levels to financing and capital resources. Generally small-scale vessel owners are much more reluctant to invest/modernise intensively their operation, especially if the owner of the enterprise is an individual that is nearing his retirement age (the Maltese sector also has an aging population).

Due to limitations and capping in the capacity of fleet major investment in innovation that would change a vessel's capacity in anyway is rather challenging as it is either difficult or expensive to obtain additional capacity. With an average vessel age of 28 years, signs show that the fleet does require modernisation and investment in innovation.

Through EMFAF the sector is expected to benefit from different initiatives to promote innovation and modernisation. An extract from the Maltese EMFAF Operational Programme (OP) reads '*Support for investments on board fishing vessels remains critical to ensure that the fishing fleet is kept up to the date with modern technologies, supporting decarbonisation efforts through energy efficiency (EE) measures and fostering enhanced sustainability and resilience. Support will be directed at fleet modernisation, innovation and the use of the latest equipment and technology, to increase EE and/or, product quality. These actions aim to support conservation measures and add value across the value chain to improve fishing gear selectivity, eliminate discards and bycatch linked to the implementation of the landing obligation, and improve the sustainability of fishing activity, marine biodiversity and the regeneration of fish stocks. Actions will support inter alia hull and propeller improvements, improved fuel performance, LED lighting and alternative refrigerants, fishing gear reducing fuel consumption and improving catch efficiency, on board fuel control and monitoring.*' (pg. 84 – EMFAF Programme[22]).

The EMFAF OP also makes reference to actions that will target:

- The enhancement of skills, knowledge, innovation, capacity building, targeting areas such as food handling and on-board hygiene, entrepreneurship, but also pilot projects targeting the blue economy and improving fishing techniques and practices.

- Diversification which is not related to commercial fishing activities i.e. investments to enable tourism activities, the provision of environmental services related to fishing and educational activities, and the potential 'retrofitting of SSCF vessels for activities complementary to commercial fishing'.

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[22] https://fondi.eu/wp-content/uploads/2023/01/EMFAF-Programme.pdf.

- Improving fishing ports infrastructure to increase efficiency and improve health, safety and product quality.

- The replacement or modernisation of fishing vessel engines to help the transition of the sector towards decarbonisation and better energy efficiency.

Such actions are expected to increase the number of fishers benefitting from support, modernise the fleet and improve the resilience and adaptive capacities of the fisheries sector.

4.15.4 Performance by fishing activity

Small-scale coastal fleet

Fisheries in Malta is a relatively small industry where its social significance and impact on the coastal communities and blue economy outweigh its overall macro-economic contribution in terms of GDP and GVA. It can be described as an artisanal or traditional activity which operates on a small-scale, producing small volumes of a 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. The most common gears for the SSCF are trammel and gillnets, pots and traps, bottom longlines and Fishing Aggregation Devices (FADs). In 2021, there were 569 active vessels categorised under SSCF. This quantity includes both full-time and part-time registered fishers. The SSCF represents 91% of the active fishing fleet. The SSCF is almost evenly distributed amongst vessel under 6m (52%) and those between 6-12m (47%). Most vessels are in the majority of cases clustered either in the PGP or PMP segments.

In 2021, 77% (748 employees) of the total 973 employed in the Maltese fishing industry worked on small-scale fishing vessels, which corresponds to 313 FTEs. In 2021, there was 2% decrease in the total jobs of the small-scale fishing vessels compared to 2020, FTE indicator is rather low compared to the total jobs potentially due to seasonal employment in several fisheries, in particular the common dolphinfish season, where additional crew members are recruited specifically for this fishery alone. 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 2021, crew expenditure amounted to EUR 822 180 while the unpaid labour cost was estimated at EUR 3.1 million. The majority of the personnel 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 15%. In terms of profitability, in 2020, the economic performance of the small-scale fishery deteriorated and registered a bigger net loss. Similar movements were observed in gross profits decreasing by 218% and become negative once again. In 2019, the SSCF contributed to 27% of the GVA of the fishing industry.

Large-scale fleet

The large-scale fishing vessels that were active during 2021 amounted to 55. These vessels include the fleet's trawlers and purse seiners, and a number of vessels whose main used gear were hooks and lines or mobile gears. All large-scale fishing vessels work on a full-time basis in the fishing industry.

In 2021, 23% of the total jobs, 225 employees equivalent to 216 FTEs worked with the large-scale fishing vessels. The LSF recorded a 3% increase in the total jobs of the LSF compared to 2020.

The landings value of the large-scale fishing vessels increased significantly by 85% over 2020. The COVID-19 pandemic had significantly impacted the activity of the LSF, either due to close borders affecting their sales channels and fishing activity but also because it affected their recruitment capability for crew members (which in the majority of cases the engaged crew are extra-EU nationals). 2021 figures shows that the LSF in terms of economic performance returns to pre-pandemic levels.

In 2021, this fleet category contributed to 60% to total income from fishing activity. The LSF reported a net profit of EUR 3.9 million. In terms of profitability, GVA, gross profit, and net profit increased by 88%. 121% and 188%, over 2020, respectively.

4.15.5 Performance 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 2021, which were clustered into 10 fleet segments and five inactive fleet segments.

Out of the 10 clusters, 6 clusters had positive profitability indicators. This being PGP0612, HOK1218, PS1824, HOK1824, MGO1824, and DTS2440. With respect the economic development trends, all segments which could have the trend calculated, excluding PGP0006 and PMP0006, showed improvements in their respective economic development trends.

Below are overviews of the performance of key segments. Their importance is based either due to the number of vessels present in the segment or their contribution to the sector overall.

Vessels using polyvalent passive gears only below 6 metres

This segment contains the 43% of the fleet's vessels and is in such terms the largest segment. Though when considering other factors such as revenue and GVA, this segment only contributes to 5% of the revenue of the fleet and EUR 157 800 out of the EUR 9.9 million generated by the entire fleet. The majority of these vessels operate within the Maltese coastal waters and use different metiers based on the fishing season throughout the year. This segment employed 73 FTEs during 2021. This segment's profitability is weak overall, and its economic development trend has deteriorated. It may be deduced based on the low contribution to the fleet's total landings that within this segment one finds the largest density of those fishing operations that are considered as 'low activity'.

Vessels using polyvalent passive gears only 6-12 metres

148 vessels made up this clustered segment in 2021, similarly to its smaller counterpart most vessels operate within the Maltese 25 nm and generally switch gears throughout the year depending on the fishing season. This segment employed 139 FTEs and contributed 22% of the fleet's total generated revenue. Conversely to the 0-6m equivalent this segment shows reasonable levels of profitability and overall improved economic development trend. The gross profit, net profit and GVA amounted to EUR 0.7 million, EUR 0.3 million and EUR 1.9 million, respectively.

Vessels using active and passive gears 6-12 metres

121 vessels were part of this segment in 2021. Like other SSCF segments, most of these vessels operate within Malta's 25 nm. This fleet segment targets several species, mainly common dolphinfish, common octopus, Atlantic Bluefin tuna and swordfish by using fish aggregating devices (FADs), and drifting long-lines (LLD), respectively. Throughout 2021, 86 FTEs were employed in the segment. The activity of this segment generated a total landings value of EUR 1.6 million and generated a net loss of -EUR 0.8 million. Although recording significant losses, the net profit margin for this segment is still 37% over the 2008-2019 average and continues to show improvements in the economic development trends. The segment remained in a weak position in terms of profitability.

Vessels using hooks 12–18 metres

14 vessels made up this segment in 2021. They operate predominantly in the Mediterranean. This segment employed 50 FTEs throughout 2021. The fleet targets a variety of species mainly by using surface and bottom longliners. 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 among others. In 2021, the total value of landings was about EUR 1.5 million. This segment recorded a net profit of EUR 0.6 million and a relatively high net profit margin, signalling high profitability. Furthermore, the segment's economic development trend continued to improve.

Demersal trawlers 24-40 metres

Twelve vessels made up this clustered segment in 2021. Operating in Mediterranean waters, this segment employed 49 FTEs in 2021. 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 2021, the total value of landings was approximately EUR 1.3 million. The segment reported a gross profit of around EUR 2.3 million and recorded a net profit of EUR 2.2 million. This indicates a strong recovery of 2020's weak profitability indicator and a continuing improving trend both in terms of profitability and economic development.

4.15.6 Nowcasts for 2022-23 and beyond

Model results

Malta is expected to continue to build on 2021 positive economic performance, with similar results in all the main economic indicators being projected for 2022. Notably, increases are expected in net profit and respective margins even though energy costs are expected to spike significantly (116%) in 2022 due to the geopolitical conflict in Ukraine. This major increase obviously will impact expected figures for GVA and gross profits, though indicators as already maintained similar or improved positive results due to the fact that landings income increase by 15%. Forecasts for 2023 are indicating further improvements and significant increases across all economic indicators. This is derived by the fact that revenue streams are expected to remain relatively stable whilst energy costs are expected to begin stabilising in 2023. It should be noted that for both 2022 and 2023 other expenditure is expected to remain relatively stable.

The source of the expected positive outcome is mostly derived from the LSF. The expected increases in energy costs will exert further pressure on the economic performance of the SSCF, with forecasts showing that in 2022 gross/net loss is expected to continue increasing.

4.15.7 Methodological considerations and 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 and analysis level.

Figure 4.17. Malta: 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024. No economic data for 2022.
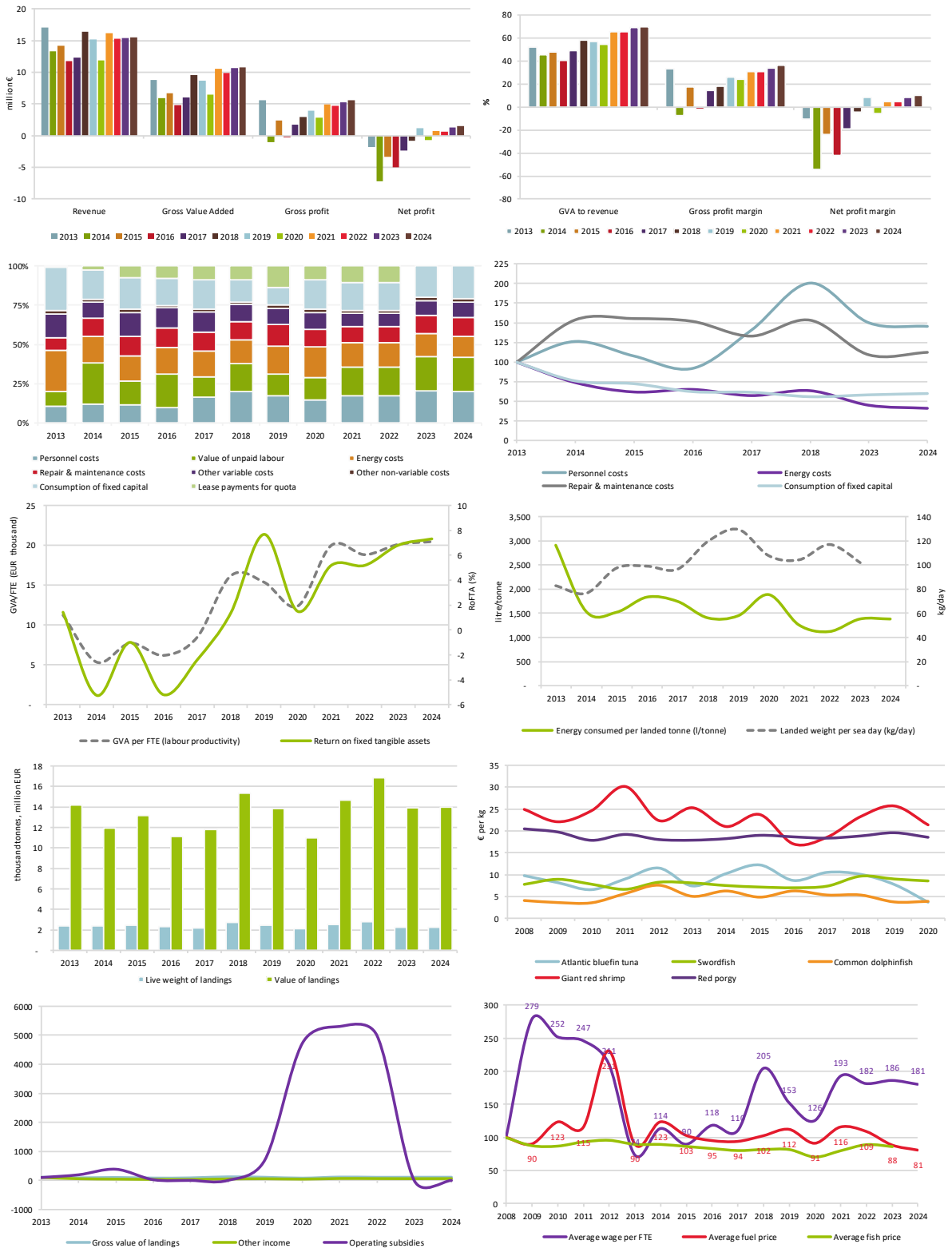
Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2023)); All monetary values have been adjusted for inflation; constant prices (2022).

4.16 Netherlands

4.16.1 Short description of the national fleet

In 2022, the Dutch fishing fleet consisted of 714 registered vessels, 9 vessels less than in 2021. Since 2014 the size of the fishing fleet fluctuated between 740 and 714 vessels. The mean age per vessel has slightly increased by the years from around 30 years (2013) to 35 years (2022) old. Of all registered vessels 72% (512) were active, some less than in 2021. However, employment decreased with 6% (to 1 767 total number of jobs) and 14% in FTE (1 362) between 2021-2022. The total vessel power of the fleet decreased with 1% (to a total of 247 400 kW) and total tonnage also decreased with 1% (to around 101 000 GT) last year.

Fleet structure

In 2022, the number of fishing enterprises totalled 564, with the vast majority (82%), owning a single vessel. Around 18% of the enterprises owned two to five fishing vessels and only a single enterprise owned more than five vessels.

In 2022, the division in small- and large-scale activity for the active fleet was slightly different from 2021, SSCF 34% (176 vessels) and 66% LSF (336 vessels). The number of vessels in both activities decreased (-4%) compared to the 2013-2021 period. The number of pelagic freezer trawlers (TM40XX) is the same in 2022, the number of vessels remained eight among the Dutch flag.

The mean length of SSCF was around 8 metres, for the LSF fleet this was 28 metres in the period 2013 to 2021. 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 mainly with beam trawl (TBB). In 2022 no vessels were newly built, which already stopped in 2021 after some new building in the previous 5 years, which were modern vessels often combining demersal trawl and Danish/Scottish seines (DTS2440), so called fly shoot or purse seine. Due to huge challenges and lack of perspective for the fishing fleet most demersal trawling enterprises are not able to invest in new, smaller, more innovative and sustainable fishing vessels. High fuel prices, decreases in landing volumes, spatial planning issues at the North Sea (expansion of wind farms, of closed areas and Brexit), and lack of sufficient crew are the most important issues, but also lack of opportunities to innovate and funding of capital (to invest) frustrate the process and progress to renew the fleet.

Fishing activity and production

In 2022, the Dutch fleet spent a total of 42 279 days-at-sea (DaS), a decrease of 14% from 2021. This major decrease of DaS can be clarified by the much lower fishing effort from beam trawl vessels. In 2022, a decommissioning scheme (BAR, Brexit Adjustment Fund) was developed by the Dutch government through the Ministry of Agriculture, Nature and Food Safety, and some 30 fishing vessel owners decided to stop fishing during 2022 and tied up their vessels in anticipation of the scheme's entry into force (later in the year 2023). The effort (DaS) of the Dutch fleet fluctuated over the years but generally decreased since 2014. The number of fishing days decreased by 14% to a total of 37 084 from 2021-2022. Fuel consumption was estimated around 141 million litres, a decrease of almost 23% from 2021 caused by lower effort of the fleet in 2022, mainly lower by large vessels which consume rather high quantities of fuel. In years before total consumption of fuel increased and the major factor causing this was the ban on pulse technique which saved 40-

50% fuel per day at sea per vessel (Oostenbrugge et al., 2018) compared to the conventional beam trawl technique. In 2021, the last vessels switched from pulse to the traditional beam trawl technique again (with tickler chains) because of lack of other alternatives at that time to catch sole in economical viable quantities. Total fuel consumption is expected to decrease further in the next few years because of the effect of a decommissioning scheme for fishing vessels. Also fuel consumption per day at sea is expected to decrease slightly in the next few years because of the introduction of other fishing techniques to catch other, non-quota species which require lower fuel quantities, and because of innovation and fuel saving technical initiatives (which will be subsidized).

Compared to 2021, the total live weight of landings and the value of landings remained about the same. The total live weight of fish and shellfish landed by the Dutch fleet in 2022 was 299 000 tonnes, with a value of EUR 384 million. The decrease in weight was caused by less landed volumes for some important species in 2022 compared to the previous year, while weight of some other species increased. The most important decreased and increased volumes are:

-   Mackerel (+10%) for the pelagic freezer trawlers.

-   Solid surf clam (+57%) for North Sea shellfish vessels.

-   Common sole (-31%) and European plaice (-34%) for the demersal cutter fleet. Volumes of these two species are decreasing the last few years. Total capacity to catch these flatfish species went down by at least 26% in DaS. Furthermore, it is unknown why landings remain low, despite that the biomass of sole and plaice should be very safe and far above sustainable levels according to ICES.

The average weight of landings per day at sea increased per day at sea for the Dutch LSF and was estimated around 7.1 tonnes, an increase of 17% compared to 2021. The main species of which landings dropped are European plaice and sole.

The demersal fleet targets mainly flatfish and common shrimp. In terms of economic value, in 2022, the most important landed flatfish species were:

1.   Common shrimp (EUR 73 million).

2.   Common sole (EUR 66 million).

3.   European plaice (EUR 32 million).

The pelagic freezer trawler fleet (TM40XX) has landed the following pelagic species in 2022. The most important species in terms of economic value are:

1.   Atlantic herring (EUR 34 million).

2.   Blue whiting (=*Poutassou*) (EUR 21 million).

3.   Atlantic mackerel (EUR 19 million).

4.   Atlantic horse mackerel (EUR 15 million).

Employment and average salaries

Expressed in FTE, around 76% of the jobs came from the LSF (the demersal cutter fleet), around 22% from the pelagic trawler fleet, and only 2% from the SSCF. The trend between 2013-2022 was downward for employment mainly due to the decreasing number of vessels. In the demersal fleet segment net economic results were between -EUR 14 million up to EUR 7 million. Overall net

economic result was – EUR 3 million in 2022. In 2016 there was a kind of renewed hope because of healthy profits at that time which resulted into new investments (e.g., some new vessels and fishing methods) and therefore (re)entering of crew into the fleet. From that year 2016 on the number of pelagic freezer trawlers was decreasing which clarifies again the drop of engaged crew in the fleet. The last few years there are increasingly concerns about the availability of qualified crew. Due to the ongoing decrease of economic performance mainly now by high costs (fuel) even more crew transfer to other maritime jobs such as offshore, inland shipping or even outside the maritime sector. The average labour costs (salary is different) for a crew member on a Dutch fishing vessel in 2022 was around EUR 65 000.

4.16.2 Performance for 2022 and recent trends

National fleet performance

The economic performance of the Dutch national fleet decreased in 2022 compared to 2013-2021. In 2022 the net economic result was negative (–EUR 6 million). In 2021 the net economic result was still positive (profit) with EUR 12 million. In 2016 the net profit of the Dutch fleet was the highest of the last decade with EUR 97 million.

Between the years 2014 and 2016 profit started to increase mainly by relatively high landing prices and high landings for an important part of the Dutch fleet, which is demersal (mainly shrimp and flatfish). From 2017 onwards, the volume of landings decreased year by year.

In 2022, the total amount of revenue generated by the Dutch national fleet decreased by 8% to EUR 373 million. In 2021 financial aid arrangements by the government (because of COVID-19) were in place which had expired and ended in that year. In 2022 no subsidies were in place anymore, and the value of landings reached around EUR 384 million. The total amount of revenue was lower than the value of landings (EUR 11 million), this was a result of to be paid back (temporary) financial aid by the Dutch government.

Total costs in 2022 were EUR 372 million. A decrease of 3% compared to 2021. Particularly labour costs (crew wages) decreased by 16% due to very high fuel prices. Energy costs raised by 36% in 2022, following a 75% higher price than in 2021. The sum of labour and energy costs, the two major operational expenses, amounted to EUR 227 million in 2022 which was EUR 13 million more compared to 2021 (EUR 214 million).

In 2022, Gross Value Added (GVA) and gross profit decreased for the Dutch national fleet. Respectively, GVA decreased from EUR 173 million to EUR 131 million (–24%) and gross profit decreased from EUR 51 million to EUR 29 million (–43%) compared to 2021. The net profit decreased from EUR 12 million to –EUR 6 million. The main cause is again an annually lower uptake of quota for the major species: plaice and common sole. Fishing rights and quota are transferable in the Netherlands. The value of fishing rights in 2022 is estimated at EUR 11 million. Selling/buying and leasing these rights is 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 fishing technique (high selectivity for sole) sole prices grew substantially (average lease prices of around 3.35 euro/kg in 2015) but dropped again in 2016 due to a higher TAC and a lower uptake in 2017-2022. In 2021 and 2022 quota prices for plaice and sole were very low because of lack of demand. Only a few transactions were registered. On the other hand, lease prices for cod quota were very high, around 1.50 euro/kg. Some individual fishing vessels (only a small part of the fleet) tried to develop a seasonal fishery on cod, but had insufficient individual quota, which urged them to lease from other fishers. The main reason is that the

Netherlands has a very small share of total EU quota, which makes cod quota scarce. Total investments (in assets in general) by the Dutch fleet are estimated to be around EUR 8 million in 2022. Investment in so-called scrubbers (cleaning machines for prevention of unwanted emissions) in shrimp fisheries started in 2022 to meet future regulations with regards to this subject.

Dutch vessels are becoming older, and the average age was 38 years old in 2022. No vessels were new build in 2022. The pessimistic outlook for economic performance in the future does not stimulate further fleet renewal in the cutter fleet nor in the pelagic fleet. Investments in new vessels is stagnating the last few years. Uncertainties like negative effects of Brexit, implementation of more spatial multi-use of the North Sea (e.g. offshore wind parks), the landing obligation, the ban on pulse fishery (while energy costs are rising to an extremely high level and are very volatile) and a shortage of qualified crew have stopped fleet renewal. Besides that, obtaining finances for investments (even for more sustainable and fuel-efficient fishing) is difficult. Confidence and trust in the fishing industry is at a very low level. In 2022, a decommissioning scheme was published in the Netherlands and around 70 owners of (mostly big beam trawl) vessels prepared for this scrapping opportunity of which 51 were assigned in 2023.

Resource productivity and efficiency

The gross profit margin in 2022 was 8%, in 2021 this was 13%. In 2022, this percentage was the lowest in the last 10 years. Lower value of landings of the demersal fleet and rising fuel prices are the main factors causing this. Net profit margin remained about the same at 7%. The return on fixed tangible assets (RoFTA) decreased in comparison with 2021 (8%) to only 1%, the lowest in the last 8 years.

Labour productivity (GVA/FTE) decreased in 2022 to a total of EUR 96 000 per FTE (-12% compared to 2021). The lowest in the last 10 years. Fuel consumption in litres per landed tonne of fish decreased from 608 in 2021 to 472 in 2022.

Table 4.19. The Netherlands. Average fuel price, short- and long-term break-even prices for fuel. Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
NLD NAO TM 40XX NGI *	0.90	0.93	0.63	28.5%	155
NLD NAO TBB40XX NGI *	0.87	0.96	0.93	49.6%	3 298
NLD NAO TBB1824 NGI *	0.93	1.72	1.46	23.4%	1 232
NLD NAO DTS2440 NGI *	0.91	1.26	0.92	28.1%	1 296
NLD NAO TBB2440 NGI *	0.89	0.99	0.92	42.5%	2 661
National average	0.89	1.15	0.98	32.7%	461

Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.16.3 Drivers affecting the economic performance trends

Economic performance of the Dutch fisheries was still positive in 2022 but decreasing. The most important drivers behind the decrease in results were the relatively much higher costs for fuel and other operational costs. Volume of landings and value of landings remained about the same in 2022, but revenues were quite lower compared to 2021 because of the lower number of subsidies.

The average fuel price doubled to 0.90 euro/litre, in 2021 it was 0.45 euro/litre and in 2020 0.34 euro/litre. Fuel (energy) consumption and fuel prices determine for the biggest part the economic performance of the Dutch fishing fleet because of high consumption of fuel. Pulse fishing technique is not allowed anymore since mid-2021 and using the conventional beam trawl technique means rising energy consumption by 40-50%. The (predicted) developments in rising fuel prices have had an enormous impact on energy costs in 2022. The Dutch demersal fishing fleet is dominated by beam trawlers and demersal trawlers so typically fuel intensive. Fluctuations in fuel consumption and fuel prices therefore are key drivers of the fleet's profitability. Development in fish stocks is another main driver. Stocks of demersal species like sole and plaice are important just as well as of pelagic species like herring, mackerel, horse mackerel and blue whiting. For some species, like sole, higher prices have been shown if quantities go down, but prices for many other species do not rise (enough) to compensate loss in revenues because of lower quantities.

Markets and trade (including first sale prices)

The overall challenge for the Dutch fisheries in 2017-2022 was to meet the demand of raw materials (in volume) from market. More specific, due to decreasing landed weight for flatfish species after the year 2016, it was difficult for the processing and trade industry to keep their customers satisfied. They were hardly able to meet the demanded volumes during specific seasons. European plaice for instance generally competes with other (non-) European flatfish species e.g., Pacific plaice, European plaice products also compete with whitefish species on the similar international market in and outside Europe. Competition on price in the whitefish market is heavy and just relatively high import prices for fish outside the EU can give Dutch fishers some relief to obtain a good price for the plaice. On the other hand, the total availability of (non-) European flatfish species and substitutes for these species dropped also in previous years while volume was needed by the industry. Due to pending contracts from last year rather high prices were paid to fulfil the contracted volumes. The plaice processing companies were willing to pay these higher prices to a certain extend for this scarcer raw material so they could fulfil the supply contracts with their customers (wholesale, retail, etc.).

More and more plaice processors from origin have been diversified their production and shifted to other species like salmon, often imported from aquaculture in Norway and Scotland. Many Dutch processors introduced new salmon processing machinery (e.g. filleting and packaging) to remain profitable and to optimize utilisation of production and labour capacity. Due to the growing international market demand of salmon for many Dutch fish processors this species has become more important now in sales value and production volume than plaice and also other fish from the North Sea. Processing and trade of North Sea fish species is just for a few companies in the Dutch processing and wholesale industry still the core business. The industry is changing very quickly.

Most flatfish like common sole and plaice, caught by the Dutch fishing fleet is consumed in countries like Italy, Spain and France, so in southern European countries. In northern Europe, Germany is an important country for the consumption of flat fish fillets and Belgium (and France) for the peeled common shrimp (*Crangon crangon*).

In 2022, prices went up again after rosen prices in 2021. For the total volume of fresh landed North Sea fish, the prices increased by 14% (excluding the species ensis and spisula). Common sole price increased from 11.90 euro/kilo in 2021 to 15.30 euro/kilo in 2022 (+29%). For plaice the price raised (+16%) from 2.50 euro/kilo (2021) to 2.90 euro/kilo (2021). Common shrimp (Crangon crangon) raised in price (+40%) from 3.60 euro/kilo to 5.00 euro/kilo from 2021-2022.

After COVID-19 pandemic the fish processing and trade companies the demand for frozen and canned fish products increased by the EU retail. Costs did raise like prices for transport (containers) but also for personnel.

Operating costs (external factors)

A very impactful external factor is again global fuel prices (34% of total costs in 2022, in 2021 it was 24%). Another relevant external factor for the operating cost is steel prices, in case of renovation or newly built vessels. Most of the Dutch fleet consist of vessels with hulls older than 35 years. These vessels are vulnerable for necessarily repairs or renewing costs for broken engine or parts of that. Replacing of the entire vessel by new to build ones seems not possible at this moment and also not according to an outlook for the future.

Another external factor is quota prices which hardly can be influenced by an individual company in a market with many actors. Lease prices have decreased for many target species (e.g. sole and plaice) in the last 6 years, however before that time it was very hard to lease or purchase quota because of scarcity and therefore high market prices.

Status of key stocks. TACs and quotas

Most of the imported stocks fished by the Dutch fleet such as sole and plaice in the North Sea were fished at sustainable levels, far below or at MSY. But last year the predictions for fish stocks turned into red. Some other stocks (like cod) are also still vulnerable in terms of biomass below sustainable yields, but these stocks look like to restore slowly somehow. These species (like cod) are only caught as bycatch or are targeted by only a couple of Dutch fishing vessels with substantial quota for these species during spring/summertime.

The Netherlands conducts quota swaps with other Member States. This, together with the transferable quota from previous year, allowed for enough quota for all important commercial interesting fish species like sole, plaice and Norwegian lobster (*nephrops*) in 2022.

The quota for sole is very important for the Dutch fleet and a valuable target species. However, the uptake of quota for this specie is again far from 100%. Catches were rather poor, and the uptake was around only 35% in 2022 (7 000 tonnes).

In 2022 there are no data about lease prices for sole (2020 on average 0.25 euro/kg). Because of sole and plaice quota were not fully utilised in 2021 there were no (or just a few) transactions. Within 9 years (since the year 2015) the lease quota prices for sole dropped from more than 3.00 euro/kg to around 0.25 euro/kg in 2022.

For pelagic species, just like other species, quotas are going up and down every year. Sometimes, for some species, the quota differs a lot from year to year. For the Dutch fleet herring, mackerel, horse mackerel and blue whiting are the most important species. These quotas are subject to negotiations of EU with other non-EU countries and management of the stocks in the right and scientific responsible way is not quite easy to do. To reach to a solid agreement is very difficult every year. Uncertainty about quota, especially at the beginning of the year, is businesswise not quite preferable.

Management instruments

The Dutch fleet is mainly managed through ITQs for the most important species, together with a range of input controls.

In the context of the recovery of cod stocks, several 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 and pelagic trawl fisheries are facing many closed areas. Third countries such as Norway and United Kingdom (UK) can decide to implement certain restrictions for their waters, for instance, Norway and the UK are planning closed areas for beam bottom trawl as indicated as marine protected areas (MPA). 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 areas or even techniques. Displacement of fisheries is becoming more and more an issue. It is suggested now to do some experiments with passive gear in wind farms and to allow fisherman to be a co-user of windmill areas. This is in an experimental phase and active gear is forbidden to use within wind farm areas.

The EU (Green Deal) plans closure for fishing activity to 30% of EU waters, to safeguard the biodiversity of these envisaged marine protected area. This ambition is valid for the entire EU fisheries fleet. Among the Biodiversity Strategy plan there is legislation named Fit-for-55 which means EU shipping industry (including fisheries) must reduce their emission with 55% relatively to 1990.

Specifically for the Dutch coastal fleet (e.g. shrimp and mussel cutters) there is a strict nitrogen emission regulation in place. The fisheries vessels operate in Natura 2000 areas where a nature protection permit is required. These permits are only (bi)annually obtained if nitrogen emissions are not exceeding a certain level. In 2022 and 2023, the current permits were still valid. The permits were also still valid (as an exemption) in 2024 because but it is still very uncertain. If the government will permit another 6 years. The vessel owners are hesitating now to invest in so called scrubbers (to filter the CO_2) because of this uncertainty. A subsidy of 50% will be given up to 50% (EUR 51 000) on an investment of EUR 102 000. Time to invest in this is very limited now and availability of the equipment for the fleet is scares. If fishing companies cannot fulfil the law in this respect (because of financial issues or else) and no other solution is found, it could result into no extension of the nature protection permits which means no allowance to fish in the Dutch Natura 2000 waters. It is important to mention that the Dutch government is planning a decommissioning scheme for shrimp vessels, which will be effective in the year 2025 at the earliest.

Innovation and development (role of the EMFAF)

In 2021, the new programme EMFAF has started as the successor of EMFF. In 2022 the EMFF was still utilized as support scheme for Dutch demersal fisheries, again mainly due to the COVID-19 outbreak when fishing vessels were forced to stay in port. In 2022 there was no temporary aid scheme[23] anymore from the EMFF. After the ban on pulse mid-2021, some Dutch fishers started testing alternative fishing techniques to put in place for the pulse gear. Alternative techniques are not very successful at the moment.

New projects focus more on the fisheries' selectivity approach of the landing obligation and innovative fishing gear (less energy consumption). The Dutch fisheries and scientific researchers are exploring opportunities for zero emission fisheries vessels. However, this will be a long-term

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[23] Regulation (EU) No 1379/2013 and Regulation (EU) No 508/2014.

innovation ambition as many technical and economic hurdles need to be overcome before it its marketable.

The government has set up a new instrument and organisation to bring people together who can contribute to fleet innovation. At the end of 2022 this so called 'VIN' (Fishery Innovation Network) started activities and some meetings are organised together with fishers. To be considered necessary innovation options has been identified and in the next few years an innovation stimulation programme will be further developed and implemented. This is still going on.

4.16.4 Nowcasts for 2023 and 2024

Model results

According to the nowcast model, for 2023 it is expected that there will be a slight net profit (EUR 1 million). For 2024, the net profit would be even higher (around EUR 25 million). It is estimated that the total number of vessels in the fleet will decrease by 5%, that the number of DaS will decrease by 16%, and that the total number of jobs will decrease by 10%. Total fuel consumption is estimated to be 18% lower and volume of landings will decrease by 13%. The value of landings is estimated to decrease by 25%. Total fuel costs is estimated to be 43% lower than in 2022 due to the lower fuel consumption and a 31% lower fuel price (using the nowcast data). The sum of the wages is estimated to be approximately 25% lower. The gross profit is estimated to be 14% higher at EUR 33 million.

These results are obtained using an average fuel price of 0.61 euro/litre, which was based on the model input data. This price has, however, a large discrepancy with the fuel price that is observed in the Netherlands, which is around 0.75 euro/litre. Since the fuel consumption is a large part of the total costs, this discrepancy has a large effect on the economic performance. With an average price of 0.75 euro/litre, the Dutch fleet would experience a net loss. This net loss was also reported for 2023 by Wageningen Economic Research (visserijincijfers.nl).

Expected TACs and quotas 2023 and 2024

In 2023, quota for the most important species went down. Important flatfish quota for sole, plaice and turbot/brill went down by 2 to 40% and important pelagic quota like herring, mackerel and horse mackerel have been cut by 5 to 27%. Quota for Blue whiting went up by 68%. Quota for many species is managed through ITQs. TACs for commercial target species developed from 2022–2023:

- Common sole (–40%).

- Plaice (–2%).

- Turbot/brill (–30%).

- Herring (–7%).

- Mackerel (–5%).

- Blue whiting (+68%).

- Horse mackerel (–27%).

Total volume of quota for the most important demersal target species amounted in 2023 around 44 900 tonnes of fish (-9% compared to 2022) while the quota for pelagic target species amounted around 183 000 tonnes of fish (+3% compared to 2022, due to blue whiting).

The following preliminary TACs are agreed for the Dutch fleet from 2023-2024 based on the nowcast:

- Common sole (-60%).

- Plaice (+3%).

- Herring (+29%).

- Mackerel (-5%).

- Blue whiting (+26%).

Outlook

There are multiple main drivers that could impact the performances of the Dutch fisheries in the nearby future.

Firstly, there is an ongoing tendency in closing areas in the North Sea for fishery because of marine nature protection and offshore wind farms. Most of these closed areas are important fishing spots for Dutch vessels. This will limit effort to a certain extent and therefore, likely their performance (e.g. landings). The Dutch fisheries sector is one of the stakeholders which signed a so called 'North Sea Agreement' about the future spatial planning for the Dutch waters of the North Sea. Together with all other important users of the North Sea, like green energy (offshore wind parks) and oil companies, nature and environmental protection (including animals, like bird protection) organizations, marine navy (defence) and merchant navy. In 2021 the POs of Dutch fisheries signed the agreement under protest due to lacking future perspective (e.g. space to fish at sea). Spatial plans continue and space for other important economic activities is expanding.

Secondly, the Dutch fleet already felt the impact on performance by Brexit, but in 2026 a new agreement has to be reached with the UK. In 2025, a next round of negotiations will start, and it is likely that outcomes will have even more impact on the economic performance of the fleet. Fishing area in the North Sea will decrease significant because of no allowance of Dutch vessels in British waters anymore while in the recent past, in general, up to 60% of the landing volume by demersal trawlers and pelagic freezer trawlers (TM40XX) was from those waters.

Thirdly, the LO (Landing Obligation) can have big impact on the Dutch fishing sector when this regulation will become effective without exemptions anymore. Due to multiple de minimis exemptions in certain Member States including the Netherlands, the impact of the LO 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 adaptions the extra costs for demersal trawlers targeting common sole and nephrops will range between EUR 6 and EUR 28 million per year.

Fourthly, fuel prices will be crucial for the economic performance of the beam trawl fleet. Since the EU ban of pulse technique many demersal trawlers now rely on the conventional beam trawling technique. The pulse technique reduced 40-50% fuel consumption compared to the beam trawling technique. Fuel prices are expected to be still on a rather high level. In 2023, on average a price is

paid of 0.75 euro/litre and in 2024 the average price will be maybe around 0.70 euro/litre, but not reaching the level of 2022 (on average 0.89 euro/litre).

Fifthly, the Dutch fleet structure has changed considerably in the year 2023. 51 trawlers (mainly beam trawlers) stopped fishing and are decommissioned. Some of them already stopped fishing in 2022. Very high fuel prices, disappointing catches, less space at sea, the landing obligation, no alternatives in use of fishing gear and in saving fuel, old vessels and high costs of maintenance, lack of skilled crew, financial problems and other reasons has driven entrepreneurs to scrap their vessel. This has economic impact on total size of the fleet, catches and landings of fish, total revenues, costs, number of crew and many other parameters, as well as social impact for local communities.

4.16.5 Methodological considerations and 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.

Because of low response rates for the data collection in the segments above in 2016, clusters were combined 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.

Renovation costs of pelagic trawler(s) in 2015

In 2015, renovation costs for pelagic trawler(s) has been administered as investment (in 2021) instead of costs. Therefore, this modification has reduced the total costs with EUR 12 million in 2015. The net profit of the pelagic fleet segment (TM40XX) changed therefore, from –EUR 24 million (loss given) to –EUR 12 million (less loss given) in 2015.

Figure 4.18. The 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.17 Poland

4.17.1 Short description of the national fleet

In 2022, the number of Polish fishing vessels, 825, remained almost unchanged (828 in 2021). Both engine power and capacity also showed marginal changes, with a decrease of 3% and 6% respectively compared to 2021. The number of inactive vessels increased slightly from 19 in 2021 to 24 in 2022, which constitutes 3% of the total fleet. The majority of inactive vessels belonged to two smallest length classes. The long-time trend (2013-2021) in fleet capacity development was stable.

Fleet structure

The structure of the Polish fleet did not change remarkably in 2022. The LSF fleet (length >12m) consisted of 156 vessels (158 in 2021), whereas 644 vessels (650 in 2021) were accounted for the SSCF. Relative changes compared to total time series for these two groups of vessels were -13% and +5%. The reduction in LSF and increased capacity for SSCF was caused by conversion of bigger vessels to smaller one (keeping the capacity ceiling constrains). 9% decrease in capacity of LSF in 2022 should be attributed to replacement of just one vessel fishing outside Baltic Sea. The value of physical capital of the Baltic fleet (distant vessels excluded) amounted to EUR 121.5 million of which 5% corresponded to inactive vessels.

Fishing activity and production

Effort estimated in days-at-sea or fishing days in 2022 decreased by 3% and 2% respectively or 8% and 5% compared to long term series (2013-2021) average. LSF limited its effort in 2022 by 10% in terms of days at sea or 7% in terms of fishing days. Long term development of days at sea or fishing effort by the LSF experienced downward trend resulting in a respective decrease of 41% and 39% in 2022 compared to 2013-2021 average. The observed decrease in effort can be attributed to the critical condition of Baltic cod stocks, which necessitated significant cuts in quotas and effort limitation. The SSCF effort decreased in 2022 by just 1%, however compared to 2013-2021 it was 5% higher.

Production in 2022 decreased compared to 2021 by 12%, with a weight of landings of 162 600 tonnes (185 800 tonnes in 2021). The decrease was caused mainly by lower Baltic herring quota available for Poland (-30%), decreased flatfish catches as well as lower distant fleet catches of Blue whiting and Atlantic cod. SSCF landings volume increased by 2%. The landing value decreased by 14% (at constant prices) or by 2.6% based on current prices. The production volume of LSF decreased by 6%, while its value dropped by 10% (at constant prices) or increased by 1.7% if current prices were used.

European sprat was again the most important species in terms of volume landed, followed by Atlantic herring and European flounder in the Baltic Sea. Landings of sprats increased in terms of volume by 7% and value. As mentioned, Baltic herring TAC cut caused the volume of herring landings decreased by 35% or value by 9%. SSCF benefited good catches of freshwater species like European perch (+45%), freshwater bream (+23%) as well as Atlantic herring (+23%).

Total value of Baltic fish landings decreased from EUR 40.6 million (constant prices) in 2021 to EUR 36.1 million in 2022 (-11% or), increased by 0.7% (from EUR 35.8 million) if current prices used.

Employment and average salaries

Employment increased in 2022 by 5% in terms of total jobs or 0.5% for FTE. Compared to total time series number of people employed and FTE decreased by 16% or 13%. Average salary (real value) in 2022 was 15% lower compared to 2021 and 16% lower compared to the long term average (2013–2021).

4.17.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Polish fishing fleet that was active in the year 2022. DWF was excluded from economic data analysis.

National fleet performance

The economic performance of Polish fleet has been affected by Baltic cod crisis which led to the closure of the fishery in mid-2019. In 2020, the cod quota was reduced to the amount available for by-catches only. Restrictions continued in 2021 and have not been relaxed next years. The same time TACs for small pelagic species have been reduced by 46% for Atlantic herring and 5% for European sprat.

Lower fishing opportunities caused that revenue, estimated at EUR 41.5 million in 2021 decreased in 2022 by 2% and amounted to EUR 37.3 million. Compared to the period 2013–2021 revenues shrink by 31%.

Total costs amounted to EUR 37.7 million, a 9% decrease compared to 2021 or 28% compared to long time average. Fuel and personnel costs constitute the most significant components in the Polish fleet's cost structure. Salaries paid out in 2022 amounted to EUR 10.1 million a 19% decrease compared to 2021 or 30% decrease compared to long time average. Energy costs increased in 2022 to EUR 7.8 million (+15%). Value of unpaid labour decreased by 8% from EUR 7.4 million to EUR 8.6 million in 2022.

GVA in 2022 was estimated at EUR 20.2 million (compared to EUR 23.1 million in 2021). This indicator continued deteriorating trend as a consequence of landings value decrease.

Gross profit was positive (EUR 2.7 million), 4% higher than in 2021, however, 73% lower than long term average (2013–2021).

Total investments increased in 2022 by 26% and amounted to EUR 2.2 million (EUR 1.7 million in 2021). Low level of investments can be explained by a difficult economic situation (low profitability) of the fishing sector in Poland as well as exhausted EMFF financing possibilities from the 2014–2020 programming period.

Resource productivity and efficiency indicators

The gross profit margin improved in 2022 compared to 2021 by 15% however, remained lower (-55%) than the average of period 2013–2021.

GVA/revenue indicator slightly deteriorated in 2022 (by 2 percentage point) and equalled to the long time series average. GVA per FTE indicator deteriorated again by 3% in 2021 and 12% in 2022 or 26% compared to 2013–2021 average. Return on fixed tangible assets was negative (-0.3%).

The highest energy intensity can be observed for the DTS1218 segment which is directed mostly at demersal species (flatfish, Atlantic cod) and partly pelagic (European sprat and Atlantic herring).

These vessels are using gear with high towing resistance to target fish. As much as 22% of the revenue was required to cover fuel cost in this segment. The short-term breakeven fuel price (BER) indicator reveals that the operational profit is lower than the energy costs incurred for this segment. One segment (TM1824) had an energy efficiency score lower than the industry average. The explanation can be that the pelagic trawl fishing technique is less fuel consuming as well as the catches per unit of effort for this segment is high – only 16% of the revenues was required to cover fuel cost of the segment.

Table 4.20. Poland. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
POL NAO TM 2440	0.90	2.10	1.78	22.7%	68.4
POL NAO TM 1824	0.93	2.87	2.26	15.4%	43.0
POL NAO DTS1218 *	0.96	0.66	0.56	47.2%	170.8
POL NAO TM 1218	1.00	1.47	1.31	32.2%	97.5
Grand Total	0.9	1.9	1.5	23.9%	71.4

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

4.17.3 Performance of selected fleet segments

Pelagic trawlers 24–40 metres

Pelagic trawlers 24–40 metres length has been the most important segment in terms of economic output (landings volume and GVA). In 2022 the segment contribution to the total value and of landings and GVA generated by the Polish Baltic fishing fleet amounted to 47% and 50% respectively. The segment targets pelagic species, such as European sprat and Atlantic herring. The vessels belonging to the segment operate exclusively in the Baltic Sea. In 2022, 42 vessels make up this segment (43 in 2021). Employment (FTE) in the segment decreased compared to 2021 by 20%.

In 2022, the total value of landings of the segment was EUR 17.2 million (9.4% less compared to 2021). The decrease was caused by lower herring catches (resulted again from reduced TACs).

Available herring quota in 2022 to the segment was about 40% smaller than in 2021 while sprat quota increased by about 10%. Fishing opportunities deteriorated further in 2023 following cuts in the TAC for European sprat slightly compensated by higher Baltic herring quota.

The economic performance of the segment, despite decreased landings value remained satisfying. This can be explained by good production efficiency. Labour productivity and ROFTA indicators improved (by 20% and 56%), profitability of the segment remained "high". Net profit margin in 2022 compared to long term average deteriorated again by 23%.

Gross profit generated by the segment in 2022 rose by 41%. Favourable costliness was the explanation for the improvement. Total costs of the segment decreased by 14% what can be attributed to 48% reduction of repair and maintenance costs and 21% reduction in labour costs. Operating costs in 2022 were 15% lower than in 2021 reflecting 14% decrease in effort engaged (days at sea).

Passive gears below 8 metres

The passive gears <8 m segment constituted of 326 in 2022 vessels (in 2021, 324 fishing units) operating in the Baltic Sea including lagoon brackish waters. The segment represents small scale artisanal fisheries and is one of the two most important from the social point of view. In 2022 there was 568 FTE people employed on board of vessels belonged to the segment (30% of the total employment). The boat crews spent on board almost 28 000 days at sea in 2022 (46% of the total effort of Polish Baltic fishing fleet).

The fleet targets a variety of saltwater species like Atlantic herring, European flounder and a variety of freshwater species such as freshwater bream, pike perch, perch and pike. In 2022 the total volume of landings were 2 956 tonnes (+13% compared to 2021) worth EUR 3.5 million which is 14% less compared to 2021 (nominal landings value was, however, just 3% lower than in 2021).

Pike perch was the most important from the economic point of view species for the segment with landings accounted for 29% of the total value (33% in 2021), following by European eel (18% or 20% in 2021), perch (14% or 12% in 2021) and herring (13% or 10% in 2021).

The gross result of the segment was again highly negative (−EUR 1.1 million) compared to 2021 (−EUR 0.5 million). Gross profit margin remained also negative −29% compared to −12% in 2021. The profitability indicator of the segment was at "weak" level. Gross value added generated by the segment amounted to EUR 2.5 million and was 16% lower than in 2021 (EUR 2.9 million). The GVA to revenue indicator deteriorated from 68% in 2021 to 64% in 2022.

The segment has been affected by the Eastern Baltic cod collapse. This fish used to be one of the most important species in terms of landings value before 2012. The segment is also dependent on changeable weather conditions, such as the icing period on the Vistula Lagoon, which influences the availability of Atlantic herring.

Total costs of the segment rose by 5% as a consequence of higher number of days the fleet spent at sea (+1%) as well as higher personnel costs (+1%) energy costs (+12%) or (less important item in the cost structure) repair and maintenance costs (+26%).

Because the segment appeared just in 2021 as a result of the change in segmentation approach in the Baltic Sea, long term indicators were not available for this fleet.

4.17.4 Performance by fishing activity

Small-scale coastal fleet

The small-scale coastal fisheries consisted of 644 vessels in 2022 compared to 650 in 2021, which means just 1% decrease compared to 2021 or 5% increase compared to total time series. The small-scale fleet operates exclusively in the Baltic Sea and two adjacent brackish water lagoons, targeting mainly Atlantic herring (34% in 2022), European flounder (20%) and various freshwater species like freshwater bream (17%), roach (9%), perch (9%) and others. In 2022 the fleet landings increased by 2% compared to 2021 however but deteriorated (−22%) compared to the 2013–2021 period average. Value of landings amounted to EUR 7.9 million, a 14% decrease compared to 2021 or 32% decrease compared to 2013–2021 average.

The SSCF was affected by Baltic cod resources crisis that resulted in closure of directed cod catches in 2019. This made the fleet to redirect its effort on alternative however cheaper species like Atlantic herring or flounder. In 2021 Atlantic herring volume landings increased again by 23%. The

fleet benefited also recovering of freshwater bream and perch catches which were in 2022 23% and 45% higher than in 2021.

The SSCF used to benefit high EMFAF subsidies (EUR 29 million in 2020) such as temporary cessation of fishing activity (related to COVID-19 outbreak), collecting of lost nets as well as bycatch of birds' observations. Operating subsidies received in 2022 amounted to EUR 2.3 million only ("war-aid" compensation mainly). In 2020 GVA of the fleet slumped by 66% to EUR 2.2 million (mainly as a consequence of landings income collapse). In 2021 GVA recovered to amount of EUR 5.4 million (still -31% compared to 2019). In 2022 GVA decreased again to EUR 4.7 million (-13%). Compared to long term average (2013-2021) the indicator deteriorated by 38%. The SSCF produced negative gross profit of EUR 4.2 million in 2021 and improved only slightly in 2022 (EUR 4.09 million).

The number of people working in the fleet (engaged crew) decreased compared to 2021 by 2% or 6% compared to 2013-2021 long time average.

Large-scale fleet

In 2022, 156 active vessels were assigned to the large-scale fleet -1% less compared to 2021 or 13% less compared to long time average (2013-2021). The vessels operate in the Baltic Sea with the exception of two vessels operating in the North and Central Atlantic (no combined Baltic Sea and other areas activity). The Baltic vessels targeted European sprat and Atlantic herring mainly. The vessels fishing outside Baltic Sea harvested blue whiting in North-Western Atlantic and brown crab in North Sea. In 2021, the Baltic LSF vessels landed 115 800 tonnes fish worth EUR 31.4 million (constant prices). In 2022, landings decreased to 102 300 tonnes (-12%) worth EUR 28.2 million (-10%). Herring TAC cut was the main reason for lower landings while European sprat landings increased 7% following higher TAC. European sprat accounted for 70% of total volume and 60% of total value of landings of Baltic Sea LSF in 2022.

Profitability of the Baltic Sea LSF (gross profit) did not change in 2022 compared to 2021. Net profit however (calculated at 3.5% opportunity cost) increased by 8% from EUR 1.7 million in 2021 to EUR 1.9 million in 2022. Long term changes of profitability were negative for gross profit (-45%). The fleet generated EUR 15.5 million GVA (-12% compared to 2021 or -36% compared to long term change).

In 2022, energy costs were as much as 16% higher compared to 2021 (despite lower fuel use – 20%), on the other hand labour costs decreased by 22%, repair and maintenance by 30%. In 2022 total number of days spent at sea by the LSF vessels were 10% lower than in 2021.

4.17.5 Drivers affecting the economic performance trends

The most important factor that negatively impacted Polish Baltic fishery was collapse of Atlantic cod resources. Status of Eastern cod (poor recruitment) caused that the European Commission decided to close the fishery at the end of July 2019, prolonged the constraints to 2020 and continued closure onwards (only by catch allowed). It negatively influenced the performance of the demersal fleet segments targeting cod (i.e. DTS, DFN, HOK as well as PG). Additionally, the SSCF was affected by the limited abundance of this stock in coastal waters which is commonly attributed to environmental changes in the Baltic Sea.

Another driver that negatively affected the economic performance of the Polish fleet in 2022 was the Central Baltic herring quota cut (-45%).

Restriction imposed on Salmonidae catches in 2020 and straightened in 2021 (see chapter Management instruments) caused that sea trout and Atlantic salmon catches slumped down to a very low level. This affected PG0008, PG0812, DFN1218 segments mainly. Combined landings value of sea trout and Atlantic salmon amounted to EUR 0.4 million in 2022 (EUR 2 million in 2019).

In 2020, the industry received EUR 34.7 million (EUR 12.4 million in 2019) of operating subsidies paid for mitigating negative COVID-19 effects or for temporary cessation of fishing activity. This contributed to decreased fishing effort mainly for the SSCF vessels. The subsidies were withdrawn in 2021 and not available in 2022 what resulted in increased fishing effort and landings compared to 2020. So-called 'war aid' to compensate for additional costs incurred due to market disruptions caused by Russia's aggression against Ukraine and its impact on the supply chain were paid to fishers in 2022 (EUR 4 million).

Markets and Trade

Fish and fish products consumption in Poland decreased in 2022 and amounted to 13.68 kg per capita (live weight), compared to 14.18 kg per capita in 2021. Alaska pollock – 3.30 kg (2.50 kg) following by Atlantic herring – 1.78 kg (2.82 kg) and Atlantic mackerel – 0.90 (1.20 kg) were three of the most important consumed species (2021 figures in brackets). The decline in fish consumption was due to a significant increase in prices (inflation) caused mainly by the war in Ukraine.

The Polish fish processing production value scored a record value of EUR 3.6 billion in 2022 compared to EUR 3.1 billion in 2021 (current prices). The production volume amounted to 604 100 tonnes (614 600 tonnes in 2021). Canned and marinated products kept dominated position in the production (45%). Both product categories are based on species caught by Polish fleet (European sprat and Atlantic herring) as well as imported raw material (Atlantic herring and Atlantic mackerel).

The Polish domestic market is strongly dependant on imported products. In 2022, import of fish products decreased by 5% to 988 600 tonnes compared to 1 039 000 tonnes in 2021 (live weight equivalent). Atlantic salmon (imported mostly from Norway) dominated in the species structure of imported fish (226 000 tonnes) followed by the Atlantic herring (79 000 tonnes), Alaska Pollock (55 700 tonnes), Atlantic mackerel (47 900 tonnes) and Atlantic cod (45 400 tonnes).

Retail prices of fish and fish products index in 2022 was 117.3 (104.2 in 2021) year to year compared to 116.6 of the index of consumption goods and services. The producer price index for fish and fish products was 114.4 in 2022 compared to 100.4 in 2021.

Operating costs (external factors)

Continued increase of world oil prices in 2022 was the most important factor negatively influenced energy costs of the fishing fleet. The supplier fuel price in Poland in 2021 was about 70% higher than in 2020. In 2022, the price doubled compared to 2021. Estimated total energy costs however increased by 15% only. In 2022, the gross minimum wage increased in Poland by 7.5% and average salary by 12% which may cause expectation for pay increase in fishery. The inflation rate increased to 14.4% in 2022. Producer prices in December 2022 was 22.4% higher than in December 2021.

Implemented cost-saving measures aimed at minimizing expenses (reduced effort, less reparation and investments) let minimize increase of operating costs which finally in 2022 were 26% lower than in 2021.

Status of key stocks. TACs and quotas

The 2022 available quota for Poland on the Baltic Sea (after swaps) amounted to 92 500 tonnes (-5.5% compared to 2021). Available Atlantic herring quotas decreased by 38%, Atlantic cod by 68% (quota available only for bycatches), Atlantic salmon – 73% decrease and sprat 9% increase (changes include swaps). The 2023 TAC allocated to Poland for Baltic species decreased again by 4% compared to 2022. Reductions affected European sprat – 11% and Baltic cod – 21%. Atlantic salmon quota did not change (however is utilised in just 3%) while Central Baltic herring TAC increased by 32%.

ICES estimates that the biomass of the eastern Baltic cod stock continues to be below Blim and had decreased further since 2020. Therefore, for the third consecutive year it advised zero catches for eastern Baltic cod. According to ICES advice, all commercial and recreational catches of Atlantic salmon in the main basin, which are mixed from healthy and weak river stocks, should be stopped in order to protect the weak river stocks. In 2021, ICES estimated that the biomass of Central Baltic herring had fallen further and is close to Blim. It is therefore appropriate to set the fishing opportunities in accordance with Article 5(1) of Regulation (EU) 2016/1139 i.e. maintaining populations above levels which can produce MSY.

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 2021 and 2022 the quota allocation system did change compared to 2020.

Cod, sprat and Central Baltic herring quotas were allocated to users based on the 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 metres length or 12 metres in sprat fisheries) were exempted from the quota system.

LO in the Baltic Sea came into force since 1 January 2015 for salmon, sprat, cod, and herring and, since 1 January 2017 also for plaice. The regulation did not affect the fisheries. Fish below MLS/MCRS are directed mostly for reduction to fishmeal since (they are usually handled with no special care (no chilling on board). No special solutions related to the LO 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 this 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).

Considering the critical condition of the two cod stocks, the EU 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. The measures were extended to 2020 and onwards. In 2021 and 2022 fishing for Atlantic cod in eastern Baltic (ICES 25-32) were limited to bycatches only and strictly prohibited during the summer spawning time (from May to August).

The restrictions imposed in 2020 on Atlantic salmon and sea trout as a response to the high level of misreporting in salmon catches were maintained. Fishing for sea trout beyond four nautical miles measured from the baselines in ICES subdivisions 22-32 was prohibited for fishing vessels from 1 January to 31 December 2020. When fishing for salmon in those waters, by-catches of sea trout shall not exceed 3% of the total catch of salmon and sea trout at any moment on board or landed after each fishing trip. In 2021 according to TAC regulation (2021/1888) fishing for salmon was reduced exclusively for by-catches. No directed fisheries were permitted under this quota.

Innovation and development (role of EMFAF)

There were several projects financed from EMFAF aiming at promoting environmentally sustainable, resource–efficient, innovative, competitive and knowledge–based fisheries worth about EUR 5 million. The examples are listed below:

- Experimental stocking with RAS-bred pike as a method of coastal fisheries crisis management,

- Comparative studies of innovative cod-end constructions reducing the number of undersized fish in trawl fishing for Baltic cod,

- Reduction of energy consumption in terms of reducing the negative impact of inland and sea fishing on the environment,

- Replacing the production of Baltic cod products with alternative species.

By the end of 2022 out of the four above mentioned projects only the last one had been completed. The project resulted in implementation of technological, technical, and organizational solutions in the four processing plants which enabled the production of new products from species other than Baltic cod at a sufficiently high level of efficiency and quality and with contemporary standards of good manufacturing practice.

4.17.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

According to preliminary figures landings volume decreased by 1% but value increased (as a result of pelagic species price increase) by 8%. Landings from the Baltic Sea decreased by 13% since deep-sea fleet landings increased by 15%. European sprat (-15%), European flounder (-36%) and European Perch (-39%) contributed the most to the landings decline on the other hand landings revenues of three economically important species like Atlantic herring, pike perch and European eel increased by 10%, 47% and 30% respectively. TM2440 (the most important segment from the economic output point of view in the Polish Baltic fleet) revenues increased (as a result of prices growth) by 9% in 2023 while landings volume decreased by 12%. According to model results the economic output the segment will deteriorate in 2024. Expected value of landings may decrease by 10% live weight of landings by 12% (which can be attributed to smaller Atlantic herring and European sprat TAC available in 2024). Number of days at sea my decrease by 6% which may contribute to fuel savings (energy cost are expected to be 16% lower than in 2023). Finally expected gross profit of the segment in 2024 may decreased by 15% (EUR 8.7 million in 2024 compared to 10.3 million in 2023).

PG0008 (the segment belonging to small scale fisheries) value of landings increased in 2023 by 25% while fishing effort as well as number of vessels remained almost unchanged (-2% or +1%).

The negative net profit of the segment according to the model equals to EUR 1.5 million in 2023 as well as in 2024.

Outlook

The available fishing quotas for Poland in 2024 is lower again by 10% for European sprat and 43% for Atlantic herring as well as 15% for Atlantic salmon, while the quotas for Eastern Baltic cod and plaice remained unchanged.

Especially the reduction in the European sprat and Atlantic herring quotas will have a negative impact on the pelagic vessel segments. The closure of targeted cod fisheries (in 2018) and the declining fishing quotas for pelagic fish have led to an excess fishing capacity in the Baltic fleet. According to the Polish report on efforts to achieve a balance between fleet capacity and fishing opportunities (2023), it is expected that the number of vessels in permanently inefficient and imbalanced segments will be reduced to a level that ensures increased efficiency in segments operating at a deficit and stabilizes the financial condition of those segments. According to preliminary declaration about 200 vessels are intended to be permanently withdrawn. As a consequence, two fleet segments VL1218 DFN and VL1824 TM may disappear (74% and 90% reduction). The number of vessels belonging to other ones like VL1218 DTS and VL1824 TM will be reduced by 64% or 30%. Number of vessels belonging to two small scale fisheries segments (VL008PG and VL0812 PG) will decrease by 15% and 30%.

Methodological considerations and 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 onwards figures are not fully comparable with the earlier years.

Figure 4.19. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.18 Portugal

4.18.1 Short description of the national fleet

In 2022, the national fleet capacity was composed of 7 633 vessels, having a combined gross tonnage (GT) of 86 385 tonnes and engine power of 348 519 kW, distributed by Mainland Fleet, Azores and Madeira. In 2022, 53 vessels entered the Portuguese fleet, while 88 were withdrawn[24].

Fleet structure

The Portuguese fishing fleet includes the mainland fleet and two outermost regions (Azores and Madeira), which manage the national fleet according to their respective areas of competence. The national fleet includes vessels from small-scale, large-scale and vessels which operate in distant waters and are grouped into 11 major segments (DFN, DRB, DTS, FPO, HOK, MGO, MGP, PGP, PMP, PS and TBB). The most important segments in terms of value from landings are NAO DTS2440 NGI, NAO DTS40XX IWE, NAO PGP0010 NGI, NAO PS 1824 NGI and NAO FPO0010 NGI, that together represent 46% in value of landings.

The estimated value of physical capital of the Portugal fleet was EUR 443.19 million of which 25.9% corresponds to the inactive fleet. The active fleet represents 45% of the total number of vessels and is characterised by a prevalence of small fishing vessels, with length of less than 12 metres representing 85% of the active fleet in number of vessels and 12% of GT, and 43% of kW. The average length is 9 metres, and the age of the active fleet is 27 years.

Despite the large percentage in the number of inactive vessels (55%), this fleet represents a very low capacity (24% and 21% of the total kW and GT, respectively, and 6 metres average LOA).

Fishing activity and production

In terms of effort, there was a decrease of approximately 9% in the number of fishing days and DaS observed in 2022, compared to the previous year.

In 2022 the observed value was 88 days/vessel (8 days of activity per vessel less than in 2021). Landed weight per sea day was 535 kg/sea day in 2022 (-1.7% compared to 2021). The energy consumption decreased 7% compared to 2021, and it was close to the 2020 energy consumption.

Vessels operate, mainly, in the Northeast Atlantic, Azores grounds, coastal waters of Madeira and also in NAFO and Svalbard/Irminger areas (demersal trawlers), South Atlantic, and Indian and Pacific oceans (surface longliners).

In 2022 the landings weight decreased 10% compared to 2021 and 6% compared to the average (2013-2021). The landings value decreased 4% compared to 2021, but when comparing then to the 2013-2021 period, landings value increased 4%.

The mean price of fish reached the value of 3.3 euro/kg, an increase of 11% compared to 2021.

The common octopus is the most representative species (14.3%) in terms of value of landings, followed by European pilchard (6.8%), Atlantic horse mackerel (5.6%) and blue shark (5.5%). These four species together represent 38.5% and 32.2% of the total Portuguese weight and value of landings, respectively.

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[24] According to Portuguese annual report (2022). In the data files the difference between number of vessels in 2021 and 2022 is higher, given that there is a delay in the register of the withdrawn.

In the case of common octopus, both, weight and value of landings increased 9% and 5%, respectively compared to 2021. The average of landed price decreased compared to previous year (8.02 euro/kg in 2022 and 8.35 euro/kg in 2021).

Atlantic horse mackerel and blue shark also increased in terms of value landings (+2% and +27%) and weight of landings (+7% and +6%). The average price decreased from 1.43 euro/kg in 2021 to 1.36 euro/kg in 2022, in case of Atlantic horse mackerel and blue shark increased from 1.7 euro/kg in 2021 to 2.0 euro/kg in 2022.

In terms of landed weight, European pilchard is the most representative species with 15.6% of total catches followed by chub mackerel (12.8%), and Atlantic horse mackerel (10.9%). These three species represent 39.4% and 14.6% of the total Portuguese weight and value of landings, respectively.

The average price of the European pilchard increased from 1.59 euro/kg in 2013 to a value over 2.0 euro/kg in the period 2014-2016 (in 2015 the price reached the maximum value of 2.45 euro/kg). In 2017 a reduction of the European pilchard price was observed (1.81 euro/kg) due to a strong concentration of daily landings that pushed the prices down. In 2018 the price recovered reaching the 2014-2016 levels with a value of 2.42 euro/kg. Since then, the sardine price has fallen steadily, reaching a minimum of 1.16 euro/kg in 2022, as a result of the increased supply.

Employment and average salaries

Employment was estimated at 13 147 jobs (7 102 FTEs) with an average of 2 FTE per active vessel. In 2022 the average crew wage per FTE reached 21 250 euros/FTE, corresponding to the maximum value observed over the 2013-2022 period. The Portuguese official statistics reports three different age-classes to classify the age of the fishers: below 35 (23%), between 35 and 55 (56%) and over 55 (21%).

4.18.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Portugal fishing part that was active in the year 2022.

National fleet performance

In 2022, the Portuguese national fleet worsened its economic performance compared to 2021 by 22% in gross profit. The reason for that was mainly due to the EUR 18.4 million decrease in revenue and the EUR 7.2 million in increase in total costs.

The variable costs increased by 2% compared to 2021, as the 39% increase in fuel costs was compensated for by an 8% decrease in personnel costs (-EUR 13.5 million), which account for 47% of variable costs.

Revenue decreased 4% compared with 2021 but is 3% above the average of (2013-2021). GVA in 2022 decreased 14% and 12%, respectively compared to 2021 and over the 2013 to 2021 period, gross profit decreased by EUR 23.8 million, standing at just 5% above the 2020 value, which was heavily affected by the restrictions imposed by COVID-19.

Resource productivity and efficiency indicators

Compared to 2021, the gross profit margin fell by 19%, reaching a level lower than that observed in 2020, making it the lowest value in the 2013-2021 series.

The reduction in fuel prices from 2013 to 2016 contributed to an improvement in the economic performance of the fishing fleet. The RoFTA had a significant increase in this period, recording the highest value in 2016 (22.6%).

Due to changes in the estimate of fixed capital consumption in 2018, the RoFTA value decreased to 13.4%. In 2019 this indicator fell to 9.1% and in 2020 it is 4% due to the fall in landing revenues and high energy prices due to the pandemic crisis. In 2021 there is a clear recovery in fleet performance, with this indicator reaching the pre-pandemic level (9.8%). However, in 2022 this indicator has dropped again (3.7%), falling below the value that was observed in the year of the pandemic.

After falling in 2020, labour productivity (GVA/ETI) recovered in 2021 and fell again by 4% in 2022.

Fuel consumption was 474 litres per tonne landed (+3.7% compared to 2021). Landings in weight per unit of effort (in days at sea) were 535 kg/day (-1.7% compared to 2021).

The table below identifies for each fishing gear – DFN, FPO, HOK, PGP and PS – the most important segments in terms of the number of vessels whose sales are made entirely in national auctions, which therefore correspond only to fresh fish. These five segments account for around 70% of Portugal's active fleet.

Table 4.21. Portugal. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price (€)	Long-term Break-even fuel price (€)	Energy Efficiency	Energy intensity
PRT NAO DFN0010 NGI	1.65	7.54	5.95	11.1%	387
PRT NAO FPO0010 NGI	1.43	12.92	11.68	6.47%	381
PRT NAO HOK0010 P3	1.06	7.81	6.16	6.50%	506
PRT NAO PGP0010 NGI	1.66	7.64	6.32	11.04%	386
PRT NAO PS 1012 NGI	1.11	3.60	2.59	10.56%	111
National average	1.15	2.23	1.63	20.55%	474

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

Although the national average fuel price is 1.15 euro/litre, in 2022, it can be seen that for segment PGP0010 NGI, the value is much higher than the average once 81% of this fleet uses gasoline engines. However, the short and long-term BER fuel price is high, which may lead to shipowners not taking the necessary measures to improve fuel efficiency. Energy intensity and energy efficiency are lower than the national average. This segment is the largest in terms of number of vessels and operates with several gears using mostly outboard engines, some of which are old and energy intensive.

The average fuel price observed at the DFN0010 NGI segment is higher than the observed at the polyvalent gears (1.65 euros per litre), and the short and long-term BER fuel price is also high (7.54

and 5.95 euro/litre, respectively). Energy intensity and energy efficiency are lower than the national average.

In the case of FPO0010 NGI, the average fuel price was lower than the observed in the previous fleet segments and the short and long-term BER fuel price is even higher (12.92 and 11.68 euro/litre, respectively). Energy intensity and energy efficiency are lower than the national average.

Regarding the Azorean longliners (HOK0010 P3), the average fuel price is lower than the national average (1.11 and 1.15 euro/litre, respectively), and it is notice that the short- and long-term BER fuel prices are similar to the traps, drift nets and polyvalent vessels from the mainland (7.81 and 6.16 euros/litre, respectively). Energy efficiency is lower than the national average, but energy intensity is the highest between these fleet segments.

The segments PS 1012 NGI (purse seiners have fuel price below the national average and the short and long-term BER fuel prices are considerably lower than the segments referred. The energy intensity and energy efficiency are much lower than the national average.

With the implementation of the Recovery and Resilience Plan an improvement in terms of energy efficiency is expected, since most of the supported projects include the change of the engine to a more efficient engine, anticipating a reduction in emissions, and also the use of new materials and more efficient and environmentally friendly formats.

4.18.3 Performance by fishing activity

Small-scale coastal fleet

In 2022, SSCF comprised 2 753 vessels, GT of 6 746 and total power of 101 824 kW. Almost all of the SSCF operated along the mainland coast and using several gears (PGP – nets, longlines, pots and traps) catching a diverse number of species. The cephalopods (octopus and cuttlefish) are the major group of catch species, achieving 43% of the SSCF value of landings. The common octopus is also the most caught species in terms of weight (30%). Pelagic species like chub mackerel and skipjack tuna are, in weight, the following species that with cephalopods represents 46% of SSCF landings. FTE corresponds to 34% of the FTE national. The average fleet activity in 2022 reached a value of 72 DaS/vessel.

Landings in weight decreased 17% and 8% in value compared to 2021. When compared it with the period (2013-2021) the value of landings increased 15%, although the live weight of landings decreased by 13%, which reflects the improving trend in fish prices in these fleet segments. In 2022, landings from the SSCF represented 11% in weight and 26% in value of the total Portuguese landings, revealing high quality of the fresh product caught by this fleet segment.

In terms of economic performance, the gross profit decreased 8% when compared to the previous year. The net profit of this fleet has improved consistently since 2013 to 2018 but suffered a deterioration in 2019, and especially in 2020. In 2021 the net profit increased considerably (75%), however in 2022 decreased compared to 2021 (-10%).

Energy costs registered an increase of 3% compared to the previous year and 15% compared with the average of the 2013-2021 period. The crew's wages and salaries, which are the main operating cost, showed a decrease of 11% compared to 2021.

Large-scale Fleet

The LSF comprised 701 vessels and it represented 20% of the active Portuguese fleet. Also represented 59% of the total vessel power (154 169 KW) and 84% of GT of the active fleet. Almost 60% of the LSF corresponds to purse seiners, vessels using hooks and demersal trawlers. FTE of LSF is 63% of the FTE national. In 2022, the production decreased 11% in landing weight and 5% in value of landings, compared to the previous year.

In general, economic performance deteriorated in 2022, as shown by the gross profit and net profit indicators, compared to 2021 (-45%, and -205%, respectively). Despite this, both gross and net profit remained positive.

The European pilchard, chub mackerel and Atlantic horse mackerel are the major caught species, representing together 47% and 21% of weight and value of landings.

Distant water fleet

The distant water fleet comprised 12 vessels, GT of 4 332 and total power of 7 382 kW. This segment is composed of longliners and has 177 FTE. The average fleet activity in 2022 reached a value of 256 days at sea/vessel.

Despite some oscillations in terms of economic performance in recent years, in 2022 there was an increase in the gross profits (+1298%) and net profit (+153%) compared to last year. These results seem to be related to the improvement in the procedure for processing data from the distant fleet, as the 2022 prices are more in line with those on the world market.

The blue shark is the major caught species, achieving 69% and 53% of the DWF weight and value of landings.

Outermost region fleets

Madeira

The Madeiran fleet consisted of 90 active vessels in 2022, GT of 1 859 and an engine power of 9 933 kW. Most of this fleet belongs to SSCF (62%). The Madeiran fleet develops its activity mainly in Subarea 2 ZEE-Madeira, with vessels operating in certain seasons of the year in the Azorean subarea and the Canary Islands, under Reciprocity Agreements and international waters of CECAF. Most of the active vessels operated with longliners and the most representative species are black scabbardfish and bigeye tuna, representing together 74% and 75% of weight and value landings, respectively.

Azores

In 2022, the fleet of Azores consisted of 489 active vessels, 5 862 GT and an engine power of 35 825 kW. Around 84% of this fleet belongs to SSCF. The Azorean fleet develops its activity mainly in the Azores EEZ and operates mostly with longliners (84%). Passive gears, such as drift and netters, and purse seiners are also used in the Azorean fishing activity. The most representative species in terms of value of landings are: blackspot seabream (19%), bigeye tuna (14%), veined squid (12%), skipjack tuna (11%) and alfonsino (5%).

Other fishing regions

NAFO

The fleet operated in NAFO waters is composed of nine vessels (DTS40XX), with a total capacity of 17 770 GT and 19 222 kW. In 2022 the average effort in this region was 161 fishing days per vessel (5% more than the previous year) and the catches for each fishing day were around 12.5 tonnes. The most representative species are Atlantic and golden redfish (53.4%), codfish (17.6%), silver hake (13.0%) and Greenland halibut (12.7%). It is worth mentioning that the value of landings of Atlantic cod, which is an important fishery for the Portuguese NAFO fleet, fell by 80% compared to 2020 as a result of the sharp reduction (-82%) in cod fishing in the 3M.

NEAFC

In 2022, only one Portuguese trawler has fished in the NEAFC regulatory area. This vessel's activity in this area has been very marginal, since its main fishing area is NAFO.

ICCAT

Based on what was decided in the EWG 21-08, the ICCAT fleet is obtained using the following criteria: vessels over 18 metres in length where the value of ICCAT main species represents at least 20% of the total value of landings. This fleet is composed by 67 vessels (23 from Azores, 36 from mainland and 8 from Madeira) with 10 882 GT and 26 723 kW.

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 main species that are fully assessed by ICCAT, represent 10.9% of the Portuguese landings, 9.4% in landing value. The main species in value caught by this fleet are blue shark (46.2%), swordfish (24.2%), bigeye tuna (15.9%) and skipjack tuna (18.2%).

Inter-American Tropical Tuna Commission (IATTC)

In 2022, Portugal had four vessels targeting big pelagic species in the Pacific Ocean, in the area regulated by the IATTC. The four vessels operated exclusively in this regulatory area. This fleet belongs to the HOK40XX and HOK2440 segments and has a total capacity of 1 718 GT and 2 745 kW. In 2022 the average effort in this region was 246 fishing days per vessel and the catches were around 2.6 tonnes per fishing day. The most representative species are swordfish (59%) and blue shark (22%).

Indian Ocean Tuna Commission (IOTC)

In 2022, Portugal had only two vessels targeting big pelagic species in the Pacific Ocean, in the area regulated by the IOTC. This fleet, composed of longliners up to 24 metres, is exclusively affected to the IOTC area and has a total capacity of 770 GT and 987 kW. For confidentiality issues it is not possible to detail the activity in this regulatory area. The most representative species are swordfish (45%) blue shark (43%).

4.18.4 Performance 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 (27.9a for the mainland fleet, 27.10 for the Azores's fleet and CECAF 34.1.2 for the Madeira's fleet). The national fleet consisted of 54 (DCF) fleet segments in 2022 and six inactive length classes. Short descriptions of the most important segments are provided below.

Demersal trawl (DTS) 24-40 metres (mainland fleet)

55 vessels made up this segment in 2022, which operates in area 27 (27.9.a and 27.8c); the fleet targets a variety of species but in particular, Atlantic horse mackerel (18.7%), deep-water rose shrimp (15.3%), Atlantic mackerel (11.8%), and blue whiting (10.8%), of the total value of landings. In 2022, the value of landings represented 12.3% of the total landings value and the FTE 6.7% of the national value. This fleet segment shows a deteriorated economic performance in 2013-2021 period. In 2022 the gross profit and net profit decreased 130% and 978% compared to previous year.

Demersal trawl (DTS) over 40 metres – International Waters Exclusively (mainland fleet)

10 vessels made up this segment which operates predominantly in Area 21 and 27 (NAFO, Spitzbergen and Bear Island and Norwegian Sea). The fleet targets a variety of species, in particular, Atlantic redfishes nei (29.3%), golden redfish (24.2%), Atlantic cod (17.6%) and silver hake (13.0%) of the total value of landings. In 2022, the value of landings represents 11% of the total landing value and the FTE 3.6% of the national value. In 2022 the gross profit and net profit decreased 129% and 789%, respectively, in comparison with the previous year.

Passive Gear Polyvalent (PGP) below 10 metres (mainland fleet)

This fleet segment represents the major one with 1 472 vessels and operates exclusively in FAO 27.9. The fleet targets a large variety of species, such as common octopus (19.8%), common cuttlefish (13.2%) and European seabass (10.3%) and Pullet carpet shell (5.9%). In 2022, the value of landings represented 9.5% of the total landings value and the FTE 14.9% of the national value. Net profit reached EUR 14.6 million (-5% in comparison with the previous year) and gross profit – 13% compared with 2021.

Purse Seiners (PS) 18-24 metres (mainland fleet)

51 vessels made up this segment in 2022 and operates exclusively in FAO 27.9. The fleet targets small pelagic fishes, such as European pilchard (44.1%), Atlantic horse mackerel (20.9%) European anchovy (20.5%) and chub mackerel (11.6%). In 2022, the value of landings represented 7.8% of the total landings value and the FTE 8.9% of the national value. The gross profit and net profit decreased compared with the previous year (-32% and -75%, respectively).

Pots and Traps (FPO) below 10 metres (mainland fleet)

365 vessels made up this segment in 2022 and operates exclusively in FAO 27.9. The common octopus is the most representative species in terms of landing value (95.4%). In 2022 the value of landings represented 6% of the total landings value and the FTE 4.4% of the national value. Gross profit and net profit reached EUR 12.7 million and EUR 11.6 million (-15% and –19%, respectively in comparison with the previous year).

4.18.5 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 energy costs and net profit can be found, especially in DTS and HOK LLS (surface long lines) segments.

In general, the decrease in the average prices was a consequence of the higher supply of fish.

For example, in the case of sardine, there was a large increase in landings in 2021 and 2022 as a result of the increase in fishing opportunities, which resulted in a decrease in prices.

Figure 4.20. Portugal. Average operating costs and net profit (2013-2022)
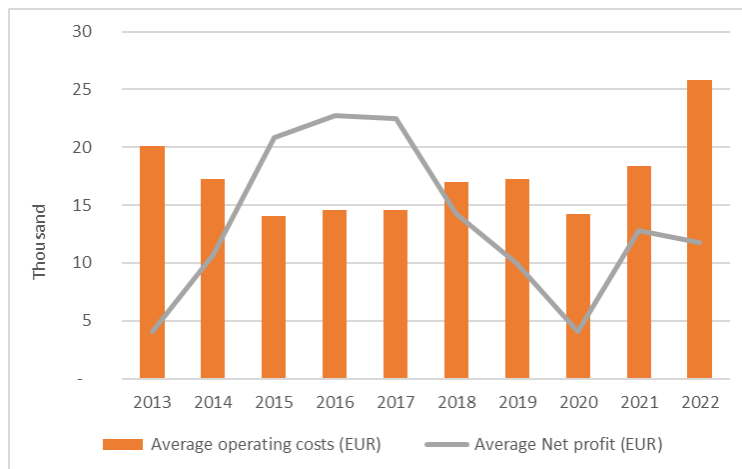
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Figure 4.21. Portugal. Average energy costs and net profit relationship in DTS2440 mainland fleet (2013-2022)
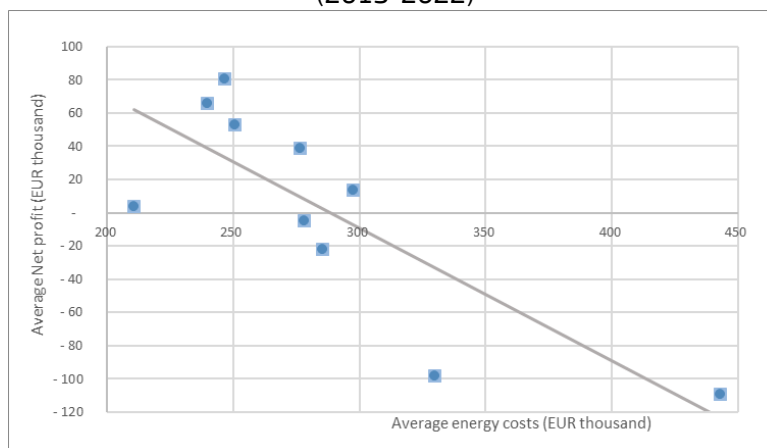
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Markets and trade

Landings in foreign harbours represent around 18% of the total landings. The most important countries in value of landings are Spain (60.3%), Germany (7.0%), Uruguay (5.1%) and Panama (4.8%).

According to the Portuguese official statistics, in 2022, 18 Producers Organisations were recognized, in which 14 were based on the mainland. These organisations account for 49.2% of total active vessels. Purse seiners is the most represented segment in those structures and sardine, chub mackerel and horse mackerel the main species landed. Around 99% of sardine, 90.7% of horse mackerel and 76.2% of chub mackerel landed in Portugal were accounted for the producers' organisations.

The average annual price of fresh fish landed in 2022 in national harbours increased 16.2% in relation to 2021, from 2.28 euro/kg to 2.65 euro/kg.

Figure 4.22. Landing weight and value relationship for the European pilchard (2013-2022)
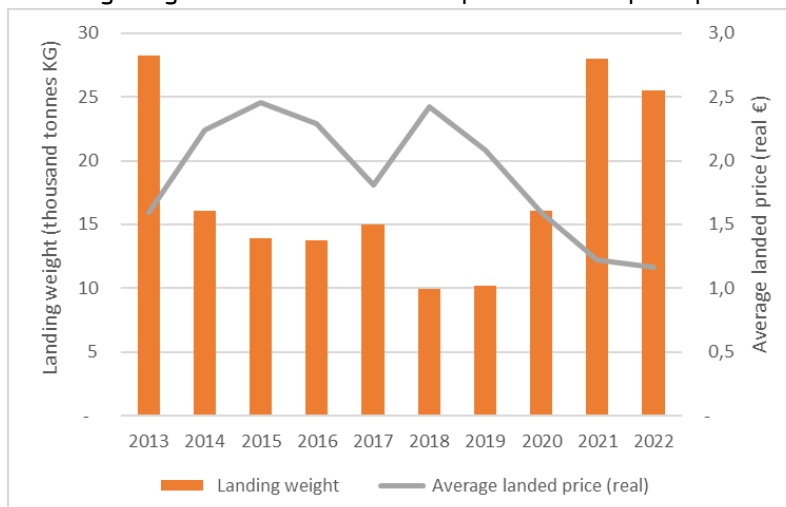
Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

Operating costs (external factors)

Operating costs increased by EUR 5.4 million compared to 2021, reaching a value of EUR 353.3 million in 2022. The personal costs represented the most important operational costs in 2022 (42.7%), decreasing 8.2% compared to 2021. Although the number of employees in 2022 is very similar to the previous year, FTEs have decreased by 10.1%, indicating an increase in the importance of part-time work.

Energy costs represent 25.3% of total operating costs, and have a strong external influence, being strongly affected by international traders. Compared to 2021, energy costs increased 39%. According to the Portuguese administration, in 2022 the average of the value of diesel and gasoline per litre increased 26% and 14%, respectively, compared to 2021.

Finally, other variable costs, which includes consumables, represented 12.6% of the total operating costs.

Status of key stocks. TACs and quotas

Fishing quotas for Portugal suffered a slightly increase in 2022, when compared with the previous year, with a total of just over 173 000 tonnes, consisting on about 60% of horse mackerel, followed by anchovy, mackerel, blue whiting, blue shark, redfish, black scabbardfish and bigeye tuna. The stock of horse mackerel in ICES division 9a (Atlantic Iberian waters) continued to be in excellent condition, providing once again very significant fishing opportunities and representing the dominant stock in what concern Portuguese quotas. As this stock is being managed using the MSY objective, any small fluctuations in the MSY reference level could have large implications to the overall Portuguese fishing opportunities. Thus, for horse mackerel there was an increase of 10% compared to 2021.

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 level.

Considering the overall species under EU capture restrictions in 2022, the relevant increases of national quota were for horse mackerel (12%) and hake (70%), which offset the generalised decrease in the quotas of other species of which the most significant are blue whiting (-19%) and mackerel (-7%).

For deep sea species, fishing opportunities, which are set biennially (2021-2022), maintained the reduction already established in 2020 for almost all stocks (black scabbardfish 20%, alfonsino 12% and red seabream in area 27.9 22%) and the increase of 10% of the quota of red seabream caught in Azores (area 27.10). This decrease in deep sea species quota is related to the application of the precautionary principles in the absence of an analytical evaluation of the state of these stocks.

As is commonly done, during 2022, there were several fishing opportunity swaps with other Member States sharing the same management units. The quotas available for undulate ray, megrim, anglerfishes, and swordfish (Atlantic Ocean, north of 5° N) 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 additional increase in quotas was also possible for horse mackerel (FAO 27.8c and 27.9), megrims, mackerel, 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 of up to 10% of the allocated and unused quota of units subject to an analytical assessment.

Portugal also has fishing possibilities in international waters in the framework of the Regional Fisheries Management Organizations (RFMO) and in the fishing protocols annexed to the Sustainable Fisheries Partnership Agreements (SFPAs) of the EU and third countries for exclusive economic zones. In the case of RFMOs, the activity of the national fleet is traditionally carried out in the areas of NAFO, NEAFC, ICCAT, IOTC, and IATTC. Regarding national fleet activity in 2022 under SFPAs, only one longliner was active under the São Tomé and Príncipe Agreement.

As for the stocks managed by ICCAT, in 2022, most of the stocks of interest to Portugal, such as bluefin tuna, swordfish, bigeye tuna and blue shark, maintained the TACs agreed for 2021 and, consequently, the Portuguese quotas.

Swordfish continues to be the main target species for the surface longline fleet, being bigeye tuna the main target species for the artisanal fleet of Azores and Madeira.

As for IATTC four vessels actively operating in this area in 2022 and in IOTC Area two vessels operated actively in 2022.

In the Northwest Atlantic, the highlight goes to 3M cod, one of the most important species for Portugal, caught in the NAFO area, whose TAC increased 167%, which for Portugal resulted in more 483 tonnes, compared to the 2021 quota. In addition, the three technical measures to prevent the capture of juveniles. Regarding the other NAFO TACs where the national fishing fleet has fishing opportunities, Portugal has maintained the same fishing quotas for 2022 as it had in 2021, except for a slight decrease in the Greenland halibut quota.

In the Northeast Atlantic, the emphasis is on the absence of a TAC for redfish in the Irminger Sea, given the ICES advice of a zero TAC. Regarding the other species regulated by NEAFC, there has been a decrease in the TACs of blue whiting and herring, 20% and 10% respectively, compared to the TACs set for 2021. Cod in Norwegian and Svalbard waters, also had a slight decrease.

As regards partnership agreements with third countries, there was a decrease in applications for these fishing opportunities.

Management instruments

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 EU.

Therefore, year after year, the trend in the number of licenses follows a decreasing trajectory corresponding also to the reduction of the fishing fleet. Being the rule the no grating of new licenses, under specific circumstances, the administration allows transfers of the authorization to use certain gears between vessels, providing the diversification of the activity that characterized multispecies fisheries that both contributed to economic viability, without any increase in the authorized effort.

In general, the condition of most EU stocks has been improving, namely in the SW Atlantic, much in response to the firm management commitments, which have allowed the improvement in fishing opportunities and the reinforcement of the profitability of the commercial operations.

In 2022, the following measures and management plans/adjustment of fishing effort or capacity control schemes were in force:

- The multiannual plan for stocks caught in Western Atlantic and adjacent waters, which applies to demersal stocks (hake, Norway lobster, megrims, anglerfish and common sole) and deep-sea stocks (black scabbardfish and red seabream) was followed. The plan, implemented on an ecosystem-approach to fisheries management, aims to maintain these stocks above levels which can produce MSY (or within the MSY ranges).

- Fishing permit limitations were issued for all vessels that fish deep-waters species directed or as by-catch (in compliance with the EU Regulation 2016/2336), 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 in the aim of the management plano for Iberian sardine 2021-2026.

- Adjustment in the rules that establish quotas 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, but for the time being the administration was able to secure additional quota swaps with Spain.

- A new decree was published fixing minimum landings sizes for commercial species (Ordinance No. 255/2022).

- An eel management plan is still being followed, including fishing gear restrictions, limited catching seasons and a complete ban on recreational fishing. Some concerns about the state of other migratory species like lampreys and shads led to the reduction of the fishing season in some of the mainland estuaries.

Innovation and development (role of EMFAF)

The Portuguese fishing fleet is characterised by small vessels, with wooden hulls, whose average age is around 37 years and, in terms of active fleet, around 27 years.

In 2022, under the EMFF, 84 operations were paid for investments on board and selectivity, aimed at improving the conditions of vessels.

The Portugal's Recovery and Resilience Plan (Next Generation EU), aims to support projects directly related to energy transition and reducing environmental impact for companies in the fisheries sector.

The supported projects focus on the following measures:

1) Modernisation and digitalisation;

2) Energy efficiency;

3) Emission reduction, safety and habitability on board fishing vessels;

4) Use of new materials and more efficient and environmentally friendly formats;

5) Circular economy (fisheries and aquaculture sector).

4.18.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results and outlook

Projections for 2023 indicate a continued decrease in the number of fishing vessels, although the total power is expected to remain roughly the same. It is also estimated, a similar effort in terms of number of DaS and fishing days, which according to national administration, has apparently been confirmed.

Preliminary results for 2023 suggest that the decrease in energy costs for 2023 will improve the profitability (gross profit).

The model further estimates that in 2023 live weight of landings will increase by 4.5%, in contrast to the value of landings which will decrease by 2.7%. However, according to the National Statistics of Portugal for the year 2023 (INE), the weight of landings increased by 3.3%. The value of the fresh fish sold at national auction increased 1.3% in relation to 2022.

The results for 2023 project a recovery in gross value added, gross profit and net profit, painting a situation of profitability for these indicators, reaching the values observed in 2021.

4.18.7 Methodological considerations and data issues

Identify changes in respect to previous years

Since 2021, the response to the survey to collect socio-economic data on fishing became mandatory by law to renew the fishing licence, which led to a higher response rate within the active fleet segments.

Problems identified

It was planned to implement some improvements in data collection through the cooperation of associations and auction houses, but it still couldn't be done in 2022.

One of the difficulties encountered is linked to the fact that in many cases the surveys are answered by accountants who, in many cases, bias the answers once they have a different view from that of economists.

Since the weight of landings was reported in live weight in 2020 and in landed weight in the years before, this variable, and some species prices and indicators, are not comparable with the time series.

In 2022, operational subsidies in the outermost regions fell compared to the previous year as a result of the change in the Portuguese Operational Program. According to the Portuguese National Authorities, the operating subsidies reported correspond to the year of payment

Fleet structure

According to the 2023 Fleet Report, since 2005 (the year when the public support to new vessel construction stopped) the investment costs with new vessel construction have been very low. However, in 2022 the vessel construction represents 56.6% of the total new entries into the Portuguese fishing fleet (30 vessels), 58.8% GT and 61% in terms of engine power, demonstrating an effort to renew the fleet.

Approximately 44% of the vessels entering and leaving the fleet were vessels in the polyvalent fishing segments, mostly in the context of renewal of the fishing fleet.

It is observed also that the average age of vessels has increased since 2013 (30 years), presenting an average of 37 years in 2022. The ship-owners tend to keep the vessel to an over age limit, making only some repairs, as they are mostly small vessels, whose ship-owners doesn't have the economic capacity to invest in fleet replacement.

In 2022, Portugal complied with the fishing capacity ceilings laid down in Annex II to the CFP Regulation, in the case of the fleet registered on the mainland (MFL) and the fleets registered in the outermost regions.

Improvements

It is intended to improve the survey in order to adapt it according to the vessel's fleet segment and thereby obtain better answers.

A project is being implemented to restructure the databases in order to integrate and harmonise all data sources. Data processing and analysis will be performed on a new platform. It is expected that the methodological procedures will be revised and improved when the operationalisation takes place.

Figure 4.23. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.19 Romania

4.19.1 Short description of the national fleet

In 2022, the Romanian fishing fleet consisted of 171 registered vessels, with a combined gross tonnage of 1 622 GT (+47 GT compared to 2021) and a total power of 6 354 kW (156 kW more than in 2021), 141 active vessels and 30 inactive vessels, 18% out of the total; 82% of vessels in the fishing fleet register were active. The size of the Romanian fishing fleet it is slightly increasing compared to last year, by eight vessels (5%) an increase of 4% compared to the average for the period. The number of inactive vessels reduced by 9% compared to 2021. The inactivity of fishing vessels was mainly due to: vessels repair activities, refits or transfers of ownership and, to a lesser extent, the purchase of new fishing gear. In 2022, no more ships were scrapped in Romania through the Operational Program for Fisheries and Maritime Affairs.

The market is facing high competition from supermarket chains, and, on the other hand, because of less concentration of fishers in associations/organizations producers leading to a fable position on the sector and atomization of efforts to achieve real results and positive role on the implementation of the annual and multiannual fishing plan.

Fishing in Romania is practiced along the coast, being supported by the existence of five main fishing ports (Sulina, Midia, Tomis, Constanța and Mangalia), 13 landing points for turbot (TUR) and 43 landing points for other species in the Black Sea (of which 31 are landing points and 12 are beach sectors, respectively 16 First Sale Centers for turbot (TUR), 31 first sale centres for other Black Sea species, located between Sulina and Vama Veche. Should be underlined the problem of the unsatisfactory fishing infrastructure. In 2020, the procedure for designing and obtaining approvals for the "Fishing facilities for Midia Port" project was started. Considering that there are risks of extending this implementation period, the completion of the project can be achieved after 2023, with the support of the Maritime Affairs and Fisheries Program 2021-2027 (PAP).

Fleet structure

The fishing fleet in 2022 is composed of the small-scale fleet segment up to 12 metres in length (small boats with or without engine) 117 active vessels, a number that represents 83%, that can be considered as the main segment of the SSCF fleet. SSCF is comprised of 4 vessels segments: PG VL0006, PMP VL0006, PG VL0612 and PMP VL0612. The SSCF capacity in numbers is of 1 747 kW and 331 GT. The remaining 17% is for another fleet segment – large-scale fishery LSF - 12-40m, which includes the following fleet segments: VL1218 PMP, VL1824 PMP and PMP VL2440. This segment consists of only 24 vessels but counting for 4 159 kW and 1 182 GT.

The number of fishing vessels it is slightly increasing compared to the last year and to the reference period, this is due to the further increased interest in fishing.

The estimated value of physical capital of the Romanian fleet was EUR 9.661 million of which 6.18% corresponds to the inactive fleet.

The general objective of Romanian authorities is to have a fishing fleet, at a "minimum Vitalis" level, due to the celling capacity imposed by the CFP Regulation EC no, 1378/2013, annex 2.

Fishing activity and production

The Romanian fleet spent around 4 078 days at sea (DaS) in 2022, an increase of 12% compared to the DaS in 2021, and a decrease of 3% compared to the 2013-2021 period average. Also,

similarity is encountered analysing the fishing days, 3 847 in 2022, an increase of 14% compared to last year and a decrease of only 1% compared to the reference period. This increase can be mainly due to the relaxation of the restrictive conditions of the COVID pandemic and due to the more favourable weather in 2022 compared to 2021. Effort increases when the season for fishing of some ''high market price'' species, e.g. turbot, bluefish, horse mackerel is very good.

The trend estimated for 2023 is around 4 142 total fishing days, a continuing growth trend.

The number of fishing days and of DaS have been affected by:

- Bad weather conditions (small number of days favourable to fishing activities, hence of fishing hours);

- The old fishing fleet, which is why technical failures and malfunctions often occur in the fishing operation);

- Fishing activity is seasonal and the number of trips at sea depends on the presence of migratory fish species at different times of the year, large variations being recorded from one year to the next.

There are small catches of pelagic species, compared to Rapa whelk catches, due to the market constant demand of Rapa whelk and limitations of turbot EU TACs, imposed to ensure the positive trend on increased biomass value of the stock in the area of the Romanian Black Sea waters. In the Black Sea area, Romania has the second smallest fleet of all riparian countries, as per GTs and kW totals.

This issue was addressed by the national authority at the regional GFCM-WGBS and EU Commission level, aiming to rebalance the level fleets and fishing effort for all riparian countries for achieving a level playing field in the area.

The total weight of landings of the Romanian fleet in 2022 was 3 175 tonnes of fish and seafood. Compared to 2021 the total weight of landings in 2022 increased by 2%, while the value of landings also increased by 38%, EUR 3.44 million in 2022 versus EUR 2.5 million in 2021. This was due to the increase in the landed quantity of fish with increased economic importance, and in addition the sales prices of all fish species increased in 2022 compared to 2021. Fishing activities are being carried out only in the waters of the Black Sea under Romania's jurisdiction. There are no fishing activities in other regions or catches of other species than in the area of Romania's Black Sea coast. Trends in landings were stable over time, with small pelagic species having an increase percentage in the total landings' composition in 2022, due to the decrease in the amount of rapana in the last years. Small pelagic species constituting significant species in terms of volume are represented by sprat and anchovy in total landings, also horse mackerel and bluefish and other pelagic species in small quantities.

The main catches (in tonnes), landed in 2022, in the number of 24 different species are: rapana (RPW) with 77.23%, mussels (MSM) –14.05%, turbot (TUR) – 2.36%, sprat (SPR) – 1.94%, flounder (BLU) –1%, anchovy (ANE) – 0.95%, red mullet (MUT) – 0.83%, horse mackerel (HMM) – 0.64%, stingray (JDP) –0.28%, gobies (GPA) – 0.18%, the rest of the species landed was below 0.10%.

Regarding their value in euros, the share is: RPW (47.68%), followed by TUR (20.07%) as a result of the high price at the first sale, MSM (18.12%), and BLU (5.17%). The sprat (SPR) being EU-quoted, registers a volume of 1.94% of the total landings, and the shark (DGS), which was authorized at the LLS starting with 2022, represented only 0.02% of the volume of landings.

The landings of Rapa whelk, the most important species for the Romanian fleet, decreased and in 2022 represented 77.23% of the total landed volume. In 2017 this species represented 96.77% of the total landed volume during the year. In 2022 the Mediterranean mussels represented 14.04% of 2022 catches while turbot (which is under approved TACs) 2.36%.

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 on 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 national limits, as quotas for all other commercial fish species. As above mentioned, the abundance of stock during the fishing season offers better opportunities for fishers. The other significant conclusion is that the national fleet is 100% dependent on catches in waters under the national jurisdiction of Romania, due to the limited capacity for navigation of the vessels. The quantity of fuel consumed in 2022 was 763 003 litre and increased by 5% compared to 2021. This increase may be due to the increase in the number of active vessels and the number of days at sea and fishing days. The average final price of diesel fuel in 2022 was 1 euro/litre (+32% compared to 2021).

The average prices for the six key species increased in 2022 compared to 2021.

The turbot registered an increasing trend in price starting from 2016, by achieving the highest value of 13.7 euro/kg. From 2017 the price decreased constantly until 2020, but in 2022 it had the value of 9.21 euro/kg, remaining almost the same during the last years. Turbot represents the most valuable stock among the five key stocks exploited by the Romanian fleets. While the other four fish species have lower-level prices. The average price of bluefish is increasing from 5.1 euro/kg in 2021 to 5.6 euro/kg in 2022. Also, the price of European sprat increased from 0.8 euros per kg in 2021 to 1.1 euro/kg in 2022.

It should be mentioned that seafood, like rapa whelk for which is an increasing demand market fresh have has level of 0.7 euro/kg as first sale prices compared to the year 2021 when it had the value of 0.5 euro/kg.

First sale prices for marine fish in Romania may be influenced by the factors such as changes in regulations, changes in fish populations, the cost of fuel and other expenses associated with operating fishing vessels, as well as competition from imported fish.

Although the Romanian fishing fleet was in a poor economic condition because of old and poorly equipped fleet and reduced catches, still records a positive trend in almost all the economic indicators. The reason for the positive trend is primarily because of higher revenues from landings (higher presence in catches of fish with high economic value), other sources and operating subsides.

Employment and average salaries

The total engaged crew in 2022 totalized 422 jobs, a smaller number than in 2021 (431), a decrease by 2%. Between 2008 and 2020, the level of employment decreased, from 875 jobs in 2008 to 422 jobs in 2022. Compared to the average for the period 2013-2021 employment in 2022 increased by 11%. National FTE increased in 2022 by 44% more than in 2021.

In the SSCF segment total employment in 2022 was 297 jobs, corresponding to 24 FTEs. The level of employment in SSCF decreased between 2008 and 2020, from 790 jobs in 2008 to 297 jobs in 2022. Compared to the average for the period 2013-2021 employment in 2022 increased by 3%,

and FTEs increased by 21%. The employment in LSF for 2022 was 125 corresponding to 30 FTEs. The employment engaged in LSF in 2022 decreased by 13% compared to 2021 but increase by 37% compared to the average for the period 2013-2021.

In 2022 wages and salaries of crew decreased by 8% compared to 2021 and decreased by 21% compared to the overall period 2013-2021.

The average wage per FTE in 2022 decreased by 36% compared to 2021 and by 29% compared to the average for the 2013-2021 period.

4.19.2 Economic results for 2022 and recent trends

The economic results refer only to the part of the Romanian fishing part that was active in the year 2022.

National fleet performance

Revenue in 2022 was EUR 3.9 million, increased by 41% compared to 2021. Revenue consists mainly of landed value EUR 3.44 million (87%) and other income EUR 0.48 million (13%). Other income increased by 73% compared to 2021. Total expenditure accounted by the fleet in 2022 equated to EUR 2.5 million. Personnel and energy costs were the two major fishing expenses representing 58% of total expenditures. Total operating costs in 2022 increased by 23% compared to 2021 (due to the geopolitical context) and it remained almost the same compared to the average for period 2013-2021. The results of changes in landings are also increasing depreciation costs, personnel costs, and repair and maintenance costs.

In terms of economic performance, in 2022 were estimated at: the GVA EUR 2.19 million, gross profit EUR 1.54 million and net profit EUR 1.03 million. The net profit in 2008, 2009 and 2010 was negative, the value for 2016 and 2017 showed improvement but in 2018 the value again decreased. Comparing the 2022 to 2021 the net profit increased by 109%. In 2022, the Romanian fleet had an estimated value of physical capital of EUR 9.661 million and investments amounted to EUR 0.3 million. The value of physical capital decreased by 10% and the investments decreased by 14%, compared to 2021. The estimated value of total assets in 2022 was EUR 4.17 million, a decrease by 4% compared to 2021.

The average crew wage decreased by 5% in 2022 compared to 2021.

Total landings, as volume and value increased in 2022 compared to 2021 (due to the increase in catches of species with high economic value).

Resource productivity and efficiency indicators

The gross profit margin increased in 2022 compared to 2021 by 19% and decreased by 4% compared to period 2013-2021, and net profit margin increased by 113% and decreased by 3% compared to period 2013-2021.

Labour productivity (GVA/FTE) recorded a decrease in 2022 by 6% compared to 2021 and by 29% compared to the period 2013-2021. The number of FTE increased by 11% in 2022 compared to the period 2013-2021.

Fuel consumption per landed tonne followed an overall increasing trend since 2017. In 2022, it was estimated at 240 litres per landed tonne which represented 7 litres more per landed tonne compared to 2021 and an increase of 32% compared to the amount of 163 litres per landed tonne

during the period 2013-2021. The fuel consumption is explained based on the direct proportionality between total landings in each analysed year of evolution.

Landings in weight per unit of effort (in DaS) followed the decreasing trend starting from 2017 and decreased by 9% in 2022 compared to 2021 and decreased by 65% compared to the average for period 2013-2021. Greater volumes of landings of segments engaged in last few years in Rapa whelk contributed also to the improvement of productivity and efficiency indicators since this type of catch has huge importance in total catches.

Considering the current geopolitical context, fuel prices will most likely continue to rise. As can be seen in the table below, the highest fuel price is in segment PG VL0006 and the lowest in segment PMP VL2440, mainly due to the reductions granted by the state budget for vessels larger than 12m. Also, in terms of efficiency of energy, the highest value can be observed at the PMP VL2440 segment, and the lowest value at the PG VL0612 segment. The energy intensity registers the highest value at the PMP VL 2440 segment, and the lowest value at the PG VL0612 segment.

Table 4.22. Romania. Average fuel price, short- and long-term break-even prices for fuel, Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
ROU MBS PMP1218 NGI *	1.04	2.53	2.25	27.3%	266.9
ROU MBS PG 0612 NGI *	1.13	4.99	4.80	18.1%	185.5
ROU MBS PMP2440 NGI *	0.69	0.19	-0.04	35.1%	589.0
National average	1.03	3.05	2.80	23.6%	247.0

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

4.19.3 Performance by fishing activity

The fishing fleet totalized 171 vessels in 2022, out of which 141 active and 30 inactive vessels and targeting different species only in the Black Sea EEZ waters of Romania.

Small-scale coastal fleet

In 2022, there were 117 active vessels classified in SSCF, representing 83% of the total number of active vessels. The amount of income totalized by Romanian SSCF in 2022 was EUR 2.278 million (69% from landings, 21% other income and 10% from operating subsides). Landings' income generated in 2022 increased by 49% compared to 2021 and a decrease of 9% to the average level of 2013-2021. In terms of economic performance, the amounts of GVA, gross profit, net profit generated by the SSCF were EUR 1.186 million, EUR 0.903 million, and EUR 0.797 million, respectively.

Compared to the average of 2013-2021, GVA remained approximately the same (but increased by 32% compared to 2021) and gross profit increased by 30% and by 66% compared to 2021, while net profit increased by 83% compared to 2021 and by 38% compared to the reference period 2013-2021. It should be mentioned that the scuba divers collecting Rapa whelk manually are also included in this fleet segment.

Large-scale fleet

In 2022 the LSF fleet counted 24 active vessels (17% of the total active vessels), with a total crew of 125 fishers a decrease from 2021. In 2022, the total revenue, generated was EUR 1.886 million, an increase of 30% compared to 2021, and a decrease of 23% compared to the average for the period 2013-2021. Although the quantity landed in 2022 is lower than in 2021, the prices of commercial fish species have increased, and thus higher incomes have been recorded. The GVA amounted to EUR 1.013 million in 2022, an increase of 27% compared to the previous year. The gross profit in 2022 amounted to EUR 0.641 million, an increase of 52% compared to 2021, and a decrease of 51% compared to period 2013-2021. The net profit was EUR 0.233 million in 2022 which was a significant increase of 297% compared to the year 2021, but a decrease of 73% for the period 2013-2021. Even if the amount of rapana decreased in 2022 compared to 2021, the landed quantities of economically important fish such as turbot, bluefish, sprat, stingray, as well as the landed quantity of mussels increased, reflecting in the higher value of landings.

4.19.4 Performance of selected fleet segments

The Romanian fishing fleet is characterised by six fleet segments grouped in four clusters, two of the four clusters recorded increased profitability.

Vessels using passive gears for segment below 6 metres

This includes segments PG VL0006 and PMP VL0006. In 2022, there were 7 active vessels in PG VL0006 fleet segment and five active vessels in PMP VL0006 fleet segment. In the PG VL0006 segment the value of landings was 4.1 tonnes and EUR 0.013 million. These vessels use passive gears (mainly traps), longlines and gillnets for turbot and small pelagic fish. The generated GVA in 2022 was EUR 0.009 million and gross profit EUR 0.007 million; the catches are represented by small pelagic species: sprat, shad, anchovy, horse mackerel, bluefish, Atlantic bonito and golden grey mullet and demersal fish such as turbot and gobies. In the PMP VL0006 segment the value of landings was 86 tonnes and EUR 0.095 million. On this segment activates only boats without a motor, all using fishers who catch Rapa whelk and mussels manually – scuba divers.

Vessels using passive and active gears for segment 06-12 metres

This includes segments PG VL0612 and PMP VL0612. In these segments there are 105 active vessels. These vessels are using passive gears (traps, gillnets for turbot and for small pelagic fish, longlines) and active gears (beam trawl, pelagic trawl and scuba divers). In 2022, the landings in volume were 1 250 tonnes and EUR 1.45 million and 23 FTE, counting for 43% of the total fleet FTEs. In 2022 this fleet segment made a gross profit of EUR 0.895 million, a net profit of EUR 0.797 million, around 58% gross profit and around 77% net profit of the total Romanian fishing fleet. This segment had a high profitability, being the most profitable segment in the fleet, due in particular to the highest number of vessels.

Vessels using polyvalent fishing gears PMP 12-18 metres

The segments VL1218 PMP and VL1824 PMP were grouped in the cluster PMP1218m due to the reduced number of vessels on the VL1824 PMP segment (only three vessels were active). There are 22 vessels on this cluster operating in the Romanian coastal areas of the Black Sea, that are targeting turbot, mainly with gillnets, Rapa whelk using beam trawlers, mussels using hydraulic dredge and small pelagic fish using pelagic trawl. In 2022, the landings in the volume represented 1708 tonnes and EUR 1.74 million and 29 FTE, counting for 54% of the total fleet FTEs. In 2022

this fleet segment made a gross profit of EUR 0.678 million and a net profit of EUR 0.342 million, around 44% gross profit, and around 33% net profit of the total Romanian fishing fleet. This segment registered a reasonable profitability.

Vessels using Polyvalent gears (PMP) 24-40 metres

The fourth segment of the Romanian fishing fleet is PMP VL2440. Two vessels operate in this segment and produces a total value of landings totalizing 125 tonnes and EUR 0.145 million.

These vessels use hydraulic dredge for mussels and beam trawl for Rapa whelk. They are not specialized by gear types, switching from one gear to another pending on the abundance of both stocks during the year and the market request. This was not a profitable segment, especially because of the small number of vessels and the small quantity landed.

4.19.5 Drivers affecting the economic performance trends

The Romanian catches in 2022 increased compared to 2021 (+2%), while compared to the average for the period 2013-2021 the total catches decreased by 40%. 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, which 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 very limited money amounts earned by fishers.

Markets and Trade

In recent years, because the quantities of rapana landed have decreased, fishers have begun to focus on fish species with a high economic value, such as turbot, but also bluefish, mullet, and horse mackerel. The trade balance in Romania for fish and seafood is negative. First, due to the small dimensions of the fleet and therefore, total catches, and, due to the huge quantities imported by the supermarket chains. At the same time should be noted the weaknesses of the processing sector development which is not able to use properly the internal production availabilities. It should be noted the interest of the Romanian consumers for ocean fish species and other fish species that are not available in the Black Sea waters.

Operating costs (external factors)

Total operating costs in 2022 increased by 23% compared to 2021. Compared to the average for the analysed period 2013-2021, the total costs of the fleet in 2022 decreased only by 1%. Personnel costs and energy costs are the major expenditure items, with a 27% and 31% share of the operating costs, respectively. This could be explained by the almost stable level of salaries during this period and further by the rising fuel prices.

Status of Key stocks. TACs and quotas

Romania has TACs for turbot and sprat, under EU regulations, Additionally, for other commercial fish stocks, at national level limitation of quotas are approved annually based on the scientific advised of the research institute, and under GFCM recommendations implementation decreasing number of DaS and fishing days are adopted. From the data available in 2022, the weight of landings increased by 2% in 2022 compared to 2021, as well as the value of landings in Euro.

Management instruments

The Electronic Record System (ERS), according to EC Regulation 1224/2009, is to replace the paper logbook and landing declarations and ensure accurate and faster data recording and transmission and exchange. In addition, the sales notes of all buyers registered at the first sale are planned to be recorded electronically, making more accurate, fast registration and transaction data transmissions (first sales points). There has been significant progress in this process, currently Romania has implemented an integrated solution that has strengthened and implemented the communication mechanisms for synchronizing fleet information with the EU Commission database.

This process involved both the automated transmission of information on fishing activity, online, according to the Commission's requirements regarding vessels with a length greater than 12 m, as well as the monthly import of the catches of the other categories of fishing vessels. This fact allows the planning of the transition towards the automation of the entire process, allowing the verification of the concordance between the information entered in the database with the information on paper and excel, a very important process in the digital transformation of the management of the fishing activity. This process is still ongoing as a result of the still large number of reporting errors determined by the low level of digital skills of the fishing crews. Having the fleet database that includes the management of licenses, authorizations and fishing quotas of Romania creates the prerequisites for the transition to the automatic management of the fishing activity. The process is a difficult one both as a result of the cumbersome process of contracting services for the digitization of specific operational processes as well as due to the low degree of adoption of IT support solutions by end users (fishers, economic operators), because the target of the system is people with education Extremely low IT.

During the reporting period, Romania succeeded in replacing the ERS solution installed on board ships with a length greater than 12 m and continued with the implementation of a new ERS application in the back office. This strategy was planned in order to simplify the way of reporting, starting from the fact that the target users frequently complained that the previous solution was quite complicated from their perspective, this having a direct effect on the quality of the reported data. The newly implemented solution was customized to the specific needs of the Romanian fishing activity management. This action is part of the digitalization strategy of the associated processes with the objective of increasing the quality of the data reported through IT&C tools. The new computer solution managed to simplify the reporting process by entering the "production" regime, the mobility component in mid-September of 2021, while the backoffice component in March 2023. The transition process involved the change of technology on board the ships, the training of internal and external personnel so that the system can function in accordance with the requirements defined during the design and in accordance with the requirements of the fishing activity management, resulting from the European Commission regulation.

The new IT solution creates the possibility of more careful monitoring of fishing vessels as a result of the fact that the new support terminals have dual communication capabilities (GSM and satellite), a solution that was possible given the specificity of the Romanian fleet that operates not far from the shores of the Black Sea. By adding the backoffice functionalities and aligning the way of implementing the operational support flows, the conditions for the transmission of information regarding the management of the fishing activity in the FLUX infrastructure of the European Commission were created, an activity planned in the next stage of the acquisition of digitization services. Although the implementation of the new IT&C solution took into account functionalities in all areas (fleet, fisheries management, ISC) not all implemented functionalities are used due to the lack of alignment between the technological modernization of the infrastructure, on the one hand,

and the adoption of the system by the end user, on the other hand. The current situation is still a mixed one in which the operational flows are partially digitized, the system functioning through the coexistence of automated reports with those using paper support.

After ensuring the quality of the reporting process and contracting the new services for the development of the application infrastructure, we will move on to the implementation of the automated reporting requirements to the Commission using the FLUX infrastructure. Romania implemented the interconnection of the flow system and closed the VMS domain, currently Romania is exchanging VMS data both with the EU commission and EFCA, but also with a member state (Bulgaria). Romania implements the EC control and inspection plan under the guidance of the EFCA, as mentioned above. Currently, Romania has implemented the control reports in electronic format, both at the level of the backoffice application and by introducing mobility through the purchase of mobile devices for each inspector together with the application that enters the inspection report directly into the central system automatically.

At the same time, Romania implemented the obligations arising from the transmission of information from the ISC field on the Flux infrastructure, having completed the aspects related to the validation and transmission of inspection reports at sea. Unfortunately, the digitalization process remains difficult due to the complicated procurement procedures and the extremely long-life cycles of contracting the associated services, a fact that would require the identification of a solution that would allow the acceleration of the contracting processes.

Innovation and development

In 2020, the procedure for designing and obtaining approvals for the "Fishing facilities for Midia Port" project was started. At the moment, all the due diligence has been undertaken for the submission of the technical documentation at the Feasibility Study phase – Documentation for approval of the intervention works at the headquarters Navodari City Hall, Constanta County. All the approvals required by the urban planning certificate have been obtained, the technical-economic documentation is in the public consultation procedure, after which the Building Authorization will be issued. Since there are risks of extending this implementation period, the completion of the project can be achieved after 2023, with the support of the Maritime Affairs and Fisheries Program 2021–2027 (PAP). The fishery infrastructure on the onshore is defined by landing points located really on the beach, with no geographical advantages allowing proper location for minimum berth construction, in the absence of an enlarged interest of local authorities to develop such activity, not only touristic ones.

In September 2021, the new application for the management of the electronic fishing logbook (ERS) was installed on board fishing vessels over 12 metres. In the last reporting period, several important advances were made regarding Romania's compliance with EU Regulation 1224/2009. Starting with March 2023, the backoffice application for the management of the ships' electronic logs was operationalized, ensuring a superior integration between the application on board the ships and the backoffice application.

There are grounds for accessing EU financial support for fishing vessels between 2021 and 2027, which can help increase the profitability of the fleet and reduce the environmental impact of fishing activities. Equipment of fishing vessels and vessels with more selective fishing gear contributes, on the one hand, to reducing unwanted catches, by-catches, discards and stock depletion and on the other hand, new, more environmentally friendly fishing gear to replace old gear helps reduce the risk of lost or abandoned gear and of plastic pollution of the marine environment.

4.19.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Considering the estimated figures for 2023, the total number of vessels was increased by two vessels, but no significant increase in total GT and kW are foreseen. These figures would not implicate major changes, in terms of total jobs and FTE. The DaS in 2023 increased by 5% compared to 2022 and this led to an increase in total landings in volume, but not in value. The revenue decreased by approximately 7% in 2023. However, due to the reduction in energy costs of 2023 net and gross profit margins are likely to increase.

The nowcast model for 2024 shows that the Romanian fleet which regarding the model result would generate net and gross profit margins very close to this from 2023 and much improved compared to the 2022 situation.

4.19.7 Methodological considerations and data issues

No specific issues were detected on the data submitted. The improvement of the centralized database of the national agency for Fisheries and Aquaculture will allow the increase in the process of collection, storage, and cross-checking, and in general in the quality of data. Due to the importance of data validation at the national level, the member state is to improve the methods used in order to get better results and have the capacity to obtain dynamic reports on further data analysis.

In 2022 and 2023, on the segment VL0006 PMP activates only boats without a motor, all using fishers who catch Rapa whelk and mussels manually – scuba divers. Therefore, the total KW on this segment has the value of zero.

Figure 4.24 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.20 Slovenia

4.20.1 Short description of the national fleet

In 2022, the Slovenian fishing fleet consisted of 137 registered vessels (the same as in 2021 and 12% decrease considered to the overall time series), with a combined 673 GT (+1% compared to 2021 and +7% in period 2013-2022), a total power of 8 489 kW (-2% compared to 2021 and also to the entire period) and an average age of 46.6 years. The average length of the fishing vessels was 9 metres in the same year. The size of the fleet decreased between 2013 and 2022; the number of vessels by 12% and kW by 2%. 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 2022, there were 76 active vessels which represent 55% of all fishing vessels. The number of all active vessel increase for 6% regarding 2021, while a decrease by 4% is recorded from 2013-2022. The peak in the number of active vessels was recorded in period 2014 – 2015. One of the reasons for the increased number of active vessels in that period is the scrapping of some large vessels. Many fishers lost their jobs and decided to start fishing on their own. Also, the economic crisis over the past few years had a similar effect on the increased number of active vessels. One of the reasons for the drop from 2016 to 2021 was the crisis in the purse seiners sector where the number of vessels decreased by two thirds in the period 2016 to 2018 while, from 2019 onwards, there were no more vessels in this segment.

The number of inactive 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. If the fishing vessels in Slovenia are old and no longer efficient or cost-effective to operate, fishers may choose to retire them or leave them inactive. 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 outside the fishing sector, because they could no longer earn a living from fishing, but still own the fishing vessel. Furthermore, if the price of fuel or other expenses associated with operating fishing vessels is high, fishers may choose to keep their vessels inactive until market conditions improve.

Fleet structure

The Slovenian fishing fleet is divided into SSCF (85% of all active vessels in 2022) with an engine power of 3 419 kW (-4% compared to 2021) and a LSF segment (15% of all active vessels in 2022) with an engine power of 1 916 kW (+13% compared to 2021). The number of vessels in the SSCF has decreased by 5% from 2013-2022, while the number of LSF vessels has decreased by 1% in the same period. Scrapping is the major factor for the decreased LSF.

The estimated value of physical capital of the Slovenian fleet was EUR 4.7 million of which 31% (EUR 1.46 million) corresponds to the inactive fleet.

The Slovenian national economy is not dependant on 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 fishers, producing and marketing capabilities brought the sector into crisis. Landings of almost 6 000 tonnes in 1990 decreased to less than 200 tonnes in 2022.

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.

Fishing activity and production

In 2022, the fleet spent a total of around 4 893 days-at-sea (DaS). Effort, in DaS, decreased 31% between 2013 and 2022. One of the main reasons for the decreased fishing effort in Slovenia was the decline in fish populations in the Adriatic Sea. Overfishing, pollution, and other factors have contributed to the decline of several fish species, making it more difficult and less profitable for fishers to operate their vessels. Slovenian fisheries have a negligible effect on fish stocks because the relatively small size of its fishing sector. However, it is affected by the intensive fishing in the area, which results in lower landings and decreased 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. 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 manly related with the activity of occasional fishers, 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 increases when the season for fishing of some ''high market price'' species, e.g. sole, turbot, is very good.

The quantity of fuel consumed in 2022 was around 250 000 litres, a decrease of 10% from 2013. The major factor causing this decrease is the scrapping of several vessels in the fleet, including two of the largest vessels.

The system of fuel price subsidies for fishers in Slovenia is quite complex. Tax incentives for the purchase of fuel are claimed only by larger fishing vessels, i.e. those with higher fuel consumption (mainly trawlers). The average final price of diesel fuel in 2022 was 1.63 euro/litre (+28% compared to 2021), while the price without excise duty was 1.29 euro/litre the same year (+46% compared to 2021). The share of excise duty in the final price of fuel thus amounted to more than 20%.

The total weight of seafood landed in 2022 was around 108 tonnes, with a value of EUR 0.96 million. The total weight and value of landings decreased by 34% and 20%, respectively, over the period 2013-2022. 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 vessels 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 change could be also one of the reasons for the observed reduction in 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 2022 by more than 70% compared to previous years.

In general, first sale prices for marine fish in Slovenia may be influenced by the overall health of the fishing industry, which can be impacted by factors such as changes in regulations, changes in fish populations, and shifts in consumer demand. Other factors that may influence first sale prices include the cost of fuel and other expenses associated with operating fishing vessels, as well as competition from imported fish. Prices obtained for the key species targeted by the fleet generally remained stable between 2013 and 2022. 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 2022 recorded a negligible catch – less than 1% in landing value.

Employment and average salaries

In 2022, the number of fishing enterprises totalled 99, with the majority (65%) owning a single vessel, 35% of the enterprises owned two to five fishing vessels and none of the enterprises owned six or more vessels. Total employment in 2022 was estimated at 111 jobs, corresponding to 51 FTEs. The level of total employment increased between 2013 and 2022 for 7%, while the number of FTEs decreased by 21% in the same period. The primary reason for the increased number of total employees is the presence of occasional fishers who behave opportunistically, engaging in fishing only when high-value fish species migrate into Slovenian waters. These fishers contribute to the overall employment figures but do not significantly impact the number of FTE employees since they conduct a limited number of fishing days.

In 2022 the average wage per employee was EUR 2 629 (EUR 5 722 per FTE) and it was below the average Slovenian salary in 2022, which amounted to EUR 23 773. Furthermore, the average wage per FTE was also below the Slovenian minimum wage in 2022 (EUR 12 893). The Drift and fixed netters 6-12m segment recorded the highest average mean wage of EUR 2 820 (EUR 7 190 per FTE). Slovenian fishers earn only small part of their wages in fishing and the rest of their salaries with other activities, such as tourism, aquaculture etc.

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 6 metres long represent a typical Slovenian fishing enterprise.

4.20.2 Performance for 2022 and recent trends

The economic results refer only to the part of the Slovenian fishing fleet that was active in the year 2022.

National fleet performance

The amount of income generated by the Slovenian national fleet in 2022 was EUR 5.17 million. This consisted of EUR 0.96 million in landings value, EUR 3.82 million in non-fishing income and EUR 0.39 million in subsidies. The Slovenian fleet's landings income decreased for more than 20% between 2013 and 2022, 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 economic sectors, such as tourism, aquaculture, etc.

Large increase in subsidies was recorded from 2015 onwards. One of the reasons 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 2022 equated to EUR 0.91 million, 18% of total income. Energy and personnel costs, the two major fishing expenses, represented 38% and 33% of total operating costs, respectively. Between 2013 and 2022, total operating costs decreased more than 20%, largely due to scrapping of several vessels. In the last few years, especially in 2012 and 2013. Slovenian fisheries sector has recorded an increased value of direct income subsidies. It has been intended primarily to diversify their activities. The results of these investments are the increased depreciation costs (period 2013-2015) and other income.

Between 2013 and 2022, GVA increased by 73%, while gross profit and net profit increased 128% and 164%, respectively. Although the Slovenian fishing fleet was in a poor economic condition because of old and poorly equipped fleet and reduced catches, still records a positive trend in almost all the economic indicators. The reason for the positive trend is primarily because of higher revenues from other sources.

In 2022, the Slovenian fleet had an estimated (depreciated) replacement value of EUR 4.7 million. Investments by the fleet amounted to EUR 0.46 million in 2022.

Resource productivity and efficiency indicators

The gross profit margin and net profit margin also increased from 2013 to 2022 for 45% and 71%, respectively.

Labour productivity (GVA/FTE) also record increase in period 2013- 2022 for 99%: GVA increased for 73% while the number of FTE decreased by 21% in the period analysed.

Labour productivity of the Slovenian fishing fleet was EUR 37 299 in 2022, which is above the GVA per employee average in the entire Slovenian agricultural sector (EUR 32 743) however, under the total Slovenian GVA/employee average, which amounted to EUR 57 847 in 2022 (source; SiStat Database).

Fuel consumption per landed tonne has followed an overall increasing trend since 2013 and amounted 2 343 litres per tonne landed in 2022 (an increase of more than 70% from 2013). The landed weight per sea day decreased significantly for almost 30% from 2013 to 2022 and amounted 22 kg per sea day in 2022. One of the reasons for that is the scrapping of some large vessels with high volume of landings and, subsequently, changed composition of the fleet consisting now in a majority of smaller vessels with lower landed weight per sea day. Lower volume of landings of purse seiners segment in the 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.

Table 4.23. Slovenia. Average fuel price, short- and long-term break-even prices for fuel. Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy Intensity
SVN MBS DTS1218 NGI *	1.29	6.38	6.34	41.6%	2 659
SVN MBS DFN0612 NGI *	1.63	39.82	39.74	38.4%	2 446
SVN MBS DFN0006 NGI *	1.53	64.97	64.81	12.8%	799
National average	1.38	16.57	16.52	36.3%	2 343

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

The break-even is the point at which total cost and total revenue are equal, meaning there is no loss or gain. Considering the fuel used by the Slovenian fishing fleet in its activity, the fuel price break-even is the fuel price that makes total revenues and total costs, equal. As it can be seen from the picture, the break-even point for the Slovenian fishing segments is relatively high, which is mainly a result of high other incomes. The DTS VL12-18 achieves the least favourable outcome regarding BER among all segments in the Slovenian fishing fleet. It exhibits the highest fuel consumption, the worst weight of catches to fuel consumption ratio, and ranks second lowest in terms of other incomes.

Social impact

The Slovenian national economy is not dependant on the marine fisheries sector. The GDP of Slovenian fisheries thus amounts less than 0.01% of the national GDP. The marine fishing sector is small but with 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 fishers but also 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.

The social and cultural significance of Slovenian fisheries lies in its deep-rooted connection to local communities, traditions, and heritage. Fishing has been a vital activity along the Slovenian coastline for generations, shaping the identity and livelihoods of coastal communities.

Socially, fishing provides employment opportunities, sustains local economies, and fosters a sense of community among fishers and their families. It serves as a means of preserving cultural practices and traditions passed down through generations, contributing to the cultural fabric of coastal regions. Fishing communities often have strong bonds, sharing knowledge, customs, and celebrations related to their maritime way of life.

Furthermore, Slovenian fisheries play a role in local cuisine, with freshly caught seafood being an integral part of traditional dishes. This culinary heritage not only reflects the coastal lifestyle but also attracts tourists, contributing to the cultural diversity and tourism appeal of the region.

Fisheries are deeply ingrained in the social fabric of coastal communities, where fishing has been a way of life for generations. The industry fosters a sense of identity and belonging among residents, preserving maritime traditions and customs. However, perceptions of fishing vary, with some

viewing it as a noble profession rooted in tradition, while others may see it as outdated or environmentally harmful.

Despite its small economic footprint, fishing enjoys social legitimacy in Slovenian society, with many recognizing its cultural significance and contribution to coastal heritage. There is a general awareness of the importance of sustainable fishing practices and marine conservation efforts, although challenges remain in balancing economic interests with environmental concerns.

4.20.3 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 seven (DCF) fleet segments in 2022, with four inactive length classes consisting of 61 vessels. Two of the active segments (DFN VL00-06 and DFN VL06-12) belongs to SSCF and one (DTS VL12-18) belongs to the LSF.

Small-scale coastal fleet

In 2022, there were 76 active vessels of which 83% are classified as small-scale (a decrease of 5% from 2013). The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian SSCF in 2022 was EUR 3.5 million or 68% of all income in 2022. Landings' income decreased 34% between 2013 and 2022, while other income increased more than 100% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other economic sectors, such as tourism, aquaculture, etc.

Between 2013 and 2022, GVA, gross profit and net profit had a positive trend (although the substantial fall was recorded in 2015). The major factor causing the improvement in economic performance in period analysed include increases income from other sources. Operation costs followed mostly negative trend during the period analysed. In 2022, the SSCF had an estimated (depreciated) replacement value of EUR 1.6 million. Investments by the fleet amounted EUR 0.14 million in 2022.

Large-scale fleet

11 vessels (17% of all active vessels) represent Slovenian large-scale sector in 2022. The majority of these vessels operate in the coastal waters of Slovenia.

The income generated by the Slovenian LSF in 2022 was EUR 1.6 million (32% of all income). Landings' income decreased for 5% between 2013 and 2022, while a decrease of almost 60% is recorded in period 2008-2012 compared to 2013. The major factor for decreased value of landings income was scrapping of some vessels and in the last few years a crisis in the purse seiner segment, which is deeper from year to year. Moreover, this segment did not operate at all beyond 2018.

Between 2013 and 2022, GVA increased for 39%, while gross profit and net profit increased by 117% and 147%, respectively. The major drivers for increased value of gross and net profit are higher values of other income in 2022.

In 2022, the LSF had an estimated (depreciated) replacement value of EUR 1.6 million. Investments by the fleet amounted to EUR 0.3 million in 2022.

4.20.4 Performance of selected fleet segments

The entire active fleet made an overall profit in 2022. All segments also improved their economic performance in 2022 compared to 2021 and to the whole time series

Demersal trawlers and demersal seiners 12-18 metres

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 0.58 million and 12 FTEs were employed in this fleet segment in 2022, contributing to 60% and 23% of the total income from landings and FTEs generated by the Member State's fishing fleet, respectively. This fleet segment made a profit in 2022.

Drift and fixed netters below 6 metres

25 vessels operating in the Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, mullets and sea bream. The total value of landings was EUR 0.15 million and 15 FTEs were employed in this fleet segment in 2022, contributing 16% and 29% of the total income from landings and FTEs generated by the national fleet, respectively. This fleet segment made a profit in 2022.

Drift and fixed netters 6-12 metres

40 vessels operating in the Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, common pandora and sea bream. The total value of landings was EUR 0.23 million and 24 FTEs were employed in this fleet segment in 2022, contributing 24% and 48% of the total income from landings and FTEs generated by the national fleet, respectively. This fleet segment made a profit in 2022.

4.20.5 Drivers affecting the economic performance trends

Several drivers can affect the economic performance trends of the Slovenian fishing fleet. Here are some key factors that may impact the economic performance of the fleet:

- Fish stock health and availability: The health and availability of fish stocks in the Adriatic Sea can have a significant impact on the economic performance of the Slovenian fishing fleet. If fish populations are low or overfished. it can reduce the amount of catch and make it less profitable for fishers to operate their vessels.

- Fishing regulations: Changes in fishing regulations, such as quotas, catch limits, and gear restrictions, can impact the economic performance of the fishing fleet. Regulations can affect the amount of catch that fishers can harvest, the types of gear they can use, and the areas they can fish in, which can impact their profitability.

- Fuel and operating costs: The cost of fuel and other operating expenses can impact the economic performance of the fishing fleet. If fuel prices rise, it can increase the cost of operating fishing vessels, which can reduce profits for fishers.

- Competition from imports: Competition from imported fish can also impact the economic performance of the Slovenian fishing fleet. If imported fish is cheaper than domestic fish, it can reduce demand for domestic fish and reduce the profitability of the fishing industry.

- Government subsidies and support: Government subsidies and support can play a significant role in the economic performance of the fishing fleet. If the government provides subsidies or support for the fishing industry, it can help to offset some of the costs and improve the profitability of the industry.

Overall, the economic performance of the Slovenian fishing fleet is impacted by a range of drivers, including fish stock health, fishing regulations, operating costs, competition from imports, and government subsidies and support. Understanding these drivers and their impacts can help to identify ways to improve the economic performance of the fleet and ensure the long-term sustainability of the fishing industry in Slovenia.

Markets and trade

Slovenian market for marine products is fragmented and disorganized. A large number of producers and dealers are unorganized and acting individually. Most of the fishing products are sold directly to known customers (restaurants, fish markets, etc.). Some fishers also own fishmonger and sell their catch there, while smaller fishers sell the majority of their catch directly from their boats. In Slovenia, there is no fish auctions. The nearest fish auction is in Trieste, Italy, so fishers, especially when it comes to larger catches, sell the fish there as well.

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 2022, imports were approximately five times larger than export and amounted to 13 076 tonnes (EUR 91 million) of fish and other fish product (source; https://pxweb.stat.si/SiStatData/pxweb/sl/Data/-/2490101S.px). Exports amounted to 3 453 tonnes (EUR 23 million) in the same year. The majority of the imported fish and fish products come mainly from the EU. The largest Slovenian seafood import partners are Italy, Spain and Croatia. Concerning exports, the largest partners are Bosnia and Herzegovina, Croatia and Hungary. The most important imports are fresh and frozen fish and fish products for consumption, as well as fish and other marine organisms intended for the fish processing industry. The main Slovenian export fish products are various fish cans, Tuna pate and Dried cod spread.

The Slovenian volume of landings for 2022 amounted around 108 tonnes. In the same year Slovenian aquaculture sector has produced 1 642 tonnes of fish and shellfish (source; https://pxweb.stat.si/SiStatData/pxweb/sl/Data/-/1519102S.px/). 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 are sold also on the fish market in Trieste, Italy.

Prices obtained for the key species targeted by the fleet generally remained stable between 2013 and 2022. Slight annual variations of the prices are the results of increased or decreased volume of landings in the period.

Operating costs (external factors)

Between 2013 and 2022, total operating costs decreased more than 20%, 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 28% of total operating costs in 2022. 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 seiner's 12–18m segment. Given the amount of fish caught and fuel consumption, this specific segment has the most unfavourable ratio among all mentioned segments.

Regulatory compliance with national and international maritime standards adds expenses, covering safety, environmental protection, and fisheries management. While technological advances can reduce costs in the long term, initial investments may increase short-term expenses. Fluctuations in market demand and prices for fish products directly impact profitability. Access to productive fishing grounds affects costs, with restrictions or changes requiring vessels to travel longer distances. Economic factors like inflation rates also play a role in influencing operating costs.

Status of Key Stocks. TACs and quotas

A session of the Working Group on Stock Assessment of Small Pelagic Species (WGSASP) on the assessment of European anchovy and sardine in the Adriatic Sea was carried out online on 19 May 2022. Based on data provided by relevant contracting parties and cooperating non-contracting parties for 2021 (year n-1), the assessments of European anchovy and sardine were updated with two extra years of data. Anchovy in GSAs 17 and 18 was found to be in overexploitation (Fcurr/FMSY ratio: 1.15) with biomass above reference points (SSBcurr/Bpa ratio: 1.1) while the sardine stock was considered to be overexploited and in overexploitation, on a precautionary basis.

According to the GFCM Working Group on Stock Assessment of Demersal Species (WGSAD) held on January 2022, out of the 51 stock assessments validated by the WGSAD, 10 were found in a state of sustainable exploitation and 41 were assessed as being overexploited.

Slovenia does not have any TACs and/or quotas.

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 CFP.

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.

Some of the most important acts or regulations used in fisheries management in Slovenia are listed below:

- Marine Fisheries Act: http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO4367

- Decree on the monitoring of catches and sales of fisheries products: http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED8180.

- Decree on the implementation of the Regulation (EU) establishing a catch documentation programme for Bluefin tuna and the Regulation (EU) on the multiannual recovery plan for Bluefin tuna in the eastern Atlantic and the Mediterranean: http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED7497.

- Rules on the register of fishing vessels and vessels used in mariculture: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV12636.

- Rules on licences and special licences for commercial fishing: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV12458.

- Rules on the collecting method and daily quantity of collected bivalve molluscs: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV12523.

- Sustainable use of fish: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV9829.

- Rules on leisure sea Fishing: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV8023.

- Rules on the training programme for the implementation of commercial fishing, certificate of the exam performed and records of issued certificates of exams: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV6769.

Innovation and development (role of EMFAF)

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 (nm) 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 5 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 2023.

For this purpose, Slovenia will have to implement a study in order to display the catch composition with ''volantina'' trawlers in the zone between 1.5 and 3 nm from the coast.

4.20.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Preliminary results for year 2023 and 2024 forecast a decrease landed weight and value for Slovenian fishing fleet for both years, while a similar to 2022 number of vessels is expected. Projections suggest total job in general will slightly decrease, while FTE will increase. Economic performance results in 2023-24: GVA, gross profit and net profit will decrease in 2023 compared to

2022, while an increase is expected in 2024. Gross profit margin will increase, while Net profit margin will decrease in 2023 and 2024.

National Fleet

Due to scrapping, the fleet decreased between 2013 and 2022. Because of that, and also due to the poor landings volume of the purse seiners segment, the weight of landings decreased in 2022 compared to 2013. 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, an increased trend in economic and social situation of the sector can be expected.

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 also 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 species, such as sole, see 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 most recent data, the value of landings decreased in 2023 for 13% regarding 2022, mostly because of decreased landings of sea bream and sea bass.

4.20.7 Methodological considerations and 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 commercial fishing sector of Slovenia. There were approximately 100 fishing companies. In May 2023, the questionnaires for 2022 were sent to all users of fishing vessels in Slovenia. The response rate was 100%. Where the data from annual accounts of business enterprises was used the response rate was also 100%, because there are economic reports for all investigated companies or fishers.

Figure 4.25. Slovenia: 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.21 Spain

4.21.1 Short description of the national fleet

In 2022, the Spanish fishing fleet consisted of 8 814 registered vessels, with a combined GT of 328 492 tonnes and an engine power of 776 326 kW.

The Spanish fishing fleet has decreased by 13.3% the number of vessels, 11.2% the engine power and 14.7% the GT from 2013.

In 2022, 13.4% of the Spanish fleet was inactive almost 90% of these inactive vessels are small coastal vessels less than 12 metres LOA.

Fleet structure

The Spanish fleet is one of the largest EU fleets and the one that is active in more fishing zones.

The estimated value of physical capital of the Spanish fleet was EUR 634.6 million of which 4.4% corresponds to the inactive fleet.

More than 71% of the active Spanish fleet consists of vessels under 12 metres LOA, engaging exclusively in activities within national waters, including the Atlantic, Mediterranean, and Canary Islands.

The number of fishing enterprises reached 7 930 in 2022. Compared to 2013, small enterprises "oneves" decreased by 18%.

Fishing activity and production

In 2022, the Spanish fleet spent 856 156 DaS and 838 219 fishing days (an increase of 4.4% and 1.1%, respectively compared to 2021). However, the quantity of fuel consumed decreased by an additional 6.0% from 2021 after the decrease of 18.8% experienced in 2021. The fuel cost increased by 66% compared to 2021, being the fuel price 0.94 euro/litre. Overall, the fuel expenditure represented in 2022 the 22% of the total expenditures.

In 2022, production in terms of the weight of landings increased by 0.8% compared to 2021, and the value of landings also rise by 5.4%. In terms of live weight and value of landings, the main species for the Spanish fleet were skipjack, yellowfin tuna, swordfish, European hake, Argentine hake and European anchovy.

Employment and average salaries

Total employment in the Spanish fishing fleet for 2022 was estimated at 30 494 jobs, corresponding to 23 380 FTEs, with an average wage per FTE of EUR 30 035, 1.5% lower than in 2021. In addition, the value of unpaid labour decreased by 16.6%.

4.21.2 Performance for 2022 and recent trends

The economic results refer only to the part of the Spanish fishing part that was active in the year 2022.

National fleet performance

In 2022, the economic performance of the Spanish fleet improved compared to 2021. Income from landings (total value of landings) increased by 5%. Revenue was estimated at EUR 2 090 million (+7%).

GVA, gross profit and net profit for the Spanish fleet in 2022 were estimated at EUR 1 024 million (0%), EUR 321 million (+12%) and EUR 186 million (+18%), respectively. These figures show an improvement in the economic performance indicators.

In this sense, it is important to highlight that 2022 has shown a better result than expected considering the high fuel prices.

Resource productivity and efficiency

The gross profit margin in 2022 was 15.38%, showing an increase on profitability of 4.7% compared to 2021. Similarly, net profit margin was estimated at 11.39% (+16.7%).

Labour productivity (GVA/FTE) increased in 2022 and it was estimated at EUR 43 788 (3.5% more than 2021).

Fuel intensity was estimated at 556 litres/tonne in 2022 (−7% compared to 2021).

However, fuel efficiency was 21% in 2022, 58% more than 2021. This is due to the increase of the fuel average price, so it is 0.94 euro/litre (92% more than 2021).

It is important to say that in Spain one of the main characteristics is the variety between maritime districts, so the fuel price can vary substantially depending on the specific region.

Table 4.24. Spain. Average fuel price, short- and long-term break-even prices for fuel. Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
ESP NAO DTS2440 NGI	1.07	1.68	1.54	29.4%	371
ESP NAO DRB0010 NGI	1.29	−0.66	−1.40	7.7%	521
ESP NAO PGP2440 NGI *	0.84	1.02	0.82	16.3%	881
ESP NAO PMP0010 NGI	1.09	1.66	1.09	8.8%	582
ESP NAO PS 1824 NGI	0.84	2.85	2.31	7.8%	126
ESP MBS DFN0612 NGI	0.82	1.56	1.24	13.5%	1 541
ESP MBS DTS1824 NGI	0.81	1.07	0.89	33.2%	2 848
ESP MBS PMP0612 NGI	0.83	3.22	2.71	7.7%	813
ESP MBS PS 1824 NGI	0.81	2.48	2.10	10.0%	225
ESP OFR DTS40XX NGI	1.07	1.68	1.54	29.4%	371
ESP OFR HOK2440 LLD	0.98	1.94	1.77	22.0%	701
ESP NAO PMP0010 IC *	0.93	2.80	2.46	9.7%	658
National average	0.94	1.66	1.40	20.3%	556

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

Table 4.24 displays information on the fuel prices, short-term and long-term break-even revenues, as well as energy efficiency and intensity across several segments that make up a representative sample of the Spanish fleet.

4.21.3 Performance by fishing activity

The Spanish fleet is highly diversified, not only in terms of the number of species caught, but also in gears used and fishing areas. This diversity can be seen on the high number of segments that make it up, 84 segments clustered in 58 fleet segments in order to keep the statistical secret.

The SSCF represented the 53.7% of the total fleet, 43.7% of the fleet belonged to the LSF and the remaining 2.6% were covered by the DWF.

Despite this fact, the live weight of landings, were higher for the vessels belonging to the DWF segment (56.4%) and LSF (40.4%), than for the SSCF (3.2%) and the incomes from landings follow a similar structure, DWF segment (47.9%), LSF (44.7%) and SSCF (7.4%).

Small-scale coastal fleet

In 2022, 4 099 vessels were covered by the fishing activity SSCF in accordance with the definition used in the AER. In this sense, 1 292 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 other species.

Economic data need to be treated with caution, because an important part of this fleet carry out their activity on part time. In 2022, the number of vessels increased by 2% compared to 2021 for the first time since 2018, however engine power and GT barely varied.

The value and the weight of landings increased by 7.7% and 9.2%, respectively compared to 2021, in the same way, the number DaS increased by 6.8%.

Total jobs decreased by 3.3% generating 8 128 jobs (26.65% of the total jobs of the Spanish fishing fleet), in the same way personal cost decreased by 1.5%. In the same way, the FTE decreased by 6.1% and the unpaid labour barely varied compared to 2021. In the SSCF it has to be considered that 33% of the jobs were unpaid labour.

Regarding energy, the energy consumption decreased by 29%, however the energy cost increased by 7% compared to 2021.

SSCF is an economically profitable segment: GVA in 2022 was EUR 120.24 million and NVA was EUR 114.89 million, however, these values have decreased by 4.9% and 4%, respectively compared to 2021.

Large-scale fleet

In 2022, 3 337 vessels were included in the LSF segment 3.9% less than in 2021.

The number of DaS barely varied compared to 2021. The weight and the value of landings decreased by 0.7 and 1.8%, respectively.

Regarding the employment, the number of jobs decreased by 6.5% compared to 2021, whereas the personnel costs have decreased by 2.2%.

It should be highlighted the increase of the energy costs by 53.54% compared to 2021, due to higher fuel prices. However, the other non-variable cost and the unpaid labour decreased by 31 and 29%.

According to this, GVA increased by 6.18%, Gross profit by 60.91% and Net profit by 162.13% compared to 2021.

Distant water fleet

In 2022, 199 vessels were included in the DWF, which has a high participation on the Spanish fleet. The number of vessels increased by 2% compared to 2021, however there is one vessel less than 2020.

Days-at-sea increased by 20%, the value of landings increased by 12.8% and the weight of landing increased by 1.4%, compared to 2021.

As in the rest of the Spanish fleet, it is important to highlight the increase in energy costs (86% more than in 2021). It is important to highlight the decrease in other non-variable costs (29.8% more than in 2021).

As a result, DWF is an economically profitable fishery. In 2021, the economic indicators increased by 24.5%, 99% and 325%, respectively compared to 2020. However, if we compare data with 2022, GVA, Gross profit and Net profit decreased by 8%, 11% and 21%, respectively.

Outermost regions (Canary Islands)

Fishing activity in the Canary Islands OMR takes place in FAO area 34.1.2. In 2022 the number of vessels reached to 723 vessels, 569 of them were active during that year. In this sense, 21% of the Canary Islands' fleet is inactive.

This active fleet is composed mainly by small vessels, 496 of them are under 12 metres LOA (87% of this fleet), which means that fisheries are part time and can be considered as a complementary of other source of income. These vessels carry out a polyvalent fishing activity (polyvalent gears, targeting more than one species).

The weight of landings increased by 3% compared to 2021, however the value of landings decreased by 3%. The number DaS barely varied compared to 2021.

In terms of economic performance GVA and NVA have increased by 30% and 32% respectively compared to 2021.

4.21.4 Performance of selected fleet segments

Vessels using active and passive gears in the North Atlantic Ocean, purse seiners of Mediterranean Sea and purse seiners in the context of the SFPA and RFMO's are a representative sample of the most important fleets for each region.

Vessels using active and passive gears (PMP) below 10 metres in the North Atlantic Ocean

This is the largest segment of the Spanish fleet, comprising 2 128 vessels and 1 653 FTE (14.8% of NAO FTE excluding Canary Islands). This segment is primarily focused on small-scale, traditional fishing methods and is characterized by part-time activity, with an average of 90 days at sea per vessel.

In 2022 there was an increase of 21.3% in the value of landings compared to 2021, however, the GVA of this segment decreased by 6.5% in the same period. The live weight of landings of this fleet also grew by 12.0% in 2022.

Purse seiners (PS) in the Mediterranean Sea 18-24 metres

The 72 seiners that comprise the segment represent the 13.8% of the GVA, 18.1% of the Gross Profit and the 36.0% of the net profit of the Spanish Mediterranean fleet.

This fleet targets small pelagic species, such as European Anchovy (53% of the value of landing of the segment) and the European pilchard (31%).

This fleet has proven to be efficient, showing an energy intensity of 225 litres per tonne and an energy efficiency of 10%.

Purse seiners (PS) above 40 metres in Other Fishing Regions

This segment is comprised by 27 active vessels (with an average of 266 days of activity). These seiners display their activity around the world, considering the days at sea, the Indian Ocean is the main area where these vessels operate (50% of the days at sea of the segment), followed by the Atlantic (37% of the days at sea) and then the Pacific (13% of the days at sea).

This segment represents the 21.2% of the total revenue of the Spanish fleet. It also represents the 28.1% of total weight of landings and the 24.4% of total value of landings in Spanish fleet.

4.21.5 Drivers affecting the economic performance trends

The average first sales price experienced an increase of 8% in 2021 and 5% in 2022.

In terms of the main species targeted by the Spanish fleet, according to its landed weight Yellowfin tuna, Argentinian hake and European anchovy increased their price by 18%, 13%, 7% and 2%, respectively. On the other hand, European hake and swordfish experienced a decrease of 10% and 7%.

The most remarkable SFPAs in social and economic terms were:

- In the Atlantic Ocean, Mauritania, the main SFPA and the major receiver of EU funds. It is a key agreement for shellfish species and the demersal species, especially hake. The main fleet fishing there is the trawl fleet. Morocco, with 92 possible licences, was really important for the artisanal fleet of Canary Islands and the Gulf of Cádiz, otherwise with very few alternative fisheries accesses. It should be underlined the importance of the artisanal fleet.

- In the Indian Ocean, Seychelles, with 19 active licences in 2022, being the main SFPA in tropical tuna fishing (bigeye, skipjack and yellowfin), it is also fundamental not just for the Spanish fleet, but for the industrial development of that area. It is representative of the purse seiner fleet, which in economic terms is one of the most relevant fleets for Spain. Furthermore, Mauritius was a key agreement in terms of landings, thanks to the important processing plants in the country.

- In the Pacific Ocean, in 2022, there was only one SFPA, Cook Island, with a great role in the landings of the catches for the fleet in the Pacific.

In 2022 there were only two active Northern Agreements (Greenland and Norway), relevant for the demersal species fishing (cod, haddock, redfish among other bottom species).

There were four vessels fishing under the EU / Norway fisheries Agreement and in Svalbard waters.

About the Regional Fisheries Management Organizations /RFMO), Spain participated in 2022 in the following RFMOs: Tuna and tuna-like species RFMO's:

- Tuna and tuna-like species RFMO's:

  - IOTC, 27 active domestic vessels reported in 2022;

  - WCPFC, 10 vessels were reported to have fished in the area in 2022;

  - IATTC, 41 active vessels in 2022;

  - ICCAT, 1 356 active vessels in 2022;

  - CCSBT, Spain did not reported catches in this area in 2022.

- Demersal RFMO's:

  - SIOFA, 1 vessel has presence in SIOFA in 2022;

  - SEAFO, 1 vessel fishing in the area waters not covered by any demersal RFMO in 2022;

  - SPFRMO :1 vessel fishing in the area in 2022;

  - NAFO 7 vessels reported to have presence in the NAFO area;

  - NEAFC just 1 vessel reported presence in this area in 2022;

  - CCAMLR, 1 vessel operating in the area in 2022.

Furthermore, 26 vessels were operating in international waters. During 2022, the Spanish fleet had presence in the following Sustainable Fisheries Partnerships Agreements (SPFA): Morocco, Mauritania, Gambia, Guinea Bissau, Ivory Coast, Cabo Verde, Senegal, Cook Islands, Sao Tomé y Príncipe, Gabon, Seychelles, and Mauritius.

In 2022, 1.737 million tonnes of processed, preserved and seaweed fishery products were imported, with a value of EUR 9 284 million, mainly frozen squid, prawns, salmon, and prepared and preserved tuna. 71% of them came from third countries, mainly, Ecuador, Morocco, China, Argentina, Peru and Norway, and among those from the EU, Portugal, France, The Netherlands, Sweden and Greece.

Around 1.166 million tonnes were exported, with a value of EUR 5.693 million, mainly frozen skipjack and octopus and tuna preparations and preserves. The main destination was the EU market (77%), with the main demand coming from, Italy, Portugal, France and the Netherlands. Regarding third countries, Ecuador, Morocco, Mauricio, United States of America, China and Japan were the most important.

Foreign trade in fishery products ended with a balance deficit of EUR 3.590 million.

Operating costs (external factors)

As in 2021, wages and salaries represented the most important operational costs (32.7% in 2022). The historical trend is maintained, as this item has been the most important operational cost during the last years.

The second most important variable of the operational costs has been energy costs representing 22.2% of them. This implies a break with the historical series, moving from the third position to the second for the first time since 2013.

Other variable costs which represented a 20.7% of the total costs of the Spanish fleet is the third one.

In 2022, the costs increased by 5.3% compared to 2021. Among all the increases in the different expenditures, energy costs have risen by 66.7%, making it the most significant one.

Status of Key Stocks. TACs and quotas

As it has defined previously, the Spanish fleet operates in almost all fishing grounds, under agreements with Third Countries (SFPAS), under the umbrella of RFMOS and of course in EU and national waters.

Each of the above-mentioned fishing grounds have a specific importance. On one hand, the fleet operating far distance 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 incorporates in each agreement.

The fleet operating in the nearest fishing grounds is the major in terms of number and in terms of direct impact on coastal populations. We may differentiate the fleet that operates in the Atlantic fishing grounds and within the domestic waters which is the biggest in terms of number. The small-scale fleet is less prepared to face 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 weaker position than the LSF, and therefore, efforts should be driven to achieve the goal of social sustainability as it is expressed in the CFP.

Spanish TACs and quotas are distributed among fishing grounds and, in some cases, among fishing gears. In several segments of this area, TACs and quotas are additionally distributed among individual vessels within a common fishing gear group of vessels.

A recovery plan for the Iberian sardine is being implemented for Portugal and Spain, jointly updated in 2021 following the successful implementation of previous ones in terms of the recovery of the stock. In this new plan management of the Iberian sardine stock is expected to be applied till 2026, according to the stock management measures such as a harvest control rule (HCR); fishing activities are limited for a maximum of 9 months.

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 the MSY for all stocks that aren't currently in this biological situation, making ours the commitment to achieve it.

As for the southern stock of hake, one of the most important species in terms of value, social appreciation, and impact on specific fleet segments. In 2021, the status of the stock in relation to candidate reference points was unknown, therefore, the precautionary buffer was applied to the ICES 2021 advice. However, this situation improved with the new advice of ICES in 2022, given that the advice incorporated a change in the assessment model. As a result of the update, 2021 marked the first year with catches within the MSY limits.

Regarding horse mackerel, it is important for purse seiners and trawlers that fish in the Northwest coast (mainly vessels that catch in the ICES division 8c). This quota has decreased during the last years as a consequence of its biological status. This is why a rebuilding plan, prepared by PELAC, is under assessment.

In relation to mackerel, despite Spain had one year left yet to pay off the debt took in 2009, it was settled in 2022 so, the authorized fleet was able to fully dispose of the mackerel quota in that campaign.

Management instruments

The Spanish fleet is managed through several management tools, such as fishing licenses, engine power limitations, time at sea, TACs and quotas related to the area and fishing stock. Under national regulations, there are management plans set down; each plan covers species, gears allowed for the fisheries, technical requirements (such as power, vessel tonnage and length) or even additional technical measures over EU law.

Innovation and development (role of EMFAF)

In the field of technological development and innovation in the Spanish fishing sector, new projects are being developed with a specific target.

Four innovation projects were approved during 2022 in the context of the EMFF, two of them in Innovation (Art.26) and the remaining two in innovation linked to the conservation of marine biological resources (Art. 39). The funding of EMFF approved for these projects amounted to EUR 249 531.

These projects have various objectives, such as the biological characterization of target fishing species, improving the minimization of incidental cetacean catch, or studying alternative propulsion systems to tackle the challenge of decarbonizing the fishing sector.

4.21.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Preliminary results for 2023 suggest that the structural policy carried out to reduce the number of vessels will continue, considering the number of vessels but also the tonnage and power. Of the total 8 711 vessels, 7 426 were active during 2023. Most of the inactive vessels (85% of them) belong to vessels below 12 metres LOA.

Estimations for 2023 demonstrate an overall decreasing revenue that does not reflect in profitability given the projected increase in GVA, gross and net profit. First sale prices show a decrease of 6% but the price of fuel shows a drop from 2022, when prices rose above 1 euro/litre, but were still 55% higher than the 2015-2021 period (price in real terms).

The Nowcast model for 2024 suggests a slight decrease compared to 2023 estimates but better economic results than 2022. However, these results should be taken with caution given that the projections are made only with data from the first four months of 2024.

Outlook

Operational costs drive the profitability of the fleet, which is strongly influenced by fuel prices and wages.

The application of Agreements with Third Countries is other aspect that have an important influence on the sector's income. In this sense, it is worth highlighting the expiration of the Morocco Agreement.

The closure of the VMEs will also harm the Spanish fleet, mainly trawlers but also netters and longliners.

The distribution of TACs and quotas, the closed areas and specially the reduction of effort (fishing days) in the Mediterranean Sea will have a significant impact on the profitability of the sector.

Finally, the main factor affecting the competitiveness of the fleet is the high age of the vessels which hamper the implementation of innovations to improve their competitiveness.

4.21.7 Methodological considerations and data issues

Improvements achieved within 2022 data collection

This year, the survey collected data from less than 12 metres length ships with different types of activity to ensure greater homogeneity and consistency throughout the historical series. In this sense, the population sample was composed, in segments 00-12 metres length, by vessels whose activity was lower than 50 days, between 50-100 days, 100-150 days and higher than 150 days.

Work is in progress with the statistical unit to improve coherence between Value of landing and Gross value of landing.

Remaining issues

Important differences between the value of landings and gross value of landings in some segments can be observed. The reason is because the gross value of landed is obtained from statistical sampling, so the result of not many vessels is raised for the total of the fleet segment. However, the value of landings is obtained by the sales notes which have been declared from the vessel's owner.

In some cases, certain fishing segments may show a higher number of fishing days than sea days. The reason for this discrepancy is that some vessels use both active and passive fishing gears, and the calculations of this variable result in a count that exceeds the total number of sea days. This calculation is done according to the fecR effort criteria, which refers to the algorithm that implements the fishing effort calculations that were developed at the 2nd Workshop on Transversal Variables in Nicosia, Cyprus, 22-26 February 2016.

For some Spanish fleets it can be found that the number of jobs is greater than the number of employees. This is not an error, to calculate the FTE (Full Time Equivalent), the hours obtained are divided by a number of annual reference hours. In Spain the reference value is set at 1 800 hours per year. However, part of the sector is working up to 2 000 hours per year (on board), so the ratio may be greater than 1.

Figure 4.26. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022).

4.22 Sweden

4.22.1 Short description of the national fleet

In 2022, there were 1 060 fishing vessels, 295 of these were inactive whereas in 2021 there were 1087 vessels, 296 of them inactive. The capacity decreased by 27 vessels compared to 2021 and the general trend of the Swedish fleet is still that the number of vessels is decreasing. In 2023, the number of vessels were 1 032. The fleet in 2022 had a combined GT of 28 222 tonnes and engine power of 145 642 kW.

Fleet structure

The Swedish fleet is highly diversified with a broad range of fishing vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. The national fleet consisted of 12 fleet segments in 2008-2022 including nine clustered active length classes and three un-clustered inactive length classes. In 2022, the number of vessels using passive gears were 585 and stands for 76% of the active vessels, however, many of these fishers operate on part-time and they only count for 1.4% and 10% of the catch weight and value. The average age of the vessels was 72 years with a range of almost 100 years old to newly built vessels. The estimated value of physical capital of the Swedish fleet was EUR 132 million of which 2% corresponds to the inactive fleet.

Fishing activity and production

An estimated 56 105 days were spent at sea during 2022, a decrease by 1% compared to 2021. The amount of energy consumed for the active fleet decreased by 14% in 2022. The LSF has had an increasing trend in fuel consumption up to 2020. However, from 2021 energy consumption has decreased and in 2022 it decreased by 13% compared to 2021. The SSCF also faced a decrease in energy consumption compared to 2021, by 29%.

The total weight landed in 2022 was 138 000 tonnes of seafood (142 000 tonnes in 2023), with a landed value of EUR 110 million (EUR 112 million in 2023). The total weight and value of landings have varied over the period analysed due to quotas, prices and exchange rates, especially for the pelagic fleet. The exchange rate between SEK and EUR has continued to be weak even since 2018. This fact together with lower catches in 2022 had a negative impact on the landed value in 2022.

The Swedish fishing fleet targets both pelagic and demersal species, with herring remaining the dominant species, generating the highest landed value with EUR 26.2 million, which represented approximately 23% of the total landings value in 2022. Other important species in value in 2022 were Norway lobster (EUR 20.2 million), European sprat (EUR 16.1 million), Northern prawn (EUR 11.1 million), and Atlantic mackerel (EUR 9.3 million)

Employment and average salaries

In 2022, the fleet employed a total of 1 318 workers, including owners, which corresponds to approximately 742 FTE or an average of 0.96 FTE per active vessel. The level of employment follows the same decreasing trend as the overall capacity. Although, number of vessels decreases more than engaged crew. One explanation to this is that there are fewer old vessel owners whom instead merge their fishing with another fishers, thus decreasing the number of vessels at a higher rate than engaged crew. Total number of employees has decreased by 16% since 2013 and is projected to continue this negative trend in 2023. FTE have however increased by 9% between

2021 and 2022 indicating that there are probably less fishers that work part-time. Whereas since 2013 FTE follows the same decreasing trend as the number of engaged crew with decrease by 8% and 16%.

In 2022, there were on average 0.56 FTE per employed. The average wage per employed and per FTE has decreased over the period 2013 to 202 by 14% and 22%, respectively. Compared to 2021, the average wage per employed decreased by 6% and average wage per FTE decreased by 23%.

4.22.2 Economic performance for 2022 and recent trends

The economic results refer only to the part of the Swedish fishing fleet that was active in the year 2022.

National fleet performance

The revenue of the Swedish national fleet decreased in 2022 by 16% compared to 2021 from EUR 135 million to EUR 114 million, where value of landings decreased by 14% while other income decreased by 14% compared to 2021. The revenue for both LSF decreased compared to 2021 while SSCF with 16% and 18%, respectively.

GVA, gross profit and net profit in 2022 were estimated to EUR 52.4 million. EUR 28.9 million and EUR 65 058, respectively. Compared to 2021, GVA decreased with 28% meanwhile gross profit and net profit decreased by 35% and 100%, respectively.

The (depreciated) replacement value of the Swedish fleet was estimated at EUR 130 million, an increase by 9% compared to 2021. Investments amounted to almost EUR 5.1 million in 2022, a decrease compared to 2021 by 18%. Finally, and compared to 2013, investments have decreased by 37% in 2022.

Resource productivity and efficiency

The gross profit margin in 2022 was 25.41%, which is the second lowest since 2013, a decrease by 13% compared to 2021. Net profit margin was estimated at 0.1%, a decrease compared to 2021. The net profit margin is also among the lowest since 2014.

Many of the indicators showed a deterioration in comparison to 2021. The overall improved development trend for some indicators discontinued in 2022. Labour productivity (GVA/FTE) decreased in 2022 by 35%; GVA decreased by 28% while the number of FTE increased by 9% indicating that the fishing on part-time is decreasing.

The energy consumption of the Swedish fleet has decreased by 14% since 2013 after an increase during 2020 the level of consumption in 2022 is back to a lower level, in line with previous years and decreased with 14%.

Landings in weight per unit of effort (in DaS) has been fluctuating since 2013 with an average at around 8.2 tonnes per day. In 2022 the landed weight per unit effort was at 6.0, which is the lowest since 2008 representing a decrease of 29% between 2021 and 2022.

Energy intensity has decreased since 2013 and in 2022 it was at 1.4 litre fuel per landed tonne. Energy intensity differs between segments, ranging from 259 to 3 347. Energy efficiency, has been stable during the time period of 2013-2022. In 2022 the national average was 31.6%. Energy efficient does vary between segments, although, not as much as energy intensity.

Table 4.25. Sweden. Average fuel price, short- and long-term break-even prices for fuel. Fuel Use Intensity (FUI) and Fuel Use Efficiency (FUE) for selected fleet segments in 2022.

Fleet segment	Fuel Price	Short-term Break-even fuel price	Long-term Break-even fuel price	Energy Efficiency	Energy intensity
SWE NAO DTS2440 NGI *	0.70	1.30	0.80	37.0%	259
SWE NAO DTS1218 NGI *	0.94	1.90	1.38	24.9%	2 291
SWE NAO DTS1824 NGI *	0.82	1.45	0.97	30.6%	624
SWE NAO DTS0812 NGI *	1.09	4.98	4.29	14.2%	217
SWE NAO DFN0010 NGI *	0.81	0.96	0.31	24.2%	2 621
National average	0.76	1.39	0.86	31.5%	332

Data source: MS data submissions under the DCF 2024 Fleet Economic (MARE/A3/ASC(2024)); All monetary values have been adjusted for inflation; constant prices (2022)

To contextualize the energy efficiency metrics, there are large fluctuations regarding energy consumption when looking at point estimates. When considering the spread in the estimates, i.e. confidence interval there are not statistically significant changes in consumption in recent years. Thus, one should not give too much emphasis to the short-term differences between certain years, nor segments.

4.22.3 Performance by fishing activity

Small-scale coastal fleet

The number of SSCF vessels decreased from 743 in 2013 to 585 in 2022 (577 in 2023), a decrease by 14%, following the general trend of the Swedish fishing fleet.

The number of employees and FTE in the SSCF followed the same decreasing trend as overall national fleet, from 2021 to 2022 by 4% and 12%, respectively. Vessel tonnage as well as engine power has decreased compared to 2021, 7% and 5%, respectively.

Overall, the SSCF is not profitable, generating a net loss of –EUR 3.3 million in 2022. Since tangible assets are, in most cases, probably paid off, these vessels can afford to continue fishing. GVA is positive but relatively low per FTE at EUR 29 200. Low GVA is a sign that there are other reasons for fishing than just profit, such as part-time employment or a way of life. Fishers who do not have profit as the main reason for fishing, raise 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 incomes, by taking and eating fish directly from the gears, and costs, by destroying gears as well as creating extra work.

Due to the landing obligation a new management system was introduced in 2017 for demersal fisheries. The individual quotas have now some transferability levels during the year (not permanent), yet the system for demersal fisheries is still missing transferability like a proper ITQ system.

Large-scale fleet

For the LSF, the number of vessels decreased from 207 in 2013 to 180 in 2022 (160 in 2023), a decrease of 6%. Large part of this decrease come for vessels fishing for cod as main source of income. The Swedish authorities have promoted fishing Norway lobster with passive gears as cod populations are in bad conditions, mixed fisheries with cod and lobster are no longer a profitable option.

The number of fishers employed and FTE for the LSF decreased both by 12% in 2022 compared to 2021. In 2022 vessel tonnage and engine power decreased by 6% and 4%, respectively.

The weight and value of landings for the LSF vessels from 2013 to 2022 decreased by 26 and 19% respectively. LSF were more dependent on quotas than the SSCF and the landings value 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 well the variation of this performance is large. Vessels fishing pelagic species and those that fish in the north Baltic for vendance roe are performing well while those fishing for cod are poorly performing.

The LSF decreased their operational costs (3%), repair & maintenance costs decreased by 37% since 2021 while energy cost increased by 36%. Maintaining high total income and small decreasing operational costs is the main reason for the LSF to maintain its overall high net profit. Overall, the LSF is profitable and decreased its net profit in 2022 by approximately 84% compared to 2021. It generated a net profit of EUR 3.4 million in 2022. GVA per FTE is at EUR 87 650, 41% lower than in 2021.

4.22.4 Performance of selected fleet segments

Two of the five fleet segments using active gears made losses in 2022, length segment 24-40 meters and 10-12 meters. On the other hand, length segment 10-12 meter using passive gear was the only passive segment that had a positive net profit. The other passive segments follow the same trend as previous years, with overall net profit losses.

It can further be observed that the vessels with active gears accounted for the main part of the landed value and weight. During the 2013-2022 period, vessels with active gears annually accounted for 97-99% of the total catch measured in weight, and 85 to 90% of the total catch value. Thus, the vessels with passive gears only accounts for 1-3% of the total catch measured in weight, and 10-15% in value.

Demersal trawl & seine 18-24 meters

In 2022, 33 vessels made up this clustered segment that uses different types of active fishing gears. 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 2022, the total value of landings was EUR 15.0 million and 144 FTEs in this fleet segment, contributing 13.5% of the total income from landings and 19.45% of the FTEs in the Swedish fishing fleet. This fleet segment was profitable, with a reported gross profit of around EUR 3.5 million in 2022, although the gross profit has increased compared to last year.

Demersal trawl & seine 24-40 meters

Composed by 20 vessels in 2022, the segment contains 15 vessels using pelagic trawlers (nine of the pelagic trawlers are over 40 metres). This segment is operating in the Baltic Sea, Kattegat, Skagerrak, and the 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 2022, the total value of landings was EUR 60.0 million and around 197 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 is still very profitable, with a reported gross profit of around EUR 18 million in 2022. There is a distinction in performance within the segment. The profit is generated by vessels fishing mainly pelagic species.

4.22.5 Drivers affecting the economic performance trends

High quotas for pelagic species and demersal species are still the main driving force behind profitability yet, in 2022 most of the quotas decreased. 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. Together with increasing fuel prices and higher interest rate the Swedish fleet are facing more economic difficulties than before.

Markets and trade

Good economic performance for the Swedish fishing fleet is highly dependent on fish prices (first sale prices) for pelagic species as well as a strong national currency. High prices but more importantly, stable prices are key to good economic performance. The Swedish currency is in a declining trend, which is apparent when looking at the total value from landings in Euro. In an international context, this is a vital part of their economic performance. Furthermore, changes in seasonal fishing, e.g. shorter fishing period for certain species, can influence the fish price. The regulation of shortening fishing periods or certain catch limitations 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 national catch limitation fluctuates between years, which in turn yields a high price elasticity. In recent years the landed weight has been approximately half of what it once was, but the price has double, yielding approximately the same total value.

Among the top five species the price of Norway lobster and European sprat have increase in first sale average price between 2021 and 2022 by 5.5% and 3.7%, respectively. The other top species, Atlantic herring, Northern prawn and Atlantic mackerel have decreased prices of 4.3%, 28%, and 39%, respectively. Even though the prices of Atlantic herring, Atlantic mackerel and Northern prawn have decreased they are still among the most valuable species when referring to the landed value.

Operating costs (external factors)

Total operating costs decreased between 2021 and 2022. Personnel costs decreased by 19% and unpaid labour decreased by 10% since 2022. Energy cost increased by 32% since 2021 and repair & maintenance costs decreased by 36%. Other variable costs decreased by 29% since 2021 meanwhile other non-variable costs decreased by 11%.

Total operational costs amounted to approximately EUR 85.0 million. When including capital costs, total costs amounted to EUR 109.3 million.

External factors that affect the Swedish fishing fleet is mostly quotas. During 2022 there were a still some effect of Brexit, giving Sweden no access to British nor Norwegian economic zone for the first three months. Brexit also had an impact on final TACs, which in turn had an effect on larger vessels. One crucial external factor is the condition of different stocks, this has a big impact on the small scale fisheries along Sweden coast.

Status of key stocks. TACs and quotas

Most of the important stocks fished by the Swedish fleet are fished at levels compatibles with producing the MSY. In 2022 most of the quota decreased especially in the Baltic Sea.

Herring and sprat are especially important for the Swedish fleet. The quotas for herring decreased by 39% in 2022 compared to 2021 in the Baltic Sea whereas the sprat increased by 13%. There are indications of the biomass of the herring in the Baltic Sea decreasing resulting in even lower quotas which is affect thing the Swedish fleet economic performance negatively. Concerning Skagerrak, Kattegat, and the North Sea, while the quotas for herring increased by 11% between 2021 and 2022. Lastly, the mackerel quota decreased by 5% in 2022 compared to 2021.

Since mid-2019, it was decided to close the commercial fishing for cod in parts of the Baltic Sea which affected approximately 160 vessels who had to stop fishing for cod. The ban on commercial fishing for cod has continued in 2022 resulting in a decrease of the utilisation of the cod quota.

Management instruments

A major challenge regarding fleet management is the adjustment to the Landing Obligation (LO). 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 LO 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 the background of the needs created by the LO, 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 SSCF for which unallocated quotas are reserved. This 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 LO. The first year with the new system has recently been evaluated by the SwAM. From the evaluation it can be highlighted 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 discarding 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 to avoid

unwanted effects. The system was further evaluated during 2020 resulting in a suggestion of the implementation of a full ITQ-system also in the demersal fisheries has been suggested but it has not yet been implemented. In 2023 the Swedish government gave SwAM a project to finalize a suggested system for implementation.

Innovation and development (role of EMFAF)

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 more efficient and increased the overall profit for the fleet. During 2019, it was decided to renew the transferable fishing rights for pelagic fishing for another 10 years. The pelagic quotas have been allocated since 2009 between fishing rights, annual pelagic fishing opportunities, regional fishing opportunities and coastal quotas in accordance with a Transferable Fishing Rights Law (2009: 866). In July 2019 it was decided to implement some changes in the pelagic system mainly concerning the size of the coastal quotas, transferable fishing rights for herring and sharp herring in ICES sub-areas 30-31 (the Bothnian Sea and the Gulf of Bothnia) and the introduction of regional allocation in ICES sub-areas 30-31.

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 could temporarily trade quotas, which will allow them to be more flexible and efficient, which in turn can have an impact on the profitability in the SSCF. During 2019 and 2020 the system was evaluated and some suggestions for improvements were made, for example to implement a full ITQ-system. Yet, there are no decisions of implement such system, but further projects on this topic is ongoing.

The increasing seal population around the Swedish coastline has caused a growing conflict for 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. Currently, the development of seal-safe fishing gear is the only long lasting and sustainable solution to this conflict. This development mainly focuses on improving traditional fixed gears, such as push-up traps for salmon and developing new alternatives to the net fisheries, such as cod pots. Parallel to this work there are projects involving protective hunting and management plans for the seal population.

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.

4.22.6 Assessment of the economic performance for 2023 and 2024 (nowcasts)

Model results

Preliminary results for 2023 suggest an annual increase of 3.2% in landed weight and an increase in value by 2.4%. Projections for 2023 suggest a decrease in energy costs, repair and maintenance costs, variable costs and non-variable costs and an increase in personnel costs. Economic performance will improve in 2023 with GVA and gross profit increasing by 28% and 41% in 2023 compared to 2022. The model for 2024 suggests a slight increase compared to 2023 estimates.

Outlook

The economic situation for 2023 and 2024 suggest a recovery of the economic performances but there are still some pending issues of relevance for Swedish fishers. The biological situation in the Baltic Sea is not creating optimal circumstances for thriving fishers. The situation for both cod and, to some extent also herring, inhibit economic growth through banned cod fisheries and decreasing herring quotas in more recent years. However, the quotas for sprat have been increasing which mitigates the situation for large scale pelagic fishers. One current and topical question is the circumstances for human consumption of fish from the Baltic Sea. It is presently suggested that due to environmental toxins many of the species are not suitable for human consumption, although fishing for human consumption would be more profitable for the fishers.

Concerning the quotas for Kattegat, Skagerrak and North Sea, the most important economic quotas are increasing but for herring there are still some limitations. Not only are the fishers dependent on the level of quotas but also the access to both Norwegian water for Nordic prawn and UK waters for sandeel.

Over the years, the Swedish fishing fleet has shown a trend of decreasing number of vessels and decreasing fleet capacity in terms of engine power and gross tonnage. Swedish fishing licenses are time-limited (up to five years) and are renewed provided that certain requirements are met, for example that fishing is carried out in business activities. At the same time, as new licenses are tested against the availability of fish, the status of several stocks has meant that it has been difficult to grant new fishing licenses.

Impact of the fuel prices on energy efficiency by fleet segment

Higher fuel prices have been a large problem for the Swedish fishing fleet. Early indications were that fishers tended to not fish due to decreasing or even negative margins. Although, Sweden's largest seafood auction house did a pro bono increase on first sale prices, giving them a premium of 5% on all landings. Later, the Swedish government implemented a similar system with a premium ranging between approximately 6-10% on first sale prices depending on fleet segment.

At a first glance at effort data and overall catches in 2022, there is a clear sign that both effort and landings are significantly lower, which most likely is a direct effect from higher fuel prices, at least partially. Other socioeconomic impacts, for example employment has decreased during 2022 whereas FTE has increased since 2021 indicating that there are fewer people that fish on part-time. It is, however, difficult to distinguish if these changes are only due to higher fuel prices or other economic factors in 2022.

There is an indirect effect of higher fuel prices via higher inflation in Sweden on effort and landings. The central bank of Sweden has, since April 2022 increased the interest rate at several occasions. This combined with an overall high private debt in Sweden has resulted in a lower demand for more luxurious goods, such as fresh seafood. The inflation and interest have still increased but at a slower pace. The lower demand for such goods could be a contributing factor to a lower effort and landings in 2023.

4.22.7 Methodological considerations and data issues

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 (approximately 50%) 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 slowly decreasing to around 50% 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 registered data from the Swedish Tax Agency. Information on operating subsidies is obtained from the responsible authority for the specific compensation and have coverage of around 88% and contains of subsidies for higher costs during the pandemic in 2020 and for higher fuel prices in 2022. During 2021 the government decided to offer to some fishers who were fishing for cod in the closed area of the Baltic Sea to scrap their vessel for a compensation. Approximately four vessels decided to do so, but due to secrecy it cannot be reported or presented in this report. 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.

Furthermore, in 2021 Swedish Agency for Marine and Water Agency initiated a large review of the economic data collection scheme. The review included both a thorough review of methodologies and data sources. The goal of the project is to have a recent review of the full data collection scheme to facilitate future needs in both national and international contexts as well as improve the data collection and/or econometric methods. The project will result in more robust models, data collection and thus analysis of the data, and continues during 2024.

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. For this year report (and also for 2021) the clustering has changed from previous reports due to the confidentiality of the economic information. The cluster DFNVL1218 is now included in the cluster DFNVL1012 because this cluster only contains five vessels. The same secrecy states for DTSVL40XX which, contains six vessels and are therefore included in DTSVL2440.

Additionally, the information on value quotas; value of fishing rights, income from leasing out fishing rights, and costs of renting fishing rights is not reported due to the collecting authority does not have the legal support to collect this information from the fisher. Within the project of reviewing the whole data collection scheme investigating what type of estimation of this information that would be suitable is included.

Furthermore, some of the point estimates of the data in this report are accompanied by a certain uncertainty, which is not presented. One example of a misinterpretation of the data quality could be regarding energy consumption and energy cost. In some years these two variables do not align, i.e. increased energy consumption yields higher total energy cost (controlled for price). For the record, this is not a matter of bad data quality but instead how it is reported, in this case without confidence interval.

Figure 4.27. 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 (euro/kg) of top species; variation in income variables and average prices of key input/outputs (2013=100). Nowcast figures for 2023 and 2024.

Data source: MS data submissions under the DCF 2023 Fleet Economic (MARE/A3/ASC(2023)); All monetary values have been adjusted for inflation; constant prices (2022).

5   Data Coverage and Quality

Data validation – AER Exercise

Quality and Coverage checking procedures on the data submitted under the 2023 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 24-03 virtual meeting on the 2024 Annual Economic Report of the EU fishing fleet, which took place during the week 08-12 April 2024.

Data issues on the economic variables

In terms of the completeness of the Member States data submissions, most countries submitted the majority of the parameters requested under the call. Malta did not provide economic data for 2022; therefore the 2021 data were used even for 2022, in order to complete the analysis at European and regional level.

Overall, the quality and coverage of data have been similar in the last 2 years. In many cases missing data relate 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 unreliable estimates for some variables were detected by the JRC or the EWGs 24-03/24-07 and in most cases rectified by the Member States. However, some quality issues remain outstanding, and they are described in the national chapters.

Incomplete time series data due to either the non-submission of data, questionable data and/or changes in the methodologies in the data collection and data processing, make trend analysis at the EU level impossible without excluding the Member State fleets that are incomplete. In particular, the data submitted for the Greek fishing fleet for the period 2018-2022 was deemed fit for purpose; Greece is therefore included in all EU level analyses for the period 2018-2022.

The main data issues relate to: i) some Member States continue to have problems in collecting comprehensive data sets for the under 10 metres segments; ii) discontinuity in time series for the outermost regions due to changes in methodologies and missing data collection for certain years/segments.

Member State specific data issues and developments

Although the coverage and quality of the data submitted by Member States has remained stable in the last 2 years, some data issues remain. These include the following:

Belgium: No major data transmission issues to report. However, anomalous trends of some variables (i.e. operating subsidies, investments) are identified due to changes in the questionnaires

in 2017 and 2018. Capital value and capital cost variables for inactive vessels are not known (refusal respond rate of 100%).

Bulgaria: No data transmission issues to report.

Croatia: The majority of small-scale vessels included in the PGP segment, around 3 500 vessels, transferred into the commercial SSCF during 2015-2017, fall under a special commercial category, i.e. mali obalni ribolov, MOR, according to national legislation. Although the landing value is estimated for these vessels, most MOR vessels cannot place their catch on the market due to national legislation in force. Therefore, economic indicators for the PGP segment should be taken with caution.

Cyprus: No major data transmission issues to report. Only partial data reported for PS VL2440 due to confidentiality (one vessel).

Denmark: Capital value and capital cost variables for inactive vessels are not reported.

Estonia: No data transmission issues to report. However, time series are not consistent over time because of a change in the data collection which occurred in 2018. Moreover, for confidentiality reasons, Estonia only provides data for its Baltic Sea fleet. i.e., only capacity data are provided for the distant water fleet.

Finland: No major data transmission issues to report. 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 methodological changes.

France: Data issues are reported for fleet segments operating in outermost regions. Estimation of economic data has been calculated for less than 10 metres in Martinique for only 2010 and 2021 and in Mayotte from 2015 to 2021. Estimation for less than 12 metres fleet in La Reunion Island has been calculated since 2019. Economic data are not complete because data is missing for a fleet segment in French Guiana.

Germany: No major data transmission issues to report. The German fishing fleet contains a small number of pelagic vessels which are owned mainly by one company and are hence subject to confidentiality. In 2023, the related company gave permission to publish the data for 2021 onwards. Therefore, the data for recent years are comprehensive, but the time series is interrupted. In addition, there is a break in the time series of employment data because from 2020 employment and demographic data are no more estimated, but they are exhaustively available from the totals from the Employer's Liability Insurance Association.

Greece: Complete data sets were provided for 2022. Major data transmission issues remain for the years before 2018.

Ireland: The effort data in the tables and graphs is not complete for some segments less than 10m due to the lack of logbook data for these segments. Specifically, from 2015 onwards, effort is only reported for less than 10m for the segments DRB and FPO. Subsidies data includes EMFAF funding programmes administered by BIM, Ireland's Seafood Development Agency. Fishers may also be receiving subsidies from other state agencies such as Enterprise Ireland or Údarás na Gaeltachta but these are unknown and not reported.

Italy: No data transmission issues to report.

Latvia: Due to methodological improvements in 2010 and 2018, a break in time series is detected for capital value and capital costs. For confidentiality reasons. Latvia does not provide economic data on its distant water fleet operating in the Atlantic Area 27 (NEAFC) and Area 34 (CECAF).

Lithuania: No major data transmission issues to report.

Malta: Malta submitted only partial data on landings and effort and no economic data for 2022.

The Netherlands: 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. 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. Those prices probably underestimate the value of landings of pelagic fish.

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). Due to a change in methodology of reporting capacity, 2017 onwards figures are not fully comparable with the earlier years.

Portugal: In 2022 the Azores operational subsidies reported by Portugal are much lower when compared with the previous year, which may indicate some incomplete data.

Romania: No major data transmission issues to report.

Slovenia: No major data transmission issues to report.

Spain: Important differences between the value of landings and gross value of landings in some segments can be observed. The reason is because the gross value of landed is obtained from statistical sampling, while the value of landings is obtained by the sales notes. Work is in progress with the statistical unit to improve coherence between Value of landing and Gross value of landing.

Sweden: value quotas; value of fishing rights, income from leasing out fishing rights, and costs of renting fishing rights have not been reported.

Abbreviations

European Member States

BEL	BE	Belgium	IRL	IR	Ireland
BGR	BG	Bulgaria	ITA	IT	Italy
CYP	CY	Cyprus	LTU	LT	Lithuania
DEU	DE	Germany	LVA	LV	Latvia
DNK	DK	Denmark	MLT	MT	Malta
ESP	ES	Spain	NLD	NL	Netherlands
EST	EE	Estonia	POL	PL	Poland
EU	EU	European Union	PRT	PT	Portugal
FIN	FI	Finland	ROU	RO	Romania
FRA	FR	France	SVN	SV	Slovenia
GRC	EL	Greece	SWE	SE	Sweden
HRV	HR	Croatia			

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 operations

SSCF	Small-scale
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 Tunas

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 21   Atlantic. Northwest

FAO area 27   Atlantic. Northeast

FAO area 31   Atlantic. Western Central

FAO area 34   Atlantic. Eastern Central

FAO area 37   Mediterranean and Black Sea

FAO area 41   Atlantic. Southwest

FAO area 47   Atlantic. Southeast

FAO area 48   Atlantic. Antarctic

FAO area 51   Indian Ocean. Western

FAO area 57   Indian Ocean. Eastern

FAO area 58   Indian   Ocean.

FAO area 61   Pacific. Northwest

FAO area 67   Pacific. Northeast

FAO area 71   Pacific.   Western

FAO area 77   Pacific.   Eastern

FAO area 81   Pacific. Southwest

FAO area 87   Pacific. Southeast

FAO area 88   Pacific. Antarctic

Source: http://www.fao.org/fishery/area/
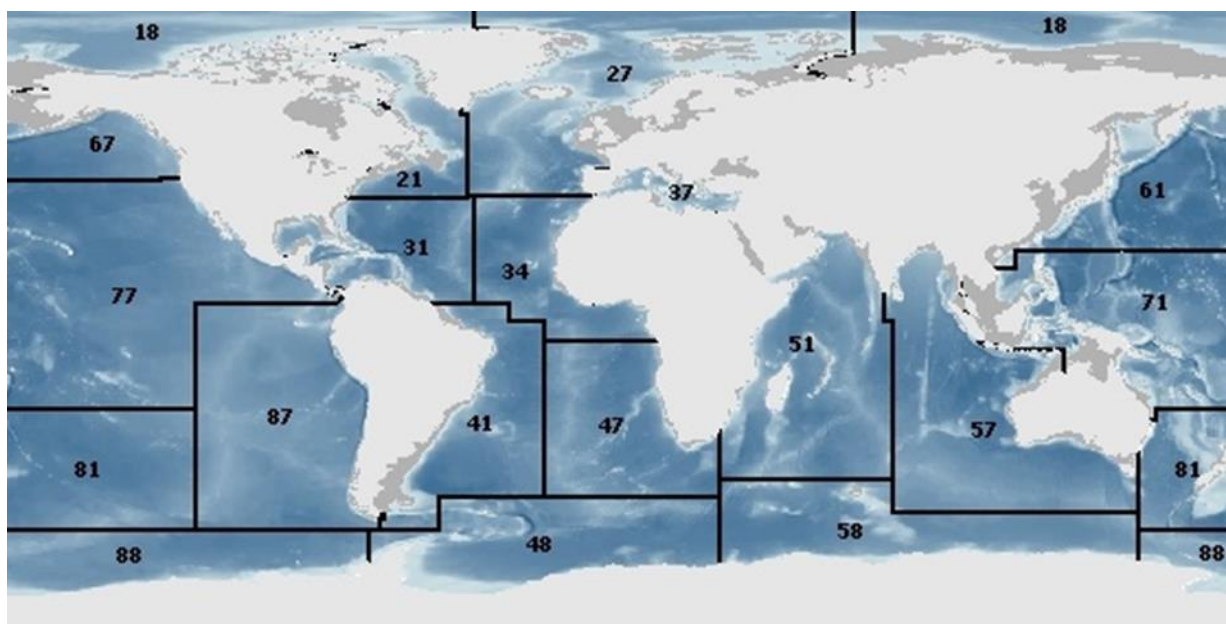
General Fisheries Commission for the Mediterranean (GFCM) Geographical subareas (GSAs)

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
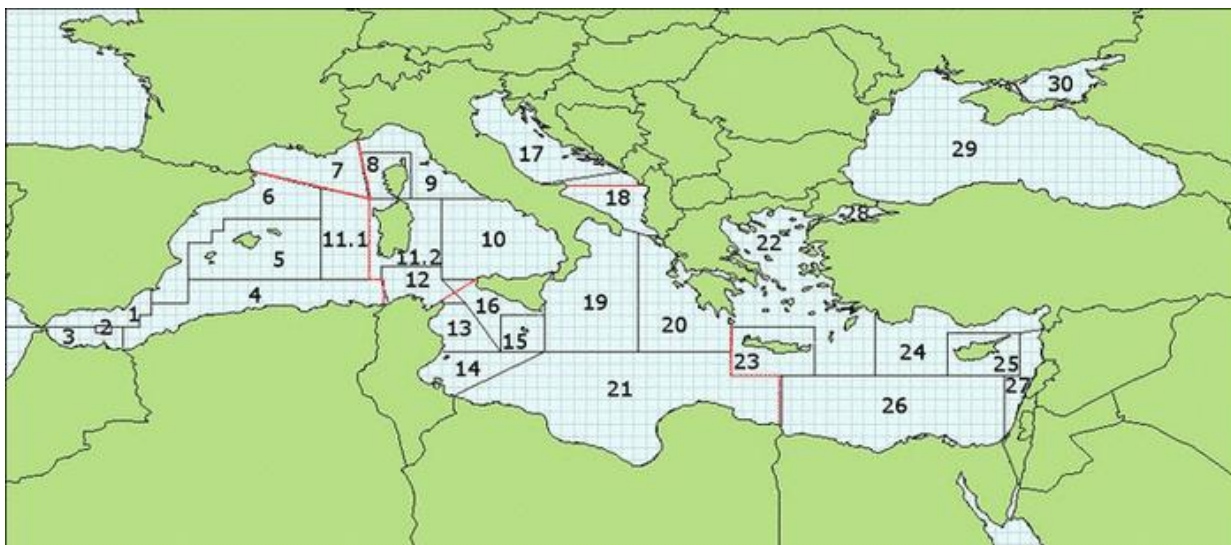
Glossary

Revenue

Revenue – the value of production (sale of landed seafood products) and income generated from the use of the vessel in other, non-commercial fishing activities, such as recreational fishing, transport, tourism, oil rig duty, research, etc., may also include insurance payment for gear damage/loss /vessel. Income from direct subsidies and fishing rights are excluded.

Gross Value Added (GVA)

GVA - net output of a sector after deducting intermediate inputs from all outputs. It is a measure of the contribution to GDP made by an individual producer, industry or sector. The GVA indicator calculated in this report is similar but does not fully correspond to the Value added at factor cost of the Structural Business Statistics.

GVA to Revenue

GVA to revenue ratio – indicates the share of revenue that contributes to the economy through factors of production (returns to labour and returns to capital). Indicator is calculated as the ratio between GVA and revenue and expressed as a percentage.

Gross profit

Gross profit – the normal profit after accounting for operating costs, excluding capital costs. Also referred to as gross cash flow, i.e. the flow of cash into and out of a sector or firm over a period of time.

Gross profit margin (%)

Gross profit margin - a measure of profitability that can be used to analyse how efficiently a sector is using its inputs to generate profit. Calculated as the ratio between gross profit and revenue. Expressed as a percentage.

Gross profit margin indicates the normal profitability of a firm and is of most interest to fishers as it represents the share of income they are left with at the end of the year. For managers, it may be used as an indication of the viability of an industry in terms of its commercial profitability by measuring the share of cash coming in and out of an industry. A high gross profit margin indicates that the sector has a low-cost operating model; reflects efficiency in turning inputs into outputs. A low percentage value can indicate a low margin of safety, i.e. a higher risk that declines in production or increases in costs may result in a net loss, or negative profit margin.

Net profit

Net profit is the difference between revenue and explicit costs and opportunity costs. Explicit costs include all operational costs, such as wages, energy, repair and other variable and non-variable costs. Net profit differs from gross profit in that it includes depreciation and opportunity costs of capital. It measures the efficiency of a producer in society's view by evaluating the total costs of inputs (excluding natural resource costs) in comparison to outputs or revenue.

Economic profit is the primary indicator of economic performance and is often used as a proxy of resource rent in fisheries. Economic profits emerge as the excess of revenue over the opportunity cost of producing the good. Also referred to as supernormal or abnormal profits. Abnormal profits in a sector is an incentive for other firms to enter the industry (if they can). Zero or a negative profit

margin may indicate high competition in the sector and can be used as one of the indicators of overcapacity.

Net profit margin (%)

Economic profit margin – a measure of profitability after all costs have been accounted for, and reflects the percentage of revenue that a sector retains as profit. It measures the relative performance of the sector compared to other activities in the economy and provides an indication of the sector's operating efficiency as it captures the amount of surplus generated per unit of production.

Operational profit

The Gross Profit minus the consumption of fixed capital is the Operational Profits. This indicator is used for the Fuel price break even calculations.

Labour productivity (GVA/FTE)

Labour productivity – defined as output per unit of labour. Calculated as GVA (measure of output) by full-time equivalent (FTE) employment (unit of labour input). Labour productivity can be used as a measure of economic growth, competitiveness, and living standards within a sector. An increase in labour productivity indicates that a unit of input labour 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.

Capital productivity

Capital productivity – the return of the investment divided by the cost of the investment, also referred to as ROI (Rate on Investment). It measures profits in relation to capital invested, i.e. indicates how profitable a sector is relative to its total assets. The higher the return, the more efficient the sector is in utilising its asset base.

As data on intangible assets (e.g. fishing rights, natural resource) are not always available in fisheries, the Return on Fixed Tangible Assets (ROFTA) is used as an approximation of ROI.

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List of Figures

List of Tables

List of Background Documents

Background documents are published on the EWG-24-03 meeting's web site on:

https://stecf.jrc.ec.europa.eu/ewg2403

Background documents are published on the EWG-24-07 meeting's web site on:

https://stecf.jrc.ec.europa.eu/ewg2407

EWG-24-03 – Declarations of invited and JRC experts (see also Annex 6 of this report – List of participants)

EWG-24-07 – Declarations of invited and JRC experts (see also Annex 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

List of Electronic Annexes

Electronic annexes are published on the meeting's web site on:
https://stecf.ec.europa.eu/reports/economic-and-social-analyses_en

List of electronic annexes documents:

EWG-24-07 – Annex 1 - STECF 24-07 - EU Fleet Economic and Transversal data.

Annex

Annex.1   Terms of Reference for STECF EWG-24-03 & 24-07

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 2024 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 were traditionally 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 as it was done successfully in the 2023 edition.

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 particular, the impacts of the prices for fuel, energy transition of the fleet, inflation and conservation measures). In addition to interpreting and explaining the quantitative results from the data collected and nowcasts, 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, in particular fuel prices and fuel efficiency; structural and marketing measures, market and trade determinants.

Special focus should be given to the energy transition of the EU fleets (trends in ratios of energy efficiency for the different fleet segments), economic benefits of MSY (such as analysis of causality between stocks exploited sustainably and the improvement in the performance of the fleets), status and recovery of important stocks and the implementation of other management measures and the role of the EMFAF support.

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. but without overlapping with the WG on social aspects.

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 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 summer plenary meeting in 2024.

Special requests / topics

The energy transition continues to be a topic of high policy relevance so that experts are requested to provide an indication of the main socio-economic impacts of fuel prices on the national fishing fleets, such as, fishing activity (fishing effort and production), employment and income loss, etc. These indications should help to fine-tune the routine nowcasting exercise to estimate the performance of fishing fleets. The nowcasting will be done by region and fishing fleet category.

The experts are requested to produce a break-even revenue analysis in relation to fuel prices for the main fleet segments of the EU fishing fleet. Short-term and long-term break-even revenue.

Fuel usage will be measured in two ways for all EU fishing fleets: 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 (%).

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 2024 AER

STECF is requested to provide the Annual Economic Report on EU fishing fleets for 2023 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 2023 and 2024 (nowcasts).

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 section on the small-scale coastal and distant-water fleets (key socioeconomic indicators) where relevant, as well as the main drivers affecting profitability of the fishing fleets.

4. Annexes

To include sections on: Methodologies, data transmission issues, definitions, glossary, etc.

Structure, workflow and outputs of the EWGs

Following the 2024 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 2022, and where possible, 2023 and beyond.

Economic data series will be available up to 2022, with some provisional data up to 2023. As these data will be outdated by the time the report is published in July-August 2024, experts should provide indication on the main factors affecting the indicators used for the "nowcast" estimations (i.e. for 2023 and 2024). This becomes paramount in the current economic situation with high fuel prices.

The first EWG will focus primarily on data quality and coverage. EWG 24-03 will produce final draft national chapters, the formulation of which constitutes an integral part of the data checking process.

The second meeting (EWG 24-07) 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.

The specific objectives and priorities for the two working groups are described below.

EWG 24-03 (AER 1)

The first AER STECF EWG meeting should lead to a data quality check 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 data issues not covered by EWG 24-03 will be followed up by EWG 24-07. This may occur if MS submit revised data after EWG 24-03. 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.

The European Commission has requested STECF to deliver an analysis of the socio-economic impacts of Vulnerable Marine Ecosystems (VMEs). As preparation for this analysis, EWG 24-03 should assess the possibility to provide cost data specifically for deep-sea vessels for the Member States affected by VME closures.

Routine tasks AER 1

- Experts should check national data (national totals and fleet segment) and preliminary disaggregated regional data prepared by the JRC while producing their national chapters.

- National chapters should include a section on the impacts of high fuel prices and energy transition aspects.

- 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 2023 and 2024 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 2022 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/ EMFAF)

- Assessment of the economic performance for 2023 and 2024 (nowcasts)

    - Impact of the fuel prices/indicators on energy efficiency by fleet segments

- 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 2022; how they compare to previous year's results (improvement/deterioration, etc.) and expected outcomes for 2023/2024.

EWG 24-07 (AER 2)

EWG 24-07 will continue from EWG 24-03 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 2023 and 2024, where possible, will be completed and incorporated into the EU overview and national chapters.

Routine tasks AER 2

- Nowcasts for 2023 and 2024 should be updated and completed with the latest available information.

- National chapters should be finalised with nowcasts for 2023 and 2024.

- Regional analyses

- EU overview completed with main drivers and trends and nowcasts for 2023 and 2024 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 RFMO (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 2023 and 2024;

- Final EU overview chapter with nowcasts for 2023 and 2024;

- Final Regional chapters;

- Outline of the current socio-economic impacts of fuel prices and trends in energy efficiency of the EU fleets;

- 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 2017-2024 (EU-MAP).

The 2024 call requested data for the years 2022 and 2023. Fleet capacity data were requested up to and including 2023, while fishing activity (effort and landings), employment and economic parameters were requested up to and including 2022. Additionally, income from landings and several effort and landings variables were requested for 2023 (non-mandatory) to allow for economic performance nowcasts to be estimated at fleet segment and national level for 2023 and 2024.

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).

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:

- Malta provided only partial data in the 2024 data call. For completeness of the EU and regional overviews the EWG 24-07 decided to use 2021 values for this Member State as 2022 values. This, affects the EU overview and the Mediterranean regional chapter. Malta's National chapter has, no been updated to 2022.

- 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 the analyses for 2018, 2019, 2020, 2021 and 2022 years and has been excluded from all aggregated time series analyses over the period 2013-2022. The analysis of European Small Scale Coastal Fleet includes Greek data and therefore, the time series analysis has been restricted to the period 2018-2022.

- 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.

- United Kingdom fleet segments have not been included in the analysis.

- As a Member State that entered the EU in 2013, 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 2008-2022 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.

Annex.2   Economic Performance Indicators Estimation

From the data submitted by MS, indicators were calculated in order to assess the economic performance of fleet segments, national fleets, regional fleets and the EU fleet as a whole.

In order to account for inflation over the given time-period, all nominal values (i.e., the actual price in a given year) were converted to real values before estimating indictors.

For this conversion from nominal to real values, a Consumer Price Index (CPI) 'deflator' for each MS was applied to nominal values. Annual CPI data from taken from Eurostat's time-series of harmonised CPI http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database.

$$Real\ value\ _i = \frac{Nominal\ value_i}{\frac{CPI_i}{CPI_{2022}}}$$

where i represents the year for which the nominal value is converted into 2022 real value

All values in this report are therefore given in real 2022 EUR, rather than nominal EUR.

For economic performance calculations the following formulas were used:

Total Income

Total Revenue = Income from landings + income from fishing rights + other income + direct subsidies

Revenue

Revenue = Income from landings + other income

Gross Value Added (GVA)

GVA = Income from landings + other income – energy costs – repair costs – other variable costs – non variable costs

Net Value Added (NVA)

NVA = Income from landings + other income – energy costs – repair costs – other variable costs – non variable costs – depreciation cost.

Gross Profit (GRP)

GRP = Income from landings + other income – crew costs – unpaid labour - energy costs – repair and maintenance costs – other variable costs – non variable costs

Net Profit/Loss

Net Profit = Income from landings + other income – crew costs – unpaid labour - energy costs – repair costs – other variable costs – non variable costs – depreciation cost – opportunity cost of capital

Where opportunity cost of capital = fixed tangible asset value * 3.5%

Rate of Return on Fixed Tangible Assets (RoFTA)

RoFTA = (net profit + opportunity cost of capital) / tangible asset value (vessel depreciated replacement value)

Rate of Return on Investment (RoI)

RoI = (net profit + opportunity cost of capital) / capital asset value

Where net profit is calculated as:

Net Profit = Income from landings + other income + income from fishing rights – crew costs – unpaid labour - energy costs – repair costs – other variable costs – non variable costs – fishing rights costs – depreciation cost – opportunity cost of capital

And capital asset value as:

Capital asset value = vessel depreciated replacement value + estimated value of fishing rights

Break-even revenue (BER)

BER = (Fixed costs + opportunity costs of capital +depreciation) / (1-(crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs)/Revenue)

Revenue to Break-even Revenue Ratio (CR/BER)

CR/BER = revenue / break-even revenue = Income from landings + other income / BER

CR/BER gives an indication of the short-term profitability of the fleet/fleet segment (or over/under capitalised): if the ratio is greater than 1, then enough cash flow is generated to cover fixed costs (economically viable in the short term). If the ratio is less than 1, insufficient cash flow is generated to cover fixed costs (indicating that the segment is economically unviable in the short to mid-term).

For energy use and other productivity and efficiency indicators, the following formulas were used:

Energy use – fuel efficiency and intensity

Fuel intensity - quantity of fuel consumed per quantity of fish landed (litre per tonne),

Fuel efficiency – ratio between fuel costs and the income from landings expressed as a percentage (%).

Activity Level Indicator

The purpose of this descriptor/level of fleet identification is to provide an additional subordinate level of fleet definition according to the individual vessel activity characteristics where necessary. This approach enables the separate analysis the economic performance of the subsegments of vessels with low activity and those with normal and high activity. The data call template includes an extra column for voluntary reporting economic data by sub-segments featuring vessels with low activity (L) and those with normal and high activity (A).

Annex.3   Disaggregation of Economic Data at Sea Basin Level

Fleet economic data cannot be collected at higher resolution than defined in the DCF. Only landings (value and weight) and effort data (days-at-sea, fishing days, etc.) are provided by MS at the sub-region level by fleet segment. Therefore, the correlation with transversal data is the only viable way for disaggregating economic data at the sea basin level (Baltic Sea, North Sea, NE Atlantic, Mediterranean & Black Sea and Other Fishing Regions).

Several assumptions can be made based on correlations between transversal and economic data, which were previously examined during the PGECON workshop in Hamburg 2012. However, these analyses are still preliminary and considered as work in progress. PCEGON (2013) strongly recommended a study on the disaggregation that delivers a comprehensive analysis of different approaches and methods, while also addressing the availability of individual data which varies by MS.

This year, the effort based approach was again used to disaggregate economic data. Seeing that the methodology is still to be validated, this exploratory exercise set out to estimate the economic performance indicators at the sea basin level by MS and fleet segment.

For this exercise, transversal and economic data by fleet segment were disaggregated based on either the number of active vessels, value of landings or effort (days-at-sea), as:

(1) Number of vessels in region (N_{Reg}) – used to estimate fleet capacity, non-variable costs and capital costs (annual depreciation and opportunity costs of capital)

(2) Value of landings (VaL) – used to allocate income from landings;

(3) Effort in days-at-sea (DAS) – used to allocate all variable costs, including labour, energy, repair & maintenance, and fuel consumption. DAS was also used to estimate the number of vessels when N_{Reg} was not available.

The estimated number of vessels in the region (N_{Reg^*}) was calculated based on DAS and using the total number of vessels (N_{tot}), as:

$$N_{\mathrm{Re}\,g^*} = \frac{DAS_{\mathrm{Re}\,g}}{\sum DAS_{\mathrm{Re}\,g}} \times N_{Tot}$$

When available, the number of vessels operating in a given region (N_{Reg}) was used to disaggregate other capacity variables (GT and kW), as:

Gross tonnage (GT): $GT_{reg} = \dfrac{N_{\mathrm{Re}\,g}}{\sum N_{\mathrm{Re}\,g}} \times GT_{Tot}$, if N_{Reg} is missing, $GT_{reg} = \dfrac{GT_{Tot}}{N_{Tot}} \times N_{\mathrm{Re}\,g^*}$

Engine power (kW): $kW_{\mathrm{Re}\,g} = \dfrac{N_{\mathrm{Re}\,g}}{\sum N_{\mathrm{Re}\,g}} \times kW_{Tot}$, if N_{Reg} is missing, $kW_{reg} = \dfrac{kW_{Tot}}{N_{Tot}} \times N_{\mathrm{Re}\,g^*}$

The number of vessels in the region was also used to disaggregate employment, *other income* (OInc), *non-variable costs* and capital costs (*opportunity cost of capital* and *annual depreciation*), as:

Total employed (JOB): $JOB_{reg} = \dfrac{N_{\mathrm{Re}\,g}}{\sum N_{\mathrm{Re}\,g}} \times JOB_{Tot}$

Other income as: $\textit{Other Income}_{\text{Re}\,g}(OInc) = \dfrac{N_{\text{Re}\,g}}{\sum N_{\text{Re}\,g}} \times OInc_{tot}$

Opportunity cost of capital as: $\textit{Opportunity Cost of Capital}_{\text{Re}\,g}(OPC) = \dfrac{N_{\text{Re}\,g}}{\sum N_{\text{Re}\,g}} \times OPC_{tot}$

Annual Depreciation costs as: $\textit{Annual Depreciation Costs}_{\text{Re}\,g}(DEP) = \dfrac{N_{\text{Re}\,g}}{\sum N_{\text{Re}\,g}} \times DEP_{tot}$

Income from Landings was disaggregated based on the value of landings (VaL) in the region and the total value of landings for the fleet segment multiplied by Income:

Income from landings: $\textit{Landings Income}_{\text{Re}\,g}(LInc) = \dfrac{VAL_{\text{Re}\,g}}{\sum VAL_{\text{Re}\,g}} \times LInc_{Tot}$

If N_{Reg} is missing, $\textit{Landings Income}_{\text{Re}\,g}(LInc) = \dfrac{VAL_{\text{Re}\,g}}{VAL_{Tot}} \times LInc_{Tot}$

Crew wage (CW), unpaid labour, fuel costs (FC), repair & maintenance (REP) and other variables costs (VAR) were allocated based on effort (DAS) as:

Crew wages: $CW_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times CW_{Tot}$

Unpaid labour costs: $ULab_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times ULab_{Tot}$

Fuel costs: $FC_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times FC_{Tot}$

Repair costs: $REP_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times REP_{Tot}$

Other variable costs: $VAR_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times VAR_{Tot}$

This method was also used to disaggregate fuel consumption and employment.

Fuel consumption: $FCon_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times FCon_{Tot}$

Full Time Equivalent (FTE): $FTE_{reg} = \dfrac{DAS_{\text{Re}\,g}}{\sum DAS_{\text{Re}\,g}} \times FTE_{Tot}$

Annex.4   AER Nowcast Methodology

Context and background

EU member states (MS) submitted economic data (e.g. income from landings, fuel costs) and transversal data (e.g. number of vessels, days at sea) up to 2022 for the production of the 2024 Annual Economic Report on the EU Fishing Fleet (AER). Most MS also provided transversal data for 2023. This time-based data coverage has been the standard for the past several years of the AER, where submitted economic data has a two-year time lag and transversal data has a one or two-year time lag in relation to the publication date of the AER. This data lag occurs because data is collected, processed and quality checked at the MS level before submission to the DCF. To receive data for a particular year, for example 2023, it is necessary to wait until the end of the following year (e.g. 2024) to collect it.

To properly inform the management of EU fisheries, the most recent information on the economic performance of the EU fishing fleet is required. As such, the lag in data reporting presents a major challenge for the AER. To address this issue, estimates of recent economic performance of the EU fishing fleet are produced using 'nowcasting' techniques. This approach has been consistently used for more than a decade and follows standard practice in nowcasting by relating economic variables from the DCF with a time-lag to changes in other variables, typically from external sources, with more recent reporting.

Where no 2023 data was reported by MS, and for all 2024 data, explanatory variables that provide the most robust estimates for changes in time-lagged economic variables were used to generate nowcasts. The robustness of different transversal variables (e.g. number of vessels, days at sea, and value of landings) was investigated by a modelling sub-group during the 2017 AER EWG for their explanatory power of other, generally economic variables that are not yet reported (e.g. employment, income, and input costs). Further testing of nowcasting accuracy was conducted by a modelling sub-group during the 2018 AER EWG.

For most variables, the same nowcasting methodology was used for fleet segments operating in the Northeast Atlantic (NAO), the Mediterranean and Black Sea (MBS), and other fishing regions (OFR). However, for some variables (landings weight, energy cost, other variable costs, FTE employment) different relationships were used for the NAO fleet segments to those in the MBS and OFR. The reason for this divergence in methodology is that total allowable catches (TACs) -- a key driver for fishing behaviour in the NAO -- are reported for both t+1 and t+2. This extra information, as well as biomass estimates for t+1 and quota uptake for TAC species, are used to improve the nowcasting accuracy for fleet segments operating in the NAO. Where there was no significant difference in explanatory power across the regions, a consistent methodology was used.

In the following section, the nowcasting equations apply across all regions and fleet segments unless otherwise indicated. The nowcasts for MBS and OFR fleet segments were completed by the JRC directly through the DCF database, whereas the nowcasts for NAO fleet segments were completed using the BEMEF during the AER working group meetings. Note that in this section, 't' refers to 2022, 't+1' to 2023, and 't+2' to 2024. This typology allows the equations to follow the more familiar format for data forecasting.

Nowcasting methodology

In the general case of the nowcasting methodology, a variable "A" in year t+1 is estimated by the same variable "A" in year t and the change variable "B" between year t and t+1, when the value for variable "B" in year t+1 is known. Thus, the following general formulation is used:

$$A_{t+1} = A_t \frac{B_{t+1}}{B_t} \text{ (eq. 1a)}$$

Where data for variable "A" is already reported in the DCF for t+1, this data is automatically selected rather than the nowcasting estimation. Unless otherwise noted (generally for the TAC-based equations), the relation between t+2 and t+1 is identical to the relation between t+1 and t.

Nowcasting relations

Landed weight (MBS and OFR fleet segments)

$$Landed\_weight_{t+1,f} = Landed\_weight_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \text{eq. 2a)}$$

$$Landed\_weight_{t+2,f} = Landed\_weight_{t+1,f} \text{ (eq. 2b)}$$

Where f represents a fleet segment

Where m represents an EU member state

Where l represents a length class

The number of vessels for t+1 is based on the change in the *number of vessels* from one year to the other, obtained from the evolution of active vessel in the EU Fleet Register.

Landed weight (NAO fleet segments)

$$TAC\_Landings_{t+1,f} = TAC_{t+1}Relative\_stability_m Swaps_{t,m} Uptake_{t+1,m} Segment\_Share_{t,f}$$

$$\text{(eq. 2c)}$$

$$Non\_TAC\_Landings_{t+1,f} = Non\_TAC\_Landings_{t,f} \frac{Sea\_days_{t+2,f}}{Sea\_days_{t+1,f}} \quad \text{(eq. 2d)}$$

$$Landed\_weight_{t+1,f} = TAC\_Landings_{t+1,f} + Non\_TAC\_Landings_{t+1,f} \quad \text{(eq. 2e)}$$

$$Landed\_weight_{t+2,f} = Landed\_weight_{t+1,f} \text{ (eq. 2f)}$$

The TACs are reported in Council regulations and relative stability is calculated as the relative shares in year t. Quota swaps were calculated using the difference with adapted quota in the FIDES dataset, which also indicated quota uptake. However, this dataset has not been made available since 2020 and thus could not be used for the nowcasting of 2023 and 2024. Fleet segment share is calculated based on the DCF landings.

Sea days (NAO fleet segments)

$$Sea\_days_{t+1,f} = Sea\_days_{t,f} \left(\left(\sum \left(\frac{TAC\_Landings_{t,f,a} Price_{t+1,f,s}\theta_{f,a}}{\sum TAC\_Landings_{t,f,a} Price_{t,f,s}\theta_{f,a}} \left(\frac{TAC_{t+1,f,a}}{TAC_{t,f,a}} \right)^{\chi_a} \left(\frac{SSB_{t+1,f,a}}{SSB_{t,f,a}} \right)^{-\gamma_a} \right) - \right.$$

$$\left. 1 \right) \frac{TAC\_Landings_{t,f}}{Landings\_weight_{t,f}} + 1 \right) \quad \text{(eq. 3a)}$$

$$Sea\_days_{t+2,f} = Sea\_days_{t+1,f} \quad \text{(eq. 3b)}$$

Where a represents a total allowable catch (TAC)

Where s represents a TAC species

Where θ represents a fleet segment effort driver for the TACs that influence fishing activity

Where x represents an activity-landing flexibility rate (1/catch-effort coefficient)

Where γ represents an activity-stock flexibility rate (stock-catch coefficient/catch-effort coefficient)

Effort drivers were defined as a function of percentage catch composition and quota uptake and confirmed or adjusted by member state experts. Stock-catch coefficients are set at 0.8 for demersal species and 0.1 for pelagic species. Catch-effort coefficients are set at 1 as a default parameter (constant catch per unit effort). Spawning stock biomass (SSB) data comes from ICES stock assessments. For the Baltic Sea stocks, SSB is available to year t+1, whereas the North Sea and North Atlantic stocks are only available to year t.

Landed value (MBS and OFR fleet segments)

$$Landed\_value_{t+1,f} = Landed\_value_{t,f} \frac{Landed\_weight_{t+1,f}}{Landed\_weight_{t,f}} \frac{Fish\_price_{t+1,m}}{Fish\_price_{t,m}} \qquad \text{(eq. 4a)}$$

$$Landed\_value_{t+2,f} = Landed\_value_{t+1,f} \frac{Landed\_weight_{t+2,f}}{Landed\_weight_{t+1,f}} \frac{Fish\_price_{t+2,m}}{Fish\_price_{t+1,m}} \qquad \text{(eq. 4b)}$$

Landed value (NAO fleet segments)

$$Landed\_value_{t+1,f} = Landed\_value_{t,f} \frac{Landed\_weight_{t+1,f}}{Landed\_weight_{t,f}} \frac{Fish\_price_{t+1,m,s}}{Fish\_price_{t,m,s}} \qquad \text{(eq. 4c)}$$

$$Landed\_value_{t+2,f} = Landed\_value_{t+1,f} \frac{Landed\_weight_{t+2,f}}{Landed\_weight_{t+1,f}} \frac{Fish\_price_{t+2,m,s}}{Fish\_price_{t+1,m,s}} \qquad \text{(eq. 4d)}$$

Fishing income (All fleet segments)

$$Landed\_income_{t+1,f} = Landed\_income_{t,f} \frac{Landed\_value_{t+1,f}}{Landed\_value_{t,f}} \qquad \text{(eq.5a)}$$

$$Landed\_income_{t+2,f} = Landed\_income_{t+1,f} \frac{Landed\_value_{t+2,f}}{Landed\_value_{t+1,f}} \qquad \text{(eq.5b)}$$

Other income (All fleet segments)

$$Other\_income_{t+1,f} = Other\_income_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 6a)}$$

$$Other\_income_{t+2,f} = Other\_income_{t+1,f} \frac{Number\_vessels_{t+2,m,l}}{Number\_vessels_{t+1,m,l}} \qquad \text{(eq. 6b)}$$

For the few fleet segments that do not report costs (most notably DEU TM40XX), landings income is not reported based on landings value as it would skew the economic indicators (e.g. gross profits).

FTE (MBS and OFR fleet segments)

$$FTE_{t+1,f} = FTE_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 7a)}$$

$$FTE_{t+2,f} = FTE_{t+1,f} \qquad \text{(eq. 7b)}$$

FTE (NAO fleet segments)

$$FTE_{t+1,f} = FTE_{t,f} \frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \text{(eq. 7d)}$$

$$FTE_{t+2,f} = FTE_{t+1,f} \frac{Sea\_days_{t+2,f}}{Sea\_days_{t+1,f}} \quad \text{(eq. 7e)}$$

Crew costs (All fleet segments)

$$\left(Crew\_wages_{t+1,f} + Unpaid\_labour_{t+1,f}\right) = \left(Crew\_wages_{t,f} + Unpaid\_labour_{t,f}\right) \frac{Landed\_value_{t+1,f}}{Landed\_value_{t,f}} \quad \text{(eq. 8a)}$$

$$\left(Crew\_wages_{t+2,f} + Unpaid\_labour_{t+2,f}\right) = \left(Crew\_wages_{t+1,f} + Unpaid\_labour_{t+1,f}\right) \frac{Landed\_value_{t+2,f}}{Landed\_value_{t+1,f}} \quad \text{(eq. 8b)}$$

Energy consumption (MBS and OFR fleet segments)

$$Energy\_consumption_{t+1,f} = Energy\_consumption_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 9a)}$$

$$Energy\_consumption_{t+2,f} = Energy\_consumption_{t+1,f}) \text{ (eq. 9b)}$$

Energy consumption (NAO fleet segments)

$$Energy\_consumption_{t+1,f} = Energy\_consumption_{t,f} \frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \quad \text{(eq. 9c)}$$

$$Energy\_consumption_{t+2,f} = Energy\_consumption_{t+1,f} \frac{Sea\_days_{t+2,f}}{Sea\_days_{t+1,f}} \text{(eq. 9d)}$$

Energy costs (All fleet segments)

$$Energy\_costs_{t+1,f} = Energy\_costs_{t,f} \frac{Energy\_consumption_{t+1,f}}{Energy\_consumption_{t,f}} \times \frac{Fuel\_price_{t+1,m}}{Fuel\_price_{t,m}} \text{ (eq. 10a)}$$

$$Energy\_costs_{t+2,f} = Energy\_costs_{t+1,f} \frac{Energy\_consumption_{t+2,f}}{Energy\_consumption_{t+1,f}} \times \frac{Fuel\_price_{t+2,m}}{Fuel\_price_{t+1,m}} \text{ (eq. 10b)}$$

Fuel prices are obtained from EUMOFA website for each Member State.

Other variable costs (MBS and OFR fleet segments)

$$Other\_variable\_costs_{t+1,f} = Other\_variable\_costs_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \quad \text{(eq. 11a)}$$

$$Other\_variable\_costs_{t+2,f} = Other\_variable\_costs_{t+1,f} \text{ (eq. 11b)}$$

Other variable costs (NAO fleet segments)

$$Other\_variables\_costs_{t+1,f} = Other\_variable\_costs_{t,f} \frac{Sea\_days_{t+1,f}}{Sea\_days_{t,f}} \quad \text{(eq. 11c)}$$

$$Other\_variables\_costs_{t+2,f} = Other\_variable\_costs_{t+1,f} \frac{Sea\_days_{t+2,f}}{Sea\_days_{t+1,f}} \text{ (eq. 11d)}$$

For following fixed cost relations, the same approach is taken for NAO and MBS/OFR fleet segments.

Repair and maintenance costs (All fleet segments)

$$Repair\_costs_{t+1,f} = Repair\_costs_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 12a)}$$

$$Repair\_costs_{t+2,f} = Repair\_costs_{t+1,f} \frac{Number\_vessels_{t+2,m,l}}{Number\_vessels_{t+1,m,l}} \qquad \text{(eq. 12a)}$$

Non-variable costs (All fleet segments)

$$Non\_variable\_costs_{t+1,f} = Non\_variable\_costs_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 13a)}$$

$$Non\_variable\_costs_{t+2,f} = Non\_variable\_costs_{t+1,f} \frac{Number\_vessels_{t+2,m,l}}{Number\_vessels_{t+1,m,l}} \qquad \text{(eq. 13b)}$$

Investment (All fleet segments)

$$Investment_{t+1,f} = Investment_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 14a)}$$

$$Investment_{t+2,f} = Investment_{t+1,f} \frac{Number\_vessels_{t+2,m,l}}{Number\_vessels_{t+1,m,l}} \qquad \text{(eq. 14b)}$$

Depreciation (All fleet segments)

$$Depreciation_{t+1,f} = Depreciation_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 15a)}$$

$$Depreciation_{t+1,f} = Depreciation_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 15b)}$$

Assets value (All fleet segments)

$$Asset\_value_{t+1,f} = Asset\_value_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 16a)}$$

$$Asset\_value_{t+2,f} = Asset\_value_{t+1,f} \frac{Number\_vessels_{t+2,m,l}}{Number\_vessels_{t+1,m,l}} \qquad \text{(eq. 16b)}$$

Opportunity cost of capital (All fleet segments)

$$Opportunity\_cost_{t+1,f} = Asset\_value_{t+1,f} 3.5\% \qquad \text{(eq. 17a)}$$

$$Opportunity\_cost_{t+2,f} = Asset\_value_{t+2,f} 3.5\% \qquad \text{(eq. 17b)}$$

Total employed (MBS and OFR fleet segments)

$$Employment_{t+1,f} = Employment_{t,f} \frac{Number\_vessels_{t+1,m,l}}{Number\_vessels_{t,m,l}} \qquad \text{(eq. 18a)}$$

$$Employment_{t+2f} = Employment_{t+1,f} \frac{Number\_vessels_{t+2,m,l}}{Number\_vessels_{t+1,m,l}} \qquad \text{(eq. 18b)}$$

Gross value added (GVA)

GVA = Landings income + Other Income – Energy costs – Repair and maintenance costs – Other variable costs – Non-variable costs   (eq. 19)

Gross profit

Gross profit is equal to the GVA minus the labour costs:

Gross profit = GVA – crew costs (eq. 20)

Resulting in:

Gross profit = Landings Income + Other Income – crew costs – unpaid labour – energy costs – Repair and maintenance costs – Other variable costs – Non-variable costs   (eq. 21)

Net profit

Net profit is equal to the gross profit minus the capital costs:

Net profit = Gross profit – Depreciation – Opportunity cost of capital   (eq. 22)

Resulting in:

Net profit = Landings income + Other income – Crew costs – Unpaid labour – Energy costs – Repair and maintenance costs – Other variable costs – Non-variable costs – Depreciation – Opportunity cost of capital   (eq. 23)

Annex.5   Opportunity Cost of Capital Estimation

Investments in natural resources constitute a small part of investment opportunities open to society. In any time period society's savings are finite and scarce in relation to society's investment opportunities, devoting part of society's savings to investment in natural resources comes with an opportunity cost –some other investment opportunities will have to be forgone.

The opportunity cost of capital is the forgone revenue by investing capital in the fisheries sector and not in a risk-free investment.

While the concept should be clear, its calculation has its controversy. The first element that should be understood is where it has implications, and they are mainly in the calculation of the net profit indicator.

The AER applies the following definition of the net profit:

> **Net profit$_{AER}$** = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs+ depreciation– opportunity cost of capital)

Since last year AER, the opportunity cost of capital has been calculated by multiplying the fixed tangible asset value by the "real interest", that is equal to $(r) = [(1 + i)/ (1 + π)] - 1$. Where i is the nominal interest rate of the Member State in the year concerned and $π$ is the inflation rate of the Member State in the year concerned.

However, the long debate on the appropriateness of this approach, that involved several STECF EWGs and plenaries, highlighted that the opportunity costs should not include the inflation rates, especially in the present situation where real interest rates are negative because of the high level of increasing inflation rates (see Figure A1). It was also considered that the opportunity costs should not be directly linked to financial interest rates but to future expectations on investments opportunities. Incorporating a financial metric, which is susceptible to fluctuations driven by various economic factors, introduces an external element into the calculation of net profit. This factor is not inherently tied to fishing activities nor correlated with fishing opportunities.

As a result of such debate, STECF PLEN 23-02 agreed that a methodological change for calculating opportunity cost of capital using a fixed rate would improve the interpretability of results and make the results less dependent on interest rate fluctuation and therefore easier to compare over time.

STECF PLEN 23-02 also suggested a rate between 3-4%. This range corresponds to the recommendation made by the EU Commission for the choice of discount rate used for Cost-Benefit analysis (Guide to Cost-Benefit Analysis of Investment Projects for Cohesion Policy 2014-2020, December 2014). It also aligns with scientific literature evaluating the choice of discounting rate (Hepburn et al 2009) and scientific articles in the field of fisheries economics (Kempf et al., 2016). Carvalho et al. (2021) assumed a 3.5% interest rate across countries to remunerate capital as a proxy of a risk-free investment (i.e., opportunity cost of capital). An opportunity cost of capital of 3.5% was also suggested by Liese et al (2023) in their study on evaluating a publicly owned natural resource at the aggregate industry level. In this study, the 3.5% rate is considered as a conservative value, that will allow not to penalize more capital-intensive fishery (like the Gulf of Mexico Reef Fish fishery and the S. Atlantic Snapper-Grouper fishery).

Figure A.1. Trend in real interest rate by MS

Trend in real interest rates
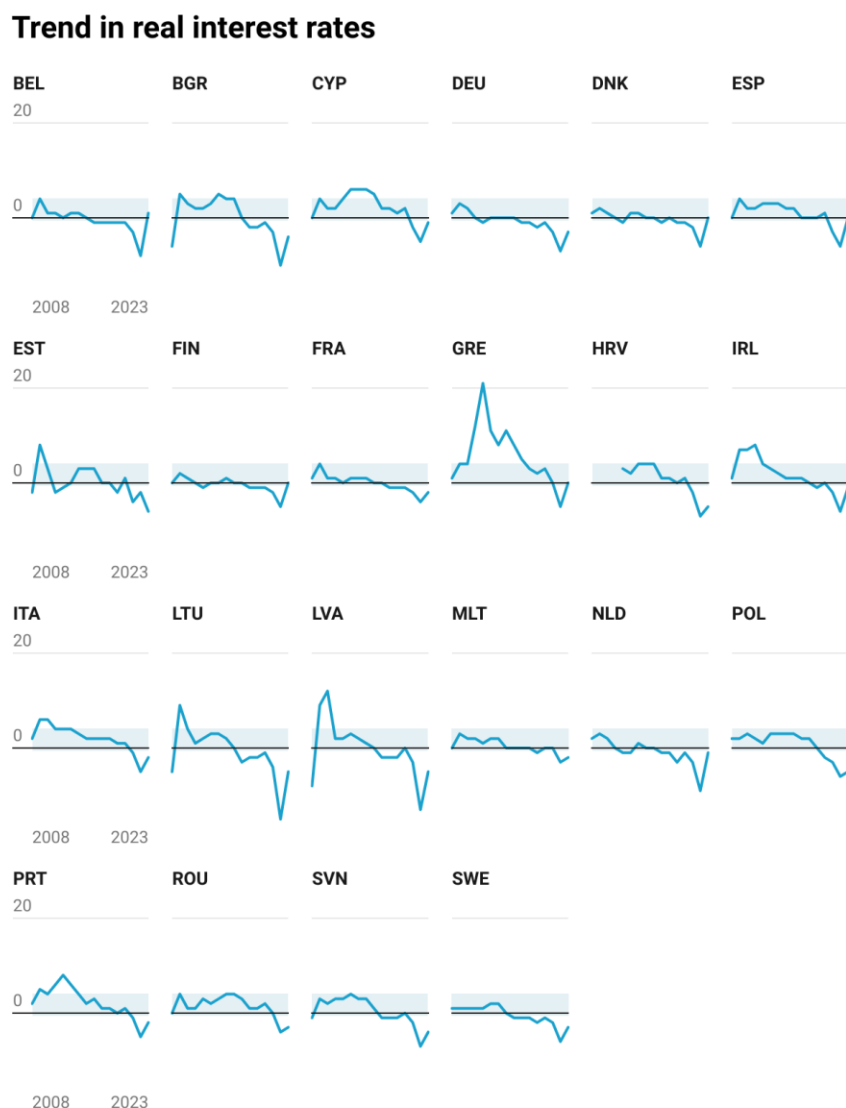
Implications of the new approach to the AER

The application of a fixed rate stabilizes the trend of the opportunity costs that will then be driven only by the trend in the estimated values of physical capital (see figure 2).

The net profit, calculated with the new approach for 2022, is lower for all the fleet segments, as the fixed rate is always higher than the real interest rates. But the magnitude of this difference (net profit at 3.5% – net profit at real interest rate) can fluctuate significantly due to the influence of the real interest rate (which ranged from –15.4% in Lithuania to –2.1% in Estonia in 2022) and the proportion of fixed capital consumption on overall capital (ranging from 0.4% in Slovenia to 26% in Italy in 2022).

Figure A.2. Trend in opportunity costs (at fixed rate and at real interest rates) million Euro, EU fleet
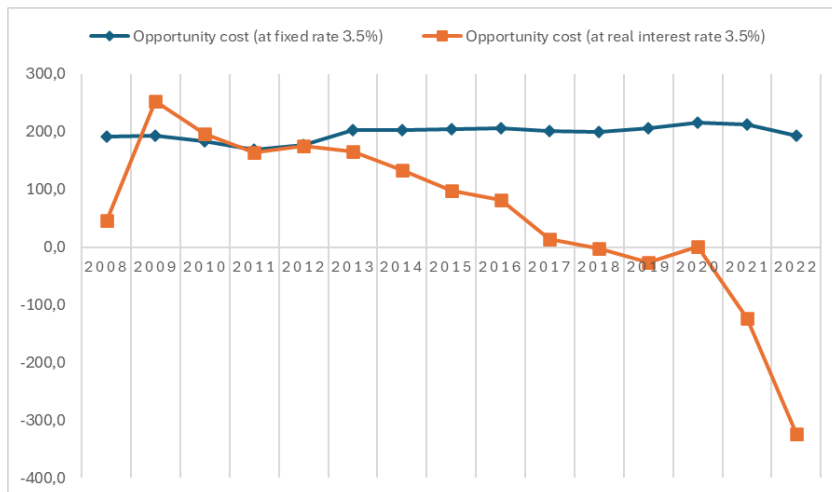
The implications of the new approach to the balance between fishing capacity and fishing opportunities

To assess the implications, we should follow the Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (Guidelines).

According to the Guidelines the economic indicators that should be calculated are:

Return on investment (Return on investment (RoI) compared to the potential return that would be received from investing the capital asset value elsewhere (long term viability). The guidelines for the balance indicators explain that "ROI for a fleet is the net profit (profit after capital stock depreciation) of the fleet divided by total capital asset value of the fleet".

ROI = Net profit / Capital asset value

Where:

Net profit$_{Guideliness}$ = (Income from landings + other income) − (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs+ depreciation)

Capital asset value = Vessel replacement value + estimated value of fishing rights

This implies that the opportunity cost of capital is not considered in the calculation and therefore, no implications can be derived in the calculation of this indicator.

It should be noted that in the AER 2024 the net profit differs from the definition above:

Net profit$_{AER}$ = *(Income from landings + other income) − (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs+ non variable costs+ depreciation− opportunity cost of capital)*

In economic terms, the net profit, as defined for the balance report, is actually an "operational" profit because it only includes depreciation costs, while the net profit is a long term view about expectations of future viability of the fleet. A positive net profit is essential for the long-term

sustainability of the activity, as it not only ensures that the company can cover its expenses but also provides a buffer for future investments and growth opportunities in line with sustainability goals.

According to the guidelines, ROI should be compared to the interest rate of a low risk long term investment (normally long term government bonds) and not to the 3.5% which will be the approach consistent with AER methodology.

Revenue/ break even revenue. The guidelines for the balance indicators explain that the ratio between current revenue and breakeven revenue (short term viability) is calculated as follows:

Ratio = (CR) / BER

Where:

BER = (Fixed Costs) / (1- [Variable costs / Current Revenue])

Where:

Variable costs = Crew costs + Unpaid labour + Energy costs + Repair and Maintenance costs +other variable costs

Fixed costs = Non variable costs + depreciation

CR = income from landings + other income

The calculation of the ratio as indicated above gives a short term view of financial viability. However, the guidelines also states that the MS could opt for providing an economic long term viability analysis of CR/BER. Doing so would require adding opportunity costs to fixed costs:

Fixed costs = Non variable costs + depreciation+ ***opportunity cost of capital***

Opportunity cost of capital *= capital asset value * low risk long term interest rate.*

In this case, the opportunity cost of capital, for consistency with the Guidelines should be considered using the same procedure as ROI, which as stated in the Guidelines is calculated using the interest rate of a low-risk long-term investment.

Annex.6   Contact Details of EWG 24-03 and 24-07 Participants

The 2024 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 08 to 12 of April (EWG 24-03) and 10 to 14 June (EWG 24-07). 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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