



JRC SCIENCE FOR POLICY REPORT

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

## The 2021 Annual Economic Report on the EU Fishing Fleet (STECF 21-08)

Edited by  
Raul Prelezo  
Natacha Carvalho  
Jarno Virtanen  
Jordi Guillen  
2021



This publication is a Science for Policy report by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The scientific output expressed does not imply a policy position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

#### Contact information

Name: STECF secretariat

Address: Unit D.02 Water and Marine Resources, Via Enrico Fermi 2749, 21027 Ispra VA, Italy

E-mail: [jrc-stecf-secretariat@ec.europa.eu](mailto:jrc-stecf-secretariat@ec.europa.eu)

Tel.: +39 0332 789343

#### EU Science Hub

<https://ec.europa.eu/jrc>

JRC126139

EUR 28359 EN

PDF ISBN 978-92-76-40959-5 ISSN 1831-9424 doi:10.2760/60996

---

STECF ISSN 2467-0715

Luxembourg: Publications Office of the European Union, 2021

© European Union, 2021



The reuse policy of the European Commission is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated. For any use or reproduction of photos or other material that is not owned by the EU, permission must be sought directly from the copyright holders.

All content © European Union, 2021

How to cite this report: Scientific, Technical and Economic Committee for Fisheries (STECF) - The 2021 Annual Economic Report on the EU Fishing Fleet (STECF 21-08), EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-40959-5, doi:10.2760/60996, JRC126139

## **Authors:**

### **STECF advice:**

Abella, J. Alvaro; Bastardie, Francois; Borges, Lisa; Casey, John; Catchpole, Thomas; Damalas, Dimitrios; Daskalov, Georgi; Döring, Ralf; Gascuel, Didier; Grati, Fabio; Ibaibarriaga, Leire; Jung, Armelle; Knittweis, Leyla; Kraak, Sarah; Ligas, Alessandro; Martin, Paloma; Motova, Arina; Moutopoulos, Dimitrios; Nord, Jenny; PELLEZO, Raúl; O'Neill, Barry; Raid, Tiit; Rihan, Dominic; Sampedro, Paz; Somarakis, Stylianos; Stransky, Christoph; Ulrich, Clara; Uriarte, Andres; Valentinsson, Daniel; van Hoof, Luc; Vanhee, Willy; Villasante, Sebastian; Vrgoc, Nedo.

### **EWG 21-03 and EWG 21-08 report:**

Experts: PELLEZO R.; Carvalho, N.; Andersen, J.; Avdic Mravlje, E.; Berkenhagen, J.; Cano, S.; Carpenter, G.; Davidjuka, I.; Fontaneda-López, I.; Garcia Caballero, E.; Guillen, J.; Guyader, O.; Hoekstra, G.; Ioannou, M.; Jackson, E., H., Kazlauskas E.; Keating, M.; Kuzebski, E.; Lees, J.; Mancebo-Robledo, C.M.; Minne, M-D.; Nicheva, S.; Pokki, H.; Ramos Do Ó, J.; Rodríguez, A.; Sabatella, R.; Sciberras, A.; Souffez, A.; Stroie, C.; Swahnberg, H.; Tzouramani, I.; Valiente Viana, M.; Verle, K.; Villasante, S.; Virtanen, J.; Vukov, I.; Zhelev, K.

# TABLE OF CONTENTS

---

<b>TABLE OF CONTENTS</b>	<b>4</b>
<b>SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) THE 2021 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET (STECF 21-08)</b>	<b>8</b>
<b>Request to STECF</b>	<b>8</b>
<b>STECF comments</b>	<b>8</b>
<b>STECF Conclusions</b>	<b>9</b>
<b>Contact details of STECF members</b>	<b>10</b>
<b>EXECUTIVE SUMMARY</b>	<b>13</b>
<b>EU 2019 MEMBER STATE FLEET SUMMARY REPORTS</b>	<b>18</b>
<b>EXPERT WORKING GROUP REPORT</b>	<b>20</b>
<b>1 INTRODUCTION</b>	<b>21</b>
<b>2 EU FLEET OVERVIEW</b>	<b>28</b>
2.1 Overview of the EU Fishing Fleet in 2019	36
<b>2.2 Economic Performance Indicators</b>	<b>42</b>
2.3 Resource Productivity and Efficiency	43
2.4 EU Small-Scale Coastal Fleet	47
2.5 EU Distant-Water Fleet and Outermost Region fleets	53
2.6 Demersal Trawlers and Seiners	54
2.7 Main drivers and trends affecting the economic performance of the EU fleet	62
2.8 Assessment for 2019 and outlook for 2020 and beyond	70
2.9 Trade and Cooperation Agreement (TCA) Assessment	75
<b>3 EU REGIONAL ANALYSIS</b>	<b>89</b>
3.1 North Sea & Eastern Arctic	90
3.2 Baltic Sea	102
3.3 North Western Waters	113
3.4 Southern Western Waters	124
3.5 Mediterranean Sea	136
3.6 Black Sea	149

<b>3.7 Other Fishing Regions (OFR)</b>	<b>159</b>
<b>3.8.1 EU Outermost Regions (OMR)</b>	<b>162</b>
<b>3.8.2 Long Distant Fisheries (LDF)</b>	<b>201</b>
<b>4 EU NATIONAL CHAPTERS</b>	<b>320</b>
<b>4.1 Belgium</b>	<b>320</b>
<b>4.2 Bulgaria</b>	<b>329</b>
<b>4.3 Croatia</b>	<b>337</b>
<b>4.4 Cyprus</b>	<b>346</b>
<b>4.5 Denmark</b>	<b>357</b>
<b>4.6 Estonia</b>	<b>365</b>
<b>4.7 Finland</b>	<b>370</b>
<b>4.8 France</b>	<b>377</b>
<b>4.9 Germany</b>	<b>388</b>
<b>4.10 Greece</b>	<b>399</b>
<b>4.11 Ireland</b>	<b>408</b>
<b>4.12 Italy</b>	<b>416</b>
<b>4.13 Latvia</b>	<b>424</b>
<b>4.14 Lithuania</b>	<b>432</b>
<b>4.15 Malta</b>	<b>440</b>
<b>4.16 Netherlands</b>	<b>450</b>
<b>4.17 Poland</b>	<b>461</b>
<b>4.18 Portugal</b>	<b>467</b>
<b>4.19 Romania</b>	<b>478</b>
<b>4.20 Slovenia</b>	<b>486</b>
<b>4.21 Spain</b>	<b>495</b>
<b>4.22 Sweden</b>	<b>505</b>
<b>5 DATA COVERAGE AND QUALITY</b>	<b>513</b>
<b>6 LIST OF PARTICIPANTS EWG 21-03 AND 21-08</b>	<b>515</b>
<b>7 LIST OF BACKGROUND DOCUMENTS</b>	<b>517</b>
<b>LIST OF TABLES</b>	<b>518</b>

<b>LIST OF FIGURES</b>	<b>521</b>
<b>ABBREVIATIONS</b>	<b>535</b>
<i>European Member States</i>	535
<i>Fishing Technologies – DCF categories</i>	535
<i>Fishing activity – scale of fishing operation</i>	535
<i>Fishing regions</i>	535
<i>Regional fisheries</i>	535
<i>Food and Agriculture Organization of the United Nations (FAO) Major Fishing Areas</i>	536
<i>General Fisheries Commission for the Mediterranean (GFCM) Geographical subareas (GSAs)</i>	537

## Abstract

In 2019, the EU fishing fleet numbered 73 983 vessels with a combined gross tonnage of 1.33 million tonnes and engine power of 5.3 million kilowatts. Based on data submitted by Member States under the EU MAP, there were 57 236 active vessels in 2019 offering direct employment to 129 540 fishers, corresponding to 92 298 FTEs; on average earning EUR 23 620 in wages, annually. The EU fleet spent 6.0 million days-at-sea and consumed 2.0 billion litres of fuel to land 4.05 million tonnes of seafood with a reported value of EUR 6.3 billion. The Gross Value Added (GVA) and gross profit (all excl. subsidies and fishing rights) were estimated at EUR 3.4 billion and EUR 1.25 billion, respectively. GVA as a proportion of revenue was estimated at 53% and gross profit margin at 20%. With a total net profit of almost EUR 0.6 billion in 2019, 9.0% of the revenue was retained as profit. These results indicate a deterioration compared to 2018 while nowcast estimates suggest that the performance of the EU fishing fleet will be moderately (if compared to 2019) and heavily (if compared to 2018) deteriorated in 2020 and 2021, although partially outweighed by the reduction in fuel costs in 2020. This publication includes: 1) a structural and economic overview of the EU fishing fleet in 2018 and trend analyses for the years 2008-2021 where possible (nowcasts for 2020 and 2021); 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 fishing fleet, including qualitative economic performance assessments for 2019 and nowcasts for 2020 and 2021.

## **SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) THE 2021 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET (STECF 21-08)**

### **Request to STECF**

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

### **STECF comments**

The EWGs 21-03 and EWG 21-08 took place virtually from 19-22 April (AER I) and 07-11 June 2021 (AER II). The first meeting was attended by 30 experts, the second was attended by 25. Both meetings were also attended by two STECF members, two experts from the European Commission's Joint Research Centre (JRC) and a focal person from DG MARE. During the meeting observers were present: one for first meeting (from the Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos in Portugal) and four during the second (two from the Market Advisory Council (MAC) and two from North Western Waters Advisory Council (NWWAC)). AER I focussed on the endorsement of the National data, the Regional data and the National chapters. AER II focused on the nowcast and forecast, the special topics (outline of the current socio-economic impacts of COVID-19 in EU fisheries and measures taken to mitigate the negative effects, the effects of the Trade and Cooperation Agreement (TCA) between the EU and the UK, fuel efficiency, providing aggregated data specifically on trawlers) as well as drafting of the regional chapters.

STECF observes that the division between the two EWG working groups, with each having specific sets of Terms of Reference, implemented in 2020 for the first time, provides for a more efficient analysis of the data at the second meeting. However, STECF notes that data issues were still dealt with during AER II. Although this is in cases unavoidable STECF stresses that this should be limited to the highest degree as it reduces the time available in this second meeting to produce the economic analysis of the data and therefore, the quality of the AER.

STECF observes that, although the coverage and quality of the data submitted by Member States have improved over the years, several data transmission issues remain (cf also EWG 21-09 and ToR 5.3 of this plenary 21-02 report). These data transmission issues are related to data availability of fleet segments under 10 metres or fleet segments with low vessel numbers for which data may be sensitive or hard to obtain. STECF notes that these issues are likely to persist in future releases of the AER.

STECF observes that there are some reoccurring data issues at the level of the regional data and the data for the outermost regions. The EWGs established that these data have however improved. In particular, an ad hoc contract addressed the methodological issues raised in 2020, and the EWG considered that the Long-Distance Fleet data are now of adequate quality to be useful in the analysis and can now be treated like the other regional data. For the EU Outermost Fishing Regions data though, these improvements are only partial, and caution remains for the interpretation of the trends displayed, especially for the French outermost regions.

STECF notes that new variables are now collected under EU-MAP (such as debt position and subsidies on investments), but not yet reported in the AER. New approaches will have to be developed on how to present, analyse and interpret these data. As time is a limiting factor during the AER EWGs, it appears this routine of analysing this new set of data should rather be developed intersessionally prior to the 2022 EWGs.

STECF observes that due to a delay in reaching TACs agreement for the stocks shared between the EU and the UK, the data on TACs final allocation for 2021 were received late (Friday before the meeting of AER II) which resulted in the preparation of the nowcast being severely delayed. In addition, and as already stated in 2020, STECF underlines that the nowcast model is designed to be used under stable market conditions, when TACs (and quota shares including quota swaps) are the main driver affecting supply. STECF acknowledges that these stable conditions were not met in 2020 (market channels were closed due to COVID 19 restrictions), and will neither be in 2021 (primarily due to quota swaps between Member States being likely reduced compared to previous years due to the TCA). STECF notes thus that the nowcast's outcomes should be interpreted with caution.

STECF notes that the AER provides a preliminary analysis of the economic impact of the quota transfers between the EU and the UK under the Trade and Cooperation Agreement (TCA). The EWG has only managed to look at the impact of these quota transfers for 2021, based on 2020 quotas. Under the TCA quota transfers to the UK will though continue up until 2025. Furthermore, in addition to the elements presented in the report, STECF underlines that there are other elements under the TCA Agreement relating to access arrangements, the management of non-quota species as well as associated management measures such as technical measures which will be discussed through the

Specialised Committee on Fisheries set up for the TCA. All these measures, combined with the reduced possibility for quota swaps between Member States and with the UK, will likely have profound impacts on the profitability of the fleets of some Member States. With the Brexit Adjustment Reserve, the EU Commission will provide Member States with financial aid to fund measures to adjust the national fleets to the changed conditions, especially the loss of their fishing opportunities and the changed conditions also for the shared stocks with Norway and the UK. Member States will be able to use the financial assistance for a variety of measures to adapt fishermen to the new situation under the TCA. The loss of fishing opportunities will most likely influence the balance between fleet capacity and fishing opportunities and, therefore, Member States may have to react on possible over-capacity in fleet segments; decommissioning schemes could be one of the adjustment measures taken. This development will be reflected in the 2022 Balance/Capacity report.

### **STECF Conclusions**

STECF concludes that the data presented in the AER report has been validated and is fit for purpose. The EWGs have addressed the TORs and STECF endorses the AER report. For the regional data and for the Long Distance Fleet the issues with methods to allocate the fleet segments to these regions have been solved and the AER provides a reliable overview of these segments. However, for the outermost regions, although improvements in the data quality has been observed, some data gaps still persist and will need to be addressed over the coming years.

STECF concludes that the Trade and Cooperation Agreement between the EU and the UK is likely to have profound impacts on the profitability of the fleets of some Member States and also affects the balance between fleet capacity and fishing opportunities. The 2021 nowcast presented in the 2021 AER did not take into consideration the likely changes in quota exchanges among Member States (swaps) due to the TCA. Hence the nowcast of the AER EWG in 2022 will more clearly reflect these impacts.

STECF concludes that two important issues require extra analysis, and would need to be addressed before the AER 2022: the development of a routine to analyse the new variables collected under the EU-MAP, and the realignment of the nowcast methodology to accommodate the current unstable conditions of the market and the uncertainty of the effect of management changes. These actions shall be implemented prior to EWG AER II 2022, preferably by intersessional ad-hoc contract.

**Contact details of STECF members**

<sup>1</sup> - Information on STECF members' affiliations is displayed for information only. In any case, Members of the STECF shall act independently. In the context of the STECF work, the committee members do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members 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>

<b>Name</b>	<b>Affiliation<sup>1</sup></b>	<b>Email</b>
Abella, J. Alvaro	Independent consultant	<a href="mailto:aabellafisheries@gmail.com">aabellafisheries@gmail.com</a>
Bastardie, Francois	Technical University of Denmark, National Institute of Aquatic Resources (DTU-AQUA), Kemitovet, 2800 Kgs. Lyngby, Denmark	<a href="mailto:fba@aqua.dtu.dk">fba@aqua.dtu.dk</a>
Borges, Lisa	FishFix, Lisbon, Portugal	<a href="mailto:info@fishfix.eu">info@fishfix.eu</a>
Casey, John	Independent consultant	<a href="mailto:blindlemoncasey@gmail.com">blindlemoncasey@gmail.com</a>
Catchpole, Thomas	CEFAS Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, UK, NR33 0HT	<a href="mailto:thomas.catchpole@cefasc.org.uk">thomas.catchpole@cefasc.org.uk</a>
Damalas, Dimitrios	Hellenic Centre for Marine Research, Institute of Marine Biological Resources & Inland Waters, 576 Vouliagmenis Avenue, Argroupolis, 16452, Athens, Greece	<a href="mailto:shark@hcmr.gr">shark@hcmr.gr</a>
Daskalov, Georgi	Laboratory of Marine Ecology, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences	<a href="mailto:Georgi.m.daskalov@gmail.com">Georgi.m.daskalov@gmail.com</a>
Döring, Ralf (vice-chair)	Thünen Institute [TI-SF] Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries, Economic analyses Herwigstrasse 31, D-27572 Bremerhaven, Germany	<a href="mailto:ralf.doering@thuenen.de">ralf.doering@thuenen.de</a>
Gascuel, Didier	AGROCAMPUS OUEST, 65 Route de Saint Briec, CS 84215, F-35042 RENNES Cedex, France	<a href="mailto:Didier.Gascuel@agrocampus-ouest.fr">Didier.Gascuel@agrocampus-ouest.fr</a>
Grati, Fabio	National Research Council (CNR) – Institute for Biological Resources and Marine Biotechnologies (IRBIM), L.go Fiera della Pesca, 2, 60125, Ancona, Italy	<a href="mailto:fabio.grati@cnr.it">fabio.grati@cnr.it</a>
Ibaibarriaga, Leire	AZTI. Marine Research Unit. Txatxarramendi Ugarteia z/g. E-48395 Sukarrieta, Bizkaia. Spain.	<a href="mailto:libaibarriaga@azti.es">libaibarriaga@azti.es</a>

<b>Name</b>	<b>Affiliation<sup>1</sup></b>	<b>Email</b>
Jung, Armelle	DRDH, Techopôle Brest-Iroise, BLP 15 rue Dumont d'Urville, Plouzane, France	<a href="mailto:armelle.jung@desrequinsetdeshommes.org">armelle.jung@desrequinsetdeshommes.org</a>
Knittweis, Leyla	Department of Biology, University of Malta, Msida, MSD 2080, Malta	<a href="mailto:Leyla.knittweis@um.edu.mt">Leyla.knittweis@um.edu.mt</a>
Kraak, Sarah	Thünen Institute of Baltic Sea Fisheries, Alter Hafen Süd 2, 18069 Rostock, Germany.	<a href="mailto:sarah.kraak@thuenen.de">sarah.kraak@thuenen.de</a>
Ligas, Alessandro	CIBM Consorzio per il Centro Interuniversitario di Biologia Marina ed Ecologia Applicata "G. Bacci", Viale N. Sauro 4, 57128 Livorno, Italy	<a href="mailto:ligas@cibm.it">ligas@cibm.it</a> ; <a href="mailto:ale.ligas76@gmail.com">ale.ligas76@gmail.com</a>
Martin, Paloma	CSIC Instituto de Ciencias del Mar Passeig Marítim, 37-49, 08003 Barcelona, Spain	<a href="mailto:paloma@icm.csic.es">paloma@icm.csic.es</a>
Motova, Arina	Sea Fish Industry Authority, 18 Logie Mill, Logie Green Road, Edinburgh EH7 4HS, U.K	<a href="mailto:arina.motova@seafish.co.uk">arina.motova@seafish.co.uk</a>
Moutopoulos, Dimitrios	Department of Animal Production, Fisheries & Aquaculture, University of Patras, Rio-Patras, 26400, Greece	<a href="mailto:dmoutopo@teimes.gr">dmoutopo@teimes.gr</a>
Nord, Jenny	The Swedish Agency for Marine and Water Management (SwAM)	<a href="mailto:Jenny.nord@havochvatten.se">Jenny.nord@havochvatten.se</a>
Prellezo, Raúl	AZTI -Unidad de Investigación Marina, Txatxarramendi Ugarteaz/g 48395 Sukarrieta (Bizkaia), Spain	<a href="mailto:rprellezo@azti.es">rprellezo@azti.es</a>
O'Neill, Barry	DTU Aqua, Willemoesvej 2, 9850 Hirtshals, Denmark	<a href="mailto:barone@aquadtu.dk">barone@aquadtu.dk</a>
Raid, Tiit	Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallin, EE-126, Estonia	<a href="mailto:Tiit.raid@gmail.com">Tiit.raid@gmail.com</a>
Rihan, Dominic (vice-chair)	BIM, Ireland	<a href="mailto:rihan@bim.ie">rihan@bim.ie</a>
Sampedro, Paz	Spanish Institute of Oceanography, Center of A Coruña, Paseo Alcalde Francisco Vázquez, 10, 15001 A Coruña, Spain	<a href="mailto:paz.sampedro@ieo.es">paz.sampedro@ieo.es</a>
Somarakis, Stylianos	Institute of Marine Biological Resources and Inland Waters (IMBRIW), Hellenic Centre of Marine Research (HCMR), Thalassocosmos Gournes, P.O. Box 2214, Heraklion 71003, Crete, Greece	<a href="mailto:somarak@hcmr.gr">somarak@hcmr.gr</a>
Stransky, Christoph	Thünen Institute [TI-SF] Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries, Herwigstrasse 31, D-27572 Bremerhaven, Germany	<a href="mailto:christoph.stransky@thuenen.de">christoph.stransky@thuenen.de</a>

<b>Name</b>	<b>Affiliation<sup>1</sup></b>	<b>Email</b>
Ulrich, Clara (chair)	IFREMER, France	<a href="mailto:Clara.Ulrich@ifremer.fr">Clara.Ulrich@ifremer.fr</a>
Uriarte, Andres	AZTI. Gestión pesquera sostenible. Sustainable fisheries management. Arrantza kudeaketa jasangarria, Herrera Kaia - Portualdea z/g. E-20110 Pasaia - GIPUZKOA (Spain)	<a href="mailto:auriarte@azti.es">auriarte@azti.es</a>
Valentinsson, Daniel	Swedish University of Agricultural Sciences (SLU), Department of Aquatic Resources, Turistgatan 5, SE-45330, Lysekil, Sweden	<a href="mailto:daniel.valentinsson@slu.se">daniel.valentinsson@slu.se</a>
van Hoof, Luc	Wageningen Marine Research Haringkade 1, IJmuiden, The Netherlands	<a href="mailto:Luc.vanhoof@wur.nl">Luc.vanhoof@wur.nl</a>
Vanhee, Willy	Independent consultant	<a href="mailto:wvanhee@telenet.be">wvanhee@telenet.be</a>
Villasante, Sebastian	University of Santiago de Compostela, Santiago de Compostela, A Coruña, Spain, Department of Applied Economics	<a href="mailto:sebastian.villasante@usc.es">sebastian.villasante@usc.es</a>
Vrgoc, Nedo	Institute of Oceanography and Fisheries, Split, Setaliste Ivana Mestrovica 63, 21000 Split, Croatia	<a href="mailto:vrgoc@izor.hr">vrgoc@izor.hr</a>

## EXECUTIVE SUMMARY

The 2021 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.

Results indicate that the profitability of the EU fleet fell in 2019, registering a net profit of almost EUR 0.6 billion, down 26% from 2018. Lower landings and an increase in fuel prices partly explain this overall reduction. Thus, 2019 is a continuation of the decreasing trend observed in 2018. Nowcast estimates indicate that the performance of the fleet will remain stable, due chiefly to the effects brought on by the COVID-19 outbreak and supported by lower total costs, in particular fuel costs and low interest rates, while projections for 2021 show a contraction in all economic performance indicators.

In 2019, the EU fishing fleet numbered 73 983 vessels with a combined gross tonnage (GT) of 1.3 million tonnes and engine power of 5.4 million kilowatts (kW); 77% of these vessels were active. EU fleet capacity has continued to decrease at a similar rate as that observed in previous years. Direct employment generated by the sector, amounted to 129 540 fishers, corresponding to 92 298 FTEs. These values follow a similar trend as the capacity indicators. Almost 32% of the employed persons were estimated as being unpaid labour. Average annual wage per FTE was estimated at EUR 23 620, a reduction compared to 2018. Remarkable, is the big dispersion along the different Member States, ranging from an average wage of EUR 556 for Cypriot fishers to EUR 76 064 for Belgian fishers. In both cases, with lower figures than in 2018.

To perform, the EU fishing fleet consumed 2.0 billion litres of fuel and spent 6.0 million days-at-sea (DaS) in 2019. This combination produced 4.05 million tonnes of seafood landings with a value of EUR 6.3 billion.

In 2019, the EU fishing fleet had an estimated depreciated replacement value (tangible asset value) of EUR 5.1 billion and in-year investments amounted to EUR 430 million. These figures indicate that the capital value of the EU fishing fleet reduced in 2019 compared to 2018, while investments increased by almost 20%.

The amount of GVA and gross profit (all excl. subsidies) generated by the EU fishing fleet in 2019 was EUR 3.4 billion and EUR 1.2 billion, respectively. GVA as a proportion of revenue was estimated at 53%, lower than in 2018 and gross profit margin at 20%, down from 23% in 2018. After accounting for capital costs, 9% of the revenue generated by the fleet was retained as net profit, again a drop from that obtained in 2018.

While overall the EU fishing fleet was profitable, performance deteriorated compared to 2018. Three out of the 22 coastal Member States fleets suffered net losses in 2019, namely: Cyprus, Finland, and Germany. Results also varied by scale of operation and fishing region.

The EU **small-scale coastal fleet (SSCF)** totalled 42 838 vessels in 2019, employing 62 650 fishers. This implies that the SSCF comprised 58% of the active fleet and 48% of the engaged crew. Collectively, the SSCF was profitable in 2019 but revenue and GVA decreased compared to 2018. Profits, in gross and net, decreased by 7% and 1% respectively compared to 2018. Results by Member State reveal that seven SSCF suffered gross losses and nine net losses. This negative situation was particularly marked in the Baltic region where collectively the SSCF was already performing at negative gross losses in 2018, deteriorating further in 2019.

The EU **large-scale fleet (LSF)** encompassed 14 139 vessels in 2019 and employed 60 425 fishers, representing 19% and 46% of the total EU fleet, respectively. This fleet contributed 81% in landings and 72% to the value of these landings of the total EU. The LSF was profitable in 2019 but GVA decreased by 10%, gross profit by 15% and net profit by 21% compared to the previous year. This is a continuation of what was observed in 2018. However, and in contrast to 2018, all the Member States' LSF made gross profits in 2019 and two, Cyprus and Slovenia, made net losses.

The EU **distant-water fleet (DWF)** numbered 259 vessels in 2019 and employed 6 465 fishers, less than 1% and 4% of the EU total, respectively. This fleet contributed 14% in landings and 13% to the value of these landings of the total EU fleet. The reported GVA was of EUR 301 million. Gross profit was estimated at EUR 86 million and net profit at EUR 24 million. Compared to 2018, GVA and gross profit for the DWF in 2019 declined by 22% and 47%, respectively.

Member State fleets operating in the **North Sea & Eastern Arctic (NSEA)** region in 2019 numbered 2 043 vessels, a slight increase of about 1% from 2018, with an estimated 6 644 FTE. The revenue generated was EUR 1.5 billion, 77% of which was provided by three Member States: Denmark, the Netherlands and Germany. Revenue decreased for all countries in 2019 compared to 2018: the

Netherlands (EUR 78 million; -23%), Germany (EUR 41 million; -33%), Denmark (EUR 38 million; -9%), Ireland (EUR 21 million; -73%), and Belgium (EUR 6 million; -17%) suffered the highest decreases. GVA produced by the fleets was estimated at EUR 817 million in 2019; representing an overall decrease of almost 15% compared to 2018. The fleets made EUR 410 million in gross profit, a 19% decrease compared to 2018. By fishing activity, the SSCF operating in the NSEA generated EUR 22 million in revenue, a 13% decrease relative to 2018, while the LSF generated EUR 0.9 billion in revenue, a decrease of 16% from 2018.

Eight Member States were actively involved in **Baltic Sea** (BS) fisheries in 2019: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, and Sweden, while the Estonian, Finnish, Latvian and Polish fisheries were fully dependent on this region (the Dutch fleet showed some minor activity in the region). In 2019 the total number of vessels operating in the BS declined by 2.6% and reached their lowest level since 2008. The fleet with 5 153 active vessels generated EUR 224 million in revenue, a decrease of 4% compared to 2018. GVA and gross profit, also decreased by 5.3%, and 6.7%, respectively. However, overall, the EU Baltic Sea fleet was profitable in 2019, and conversely to other performance indicators, net profit remained stable compared to 2018, as a result of lower or even negative opportunity costs of capital for several fleet segments. Three Member States' fleets (Denmark, Germany and Finland) suffered net losses in 2019 in the region. While the SSCF had 92% of the vessels (4 730 vessels) in 2019, total employment in the sector amounted only to 2 605 FTE or 64% of the total, indicating the predominantly part-time nature of employment in this fleet segment mostly reflected in the Estonian and Finnish fleets with 0.22 FTE per person employed. SSCF in the Baltic accounted for 7% of the landed weight and 22% of the value and the profitability is presenting a continuous deteriorating scheme. The contribution of Atlantic cod in total revenues of SSCF has decreased from 36.3% in 2008 to 15.1% in 2018 and dropped to 14% in 2019. The Member States SSCF with a relatively low cod dependency i.e. Finland, Latvia, Estonia and Lithuania, made positive gross profits while those with high dependency to cod, i.e. Sweden, Poland, Denmark and Germany, suffered losses. The LSF generally performed better than its smaller counterparts. LSF total net profit in 2019 was positive and similar to 2018. The profitability of Swedish and Polish fleets improved 17% and 12%, respectively while Latvian fleet deteriorated -35%. Gross profit of the Finnish LSF fleet became negative in 2019. At the fleet segment level, the Swedish demersal trawl and seine 24-40m segment generated the highest landed value and net profit in 2019, probably because it was also active in the North Sea and therefore, not so limited by the BS fishing quotas.

The main Member State fleets 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 95% 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 2 542 active vessels with 7 049 FTE, similar to 2018. In 2019, the three main species landed in terms of weight were small pelagic species including blue whiting, Atlantic mackerel and horse mackerel. TACs increased for several important stocks, such as haddock and anglerfish and generally fish prices remained stable or increased for some important species such as common sole and *Nephrops*. Yet, and while overall fleets in the area were profitable, performance deteriorated compared to 2018: GVA and gross profits reduced by 8% and 20%, respectively. This was largely due to higher operating costs as revenue decreased by less than 2% compared to 2018. All of the Member State's fleets operating in the NWW generated positive gross and net profits with the four highest being France (EUR 63 million), Ireland (EUR 45 million), Denmark (EUR 20 million) and Spain (EUR 16 million), accounting for 81% of the total gross profit. All Member States saw reductions except for Belgium.

The main fishing Member States in the **Southern Western Waters** (SWW) are Spain, France and Portugal (combined generating 99% of the revenue in 2019). The most important species included hake, albacore, anchovy, sardine and common octopus. Overall, the fleet was profitable and similar to that of 2018: revenue amounted to EUR 1.2 billion in 2019 and GVA was estimated at EUR 708 million, gross profit at EUR 178 million and net profit EUR 95 million. Fleet capacity and employment were also similar to that of 2018. The three main Member States fleets operating in the SWW generated gross and net profits. The SSCF accounted for 61% of the number of vessels and 50% of the days-at-sea, while LSF generated by far the highest landed weight, with 88% of the total and 76% of the value in 2019. TACs decreased for important stocks, such as hake, blue whiting and mackerel. European pilchard is of particular importance in the region, the biomass of which has been declining and, consequently, landings declined in 2019. Fish prices reduced generally (and particularly for anchovy and chub mackerel) and the increase in fuel prices resulted in higher energy costs, especially for pelagic fisheries.

The Greek fleet is included in the economic assessments for the **Mediterranean Sea** (MED) fisheries in 2018 and 2019, however, comparisons with previous years are not possible due to incomplete time

series data for this Member State. In 2019, the Greek fleet was the first contributor in terms of the number of vessels (34%) and days-at-sea (48%) while the Italian one was the dominant fleet in terms of landings. In 2019, after several years of continued improvement from 2015-2018, the Mediterranean fleet reached a point of stagnation with respect to the analysed economic performance indicators. Revenue, GVA and gross profits decreased by 8%, 7% and 3%, respectively compared to 2018. Only in Cyprus and Slovenia revenues increased compared to 2018. All Member States reported net profits in 2019, with the exception of Cyprus and Portugal (the latter only has a marginal presence in the area). In 2019, LSF registered a decline in all the economic performance indicators; GVA decreased by 6% and gross profit by 5%. However, different trends were observed for the SSCF, where an increasing trend in GVA and gross profit margins was observed. Greece reported an improvement with a positive net profit margin compared to 2018. Cyprus reported weak net profits, but the economic performance showed a slight improvement compared to 2018. Only Malta reported gross and net losses but at a lower level than in 2018.

Bulgaria and Romania are the only two EU Member States involved in the **Black Sea** (BKS) fisheries. The Bulgarian fleet makes up 90% of the fleet capacity in this region. Revenue generated in 2019 decreased by 12% compared to 2018, but 9% more than the average over the 2008-2018 period. GVA and gross profit followed similar trends with reductions of 11% and 12%, respectively, compared to 2018. Overall, the LSF of both Member States were profitable. However, three of Bulgaria's SSCF segments reported gross losses in 2019. These three segments represented 337 vessels, or 27% of the BKS fleet, the majority of which have low levels of activity; one of the reasons for the losses observed. Weather conditions in the region, including strong winds and large temperature differences between winter and summer, significantly affect SSCF fishing activities. In 2019 the average wage per FTE in the SSCF fell by 50% compared to 2018. The BKS fishery is highly dependent on very few species and several commercially important stocks: sea snails, sprat, turbot, red mullet and mackerel. The main fishing gears used are set gillnets, pelagic trawls, purse and beach seine, pots and traps.

Although the main fishing grounds for the EU fishing fleet are located in FAO 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 overseas regions and departments of Guyana, Antilles (Martinique and Guadeloupe), Reunion and Mayotte and, (2) the **EU long distant fisheries** (LDF) in fishing areas outside EU waters and in Areas Beyond National Jurisdiction (ABNJ), covered by Regional Fisheries Bodies (RFBs), such as the, Northwest Atlantic Fisheries Organization (NAFO), the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Indian Ocean Tuna Commission (IOTC), the North-East Atlantic Fisheries Commission (NEAFC) and the Fishery Committee for the Eastern Central Atlantic (CECAF); and fishing areas within the EEZ of third countries regulated under the framework of EU Sustainable Fisheries Partnership Agreements (SFPAs). Due to data limitations and time constraints, it was not possible to provide a complete analysis of the EU fleets operating in all the OFRs.

The economic performance of the **OMR** fleets deteriorated in 2019 compared to 2018. However, overall they were profitable. The economic situation of the Azorean and Madeiran fleets has been positive and relatively stable over the period 2010-2018. For the fleet in the Canary Islands, the recent trend in revenue and GVA was down despite stable landings in value. For the French OMR fleets, information is still incomplete, however, some improvement in terms of data quality and assessments was achieved in this year's report compared to previous editions. On the whole, small-scale fleets in French Guyana and Guadeloupe generated positive gross profits, while large fleets in Reunion experienced a decline in their economic performance

To analyse the EU **ICCAT** LDF fleet, all fleet segments over 18 metres LOA and with 20% or more of their landings in value obtained in 2019 from one or more of the major species or stocks in the ICCAT RA were selected. Based on these criteria 31 DCF fleet segments were identified for the ICCAT LDF analysis in 2019: 20 Atlantic and 11 Mediterranean fleets. The EU ICCAT LDF covers around 85% of the EU ICCAT fleet's overall landings in weight and 74-76% of the landings value. In the Mediterranean, LDF segments are distributed by Member State as follows: one Cypriot, two Spanish, one French, four Italian and three Maltese. Activity of the fleet in this area is largely directed towards bluefin tuna by purse seiners and towards swordfish by vessels using longlines. Landings of bluefin tuna have increased over the last years reaching around 10 500 tonnes in 2019. While the landings of bluefin tuna have increased, the average price has remained at around 10-11 euro/kg. Swordfish landings have remained relatively constant at around 2 000 tonnes a year (or 6 600 tonnes per year by all fleets). Overall, the number of vessels and FTE employed in the fishery has increased since 2016, as well as landings, in particular landed value. The fleet segments targeting bluefin tuna were positively affected by the increase in annual TAC. Profit margins have sustained at around 75-80% for GVA and

40% for gross profit. In the Atlantic, the LDF fleet segments are distributed as follows: nine Spanish, three French, one Irish and seven Portuguese. These Atlantic fleets have seen landings, in weight and value, decrease since 2016. The main target species is yellowfin tuna, the landings of which has steadily decreased since 2016, reaching around 39 200 tonnes (EUR 84 million in value) in 2019; down from 63 700 tonnes in 2016 (EUR 164.7 million in value). The average price of the main target species in 2019 either remained stable or decreased slightly compared to 2018. This is reflected in the declining revenue and profit generated by the fleet but not in the structure (number of active vessels and FTE) of the fleet. While overall the fleet was profitable, profit margins have declined steadily since 2017.

Three Member States were active in the **IOTC** Convention region in 2019: France (including Reunion), Portugal and Spain. Italy, active in 2018, has no reported catch for 2019. The EU fleet active in 2019 consisted of 324 vessels: 295 from France (129 mainland fleet + 166 Reunion), 26 from Spain (11 surface longliners targeting swordfish and 15 purse seiners) and three from Portugal (all longliners targeting swordfish). The EU fishing fleet catch amounted to 254 682 tonnes in 2019. The top species were skipjack (158 566 tonnes), yellowfin (70 188 tonnes) and bigeye (15 489 tonnes). The Spanish fleet caught 70.5% of the total EU catch in IOTC in 2019, followed by France (27.9%), Reunion (0.9%) and Portugal (0.6%). Five fleet segments over 18 metres (34 vessels) showed high dependency on activity in the area in 2019. Landings for these LDF in IOTC amounted to 256 324 tonnes valued at EUR 343.9 million. Thus, the IOTC LDF with high dependency covered 97% of the EU IOTC fleet's overall landings in weight and 93% of the landings value in 2019. A considerable increase in skipjack landings was observed, representing over 60% of the total catch in the area. The Spanish and French purse seiners segments were profitable, however, yet while landings increased in 2019, after years of a decreasing trend, profit margins reduced in 2019 compared to 2018.

A large part of the activity in the **CECAF** region is related to the tuna fishery, which overlaps with ICCAT. When excluding landings of ICCAT major species, 13 fleet segments were identified with high dependency in this area targeting demersal and/or small pelagics. These fleets covered 81% of the estimated number of vessels of the CECAF EU fleet, 45% of the landings weight and 43% of the landings value. Due to data limitations, it was not possible to assess fleet activity and economic performance by SFPAs individually.

In 2019, eight fleet segments from four Member States (Portugal, Spain, Germany and France) showed some activity in the **NAFO** convention Area (excluding ICCAT major species). Combined, these fleets comprised an estimated 28 vessels and landed 34 272 tonnes, valued at EUR 86.3 million. The main fishing nations are Portugal and Spain. Although none of the EU national fleets are heavily dependent on the region, Portugal obtains around 12% of its total landings in value from activity in NAFO. The main landed species were Atlantic redfish (12 614 tonnes, EUR 28.7 million), Greenland halibut (8 404 tonnes, EUR 29.5 million), Atlantic cod (7 703 tonnes, EUR 20.4 million) and rays (3 163 tonnes, EUR 3.5 million). The Portuguese fleet caught near 65% of the Atlantic redfish and 68% of the Atlantic cod in 2019. Spain took most of the Greenland halibut with 53% of the total, and the almost entire EU landings of rays (99%). Germany caught Greenland halibut almost exclusively, with 22% of the total EU landings for this species.

The main fisheries in the **NEAFC** convention area were: redfish, mackerel; haddock; herring, blue whiting and deep-sea species. Total catches in the this area are approximately 10.5 million tonnes. The four top main fisheries regulated in the NEAFC Regulatory Area (Atlantic mackerel, herring, cod and blue whiting) give catches in the NEAFC Convention Area of approximately 3.3 million tonnes, that is 31% of total catch. Due to time constraints and data limitations, STECF EWG 21-08 was unable to provide a detailed account of the main fishing fleets operating in NEAFC. More detailed and digitalised data from NEAFC, such as catches by species and Member State's fleet in the area, would be required. A preliminary analysis indicates that nine Member State fleets were active in 2019 and that these LDF obtained 249 561 tonnes in landings weight from activity within the NEAFC Regulatory Area in 2019. Due to confidentiality reasons, not all the landings value are reported.

**Preliminary results for 2020<sup>1</sup>** are driven by COVID-19 pandemic. Overall, the nowcasting methodology indicates a decrease of 3% in landed value in 2020 compared to 2019; but around 10% less when compared to 2018. The lock down and subsequent economic crisis caused by the COVID-19, has presented a situation of weaker demand due to lower purchasing power, price reduction (2%), fuel costs reductions (20%), and a lower activity (3.5%) than in 2019. However, when compared to 2018, the landings in weight have been reduced by 10.6%, similar to the overall GVA reduction (9.5%). However, it is predicted that the EU fleet as a whole continues to be profitable with a net profit margin of 11%, similar to 2018 and 2019, supported by the fuel cost reduction.

**Preliminary results for 2021<sup>1</sup>** are driven by COVID-19 pandemic and United Kingdom leaving the EU. Overall, a decrease in landed weight and value compared to 2020 is forecasted. However, an increase in fuel prices has been observed in the first semester of 2021, which makes that projections give a 21% increase in fuel costs. This implies that although it is expected that the EU fleet as a whole continued to be profitable, gross and net profit margins will deteriorate by around 18%.

This publication includes:

- 1) A structural and economic overview of the EU fishing fleet in 2019, with nowcasts for 2020 and 2021, and trend analyses for the years 2008-2020/21; It also includes specific sections for EU trawlers, fuel efficiency and impacts of Brexit.
- 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 2019 and nowcasts for 2020 and 2021.

The 2021 AER Annex report further contains supplementary data tables providing the main results at the EU, regional and national levels, an outline of the methodology and nowcast model used to estimate economic indicators for 2020 and 2021.

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

**The 2021 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 and greater coverage of the data this year. Member States may have provided revised data submitted in previous calls, which is expected to have increased the coverage and quality of the data reported under the 2021 Data Collection Framework (DCF and EU-MAP).

---

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

## EU 2019 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 2019 and developments in relation to the previous year (2018):

**BELGIUM:** Overall a positive but deteriorated performance, operating at a net profit of EUR 2.5 million (-38%). Not all fleet segments were profitable. Revenue decreased by 5%, amounting to EUR 77.8 million; GVA estimated at EUR 36.7 million (-8%) and gross profit EUR 9.8 million (-17%). 2020 was a challenging year in Overall positive with slight deterioration.

**BULGARIA:** Overall positive with slight deterioration. Revenue decreased by 18%, amounting to EUR 6.5 million; GVA EUR 4.5 million (-20%), gross profit EUR 3.5 million (-22%) and net profit decreased to EUR 3.6 million (-17%). In 2020 there was a decrease in landings, and the value was much lower due to a decrease in the average price of turbot -17% and for rapa whelk -11% compared to 2019.

**CROATIA:** Overall deteriorated performance. Revenue decreased by 3%, amounting to EUR 84.4 million; GVA EUR 50.5 million (-2%), gross profit EUR 23.7 million (-2%) and net profit increased to EUR 3.9 million (+2%).

**CYPRUS:** In 2019 the economic performance improved compared to 2018. Revenue increased by 7%, amounting to EUR 7.5 million; GVA EUR 2.9 million (9%), gross profit EUR 1.65 million and a net loss of -EUR 0.5 million showing a significant improvement in the economic performance compared to the previous year 2018, especially in the case of net profit which increased by around 40%.

**DENMARK:** Overall deteriorated performance. The total income in 2019 was EUR 432 million, a decrease of 12% compared to 2018. GVA decreased 10%, gross profit decreased 10% and net profit decreased 7% compared to 2018. So, the reduction in total income by 12% was partly offset by decreased costs, but not enough to completely level it off.

**ESTONIA:** Overall deteriorated performance. Revenue decreased by 3%, amounting to EUR 14.3 million; GVA EUR 8.1 million (-14%), gross profit EUR 2.9 million (-39%) and net profit decreased to EUR 0.8 million (-71%). For 2020 further decrease in economic performance is expected due to the reduction in the Estonian trawl fleet's sprat and herring quotas.

**FINLAND:** Overall deteriorated performance. The total weight landed by the Finnish fleet in 2019 amounted 135 000 tonnes of seafood with value of EUR 35 million. The GVA generated by the Finnish national fleet was EUR 17 million with a decline of 21% from previous year. The gross profit margin decreased to 24%, and the net profit deteriorated. The weakening profitability originated mainly from the poor economic performance in the trawler segments.

**FRANCE:** Overall deteriorated economic performance. Revenue decreased by 6.6%, amounting to EUR 1.22 billion; GVA estimated at EUR 592 million (-16%), gross profit EUR 134 million (-37%) and net profit EUR 43 million (-65%). For 2020 further decrease in economic performance is expected.

**GERMANY:** Overall highly deteriorated economic performance operating at a net loss. Revenues decreased to EUR 121 million (-25%), GVA was estimated at EUR 61.5 million (-38%), gross profit EUR 17.8 million (-56%) and net losses -EUR 6.3 million (-130%) (all figures excluding the pelagic trawler fleet). Profitability severely reduced in 2020, as expected also for 2021.

**GREECE:** Overall economic performance has improved, with the fleet posting a net profit of EUR 79 million (+8%) in 2019. Revenue estimated at EUR 424 million (-4%), GVA EUR 226 million (-4%), and gross profit EUR 121 million (-5%). The outcome for 2020 is expected to have a deterioration of all the economic indicators due to the COVID-19 outbreak.

**IRELAND:** There was an overall decrease in economic performance. Revenue decreased by 5%, amounting to EUR 302 million; GVA EUR 150 million (-11%), gross profit EUR 52 million (-27%) and net profit decreased to EUR 40 million (-2%). In 2020, due to COVID-19, a deterioration of all the economic indicators is expected.

**ITALY:** Overall deteriorated performance. Revenue decreased by 7%, amounting to EUR 881 million; GVA EUR 545 million (-4%), gross profit EUR 295 million (-1%) and net profit decreased to EUR 138 million (-3%). In 2020, due to COVID-19, a deterioration of all the economic indicators is expected.

**LATVIA:** Overall deteriorated performance, the fleet operated at a profit. Revenue decreased by 18%, amounting to EUR 17.9 million; GVA estimated at EUR 7.6 million (-30%), gross profit EUR 3.1 million (-45%) and net profit EUR 2.7 million (-47%).

**LITHUANIA:** In 2019 revenues increased by 27% to EUR 77.7 million, GVA was estimated EUR 17.7 million, gross profit at EUR 10.6 million, net profit EUR 3.4 million. Sector created 473 jobs corresponding to 396 FTE. In 2020 fishing effort decreased by 12% to record low in days at sea with 16% decline in weight of landings. Days at sea and weight of landings in 2020 was 29% and 22% lower compared to multiannual 2008-2019 average.

**MALTA:** Overall performance improved, gross profit increased by 34% (EUR 3.5 million) from 2018. However, income decreased 1.4%, amounting to EUR 15.3 million and GVA EUR 7.6 million (-10%), and net profit continued to improve over 2018.

**NETHERLANDS:** Overall deterioration while still operating at a net profit of EUR 27 million in 2019 (-52% compared to 2018). The number of employees (as FTE) was 1 673 (-3% to 2018) and the labour productivity decreased (-28%). The total income of the total Dutch fleet decreased stronger (-21%) compared to the lower total costs (-14%) from 2018-2019. The GVA decreased (-30%) to a total of EUR 147 million.

**POLAND:** Overall improved economic performance operating at a net profit. Reduction of personnel expenditures (-15%) and fuel costs (-23%). Revenues decreased to EUR 42 million (-11%), GVA was estimated at EUR 23.2 million (-10%), gross profit EUR 6.4 million (+7%) and net profit EUR 4.0 million (+167%). Due to Baltic cod crisis, profitability is expected to severely reduce in 2020 (negative gross and net profits).

**PORTUGAL:** Overall deteriorated economic performance. Revenue decreased by 1%, amounting to EUR 378 million; GVA estimated at EUR 236 million (-4%), gross profit EUR 91 million (-13%) and net profit EUR 32.0 million (-31%).

**ROMANIA:** Overall positive and with improved performance compared with period 2008-2018. Revenue increased 75%, amounting to EUR 4.03 million; GVA estimated at EUR 2.8 million (+80%), gross profit EUR 2.0 million (103%) and net profit EUR 1.7 million (+139%), but comparing with 2018 the percentages are: +1%, +7% and +17%, respectively.

**SLOVENIA:** Overall positive and with improved performance. Revenue increased 5%, amounting to EUR 2.6 million; GVA estimated at EUR 1.7 million (+3%), gross profit EUR 1.4 million (+4%) and net profit EUR 1.3 million (+6%).

**SPAIN:** Overall deteriorated economic performance. Compared to 2018, revenue decreased by almost 5% (the amount was EUR 1.7 billion) and the total of expenditures decreased barely by 2%, so GVA decreased by 9% (EUR 855 million). It can be expected a similar situation for 2020 due to COVID-19.

**SWEDEN:** Overall deterioration of the economic performance since 2018. Revenue decreased by 2%, amounting to EUR 117.7 million; GVA estimated at EUR 58.66 million (-1%), gross profit EUR 34.3 million (+1%) and net profit remained stable at EUR 17.4 million.

## **EXPERT WORKING GROUP REPORT**

---

### **REPORT TO THE STECF**

### **EXPERT WORKING GROUP OF THE 2021 ANNUAL ECONOMIC REPORT ON THE EU FISHING FLEET**

#### **EWG-21-03 & 21-08**

**Virtual meetings, 19-22 April & 07-11 June 2021**

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 2021 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 2021 and includes information on the EU fleet's fishing capacity, effort, employment, landings, income and costs. The reference year is 2019 with nowcast performance estimates provided for 2020 and 2021, where possible. All monetary values have been adjusted for inflation to 2015 constant prices. The profitability and performance of the EU fishing fleet is also reported in terms of GVA, profits, profit margins, resource productivity (labour and capital) and efficiency (fuel use, LPUE, etc.).

This publication includes:

- 1) A structural and economic overview of the EU fishing fleet for the reference year 2019, with trend analyses for the period 2008 to 2019, including estimates for 2020 and 2021;
- 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 2008-2019 and nowcasts for 2020 and 2021.

**The 2021 AER supersedes all previous AERs. Comparisons across AER reports cannot not be made.**

## Terms of Reference for STECF EWG-21-03 & 21-06

### Background and general objectives provided by the Commission

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

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

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

The 2021 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 2020 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 COVID-19 crisis and Brexit impacts). In addition to interpreting and explaining the quantitative results, the report should contain qualitative information and analysis on the drivers and trends in performance and other aspects of policy relevance based largely on the scientists' expert knowledge.

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

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

In addition, and where possible, special focus should be given to the energy transition of the EU fleets (recent 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), the impact of choke-species situations, status and recovery of important stocks and the implementation of other management measures, such as the Landing obligation and the role of the EMFF support in terms of innovation and sustainability.

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

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

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

The final draft of the EWG report will be reviewed by the STECF during its summer plenary meeting in 2021. Issues are often encountered by the EWG, leading to data resubmissions at this late stage. Data submissions during the second meeting cause significant delays in analyses, in particular when a Member State fleet operates in several different fishing regions, potentially affecting analyses in all regions. To avoid such delays and to further free up time for deeper analyses during the second meeting, the dedicated data checking exercise during the first meeting will include regional data sets.

The report should provide an in-depth look at the different factors affecting the economic performance of the EU fishing fleet with a special focus on the major drivers and issues affecting the sector. In addition to interpreting and explaining the quantitative results, the report should contain qualitative information and analysis on the drivers and trends in performance and other aspects of policy relevance based largely on the scientists' expert knowledge.

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

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

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

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

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

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

The final draft of the EWG report will be reviewed by the STECF during its summer plenary meeting in 2021.

## Special requests / topics

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

Parallel to this crisis, is the on-going fuel price fluctuations. Experts are requested to provide an indication of the impact that this may have on the fishing fleets.

These indications should help to fine tune the routine nowcasting exercise to estimate the performance of fishing fleets in 2021. The nowcasting will be done by region and fishing fleet category

## 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 2021 AER

STECF is requested to provide the Annual Economic Report on EU fishing fleets for 2021 including, the following sections:

### STECF Observations

#### Executive Summary

#### Expert Working Group Report

##### 1. EU Fleet Overview

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

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

##### 2. Regional Analysis

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

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

##### 3. National Chapters

This section of the report will contain a specific chapter for each of the EU Member State fleets and shall include a brief description of the small-scale coastal and distant-water fleets (key socioeconomic indicators) where relevant; the main drivers affecting profitability of the fishing fleets and Nowcast results for 2020 and 2021, indicating the impacts of the COVID-19 outbreak on the national fleet and the measures taken to mitigate the negative social effects.

#### 4. Annexes

The annexes include in this report are:

- Annex 1: AER methodology, including the nowcasting model.
- Annex 2: Detailed tables at EU, national and regional levels.

#### Structure, workflow and outputs of the EWGs

Following the 2021 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 2019, and where possible, 2020 and beyond.

Economic data series will be available up to 2019, with some provisional data up to 2020. As these data will be outdated by the time the report is published in July-August 2021, experts should provide indication on the main factors affecting the indicators used for the "nowcast" estimations (i.e. for 2020 and 2021). This becomes paramount in the wake of the COVID-19 pandemic.

In the current context of the COVID-19 outbreak, physical EWG meetings for the production of the 2021 AER cannot be guaranteed. Due to the imposed restrictions, priority will be given to completing the core tasks. However, the socio-economic impact of the pandemic on the EU fishing fleet and measures implemented to mitigate these effects are paramount and need to be incorporated into the nowcast exercise for 2021 estimations.

The first EWG will focus primarily on data quality and coverage. EWG 21-03 will produce final draft national chapters, the formulation of which constitutes an integral part of the data checking process.

The second meeting (EWG 21-08) 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. Specific objectives and priorities for the two working groups are described below:

#### **EWG 21-06 (AER 1)**

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

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

Any outstanding data issues not covered by EWG 21-03 will be followed up by EWG 21-08. This may occur if MS submit revised data after EWG 21-03. That is, according to the data handling procedure, data submission may occur up to two weeks after the first meeting upon request of STECF or the JRC.

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

#### **Routine tasks AER 1**

- Experts should check national data (national totals and by fleet segment) as well as the 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 the COVID-19 outbreak and the measures put into place to mitigate the negative social effects.
- 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 2020 and 2021 should be carried out.

## National Chapters

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

National chapters should follow the following structure:

- **Short description of the national fleet**
  - Fleet structure
  - Fishing activity and production
  - Employment and average salaries
- **Economic performance results for 2018 and recent trends**
  - National fleet performance
  - Resource productivity and efficiency
- **Drivers affecting the economic performance**
  - Market and trade (including first sale prices)
  - Operating costs (external factors)
  - Status of key stocks, changes in TACs and quotas
  - Management instruments
  - Innovation and development (role of the EMFF)
- **Assessment of the economic performance for 2020 and 2021 (nowcasts)**
  - A qualitative and when possible quantitative assessment of the impact of the COVID-19 outbreak and Brexit.
- **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 2019; how they compare to previous year's results (improvement/deterioration, etc.) and expected outcomes for 2020/2021.

## EWG 21-08 (AER 2)

EWG 21-08 will continue from EWG 21-03 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 2020 and 2021, where possible, will be completed and incorporated into the EU overview and national chapters.

## Routine tasks AER 2

- Nowcasts for 2020 and 2021 should be updated and completed with the latest available information and completed
- National chapters should be finalised with nowcasts for 2020 and 2021
- Regional analyses
- EU overview completed with main drivers and trends and nowcasts for 2020 and 2021 incorporated
- Any unresolved data transmission (DT) issues and failures should be reported in the DTMT.

## EU Overview

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

- **EU small-scale coastal fleets:** This section will investigate the drivers/factors behind the trends of the small-scale coastal fleets, whether there are regional differences and the possible reasons for these differences.

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

## Outputs AER 2

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

- Revised DTMT, containing only the unresolved/outstanding data issue
- Final national chapters and summaries with nowcasts for 2020 and 2021
- Final EU overview chapter with nowcasts for 2020 and 2021
- Final Regional chapters
- Outline of the current socio-economic impacts of COVID-19 in EU fisheries and measures taken to mitigate the negative effects.
- Draft Executive summary

## Data sources and coverage

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

The 2021 call requested data for the years 2019 and 2020/21. Fleet capacity data were requested up to and including 2020, while fishing activity (effort and landings), employment and economic parameters were requested up to and including 2019. Additionally, income from landings and several effort and landings variables were requested for 2020 (non-mandatory) to allow for economic performance nowcasts to be estimated at fleet segment and national level for 2020 and 2021.

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

For a full list of variables and reference years requested under the 2021 call for economic data on the EU fishing fleet see Annex 1 - AER Report Methodology in the 2021 AER Annex report.

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

- Greece provided only partial data for the years 2014-2017. Due to the incomplete coverage of the fishing activity and socio-economic data, Greece can only be included in analyses for 2018 and 2019 and has been excluded from all aggregated time-series analyses.
- This year's submissions from France and Spain improved but continue to be incomplete, in particular missing effort and landings data for the years 2008-2009 and days-at-sea not provided by FAO sub-regions; some issues remain for fleets in the EU Outermost Regions (France) and for the Irish under 10 metres vessels;
- Due to the reduced number of vessels and/or enterprises, several Member States, including Italy, Germany and some of the Baltic States, do not deliver sensitive data on their distant water fleets, making coverage at the EU and regional levels incomplete.
- United kingdom fleet segments have not been included in the analysis.
- As a new Member State, Croatia is only required to provide data from 2012 onwards.

- Incomplete time series data due to either the non-submission or submission of questionable data, make trend analysis over the entire period 2008-2018/2019 at the EU and regional levels impossible without excluding the Member States fleets that are incomplete.

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

## 2 EU FLEET OVERVIEW

### Background

The EU overview chapter provides a summary of the structure and economic performance of the EU fishing fleet in 2019 and highlights some key trends over the period 2008-2019, based on data submitted by Member States under the 2021 fleet economic data call. All monetary values have been adjusted for inflation to 2015 constant prices and therefore data prior and subsequent to 2015 may not necessarily equate to the data submitted by Member States.

Due to incomplete data submissions from several Member States, it is not possible to do a trend analyses on the economic performance for the EU fleet over the period analysed. Croatia officially joined the EU in 2013 and, hence, only 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, 2019 and forward. The United Kingdom officially left the EU at the end of 2020, the British data has since then 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 2019 at the EU level include all Member States fleets in 2021, 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, commercially-sensitive data are not provided at the fleet segment level, but are included at the national total level, resulting in inconsistencies between the two datasets.

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

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

- A snapshot of the EU fishing fleet in 2019, by Member State and main type of fishing activity, i.e. SSCF, LSF and DWF (including data summary tables);
- A section with nowcasts for 2020 and 2021 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 EU registered vessels over 24 metres operating in 'other fishing regions' including EU outermost regions.

## At a glance

Due to incomplete data from Member States, the EU Fleet Overview (Section 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 2019 and all monetary values are adjusted for inflation; constant prices (2015).

### Fleet Capacity

- In 2019, the EU fishing fleet numbered 73 983 vessels with a combined gross tonnage of 1.33 million and engine power of 5.3 million kW.
- There were 16 747 inactive vessels (23% of the total number of vessels), bringing the number of active vessels to 57 236.
- Of the active vessels, 75% were SSCF vessels, 24% LSF and less than 1% DWF.
- EU fishing fleet capacity has continued to decrease steadily: 1.0% in number, 8.9% in engine power and 8.9% in gross tonnage compared to 2018.

### Employment and wages

- The EU fleet directly employed circa 129 540 fishers, corresponding to 92 298 FTE. Of the total employed, at least 41 873 were estimated as being unpaid labour<sup>2</sup>.
- Average annual wage (including crew wages and unpaid labour) per FTE was estimated at EUR 23 620, ranging from EUR 76 064 for Belgian fishers to EUR 556 for Bulgarian fishers.

### Effort and landings

- The EU fleet spent over 6.0 million days-at-sea (DaS) and consumed almost 2.0 billion litres of fuel.
- Landings reported amounted to 4.05 million tonnes of seafood, amounting to a value of EUR 6.3 billion (-0.6%)
- Landings per day at sea (LPUE), for the EU fleet as a whole, was estimated at around 0.67 tonnes per day (a decrease compared to 2018).

### Economic performance

- Revenue (gross value of landings plus other income) amounted to almost EUR 6.3 billion. Other income represented 2.1% of revenue.
- GVA, gross profit and net profit (all excl. subsidies and fishing rights) generated by the fleet was EUR 3.4 billion, EUR 1.25 billion and EUR 0.6 billion, respectively.
- GVA to revenue was estimated at 53% (55.8% in 2018); gross profit margin at 20.0% (down from 22.9% in 2018), and 9.0% of the revenue was retained as net profit (down from 12.4% in 2018).
- Overall, the EU fishing fleet was profitable but performance reduced slightly when compared to 2018 and three out of the 22 Member States evaluated generated net losses, namely: Cyprus, Finland and Germany (three also in 2018 - Cyprus, Finland and Lithuania ).
- At Member state level, none suffered gross losses in 2019.
- Lithuania moved from a loss making position in 2018 to post net profits in 2019.
- The EU fishing fleet was estimated to have a replacement value of EUR 5.1 billion (+3.6%) and in-year investments amounted to over EUR 430 million (+20%).

### EU Small-scale coastal fleet (SSCF)

- The EU SSCF comprised 42 838 vessels covering up to 58% of the number of active vessels, but only 7.5% of the gross tonnage and 28% of the engine power.

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

- Engaged crew amounted to 62 650 fishers, including 33 387 unpaid labour (48% and 36% of the EU total, respectively).
- Contributed 5.4% of the weight landed (219 898 tonnes) and 15% of the landed value (EUR 960 million).
- Generated EUR 1.025 million in revenue (-5.3%), EUR 679 million in GVA (-6.7%), EUR 215 million in gross profit (-7.4%) and EUR 105 million in net profit (-1.58%).
- In relative terms, this amounted to a GVA to revenue of 66%, a gross profit margin of 21% and a net profit margin of 10.7%.

### **EU Large-scale fleet (LSF)**

- Comprised 14 139 vessels (19% of the EU active fleet) and covered 67% of the gross tonnage and 54% of the engine power.
- Engaged crew amounted to 60 425 fishers, including around 8 434 unpaid labour (46% and 14% of the EU total, respectively).
- Contributed 81% to landed weight (3.1 million tonnes) and 72% to landed value (EUR 4.3 billion).
- Generated EUR 2.4 billion in GVA (-10%), EUR 947 million (-15.6%) in gross profit and EUR 1.95 million in net profit (-20.9%)
- In relative terms, this amounted to a 55% GVA to revenue, 22% gross profit margin and 12% net profit margin.

### **EU Distant-water fleet (DWF)**

- Comprised <1% of the EU active fleet (259 vessels) and covered 19% of the total gross tonnage and 6% of the engine power.
- Employed 6 465 fishers or 8 083 FTEs (4% and 7% of the EU total, respectively).
- Contributed 14% to landings in weight and 13% to landings in value.
- Generated EUR 301 million in GVA (-22%), EUR 86 million in gross profit (-46%) and EUR 24 million in net profit (-60%).
- In relative terms, this amounted to a 31% GVA to revenue (down from 38%), 9% gross profit margin (down from 16%) and a 3% net profit margin (down from 7% in 2018).

Table 2.1 below provides a summary of the main results for the EU-27 fleet (all figures exclude Greece) for the period 2010-2019 and nowcast results for 2020 and 2021.

Table 2.2 below provides a summary of the main results for the EU-27 fleet, including Greece in 2018 and forward

Tables 2.3 to 2.5 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 2010-2019 and nowcast results for 2020 and 2021.

**Table 2.1 Main results for the EU-27 fleet (excl. Greece) for 2008-2019 and nowcasts for 2020 and 2021.**

EU27		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	%Δ 2019-2018	%Δ 2019-avg2008-18	%Δ 2019-2008
Number of vessels	thousand	64.2	61.0	60.5	59.6	61.9	61.1	60.5	62.8	62.2	62.1	60.8	59.9	59.7	59.5	-1.5%	-2.6%	-6.7%
Total vessel tonnage	thousand GT	1,575	1,528	1,465	1,414	1,390	1,369	1,377	1,341	1,311	1,293	1,285	1,266	1,102		-1.5%	-9.3%	-19.6%
Total vessel power	thousand kW	5,555	5,358	5,258	5,132	5,296	5,242	5,226	5,218	5,118	5,072	4,973	4,964	4,493		-0.2%	-4.9%	-10.6%
Engaged crew	thousand	127	125	125	120	121	118	118	115	116	118	114	111	108	108	-3.1%	-7.8%	-13.2%
FTE national	thousand	92	91	89	87	86	83	83	84	84	83	80	76	73	72	-4.2%	-11.0%	-17.4%
Days at sea	thousand	5,006	5,027	4,943	4,878	4,905	4,755	4,665	4,579	4,601	4,458	4,319	4,171	2,409	1,705	-3.4%	-12.0%	-16.7%
Fishing days	thousand	4,817	4,941	4,892	4,820	4,798	4,673	4,629	4,515	4,619	4,327	4,299	4,151	1,549		-3.4%	-11.1%	-13.8%
Energy consumption	million litre	2,162	2,319	2,211	2,067	1,985	1,991	1,929	2,042	1,983	1,968	1,929	1,925	1,903	1,847	-0.2%	-6.2%	-10.9%
Live weight of landings	thousand tonnes	4,153	4,209	4,254	3,973	3,809	4,099	4,315	4,358	4,203	4,545	4,409	3,977	3,937	3,756	-9.8%	-5.6%	-4.2%
Value of landings	million EUR	6,425	6,182	6,154	6,270	6,133	6,121	6,238	6,065	6,544	6,541	6,286	5,869	5,626	5,436	-6.6%	-6.4%	-8.7%
Gross value of landings	million EUR	5,786	6,109	6,086	6,360	5,997	5,907	6,045	6,077	6,468	6,383	6,213	5,773	5,582	5,426	-7.1%	-5.8%	-0.2%
Other income	million EUR	100	90	118	124	87	101	113	99	92	139	131	134	122	127	2.7%	23.8%	34.0%
Operating subsidies	million EUR	179	143	94	81	80	59	69	57	41	55	48	45	-		-6.1%	-45.0%	-74.7%
Income from leasing out quota	million EUR	2	3	3	10	12	36	35	34	28	35	33	19	-		-41.5%	-7.3%	872.9%
Personnel costs	million EUR	1,590	1,870	1,755	1,737	1,615	1,595	1,664	1,769	1,879	1,924	1,863	1,741	1,682	1,651	-6.6%	-0.6%	9.5%
Value of unpaid labour	million EUR	239	314	271	239	225	242	243	220	241	245	231	232	219	221	0.7%	-5.7%	-2.8%
Energy costs	million EUR	1,393	1,091	1,210	1,426	1,413	1,310	1,181	970	805	866	969	940	732	882	-3.0%	-18.2%	-32.5%
Repair & maintenance costs	million EUR	452	513	488	525	477	470	487	521	563	545	570	540	529	527	-5.3%	5.8%	19.4%
Other variable costs	million EUR	735	902	851	894	768	805	809	862	882	833	800	824	803	784	3.0%	-0.8%	12.2%
Other non-variable costs	million EUR	523	542	498	486	463	451	466	471	483	490	511	500	488	487	-2.0%	2.3%	-4.4%
Consumption of fixed capital	million EUR	795	797	766	756	745	682	665	680	627	683	678	636	592	607	-6.1%	-11.1%	-20.0%
Lease/rental payments for quota	million EUR	16	16	29	33	32	35	50	61	56	43	39	39	-		-1.4%	3.5%	139.8%
Opportunity cost of capital	million EUR	50	226	154	138	101	114	107	74	57	0	9	24	1	41	-165.2%	-126.5%	-148.2%
Value of physical capital	million EUR	5,655	5,685	5,666	5,143	5,155	4,858	4,970	5,032	4,905	4,864	4,823	4,997	4,691	4,739	3.6%	-3.2%	-11.6%
Value of quota and other fishing	million EUR	636	1,231	1,134	1,106	1,092	1,207	1,539	1,644	2,220	2,825	2,520	2,182	-		-13.4%	39.9%	242.7%
Investments	million EUR	463	489	419	330	442	375	329	429	426	420	332	399	100	100	20.2%	-1.5%	-13.9%
Gross Value Added	million EUR	2,782	3,150	3,156	3,154	2,962	2,972	3,214	3,352	3,828	3,788	3,495	3,103	3,152	2,874	-11.2%	-4.8%	11.5%
Net Value Added	million EUR	1,937	2,126	2,237	2,260	2,116	2,175	2,443	2,599	3,144	3,105	2,826	2,492	2,561	2,309	-11.8%	1.6%	28.6%
Gross profit	million EUR	953	966	1,131	1,179	1,122	1,135	1,308	1,362	1,708	1,618	1,401	1,130	1,188	1,002	-19.3%	-10.5%	18.6%
Net profit	million EUR	108	58	211	285	276	338	536	609	1,024	936	732	518	597	437	-29.2%	14.1%	381.6%
GVA to revenue	%	47.3	50.8	50.9	48.6	48.7	49.5	52.2	54.3	58.4	58.1	55.1	52.5	55.3	51.8	-4.6%	0.7%	11.1%
Gross profit margin	%	16.2	15.6	18.2	18.2	18.4	18.9	21.2	22.1	26.0	24.8	22.1	19.1	21.2	18.0	-13.4%	-5.1%	18.2%
Net profit margin	%	1.8	0.9	3.4	4.4	4.5	5.6	8.7	9.9	15.6	14.3	11.5	8.8	10.7	7.9	-24.0%	22.3%	379.9%
Average wage per FTE	thousand EUR	19.8	24.0	22.7	22.7	21.5	22.0	22.9	23.7	25.2	26.2	26.3	25.9	26.2	26.1	-1.6%	10.8%	30.5%
GVA per FTE (labour productivity)	thousand EUR	30.2	34.7	35.3	36.2	34.6	35.6	38.7	39.9	45.5	45.8	43.9	40.7	43.1	40.1	-7.3%	6.6%	35.0%

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values adjusted for inflation; constant prices (2015).

Table 2.2 Main results for the EU-27 fleet, including Greece in 2018 and forward.

EU28		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	%Δ 2019-2018	%Δ 2019-avg2008-18	%Δ 2019-2008
Number of vessels	thousand	64.2	61.0	60.5	59.6	61.9	61.1	60.5	62.8	62.2	62.1	75.1	74.0	73.6	73.4	-1.4%	17.8%	15.3%
Total vessel tonnage	thousand GT	1,575	1,528	1,465	1,414	1,390	1,369	1,377	1,341	1,311	1,293	1,352	1,333	1,168		-1.4%	-4.9%	-15.4%
Total vessel power	thousand kW	5,555	5,358	5,258	5,132	5,296	5,242	5,226	5,218	5,118	5,072	5,371	5,360	4,884		-0.2%	1.9%	-3.5%
Engaged crew	thousand	127	125	125	120	121	118	118	115	116	118	135	130	130	130	-4.1%	6.4%	1.7%
FTE national	thousand	92	91	89	87	86	83	83	84	84	83	98	92	89	88	-5.7%	5.7%	0.1%
Days at sea	thousand	5,006	5,027	4,943	4,878	4,905	4,755	4,665	4,579	4,601	4,458	6,151	6,034	2,409	1,705	-1.9%	23.0%	20.5%
Fishing days	thousand	4,817	4,941	4,892	4,820	4,798	4,673	4,629	4,515	4,619	4,327	6,131	6,014	1,549		-1.9%	24.4%	24.8%
Energy consumption	million litre	2,162	2,319	2,211	2,067	1,985	1,991	1,929	2,042	1,983	1,968	2,018	2,010	1,988	1,931	-0.4%	-2.5%	-7.0%
Live weight of landings	thousand tonne	4,153	4,209	4,254	3,973	3,809	4,099	4,315	4,358	4,203	4,545	4,478	4,048	4,008	3,827	-9.6%	-4.0%	-2.5%
Value of landings	million EUR	6,425	6,182	6,154	6,270	6,133	6,121	6,238	6,065	6,544	6,541	6,713	6,293	6,119	5,940	-6.2%	-0.2%	-2.1%
Gross value of landings	million EUR	5,786	6,109	6,086	6,360	5,997	5,907	6,045	6,077	6,468	6,383	6,654	6,198	6,007	5,861	-6.9%	0.4%	7.1%
Other income	million EUR	100	90	118	124	87	101	113	99	92	139	131	135	122	128	3.0%	24.2%	34.4%
Operating subsidies	million EUR	179	143	94	81	80	59	69	57	41	55	49	47	-		-6.0%	-43.6%	-74.0%
Income from leasing out quota	million EUR	2	3	3	10	12	36	35	34	28	35	33	19	-		-41.5%	-7.3%	872.9%
Personnel costs	million EUR	1,590	1,870	1,755	1,737	1,615	1,595	1,664	1,769	1,879	1,924	1,931	1,798	1,739	1,707	-6.9%	2.3%	13.1%
Value of unpaid labour	million EUR	239	314	271	239	225	242	243	220	241	245	325	320	307	308	-1.3%	25.7%	34.0%
Energy costs	million EUR	1,393	1,091	1,210	1,426	1,413	1,310	1,181	970	805	866	1,038	1,003	806	978	-3.3%	-13.1%	-28.0%
Repair & maintenance costs	million EUR	452	513	488	525	477	470	487	521	563	545	594	565	554	552	-5.0%	10.2%	24.9%
Other variable costs	million EUR	735	902	851	894	768	805	809	862	882	833	863	886	865	845	2.7%	5.9%	20.6%
Other non-variable costs	million EUR	523	542	498	486	463	451	466	471	483	490	519	509	496	495	-1.9%	3.8%	-2.8%
Consumption of fixed capital	million EUR	795	797	766	756	745	682	665	680	627	683	717	677	639	648	-5.6%	-5.9%	-14.8%
Lease/rental payments for quota	million EUR	16	16	29	33	32	35	50	61	56	43	39	39	-		-1.4%	3.5%	139.8%
Opportunity cost of capital	million EUR	50	226	154	138	101	114	107	74	57	0	4	21	3	37	-413.5%	-122.8%	-141.8%
Value of physical capital	million EUR	5,655	5,685	5,666	5,143	5,155	4,858	4,970	5,032	4,905	4,864	4,973	5,153	4,869	4,894	3.6%	-0.4%	-8.9%
Value of quota and other fishing	million EUR	636	1,231	1,134	1,106	1,092	1,207	1,539	1,644	2,220	2,825	2,520	2,182	-		-13.4%	39.9%	242.7%
Investments	million EUR	463	489	419	330	442	375	329	429	426	420	358	430	131	130	19.9%	5.5%	-7.2%
Gross Value Added	million EUR	2,782	3,150	3,156	3,154	2,962	2,972	3,214	3,352	3,828	3,788	3,772	3,370	3,409	3,119	-10.7%	2.6%	21.1%
Net Value Added	million EUR	1,937	2,126	2,237	2,260	2,116	2,175	2,443	2,599	3,144	3,105	3,059	2,714	2,766	2,508	-11.3%	9.7%	40.1%
Gross profit	million EUR	953	966	1,131	1,179	1,122	1,135	1,308	1,362	1,708	1,618	1,516	1,251	1,299	1,103	-17.5%	-1.7%	31.3%
Net profit	million EUR	108	58	211	285	276	338	536	609	1,024	936	803	595	657	493	-25.9%	29.2%	453.0%
GVA to revenue	%	47.3	50.8	50.9	48.6	48.7	49.5	52.2	54.3	58.4	58.1	55.6	53.2	55.6	52.1	-4.3%	1.9%	12.6%
Gross profit margin	%	16.2	15.6	18.2	18.2	18.4	18.9	21.2	22.1	26.0	24.8	22.3	19.8	21.6	18.4	-11.6%	-2.1%	22.1%
Net profit margin	%	1.8	0.9	3.4	4.4	4.5	5.6	8.7	9.9	15.6	14.3	11.8	9.4	10.9	8.2	-20.6%	30.5%	414.0%
Average wage per FTE	thousand EUR	19.8	24.0	22.7	22.7	21.5	22.0	22.9	23.7	25.2	26.2	23.0	23.0	23.1	23.0	-0.4%	-0.5%	15.7%
GVA per FTE (labour productivity)	thousand EUR	30.2	34.7	35.3	36.2	34.6	35.6	38.7	39.9	45.5	45.8	38.5	36.5	38.2	35.6	-5.2%	-3.2%	21.0%

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values adjusted for inflation; constant prices (2015).

Table 2.3 Main results for the EU-27 Small-scale coastal fleets (excl. Greece) for 2008-2019 and nowcasts for 2020 and 2021

EU27 SSCF (excluding Greece)		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	%Δ 2019-2018	%Δ 2019-avg2008-18	%Δ 2019-2008
<b>Number of vessels</b>	thousand	33.1	32.7	33.2	29.6	31.5	31.5	31.2	30.9	33.1	33.5	32.8	32.1	32.3	32.2	-2.0%	0.1%	-2.9%
<b>Total vessel tonnage</b>	thousand GT	84.9	82.8	82.8	80.8	83.6	82.8	83.6	81.2	82.9	82.9	80.0	79.1	74.8		-1.1%	-4.2%	-6.7%
<b>Total vessel power</b>	thousand kW	1,261.5	1,255.4	1,267.9	1,251.1	1,338.7	1,342.5	1,326.0	1,316.4	1,319.2	1,319.5	1,289.7	1,276.1	1,241.5		-1.1%	-1.8%	1.2%
<b>Engaged crew</b>	thousand	58.3	56.1	57.3	53.1	53.8	54.4	51.9	50.9	53.3	54.1	51.7	48.3	48.6	48.6	-6.6%	-10.7%	-17.1%
<b>FTE national</b>	thousand	29.6	29.2	31.0	29.5	28.0	30.4	27.7	27.7	27.8	26.6	25.8	22.9	21.8	21.7	-11.1%	-19.5%	-22.4%
<b>Days at sea</b>	thousand	2,992	3,048	3,004	2,836	2,811	2,744	2,671	2,642	2,645	2,521	2,493	2,364	1,255	888	-5.2%	-14.5%	-21.0%
<b>Fishing days</b>	thousand	2,956	3,061	3,053	2,882	2,839	2,801	2,760	2,704	3,731	2,506	2,544	2,414	866		-5.1%	-16.6%	-18.3%
<b>Energy consumption</b>	million litre	146	167	165	169	144	163	117	125	124	123	117	120	111	110	2.0%	-15.5%	-17.8%
<b>Live weight of landings</b>	thousand tonne	249	234	214	223	241	252	251	242	223	223	205	196	186	181	-4.6%	-15.7%	-21.4%
<b>Value of landings</b>	million EUR	900	919	831	859	768	703	801	733	745	819	811	750	731	725	-7.5%	-7.2%	-16.6%
<b>Gross value of landings</b>	million EUR	879	966	959	940	809	812	785	818	873	853	835	776	739	733	-7.0%	-10.4%	-11.7%
<b>Other income</b>	million EUR	16	23	33	24	21	25	26	18	18	38	37	38	37	37	2.0%	49.6%	138.5%
<b>Operating subsidies</b>	million EUR	23.3	18.7	12.1	13.3	17.0	13.0	10.4	10.6	4.0	15.1	13.6	18.0			32.7%	31.3%	-22.5%
<b>Income from leasing out quota</b>	million EUR	0.3	0.0	0.0	1.6	0.6	1.3	1.2	2.2	1.1	5.0	1.1	1.1			-1.1%	-17.6%	267.1%
<b>Personnel costs</b>	million EUR	241	263	255	273	228	238	241	239	265	266	251	254	246	244	1.3%	1.2%	5.2%
<b>Value of unpaid labour</b>	million EUR	138	194	173	142	117	140	134	129	137	140	125	102	97	96	-17.9%	-28.3%	-25.8%
<b>Energy costs</b>	million EUR	104	88	108	129	115	121	85	74	69	69	71	66	53	64	-8.0%	-30.0%	-36.6%
<b>Repair &amp; maintenance costs</b>	million EUR	57	64	63	55	54	55	50	50	56	53	50	48	48	47	-3.9%	-12.6%	-15.8%
<b>Other variable costs</b>	million EUR	82	104	112	102	92	101	79	83	84	81	86	87	81	79	1.0%	-4.8%	6.2%
<b>Other non-variable costs</b>	million EUR	78	69	73	80	65	66	66	64	67	69	66	64	63	63	-3.6%	-8.0%	-18.0%
<b>Consumption of fixed capital</b>	million EUR	92	92	106	109	104	97	92	88	88	93	89	82	82	82	-8.3%	-14.2%	-11.2%
<b>Lease/rental payments for quota</b>	million EUR	0.8	0.9	0.8	1.0	2.2	1.4	1.2	1.6	1.4	1.3	1.0	0.8			-21.2%	-35.6%	-1.7%
<b>Opportunity cost of capital</b>	million EUR	5.4	23.6	18.6	16.0	13.7	16.3	15.3	11.1	10.3	2.8	1.1	0.6	1.0	4.7	-156.9%	-105.3%	-112.0%
<b>Value of physical capital</b>	million EUR	641	634	707	670	672	629	604	593	610	600	595	618	620	618	4.0%	-2.2%	-3.5%
<b>Value of quota and other fishing rights</b>	million EUR	19	65	48	53	49	87	74	59	85	116	90	121			34.9%	79.0%	527.1%
<b>Investments</b>	million EUR	99	105	59	76	62	70	50	50	41	17	33	6	15	14	-82.6%	-90.5%	-94.3%
<b>Gross Value Added</b>	million EUR	574	662	638	599	506	494	530	565	615	619	598	550	532	510	-8.1%	-5.5%	-4.3%
<b>Net Value Added</b>	million EUR	476	546	514	476	389	381	423	465	516	524	508	469	448	432	-7.8%	-1.2%	-1.7%
<b>Gross profit</b>	million EUR	186	202	213	190	158	112	152	196	213	214	223	193	189	171	-13.4%	3.3%	4.1%
<b>Net profit</b>	million EUR	88	62	79	58	40	4	38	90	107	107	113	98	97	89	-12.9%	38.7%	11.4%
<b>GVA to revenue</b>	%	64.2	67.0	64.4	62.2	61.0	59.1	65.4	67.6	69.0	69.5	68.6	67.5	68.5	66.9	-1.6%	3.4%	5.2%
<b>Gross profit margin</b>	%	21.1	20.6	21.6	19.7	19.1	13.5	18.8	23.5	23.9	24.0	25.6	23.7	24.4	22.5	-7.2%	12.9%	12.6%
<b>Net profit margin</b>	%	10.0	7.0	8.2	6.3	5.1	0.5	5.0	11.5	13.1	12.5	13.6	12.7	13.1	12.1	-6.5%	52.4%	26.7%
<b>Average wage per FTE</b>	thousand EUR	13.9	15.9	14.3	14.3	12.6	12.7	13.9	13.5	14.7	15.4	14.8	15.7	15.9	15.8	6.3%	10.7%	12.5%
<b>GVA per FTE (labour productivity)</b>	thousand EUR	19.6	22.9	20.8	20.6	18.3	16.4	19.3	20.5	22.3	23.3	23.4	24.2	24.6	24.0	3.3%	17.0%	23.7%

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values adjusted for inflation; constant prices (2015).

Table 2.4 Main results for the EU-27 Large-scale fleets (excl. Greece) for 2008-2019 and nowcasts for 2020 and 2021

EU27 SSCF (excluding Greece)		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	%Δ 2019-2018	%Δ 2019-avg2008-18	%Δ 2019-2008
<b>Number of vessels</b>	thousand	13.6	13.3	12.9	14.2	14.7	14.2	14.2	13.9	13.8	13.7	13.2	13.3	12.5	12.5	1.1%	-3.2%	-1.9%
<b>Total vessel tonnage</b>	thousand GT	1,082.2	1,042.1	979.9	930.7	913.8	907.9	891.3	863.3	855.0	864.0	861.1	855.9	822.4		-0.6%	-7.6%	-20.9%
<b>Total vessel power</b>	thousand kW	3,282.1	3,151.9	2,989.7	2,875.3	2,900.1	2,851.9	2,824.8	2,781.7	2,754.4	2,759.8	2,700.5	2,736.7	2,328.1		1.3%	-5.5%	-16.6%
<b>Engaged crew</b>	thousand	62.1	62.2	59.3	59.9	61.4	58.1	59.4	57.6	56.7	57.9	56.2	55.8	52.9	52.8	-0.8%	-5.7%	-10.3%
<b>FTE national</b>	thousand	54.4	52.8	48.6	49.5	50.4	46.6	48.3	48.5	49.3	48.5	46.4	45.2	43.2	41.9	-2.6%	-8.5%	-17.0%
<b>Days at sea</b>	thousand	1,947	1,887	1,842	1,946	2,007	1,933	1,916	1,862	1,883	1,863	1,756	1,733	1,098	816	-1.3%	-8.5%	-11.0%
<b>Fishing days</b>	thousand	1,813	1,808	1,755	1,856	1,883	1,803	1,798	1,744	1,777	1,755	1,698	1,677	691		-1.2%	-6.3%	-7.5%
<b>Energy consumption</b>	million litre	1,748	1,779	1,661	1,545	1,479	1,454	1,419	1,439	1,490	1,473	1,441	1,439	1,395	1,340	-0.2%	-6.5%	-17.7%
<b>Live weight of landings</b>	thousand tonne	3,283	3,305	3,367	3,042	2,918	3,133	3,269	3,352	3,242	3,582	3,472	3,067	3,032	2,876	-11.7%	-6.2%	-6.6%
<b>Value of landings</b>	million EUR	4,563	4,323	4,325	4,283	4,096	4,074	4,049	4,174	4,521	4,509	4,449	4,113	3,905	3,747	-7.5%	-4.5%	-9.8%
<b>Gross value of landings</b>	million EUR	4,272	4,351	4,200	4,371	4,143	4,021	4,066	4,216	4,548	4,438	4,356	4,048	3,892	3,740	-7.1%	-5.2%	-5.3%
<b>Other income</b>	million EUR	84	62	71	74	65	70	71	66	64	90	89	93	89	87	3.9%	26.3%	9.6%
<b>Operating subsidies</b>	million EUR	140.8	117.6	67.2	55.7	50.2	39.9	52.7	42.4	35.8	37.5	33.1	24.7			-25.4%	-59.7%	-82.5%
<b>Income from leasing out quota</b>	million EUR	1.7	2.5	3.0	8.6	11.3	34.2	33.4	30.5	26.6	29.2	31.5	17.2			-45.5%	-11.1%	907.3%
<b>Personnel costs</b>	million EUR	1,235	1,437	1,301	1,265	1,203	1,171	1,243	1,333	1,421	1,431	1,389	1,272	1,230	1,185	-8.4%	-3.0%	3.0%
<b>Value of unpaid labour</b>	million EUR	100	119	97	95	106	102	108	91	103	105	104	129	128	124	24.0%	25.6%	28.5%
<b>Energy costs</b>	million EUR	1,110	819	891	1,064	1,062	955	872	696	603	654	735	709	516	616	-3.5%	-17.6%	-36.1%
<b>Repair &amp; maintenance costs</b>	million EUR	344	373	350	383	334	326	344	379	409	401	405	395	385	383	-2.6%	7.3%	14.8%
<b>Other variable costs</b>	million EUR	485	559	483	532	445	468	456	457	483	474	457	452	436	418	-1.1%	-6.2%	-6.9%
<b>Other non-variable costs</b>	million EUR	394	386	344	324	303	301	302	294	318	317	337	331	323	322	-2.0%	0.5%	-16.0%
<b>Consumption of fixed capital</b>	million EUR	629	628	572	575	561	507	500	515	451	475	460	432	406	404	-6.2%	-19.1%	-31.3%
<b>Lease/rental payments for quota</b>	million EUR	14.4	14.1	25.6	28.4	28.7	32.7	47.9	56.1	51.0	37.8	35.7	35.0			-2.0%	3.3%	142.1%
<b>Opportunity cost of capital</b>	million EUR	38.2	156.5	107.0	90.7	62.5	73.4	67.8	43.1	34.9	0.4	5.3	18.4	3.7	28.8	-247.7%	-130.3%	-148.2%
<b>Value of physical capital</b>	million EUR	3,980	3,964	3,870	3,403	3,503	3,291	3,360	3,388	3,309	3,341	3,322	3,427	3,251	3,222	3.2%	-2.7%	-13.9%
<b>Value of quota and other fishing rights</b>	million EUR	570	1,104	1,023	988	977	1,030	1,365	1,462	1,972	2,497	2,282	2,007			-12.0%	44.6%	251.9%
<b>Investments</b>	million EUR	337	354	259	45	372	292	258	266	358	373	258	337	32	32	30.4%	20.1%	0.0%
<b>Gross Value Added</b>	million EUR	2,024	2,278	2,204	2,139	2,055	2,034	2,161	2,446	2,798	2,680	2,510	2,248	2,317	2,081	-10.4%	-2.4%	11.1%
<b>Net Value Added</b>	million EUR	1,358	1,494	1,525	1,474	1,432	1,454	1,593	1,889	2,312	2,205	2,055	1,835	1,915	1,706	-10.7%	7.4%	35.1%
<b>Gross profit</b>	million EUR	688	724	806	780	745	761	810	1,022	1,274	1,144	1,016	848	960	774	-16.6%	-4.5%	23.2%
<b>Net profit</b>	million EUR	28	66	129	107	110	171	226	451	766	645	549	422	546	393	-23.0%	49.1%	1420.3%
<b>GVA to revenue</b>	%	46.5	51.6	51.6	48.2	48.9	49.8	52.3	57.3	60.7	59.2	56.5	54.4	58.3	54.5	-3.7%	2.7%	17.0%
<b>Gross profit margin</b>	%	15.8	16.4	18.9	17.6	17.7	18.6	19.6	23.9	27.6	25.3	22.9	20.5	24.2	20.3	-10.3%	0.6%	29.8%
<b>Net profit margin</b>	%	0.6	1.6	3.1	2.5	2.7	4.3	5.6	10.8	17.0	14.6	12.7	10.7	14.3	10.7	-15.7%	62.4%	1551.9%
<b>Average wage per FTE</b>	thousand EUR	24.7	29.7	29.0	27.6	26.1	27.3	28.0	29.4	30.9	31.7	32.2	31.1	31.5	31.3	-3.5%	8.0%	26.0%
<b>GVA per FTE (labour productivity)</b>	thousand EUR	37.4	43.3	45.6	43.3	40.9	43.7	44.8	50.6	56.8	55.3	54.2	50.1	53.9	49.9	-7.6%	6.7%	33.7%

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values adjusted for inflation; constant prices (2015).

Table 2.5 Main results for the EU-27 Distant-water fleets for 2008-2019 and nowcasts for 2020 and 2021

EU27 DWF		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	%Δ 2019-2018	%Δ 2019-avg2008-18	%Δ 2019-2008
Number of vessels	number	385	353	368	347	328	287	287	278	267	255	250	259	250	250	3.6%	-16.3%	-32.7%
Total vessel tonnage	thousand GT	282.4	288.7	284.4	272.6	275.0	249.6	286.0	279.5	261.3	256.8	247.0	247.2	246.6		0.1%	-8.9%	-12.5%
Total vessel power	thousand kW	409.8	404.0	394.0	372.2	374.2	337.6	377.4	371.9	354.4	345.7	338.9	345.8	327.6		2.1%	-6.8%	-15.6%
Engaged crew	thousand	6.9	7.3	8.6	7.1	6.0	5.8	6.4	6.2	5.6	6.2	6.2	6.5	6.2	6.2	4.5%	-1.8%	-6.4%
FTE national	thousand	8.2	8.8	9.7	8.2	7.2	6.4	7.2	7.8	7.1	7.3	7.4	8.1	8.1	8.1	9.4%	4.2%	-1.9%
Days at sea	thousand	97	92	98	96	87	78	78	76	75	74	69	74	39		7.4%	-11.5%	-23.2%
Fishing days	thousand	75	72	83	82	76	69	70	67	65	66	57	60	30		6.0%	-15.3%	-20.1%
Energy consumption	million litre	269	373	385	354	362	374	393	474	372	372	370	399	397	397	7.9%	7.2%	48.7%
Live weight of landings	thousand tonne	598	651	647	688	631	694	776	693	728	723	716	698	699	699	-2.4%	1.8%	16.9%
Value of landings	million EUR	926	908	921	1,033	1,114	1,239	1,355	1,007	1,245	1,177	997	978	963	964	-2.0%	-9.8%	5.6%
Gross value of landings	million EUR	626	786	928	1,049	1,045	1,074	1,194	1,043	1,049	1,092	1,023	949	952	953	-7.2%	-4.3%	51.6%
Other income	million EUR	0	5	14	27	1	7	16	15	11	11	5	4	3	3	-14.4%	-61.0%	
Operating subsidies	million EUR	14.6	7.0	14.7	12.0	13.3	6.4	5.7	3.6	0.9	1.8	1.5	2.4			61.6%	-67.6%	-83.6%
Income from leasing out quota	million EUR	-	-	-	-	0.0	0.9	0.7	0.8	0.4	0.6	0.7	0.9			41.0%	150.3%	
Personnel costs	million EUR	114	170	199	199	184	185	180	197	193	228	223	214	222	222	-4.2%	13.6%	87.8%
Value of unpaid labour	million EUR	0.8	1.8	0.5	1.5	1.4	0.7	0.4	0.2	0.6	0.0	2.3	1.1	1.2	1.2	-54.6%	12.8%	26.6%
Energy costs	million EUR	180	184	212	234	236	234	224	200	134	143	163	165	163	201	1.7%	-15.1%	-7.9%
Repair & maintenance costs	million EUR	51	76	75	87	89	89	93	92	97	91	114	96	96	96	-15.4%	11.0%	89.9%
Other variable costs	million EUR	168	239	257	261	231	236	274	322	314	278	257	285	286	286	11.0%	10.6%	70.3%
Other non-variable costs	million EUR	52	87	82	82	95	84	97	113	97	103	107	105	102	102	-1.7%	16.0%	102.4%
Consumption of fixed capital	million EUR	73	77	67	55	53	54	47	75	59	72	74	69	67	67	-6.8%	6.9%	-6.4%
Lease/rental payments for quota	million EUR	0.8	0.6	2.4	3.4	1.4	0.8	1.0	3.7	3.1	3.8	2.3	2.7			17.2%	29.3%	240.8%
Opportunity cost of capital	million EUR	2.4	26.0	12.0	9.9	10.7	9.8	10.8	9.4	4.4	3.9	4.8	4.6	0.6	5.3	4.3%	-158.9%	-294.7%
Value of physical capital	million EUR	616	605	542	509	486	414	487	535	539	496	495	558	519	519	12.7%	7.2%	-9.4%
Value of quota and other fishing rights	million EUR	-	-	11	-	-	9	19	10	10	60	53	53			-0.5%	238.7%	
Investments	million EUR	27	13	49	31	8	13	21	37	27	30	41	57	53	53	38.6%	109.6%	108.8%
Gross Value Added	million EUR	167	199	316	413	395	437	522	331	417	487	387	301	307	271	-22.2%	-18.7%	80.2%
Net Value Added	million EUR	91	96	237	348	331	374	464	246	353	419	318	237	241	210	-25.5%	-20.5%	159.8%
Gross profit	million EUR	52	27	116	212	210	251	341	134	223	259	161	86	84	48	-46.7%	-52.4%	64.6%
Net profit	million EUR	-	21	40	33	128	116	165	278	55	137	156	60	24	21	-59.7%	-75.1%	212.7%
GVA to revenue	%	27.1	25.3	33.5	38.4	37.8	40.5	43.1	31.3	39.3	44.2	37.6	31.6	32.2	28.4	-16.1%	-12.8%	16.6%
Gross profit margin	%	8.5	3.5	12.3	19.7	20.1	23.3	28.2	12.6	21.0	23.5	15.7	9.0	8.8	5.0	-42.5%	-47.4%	6.5%
Net profit margin	%	-	3.5	5.7	3.9	13.5	13.0	17.5	26.0	5.9	15.1	16.6	3.0	2.6	0.2	-58.5%	-69.9%	186.0%
Average wage per FTE	thousand EUR	14.4	20.0	21.2	25.3	26.5	29.7	25.4	25.7	28.1	31.9	30.7	26.6	27.6	27.7	-13.4%	4.9%	84.7%
GVA per FTE (labour productivity)	thousand EUR	20.9	23.2	33.5	52.0	56.6	69.9	73.6	43.1	60.4	68.1	52.6	37.2	38.0	33.6	-29.3%	-26.1%	77.7%

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values adjusted for inflation; constant prices (2015).

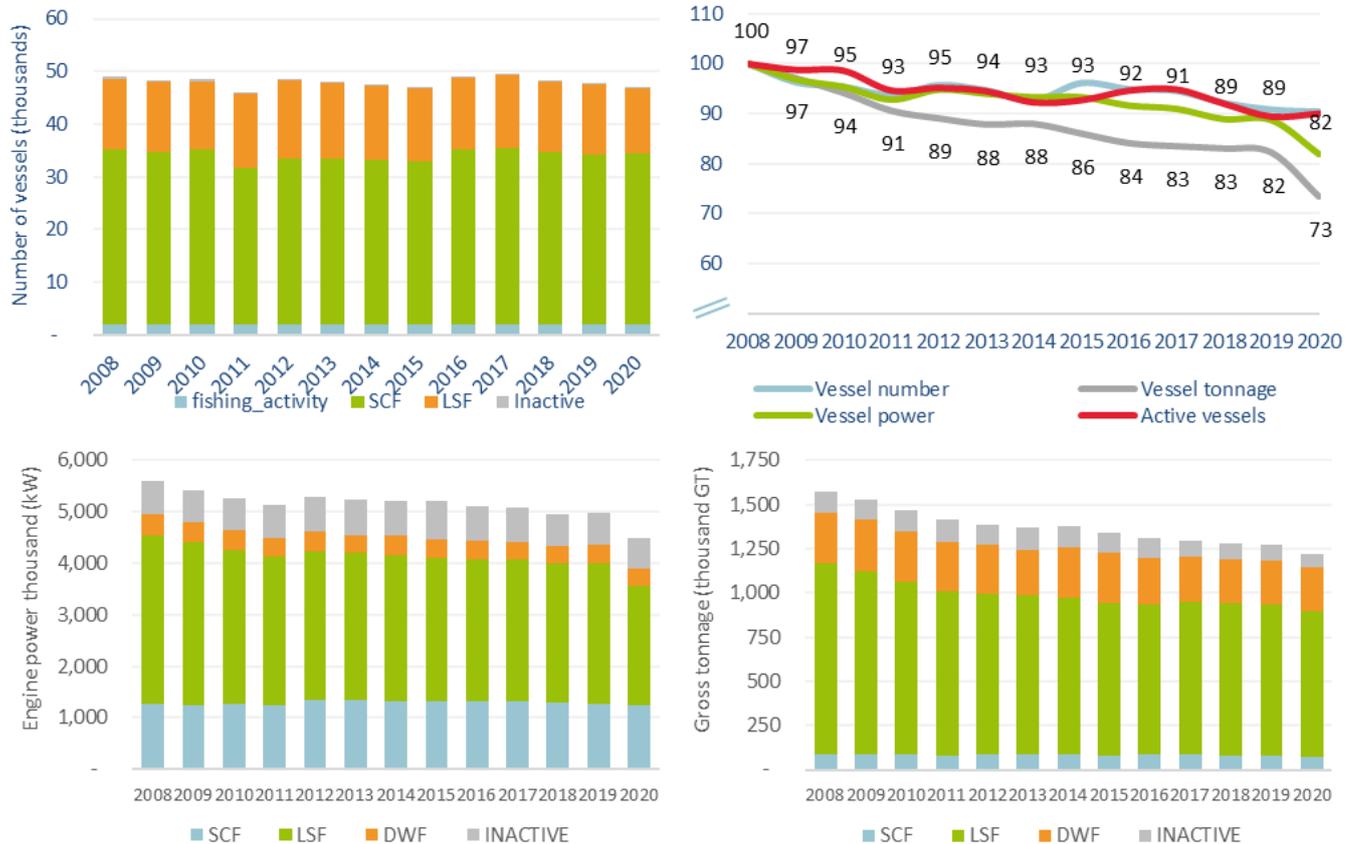
## 2.1 Overview of the EU Fishing Fleet in 2019

### Fleet Capacity and structure

The EU fleet numbered 73 983 vessels in 2019 (-1.0% compared to 2018), of which 57 236 were active (Figure 2.1).

EU fleet<sup>3</sup> capacity has decreased gradually over the period analysed, overall declining 2.8% in number of vessels, 16.1% in kW and 27.9% in GT compared to 2008.

Greece maintained the largest fleet within the EU (by vessel number) with 19% of the total number of vessels, followed by Italy (16.2%) and Spain (12.2%). Belgium, with 68 vessels, 65 of which were active in 2019, has the lowest number of vessels of all Member States. The Spanish fleet held the largest GT (25.3% of the total) while the French fleet was superior in engine power (13.6% of the total) (see data tables in Annex 2).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)). Trends exclude Greece for time-series consistency

### Employment and average wage

In 2019, 129 540 fishers were directly employed in the EU fishing fleet, corresponding to 92 298 FTEs. Total employed decreased by 0.9% and FTE by 3.5% compared to 2018 (Figure 2.2).

However, the personnel costs produced an increase of 2.2% and the average wage per FTE increased by 5.8% (EUR 25 900). Average wage is expected to be maintained at 2019 levels in 2020 (Figure 2.2).

Employment has decreased over the period 2008-2019; -12.7% in total employed and -19.1% in FTE compared to 2008, while average wage per FTE increased by 13.9% (excluding Greece for consistency<sup>4</sup>) (Figure 2.2).

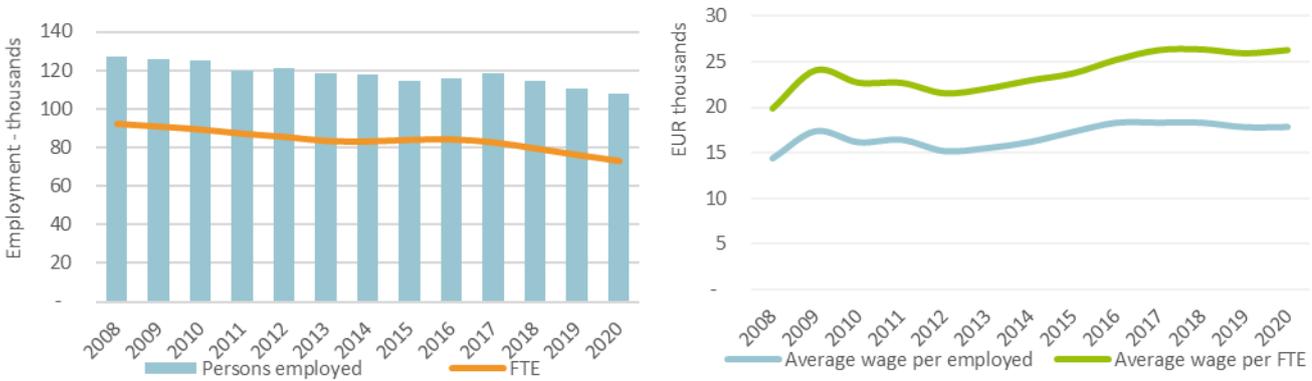
At EUR 76 064, Belgian fishers earned the highest annual wages on average in 2019, followed by Denmark (EUR 64 178) and The Netherlands (EUR 44 415) fishers (Figure 2.3). However, since Belgium calculate their annual earnings differently than the other Member States, these numbers

<sup>3</sup> Variations exclude Croatia for time-series consistency unless otherwise stated.

<sup>4</sup> Employment data unavailable for the years 2008 to 2012 for both Croatia and Greece.

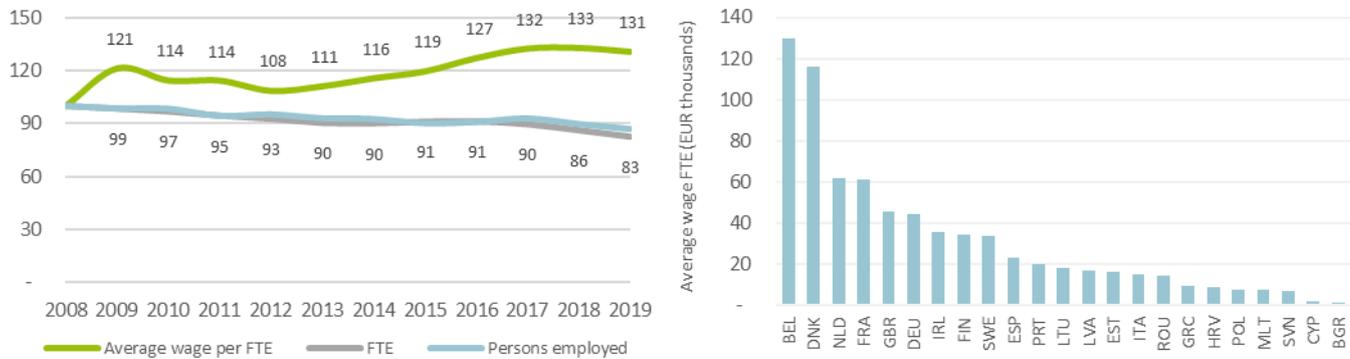
might not show the whole picture. Bulgarian fishers received the lowest average wage (EUR 556), followed by Cypriot (EUR 725) and Romanian (EUR 1 911) fishers (Figure 2.3).

The Spanish fleet employed 24.7% of the total, followed by the Italian (18.7%) and Greek (14.7%) fleets. In terms of FTEs, it is the same order, where the Spanish fleet has the highest followed by the Italian and then the Greek fleet. Greek fleet surpasses the Italian, indicating more part-time fishers in Italy (see data tables in Annex 2).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcasts for 2020. Trends exclude Greece for time-series consistency



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

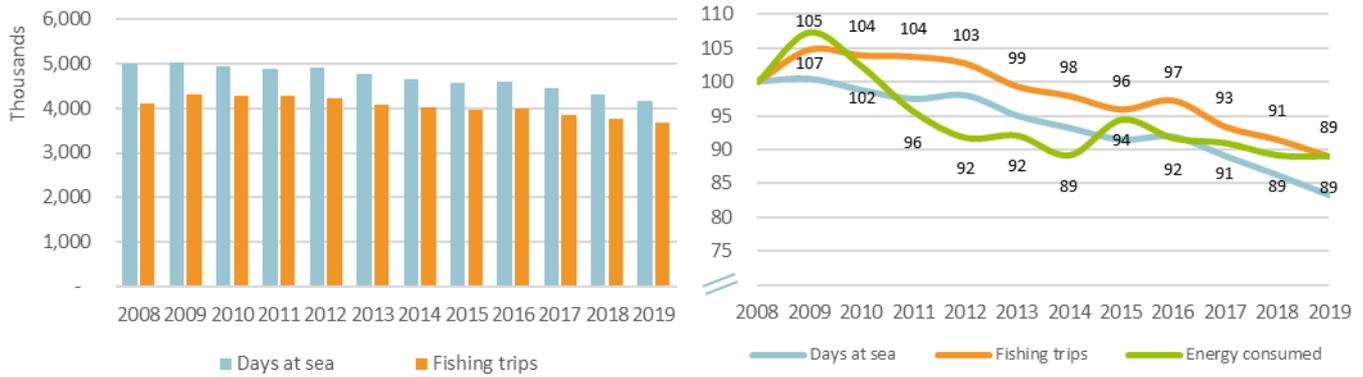
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Trends exclude Greece for time-series consistency

### Fishing effort and fuel consumption

In 2019, the EU fishing fleet spent 6.0 million Days at Sea (DaS) and consumed almost 2.0 billion litres of fuel (Figure 2.4), that means that on average, each active vessel spent around 82 DaS and consumed almost 27 172 litres of fuel in 2019. The Belgian fleet consumed on average the most fuel (572 485 litres per vessel) followed by the Lithuanian (451 621 litres) and then the Dutch (307 689 litres) fleets. Belgian vessels also spent the most average DaS (207 days), followed by Greek vessels (162 days) and then Spanish vessels (122 days). On average, Bulgarian vessels spent only on average 20 DaS, followed by Maltese vessels (28 days), Romanian (41 days) and Croatian (49 days), in 2019.

Effort, in DaS, deployed by EU fleets declined by 3.4% compared to 2018. Energy consumption decreased 0.2%. For more details, see section on energy use – fuel efficiency and intensity (Section 2.3).

Greece reported the highest number of sea days (1.9 million or 30.9% of the total), followed by Italy (1.2 million days or 20.6% of the total) and then Spain (1.01 million days). The Spanish fleet consumed the most fuel (582 million litres or 29.0% of total), followed by the French (325 million litres) and Italian (311 million litres).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)). Trends exclude Greece for time-series consistency

## Landings

The EU fleet landed 4.04 million tonnes of seafood in 2019, decreasing since 2018 (-9.6%). The value of landings reported was EUR 6.2 billion, a 6.2% decrease compared to 2018 (Figure 2.5).

The landed weight and the landed value provide different fluctuations during the same period. Changes in the landed weight and value between 2008 and 2019 have reflected the average fish price over the period, with some periods of increased landings associated with lower average price and vice-versa, noticeably in 2015. However, the average price per kilo has remained relatively stable over the entire time period analysed, oscillating between 1.4 euro/kg and 1.6 euro/kg (Figure 2.5).

The Spanish fleet accounted for 27.7% of the total value landed during the year (21.7% in weight), followed by France (19.7% in value, 12.8% in weight), Italy (13.8% in value and 4% in weight) and Denmark (6.5% in value and 15.6% in weight).

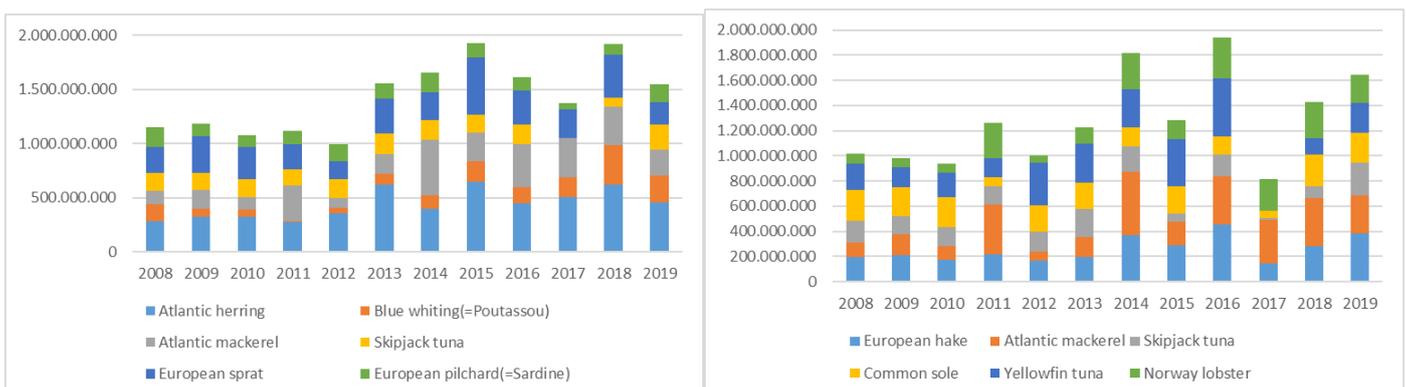


**Figure 2.5 Trends and variations on landings in weight and value and average landed price (based on 2008=100)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020. Trends exclude Greece for time-series consistency

## Top species and average landed prices

Atlantic herring, at 452 00 tonnes, continued to be the most landed species (in weight) by the EU fleet in 2019, followed by blue whiting (251 000 tonnes), Atlantic mackerel, skipjack tuna, European sprat, and European pilchard (sardine).



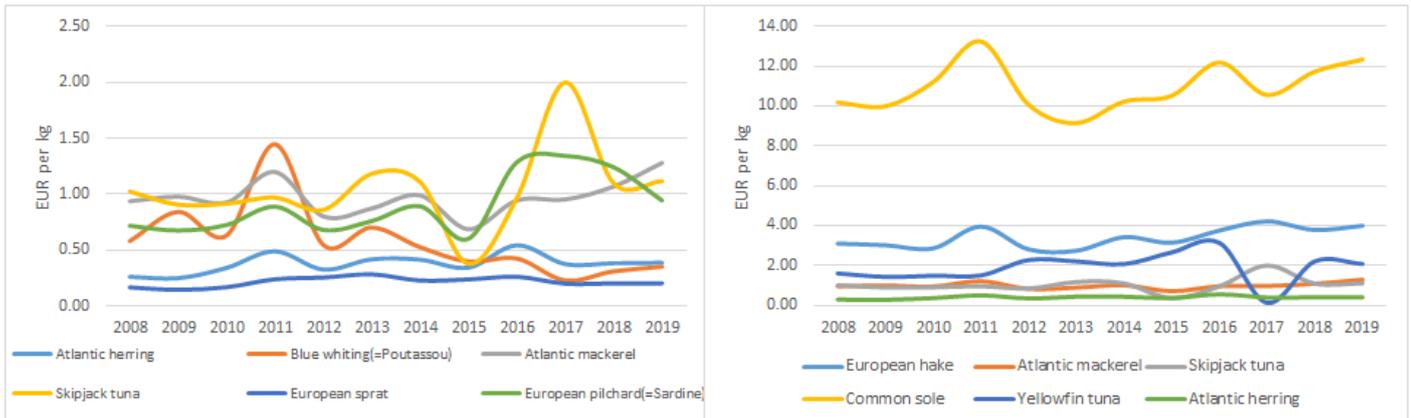
**Figure 2.6 Trends for the top six species landed in weight and in value**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

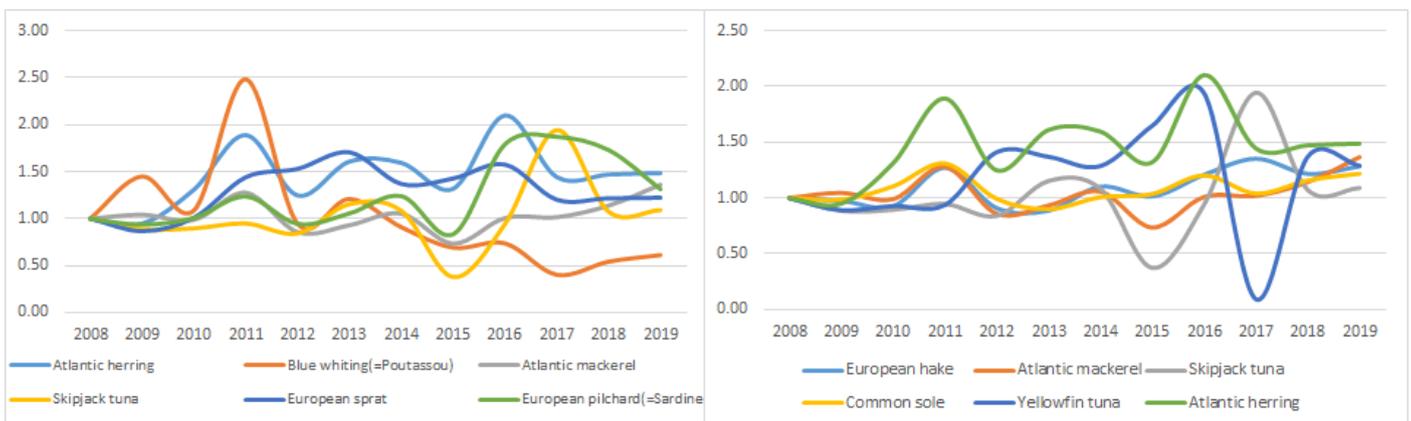
European hake, at almost EUR 378 million, was the top species landed in value, followed by Atlantic herring, skipjack, common sole, yellowfin tuna, Norway lobster, and Atlantic herring (Figure 2.6).

Landings of European pilchard, yellowfin tuna, skipjack, and European hake increased in weight and value. Conversely, landings of Atlantic mackerel, blue whiting, Atlantic mackerel, and European sprat decreased in weight and value.

The average price of yellowfin tuna has been on the rise since 2016, but experienced a significant drop in prices in 2017, but the last two years improved. The average price of Atlantic mackerel has an increasing trend. Common sole that suffered a significant decrease in average price in 2017 is slowly recovering in the last two years. Skipjack average price had a sharp increase in 2017, but there is a decreasing trend in the recent period. (Figures 2.7 and 2.8).



**Figure 2.7 Average landed price of the top species landed in weight and/or value**  
 Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been a djusted for inflation; constant prices (2015).



**Figure 2.8 Variations in average price of the top species landed in weight and/or value (based on 2008=100)**  
 Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been a djusted for inflation; constant prices (2015).

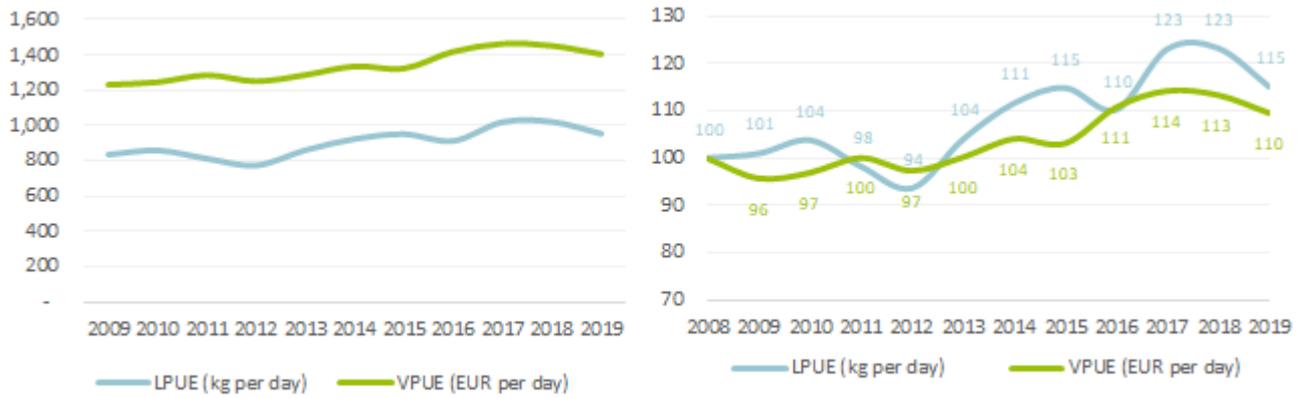
**Landings per unit of effort**

Landings weight per day-at-sea and landings value per day-at-sea are used as proxies of LPUE and VPUE. 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, fisher experience, fishing methods, technological advances, or shifting management regimes (e.g., area closures, trip limits, effort limits, choke species, etc.).

LPUE and VPUE were estimated at 954 kg and EUR 1 407 per DaS in 2019, respectively. A decrease of 7% and 3% compared to 2018, respectively (Figure 2.9).

The average LPUE was 13% and VPUE 9% higher in 2019 than in 2008. After a continuously increasing trend from 2011 to 2017, the average LPUE has started a slightly decreasing trend the recent years (Figure 2.9).

LPUE for the SSCF was estimated at 53 kg per DaS in 2019. For the LSF, LPUE was estimated at 2.0 tonnes and 12 tonnes for the DWF. LPUE for the SSCF remained at the same level while the LPUE decreased both the LSF and DWF compared to 2018.



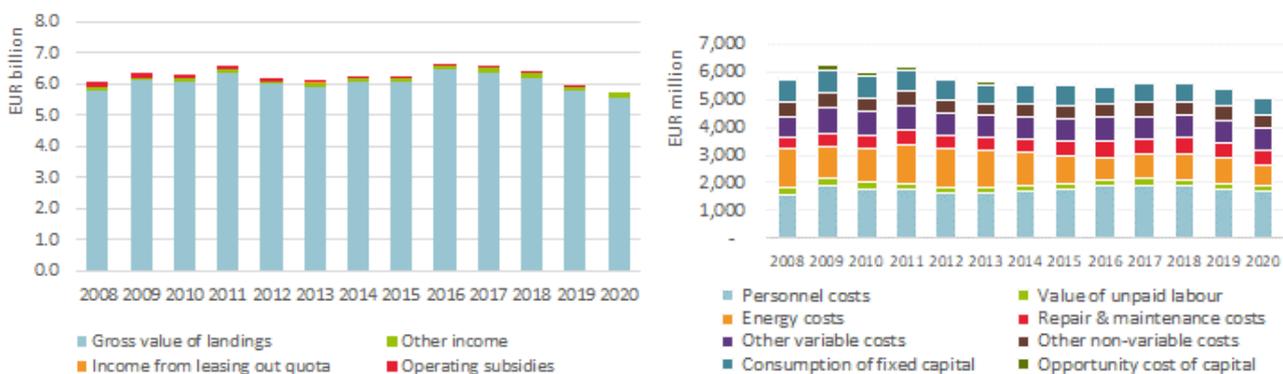
**Figure 2.9 Trends and variations on landings per unit of effort (days-at-sea) by weight (LPUE) and value (VPUE) (based on 2008=100)**  
 Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Income and costs

In 2019 the total revenue<sup>5</sup> generated by the EU fishing fleet was EUR 6.3 billion. Total costs amounted to EUR 5.0 billion, 80% of the revenue generated (Figure 2.10).

Of the revenue generated, 98% was obtained from the fish sale (EUR 6 198 million) and EUR 135 million from non-fishing income. Additionally, the fleet received EUR 46.5 million in operating subsidies and EUR 19.5 million in income from leasing out quota and other fishing rights (Figure 2.10). Of the costs incurred by the fleet in 2019, 88% consisted of operating costs<sup>6</sup> (EUR 5.1 billion) and 11.8% of capital costs (EUR 677 million).

The main operating costs were labour costs (35.3% of total costs: EUR 1.8 billion in personnel costs and EUR 320 million in unpaid labour), other variable costs (17.3% of total costs: EUR 886 million), and fuel costs (EUR 1.0 billion, 19.6% of total costs). In addition, other costs linked to production amounted to almost EUR 1.07 billion: EUR 565 million in repair and maintenance and EUR 509 million in other non-variable (fixed) costs. Figure 2.11 shows costs as a percentage of revenue.

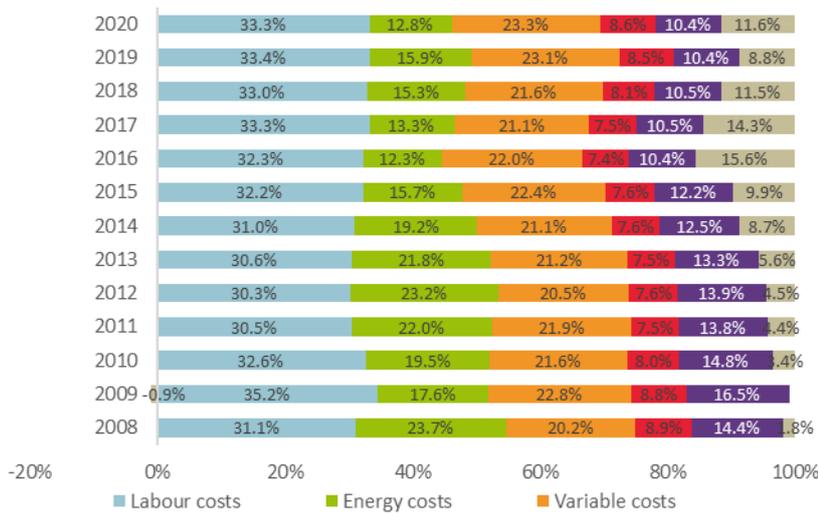


**Figure 2.10 Trends on main income and costs items**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).  
 Nowcast values for 2020. Trends exclude Greece for time-series consistency

<sup>5</sup> Direct income subsidies and income from leasing out fishing rights excluded from the economic analyses.

<sup>6</sup> Total operating costs include: crew wage costs, unpaid labour, energy costs, other variable costs, repair costs, other non-variable costs



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

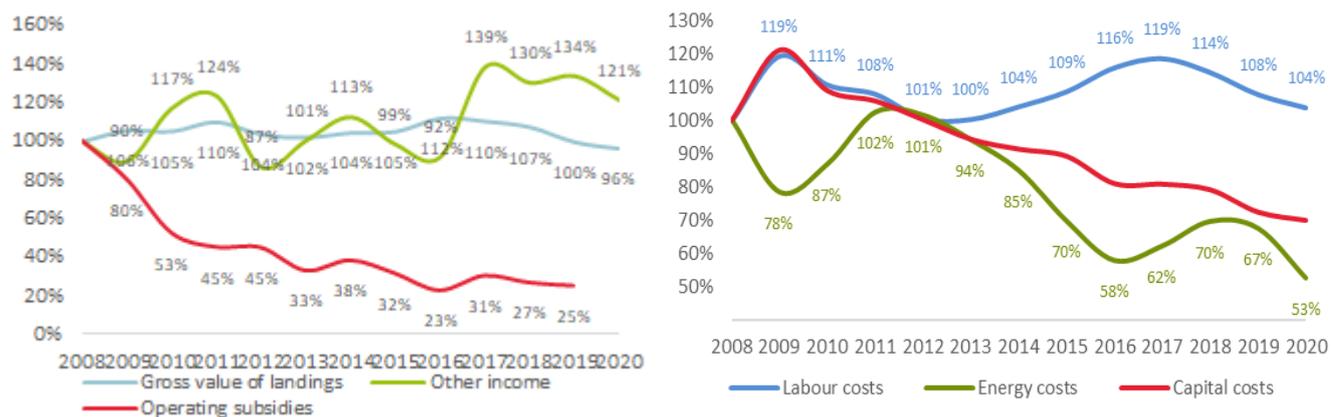
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020. Trends exclude Greece for time-series consistency

While revenue has varied little from 2008 to 2018, oscillating around EUR 6.2 billion, it has shown an overall increase over the period analysed. However, revenue decreased (-6.8%) in 2019 compared to 2018; mainly due to the 7.1% decrease in the sale of fish. Moreover, income from leasing/renting out quota or other fishing rights and operational subsidies have decreased (Figure 2.12).

Total costs<sup>7</sup> followed a similar but opposite trend to revenue; in general, a decrease of -4.7% from 2008 to 2019. This general reduction was mainly a result of decreasing energy costs (-13.9%) and the value of physical capital (-20.2%), in line with the lower fuel prices in recent years and reduced fleet capacity from 2008 to 2019. Conversely, personnel costs (6.9%) and repair and maintenance costs (+5.1%) have increased compared to 2008.

In 2019, total costs decreased 4.0% compared to 2018, brought on by slight decreases in almost all cost items like energy costs (-3.1%), consumption of fixed capital (-6.5%) except for other variable costs (+2.9%) (Figure 2.12).

At EUR 1.7 billion, Spain generated more than a quarter of the total EU fleet revenue, followed by France (EUR 1.2 billion, 19.3%) and Italy (EUR 881 million, 13.4%) (see data tables in Annex 2).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020. Trends exclude Greece for time-series consistency

Average fuel prices remained relatively low during 2009 and early 2010, increasing steadily throughout late 2010 and remained until mid-2012, decreasing and then rising again in 2014. Just after a sharp decrease in 2016 and hitting a low in early 2016. Average fuel prices remained low throughout 2016 and 2017, increasing further throughout 2018 and 2019. By mid-2018, prices returned to 2015 levels.

<sup>7</sup> Total costs include crew wage costs, unpaid labour, energy costs, repair costs, other variable costs, other non-variable costs, annual depreciation and opportunity cost of capital (capital costs).

Fluctuations in fuel prices had a significant impact on the performance of the fleet. Energy costs in 2019 (65% of revenue) are significantly lower than those recorded in 2008, and from 2011 to 2013 (around 22%) but higher than in 2017 (14%).

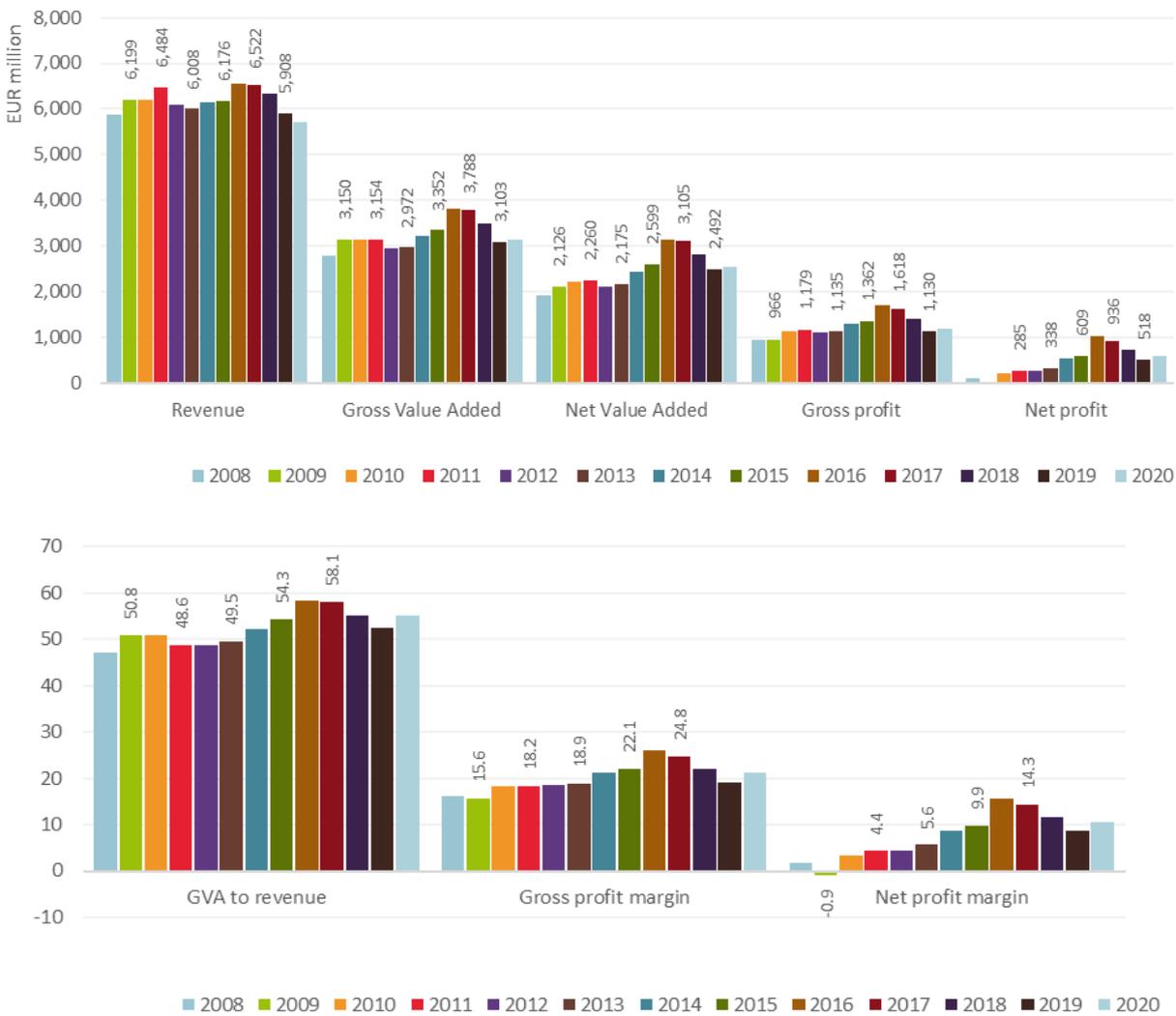
## 2.2 Economic Performance Indicators

Main performance indicators are provided by Member State and for the EU fleet as a whole in the Annex 2.

### Situation in 2019

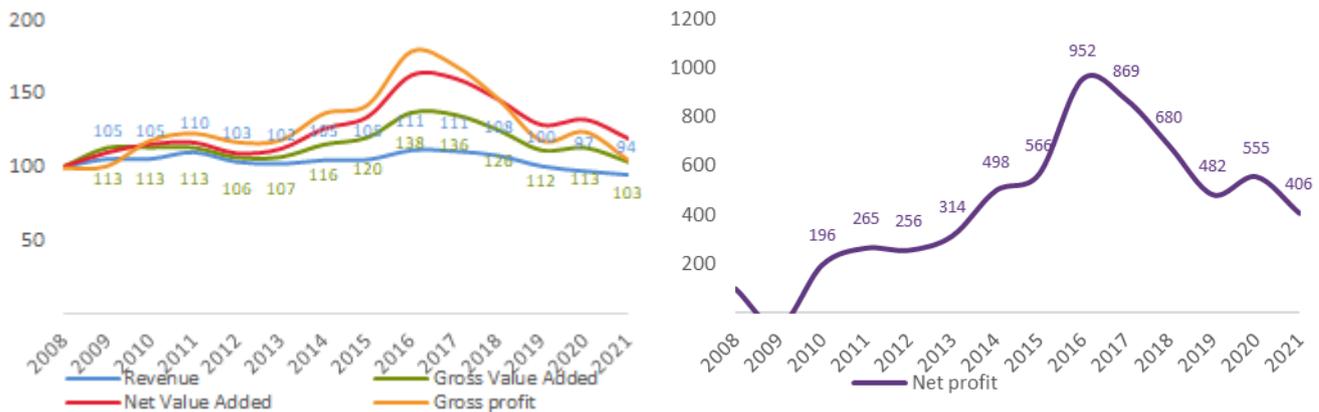
The GVA, gross profit and net profit (excluding subsidies) generated by the EU fishing fleet in 2019 were EUR 3.4 billion (10.7% decrease compared to 2018), EUR 1.2 billion (-17%) and EUR 595 million (-26%), respectively. Trends excluding Greece are shown in Figure 2.13.

In relative terms, GVA to revenue was 52.5%. 19.1% of revenue was retained as gross profit and, after deducting capital costs, 8.8% of revenue was retained as net profit. As depicted in Figures 2.13 and 2.14, results decreased somewhat compared to 2018.



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020.



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020/21. Trends exclude Greece for time-series consistency

An analysis of the 2019 economic performance by Member State revealed a mixed picture.

No one Member State suffered gross losses, while three generated net losses (Finland, Germany, and Cyprus).

The Spanish fleet generated by far the highest revenue (EUR 1.7 billion, -5%), GVA (EUR 855 million, -9%), gross profit (EUR 223 million, -22%), and net profit (EUR 125.4 million, -29%).

The French fleet generated almost EUR 1.2 billion (-7%) in revenue and EUR 707 million in GVA (-4.7%), followed by the Italian fleet, with EUR 1.1 billion (-4%) in revenue and EUR 529.3 million in GVA (-4%).

In relative terms, the Slovenian fleet generated the highest level of GVA relative to revenue (79.6%), followed by Romania (71.9%), Bulgaria (69.8%) and Denmark (65%).

The Slovenia fleet generated the highest gross profit margin (62%), followed by Bulgaria (53.9%) and Romania (51.4%).

### Capital value and investments

In 2019, the EU fleet had an estimated consumption of the fixed capital value of EUR 677.2 million. In-year investments amounted to EUR 399 million; a 17% increase compared to 2018. The Italian fleet had the highest consumption of fixed capital value, amounting to some EUR 149.2 million, followed by France (EUR 102.3 million) and Spain (EUR 98.3 million).

## 2.3 Resource Productivity and Efficiency

### Labour and Capital Productivity

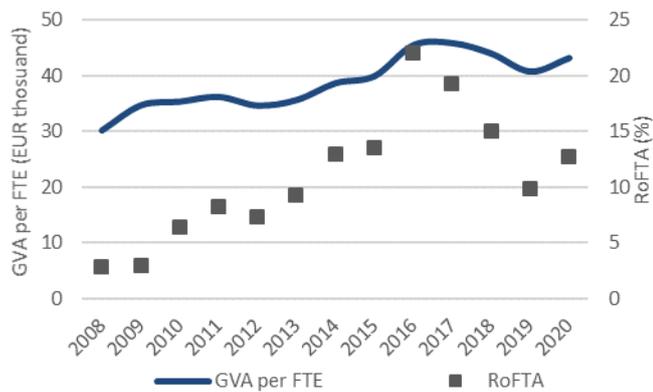
Apart from a small decline between 2011 and 2012, labour productivity of the EU fishing fleets has generally increased since 2008 (Figure 2.15).

However, in 2019, labour productivity was estimated at EUR 40 732 which implies a 7% decrease compared to 2018. The Danish fleet is reporting the highest level (EUR 279 544), followed by the Belgian fleet (EUR 177 330) and the Netherlands (EUR 87 803). Capital productivity, measured as the RoFTA, was estimated at 11.6%, where Latvia having the highest followed by Greece and Slovenia.

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

Labour productivity in the SSCF is estimated at EUR 24 188 per FTE, decreasing from 2009 until 2013 and increasingly improving since 2014. Capital productivity followed a similar trend but achieved better results from 2015 and recovering during 2018. In 2019, capital productivity (16.6%) declined compared to 2018.

Labour and capital productivity for the LSF and DWF show generally increasing trends over the entire period, with that of the DWF being more pronounced albeit with a significant drop in 2015, rebounding in 2016. However, both have continuously declined and reached lowest levels since 2017.



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020

### Energy use – fuel efficiency and intensity

In 2019 the total energy consumption by the EU fleet was 2 010 million litres. This was a 6% reduction compared to the average consumption of the period 2009-2018 (when not considering Croatia and Greece in the comparison). In terms of costs, the total expenditure for energy consumption was around EUR 1 003 million. This was a decrease of 17% compared to the average of the period 2009-2018 (also without Croatia and Greece in the comparison).

The quantity of fuel used by the EU fishing fleet is influenced by several factors, in particular by the number of vessels, the type of fishing operation and gear used. In 2019 the fleet counted 73 983 vessels with a tonnage of 1.33 million GT. Both, the number of vessels and gross tonnage have decreased during the period 2008-2019. Other factors are the type of fishing and gear used. For instance, in general a SSCF presents a lower tonnage and energy consumption compared to LSF with demersal trawling as fishing gear.

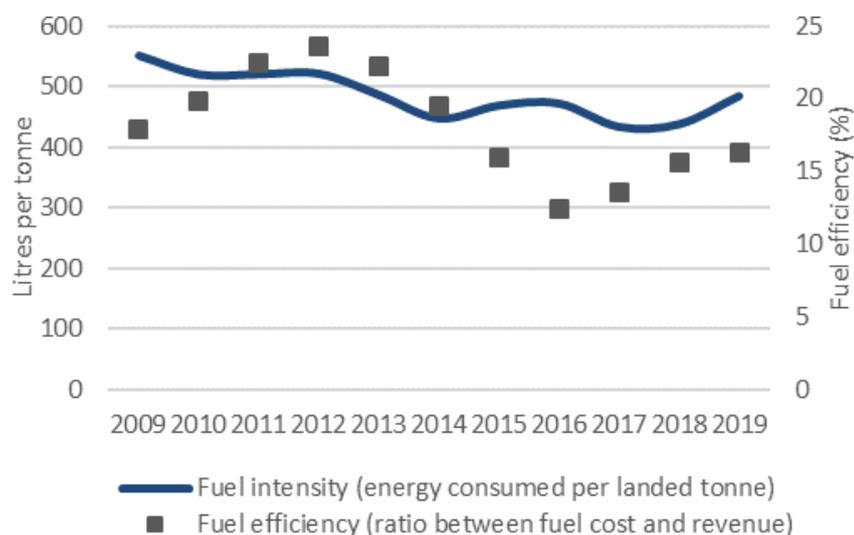
Fuel usage is measured in two ways:

- 1) Fuel intensity, i.e. the quantity of fuel consumed per quantity of fish landed (litre per tonne), and,
- 2) Fuel efficiency, the ratio between fuel costs and revenue, expressed as a percentage (%).

In 2019 the fuel intensity – the amount of fuel consumed per landed tonne – has declined since 2009 but stagnated from 2014 and onwards (Figure 2.16).

With the decrease in the volume of landings and almost similar level of fuel consumption in 2019, the amount of fuel consumed per landed tonne increased 10% compared to 2018; reaching 497 litres per tonne (Figure 2.16).

As the value of landings decreased in 2019 (6%) compared to 2018, the reduction in effort decreased a 2%. This resulted into a decrease in the landed value per day-at-sea (EUR 1 043 per DaS) for 2019.



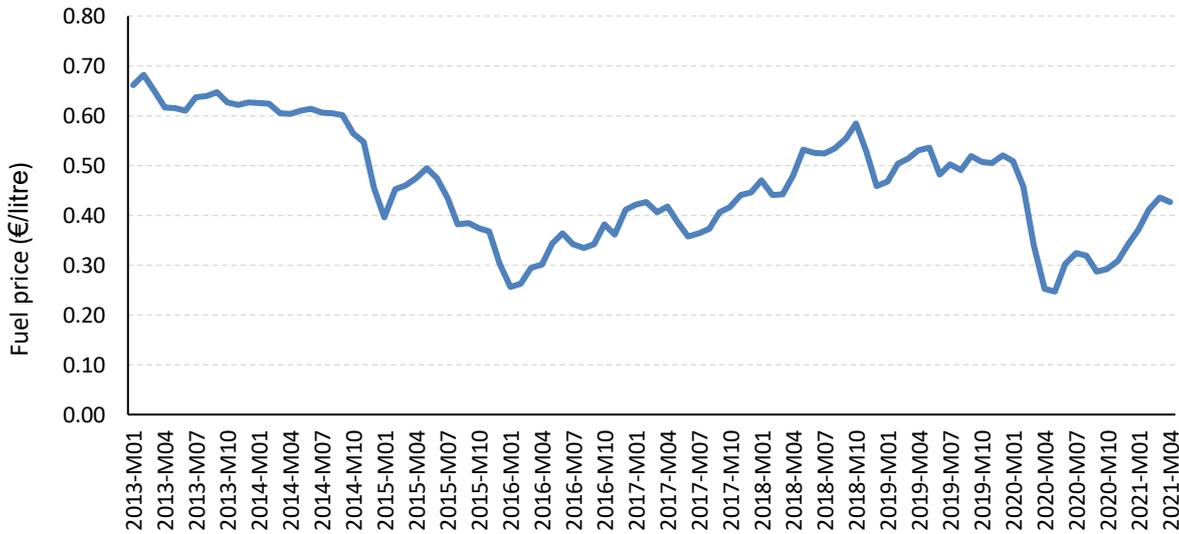
**Figure 2.16 Trends and variations on energy consumed per day-at-sea and per landed tonne**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Regarding to fuel efficiency, the lower the percentage the more fuel-efficient the vessel (i.e. less income is used to cover fuel costs).

The EU fleet has become more fuel efficient in the last 5 years when compared to the period 2009-2015. Fuel efficiency has decreased, i.e., the share of fuel costs has increased, since 2016. In 2019, fuel costs as a proportion of revenue were estimated at 16%, one percentage point higher than in 2018 (15%). In the last 10 years (2009-2018) the average fuel efficiency was around 19%, while in the period between 2009 and 2015 it was 21%. Improvement in fuel efficiency can largely be attributed to lower fuel prices. These 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).

### Marine fuel oil price: EU



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

Data source: EUMOFA database

The average fuel costs per DaS were EUR 166 for the total EU fleet in 2019. A slight decrease of 1% compared to 2018. The average fuel consumption was in total around 333 litre/DaS in 2019, a 2% increase from 2018. Calculated to fuel costs per landed weight it was an estimated 248 euro/landed tonne in 2019 (7% higher than in 2018). From the perspective of fleet size, there was almost no change with a decrease of 0.2% for kW and a 1.4% decrease of GTs from 2018 to 2019.

The total average fuel consumption per landed tonne was 497 litre in 2019 (535 litres per landed tonne when using clean data by fleet segment). For the SSCF this was 623 litre/landed tonne and for the LSF this was 529 litre/landed tonne (Figure 2.18).

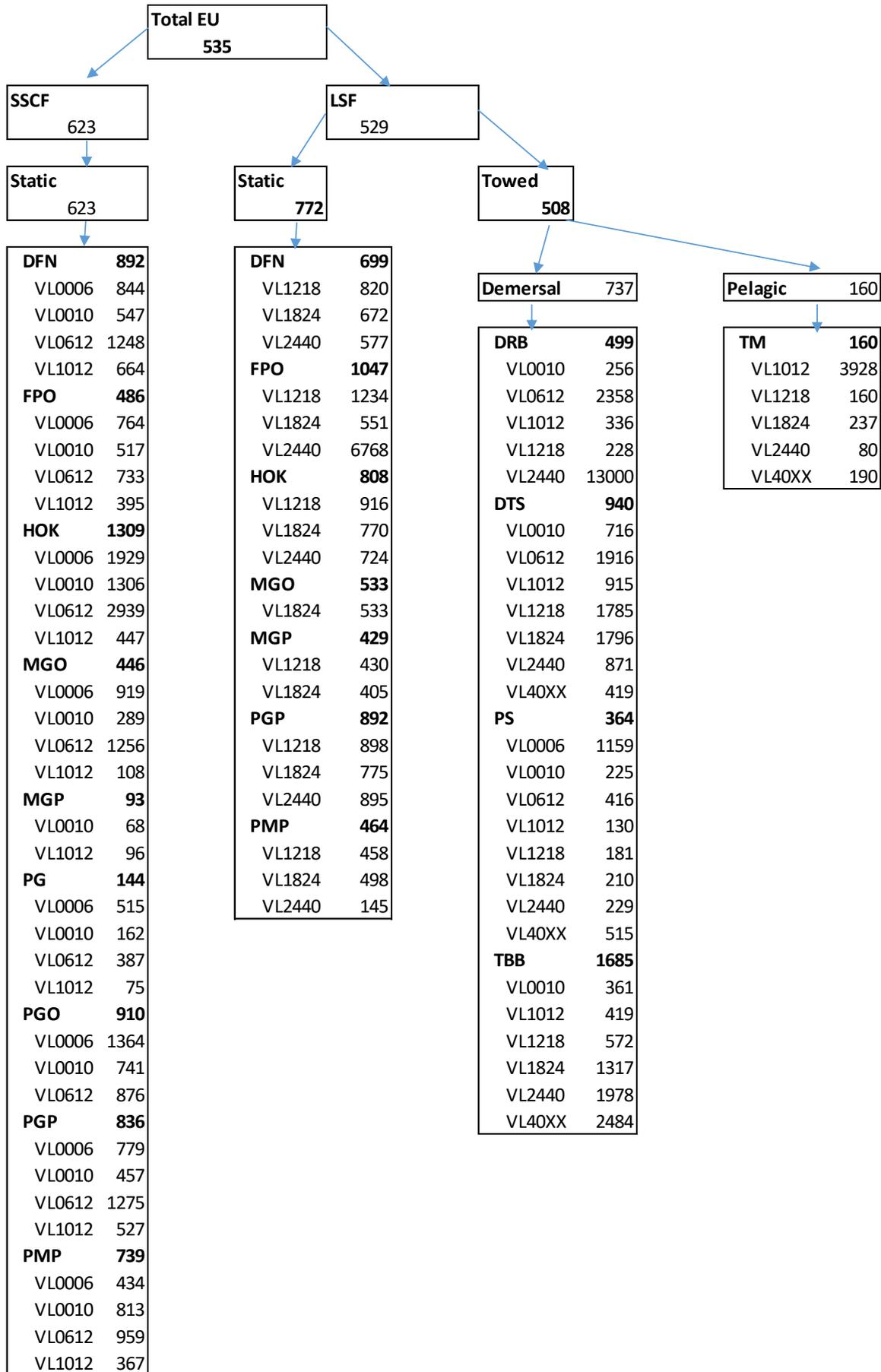


Figure 2.18 Energy consumption per landed tonne (litres per tonne) per fishing gear and segment in 2019.

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## 2.4 EU Small-Scale Coastal Fleet

### Introduction

This section provides a summary of the main findings for the EU SSCF and by main fishing region. Due to incomplete time-series, Other Fishing Regions (OFR) as well as the Greek fleet are excluded from the analysis (there are no EU small-scale vessels operating in the NAFO area). The Greek SSCF is the largest in number of vessels (10 712 in 2019) in the Mediterranean and 12 595; this should be taken into account when considering the analysis provided below.

### Main characteristics of Small-scale coastal vessels

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

### Key findings for 2019 and recent trends

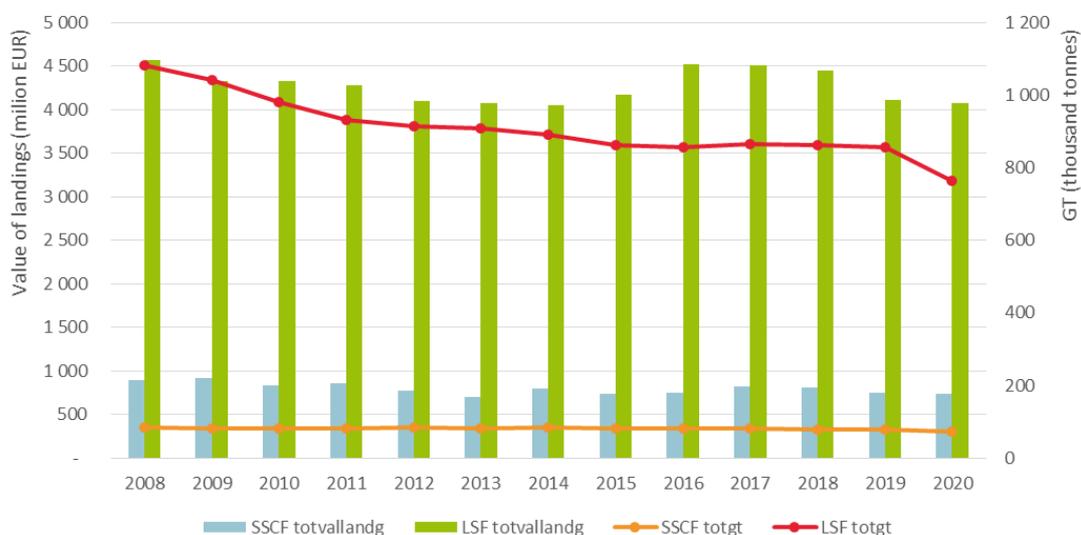
SSCF has recovered from 2013, but not as fast as the LSF. LSF vessels are becoming larger and faster, and are traveling farther from their homeports. Their investment capacity is higher and they use more sophisticated (and expensive) technologies than the SSCF and catching fish in shorter periods of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

For the EU SSCF, most of the indicators show a decline in performance from 2010 to 2013. This is particularly relevant for the Mediterranean area. From 2014 onwards, improvements are observed, surpassing 2010 results in 2016. However, a decline in performance is evident from 2016 to 2017, with a slight recovery in 2018 and stabilization in 2019.

### Fleet capacity and landings

The value of landings by the SSCF represented 13% of all EU landings in 2019, as in 2017 and 2018. In 2020 the total value of landings by the SSCF is expected to reduce compared to the previous triennium.

The number of vessels of the SSCF is 70% from the EU fishing fleet, however, in terms of GTs, they represent only 7%. A declining trend, with respect to the number of vessels, GT and value of landings, can be seen in SSCF and LSF segments (Figure 2.19).



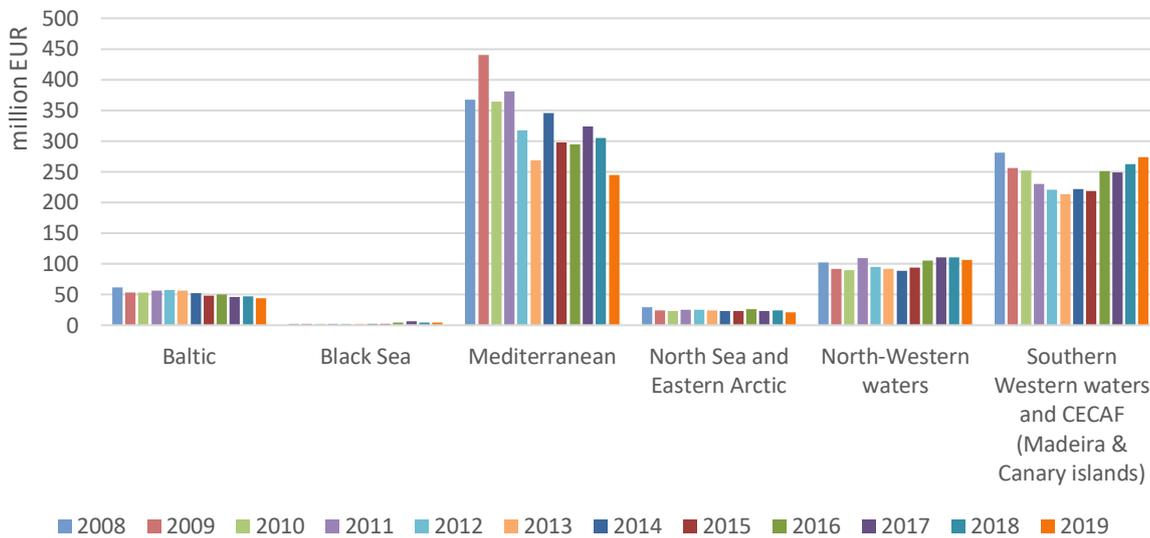
**Figure 2.19 Trends on the landings in value and vessel tonnage for the SSCF and LSF**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Nowcast values for 2020

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

Although it is not possible to fully verify in Figure 2.20, as it doesn't include the Greek fleet, the Mediterranean is the most significant region for the EU SSCF, representing 40% of the value of SSCF landings (EUR 583 000). The SWW and CECAF region is the second in terms of value of landings, being responsible for 27% of the total value of SSCF landings.

Data shows an increase in the value of landings of the SWW SSCF and NWW SSCF, while it declined in the Baltic SSCF (Figure 2.20). This last had an important impact on the profitability of the Baltic SSCF (Figure 2.27).

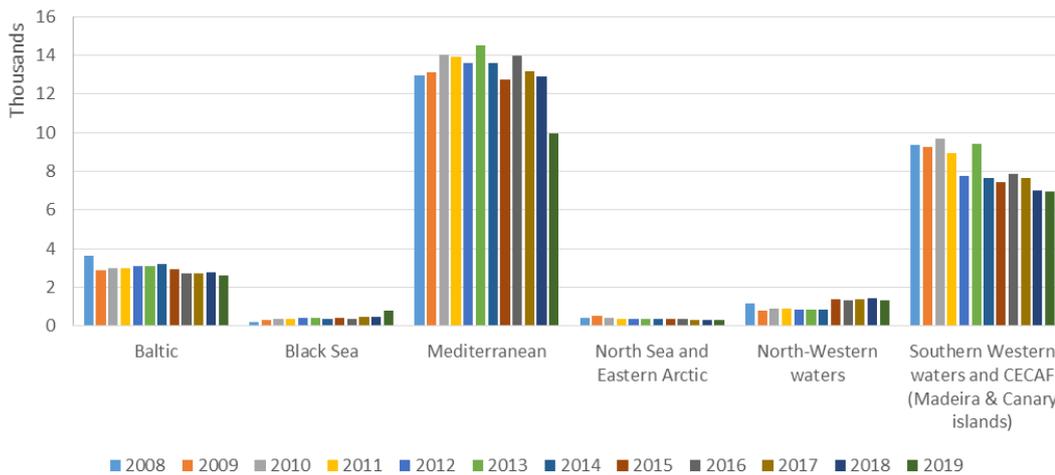


**Figure 2.20 Trends on landings in value for the SSCF by main fishing region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

### Employment

The Mediterranean generates the highest number of FTEs (10 000) followed by the SWW and CECAF (7 000). It is important to note that Greece, which is not covered by this full period analysis and which fleet operates mostly in the Mediterranean, and generated 12 595 FTE in 2019.

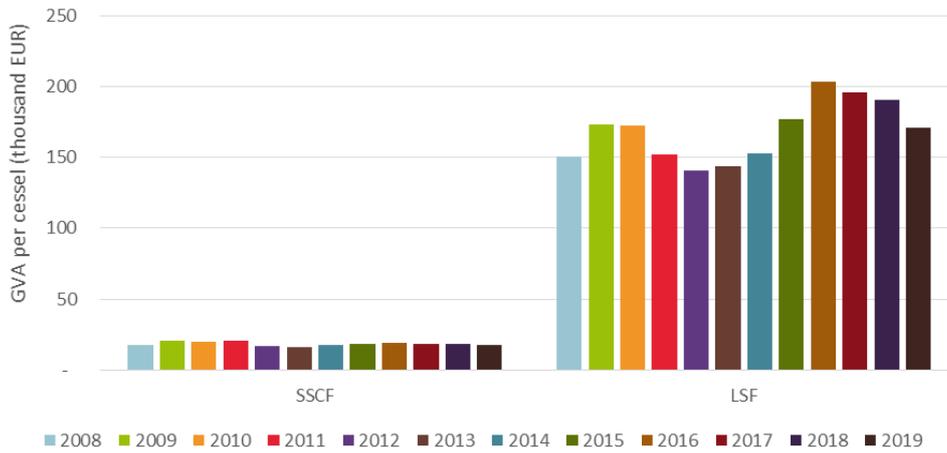


**Figure 2.21 Trends on FTE in numbers for the SSCF and LSF by main fishing region.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). Greece excluded due to incomplete time series.

### Economic performance

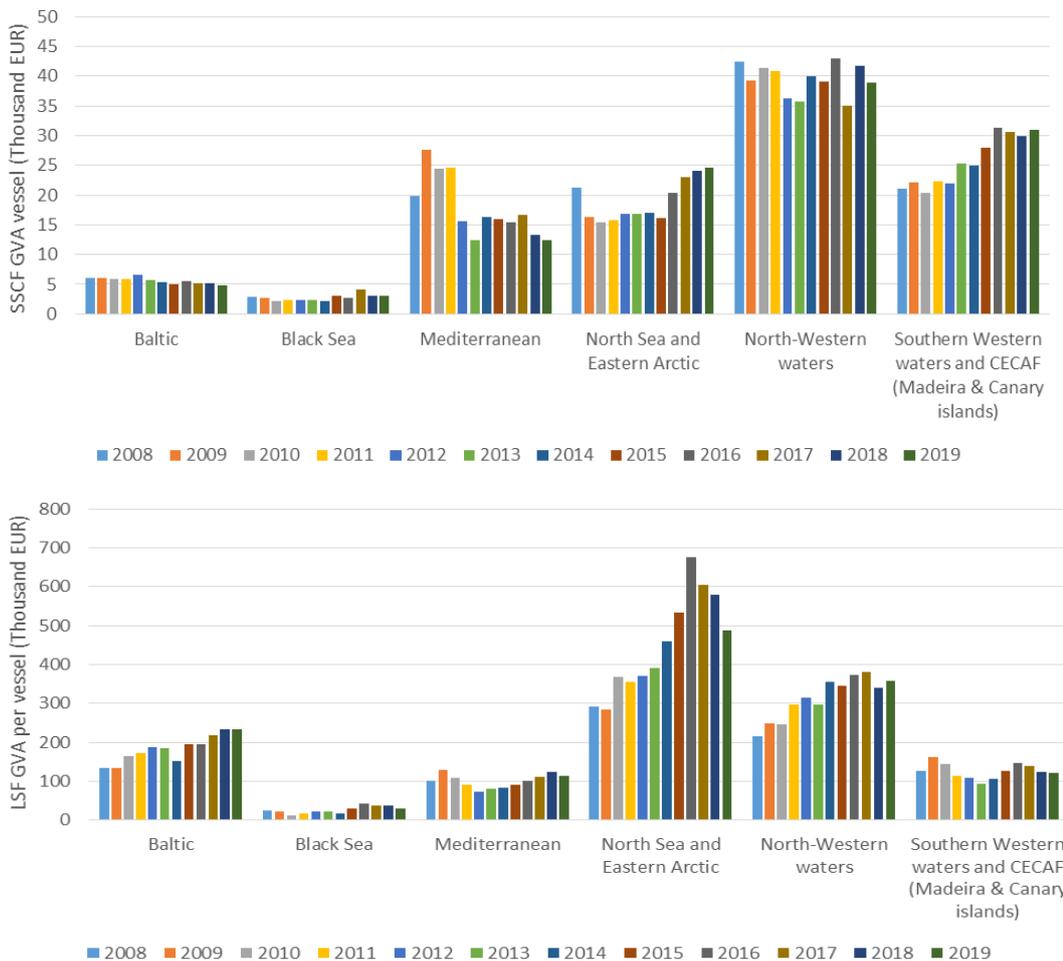
Figure 2.22 displays the difference between the SSCF and LSF in terms of the average GVA generated per vessel. The average GVA per vessel for the LSF shows a decreasing trend from 2016 onwards, while the SSCF, despite having decreased slightly, has been somewhat stagnated.



**Figure 2.22 Trends on average GVA per vessel for the SSCF and LSF**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

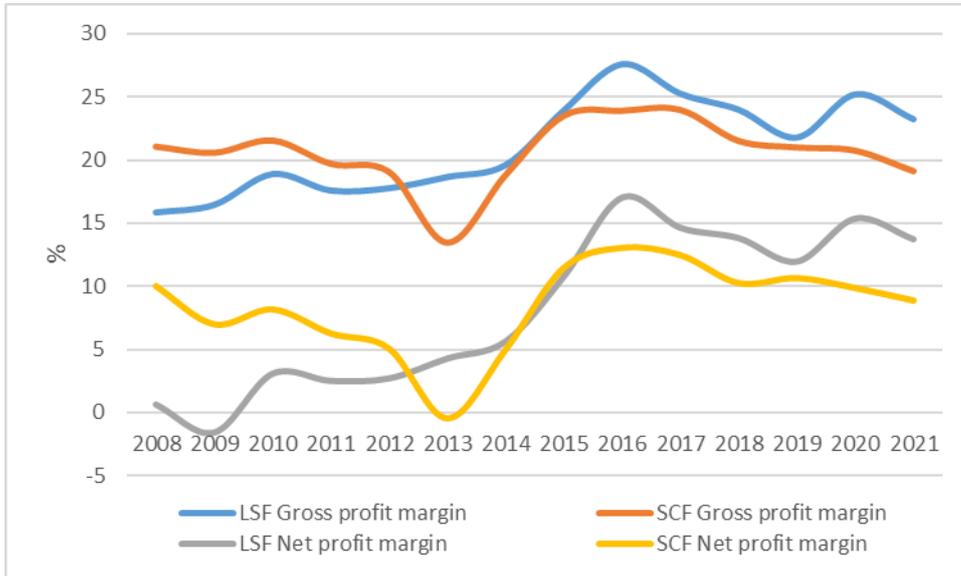
The average GVA per vessel for SSCF has generally decreased in the Baltic and Mediterranean regions while steadily increasing in the SWW region. The NSEA SSCF has also improved particularly since 2015, while the BS SSCF has been fluctuating. The NWW SSCF, whose average GVA has oscillated around EUR 35 000 and EUR 43 000 per vessel since 2010, generated in 2019 the highest GVA per vessel. This despite the NWW having suffered the biggest drop in GVA per vessel between 2017 and 2018 (-7%). In 2019, GVA per vessel increased in the SWW SSCF (+4%) and in the NSEA SSCF (+2%). In comparison, trends for the LSF have generally decreased in all regions except in the NWW where it increased by 5%. The biggest falls were in the BS and NSEA (-18% and -16%, respectively) (Figure 2.23).



**Figure 2.23 Trends on average GVA per vessel for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

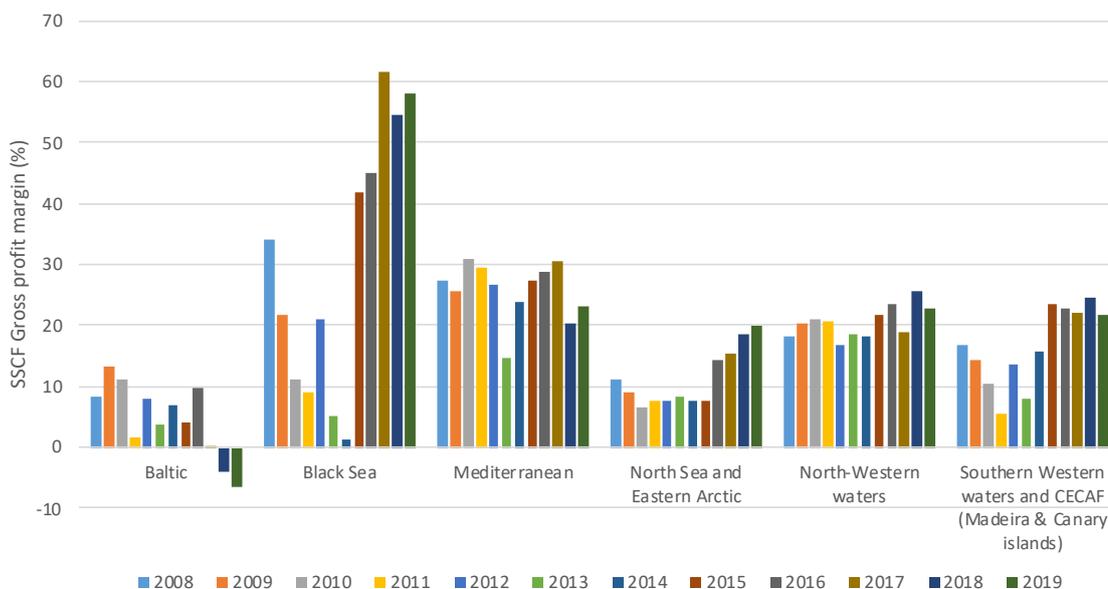
Unlike the LSF, both the gross and net profit margins for the SSCF declined significantly in 2013, probably reflecting the economic crisis experienced by the wider economy over that period. After 2013, the SSCF's two margins increased substantially, even surpassing the 2008 and 2009 results. The LSF followed a steady upward trend since 2009, apparently hardly being impacted by the economic crisis. Noting that the SSCF obtained higher profit margins until 2012, where the LSF surpasses and retains a better performance than SSCF until the end of the period analysed. In 2019, gross and net profit margins showed a small decline for the LSF and steady or slight increase for the SSCF (Figure 2.24).

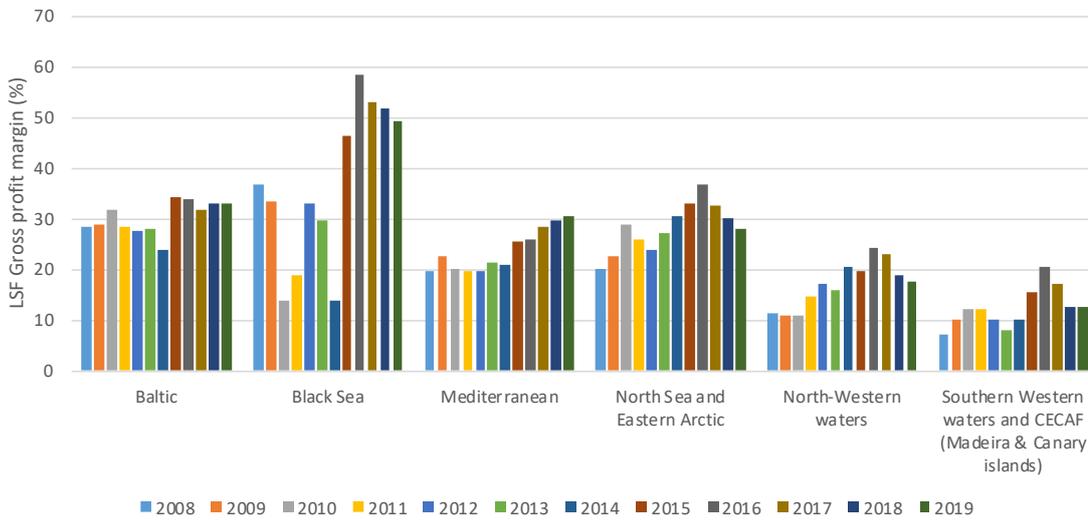


**Figure 2.24 Trends on gross and net profit margin for the SSCF and LSF**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

There is a large heterogeneity among regions as far as the SSCF gross profit margin is concerned. However, all fishing regions have generated positive profit margins over the period analysed, except the Baltic Sea region's fleet, which has fluctuated between losses and profits, hitting a record low in 2019. The Baltic Sea is the only region where the LSF had better performance than the SSCF along the complete time series. In 2019, the SSCF performed better than the LSF in all fishing regions, except in the Baltic Sea, NWW and SWW regions (Figure 2.25).

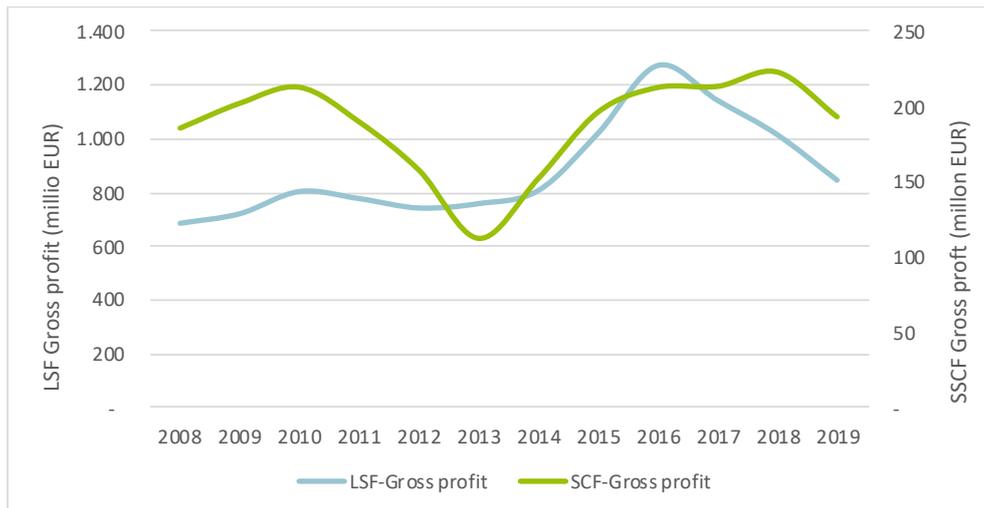




**Figure 2.25 Trends on gross profit margin for the SSCF (up) and LSF (down) by fishing region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2020)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

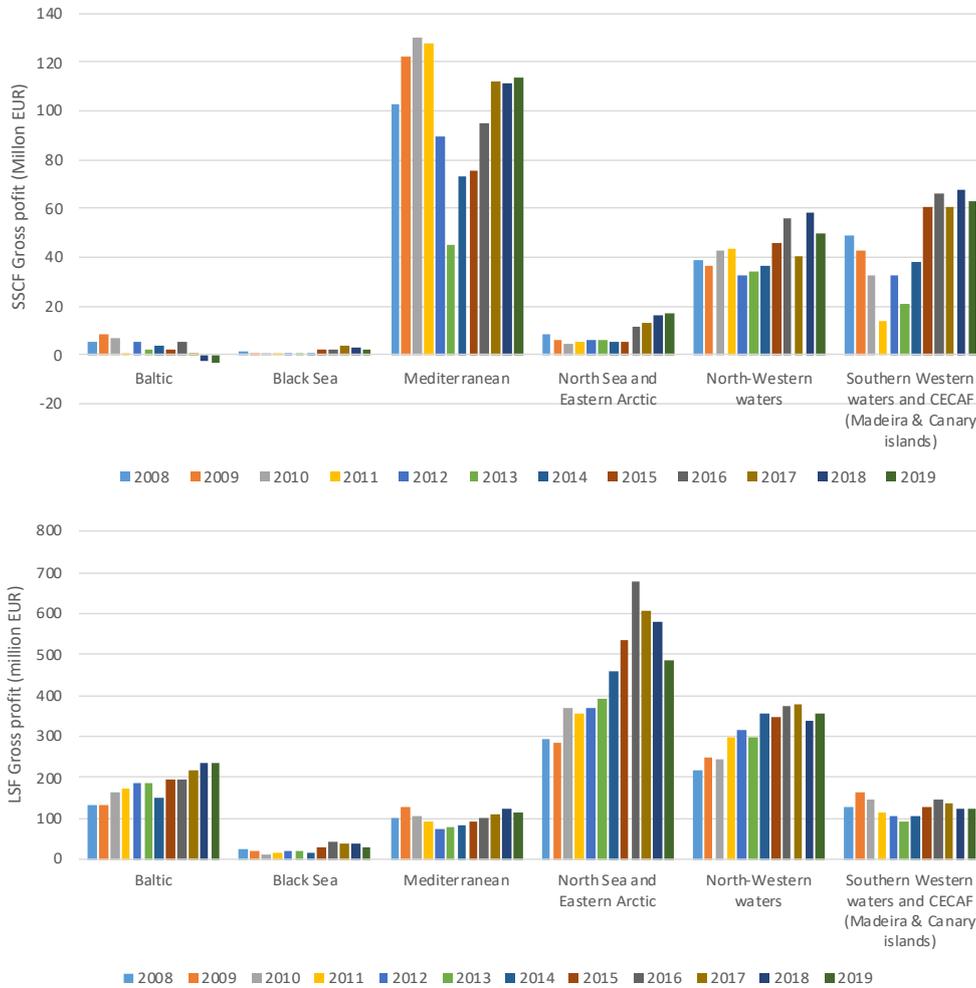
The gross profit generated by LSF and SSCF followed different trends: while for LSF, performance improved until 2016 and decreased thereafter, SSCF profits decreased in 2011 and 2012, reaching a low peak in 2013, improving continuously from then until 2018 (Figure 2.26).



**Figure 2.26 Trends on gross profit for the SSCF and LSF**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

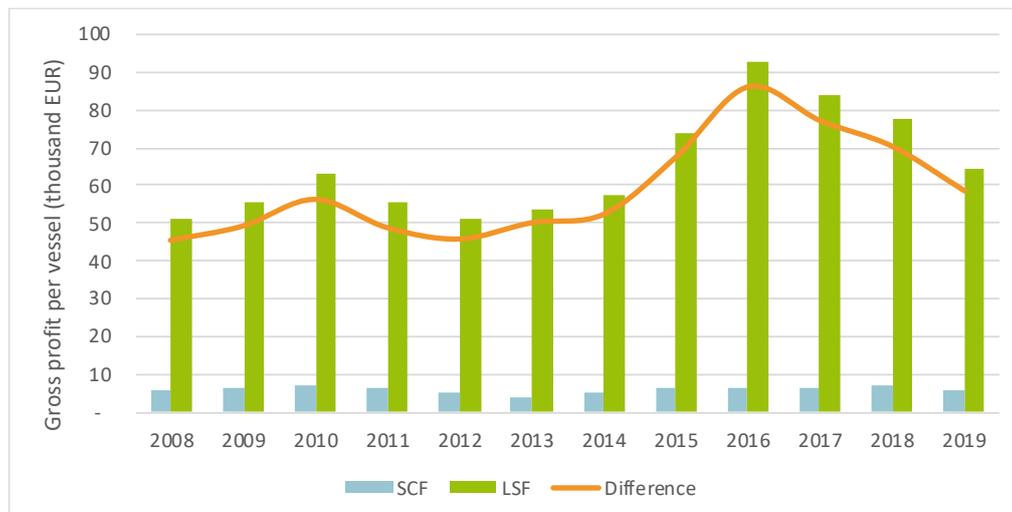
Figure 2.27 shows trends on the gross profit generated by the SSCF and LSF operating in the different EU fishing regions. SSCF in the Mediterranean, were hit the hardest by the financial crisis although other regions felt it too, albeit to a lesser degree, e.g. the NWW and SWW. However, significant improvements occurred after 2013 for the SSCF especially in the Mediterranean, despite the fact that it has still not fully recovered to pre-crisis of SSCF gross profits level. The LSF appears to have been less affected by the economic crisis, apart from vessels operating in the SWW and to a lesser degree, in the NWW region. Performance of the Mediterranean LSF fleet deteriorated in 2010, remaining poor until 2014, recovering in 2015 and finally almost surpassing 2009 results in 2019.



**Figure 2.27 Trends on gross profit for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

Figure 2.28 shows the average gross profit per vessel for SSCF and LSF, highlighting the difference between the two regions (orange line). The most significant deviation between the SSCF and the LSF occurred in 2013, mainly due to the high value of landings observed for the LSF. The divergence between the two segments increased until 2016 due to the improvement in the performance of the LSF but, since then it has been attenuated, essentially due to the reversion in the trend of the LSF results.



**Figure 2.28 Trends on average gross profit per vessel for the SSCF and LSF by fishing region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015). Greece excluded due to incomplete time series.

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

### EU Distant-Water Fleet (DWF)

The EU Distant-water fleet (DWF), comprises fishing vessels over 24 metres LOA flying the flag of a Member State and fishing predominately in non-EU waters. This fleet represents 0.4% of the EU active vessels and 1% of the effort (fishing days), but carries out 17% of all the landings (698 397 tonnes) of the EU in weight and 16% in value (EUR 978 million).

In 2019, there were 259 fishing vessels (Spain 79%, France 8% and Portugal 7%) with a capacity of 247 167 GT (19% of total) or 345 809 kW (6% of total), active in distant waters. Over the years, the number of DWF vessels has decreased (from 385 in 2008 to 259 in 2019), however, this has not impacted the level of catches and landings, which has remained the same and, some years, even increased.

It accounts for 5% of the employment (9% of the FTE) of the EU fishing fleet.

GVA was estimated at around EUR 301 million (9% of the EU total) and gross profit at around EUR 86 million (7% of the EU total). Estimated net profit was EUR 24 million (4% of the EU total). Compared to 2018, GVA and gross profit in DWF declined by 22% and 47%, respectively. In 2019 a remarkable decline compares to 2018 was observed in major DWF fleets of Spain and France, declining gross profit by 40% and 117%, respectively. However, in 2019 Portugal increased gross profit by 12%, whereas Lithuania from gross losses in 2018 improved to gross profits of EUR 10 million in 2019. Labour productivity (GVA per FTE) was estimated at EUR 37 224. On average, the salary of FTE in the EU DWF in 2019 was EUR 26 459 per year. All productivity indicators have improved significantly throughout 2008 to 2019. GVA increased by 80% and gross profit by 65%. An increase in GVA to revenue and gross profit margin (18%, 8% respectively) compare to 2008 was also observed. However, compare to 2018, GVA to revenue and gross profit margin decreased by 16% and 43%, respectively.

### 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.

Combined, the EU OMR (local) fleet numbered 2 765 active vessels in 2019. With 1 565 vessels, the French fleet was the most numerous, accounting for 56% of all active EU OMR vessels. The Portuguese fleet comprised 626 vessels (22.6%) and the Spanish fleet 574 vessels (20.8%). Martinique, with 639 active vessels, was the largest OMR fleet (by number), followed by Canary Islands (590), Azores (539), Guadeloupe (532), Reunion (196), French Guiana (116), Mayotte (114), Madeira (87) and St Martin (8).

Mostly small scale, these vessels operated 200 000 DaS for a total energy consumption of 23.4 million litres. Engaged crew was 7 180 for 3 214 FTEs. Landings from the OMR fleets combined amounted to 38 700 tonnes valued at EUR 148 million in 2019 (average price 3.7 euro/kg) The French OMR fleets accounted for 43% of the landings in value (30% in weight), followed by the Portuguese OMR fleets (38% in value, 42% in weight) and the Canary Islands fleets (19% in value, 28% in weight). The average price was respectively 5.3 euro/kg, 3.3 euro/kg and 2.6 euro/kg for the French, Portuguese and Spanish fleets. OMR fleets mostly supply local markets with fresh fish and relative high prices. The exceptions are some tunas and other large pelagic species which are often processed (canned, in loins or frozen) and exported to the EU mainland and also deep sea species from Azores. It is noteworthy that the price obtained for these species is very dependent on the international markets.

Gross value added was EUR 84.7 million (66.8% of the revenue) and gross profit was estimated to EUR 22.5 million. Some segments benefited from the EMFF funds (compensation scheme) to compensate the additional costs due to the outermost situation.

## 2.6 Demersal Trawlers and Seiners

Demersal trawlers and seiners contributed to 25% of total landing value, 26% landing weight, 35% of the revenues, 32% of the gross profit and the 18% of employment of the total EU fishing fleet in 2019. Overall, a reduction of all these indicators can be observed in the last 3 years. Specific details are provided in the sections below.

### Main characteristics of demersal trawlers and demersal seiners vessels

- The most commonly used gears are bottom otter trawl, followed by midwater twin trawl, otter twin trawl, bottom pair trawl and pelagic pair trawl;
- Around 70% of the landings in weight of trawlers are made by vessels using bottom otter trawl gear;
- Trawlers target mainly demersal fish (60% in weight of landings), small pelagic fish (15%) and crustaceans (5%);
- They cover a large fishing area;
- Trawlers represents second most significant part of the EU DWF in terms of number of vessels.

### Fleet capacity and effort

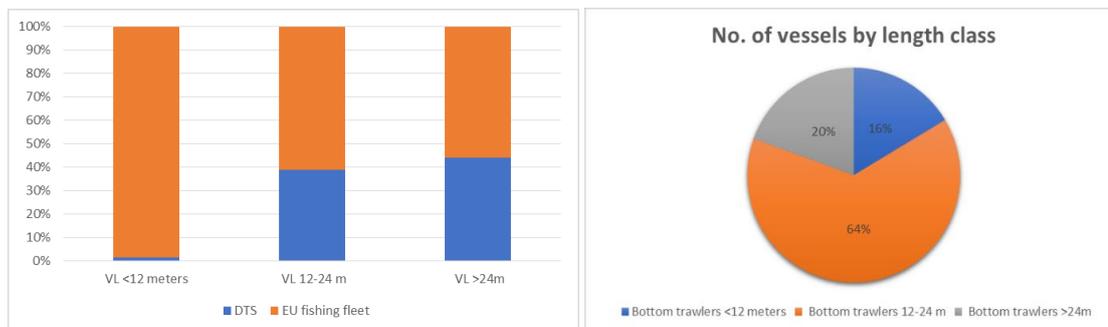
The number of vessels of the EU bottom trawlers fleet in 2019 was 5 378 vessels, 7% of the EU fishing fleet. However, in terms of GTs and kW they represent 35% and 26%, respectively. Number of vessels increased in 2019 by 3% compared to 2018, namely due to the increase of Italian DTS fishing fleet.

**Table 2.6 Demersal Trawlers and Demersal Seiners by number of vessels**

Number of vessels	Bottom trawlers <12 meters	Variation 2019-2018	Bottom trawlers 12-24 m	Variation 2019-2018	Bottom trawlers >24m	Variation 2019-2018
BEL	-		-		18	20%
CYP	-		-		5	-17%
DEU	4	-56%	32	23%	18	6%
DNK	20	-5%	150	1%	49	-4%
ESP	17	0%	563	-2%	307	-2%
EST	-		-		5	0%
FRA	255	-3%	320	-4%	103	1%
GRC	120	9%	109	-4%	136	-1%
HRV	145	-3%	184	-4%	9	0%
IRL	53	4%	99	-8%	48	2%
ITA	184	44%	1.765	-2%	207	30%
LTU	-		-		-	-100%
MLT	-		-		13	8%
NLD	-		17	240%	32	14%
POL	-		77	3%	1	0%
PRT	9	13%	16	0%	66	-1%
SVN	-		9	-18%	-	
SWE	76	-3%	107	-1%	30	-6%
<b>Total</b>	<b>883</b>	<b>6%</b>	<b>3.448</b>	<b>-2%</b>	<b>1.047</b>	<b>3%</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

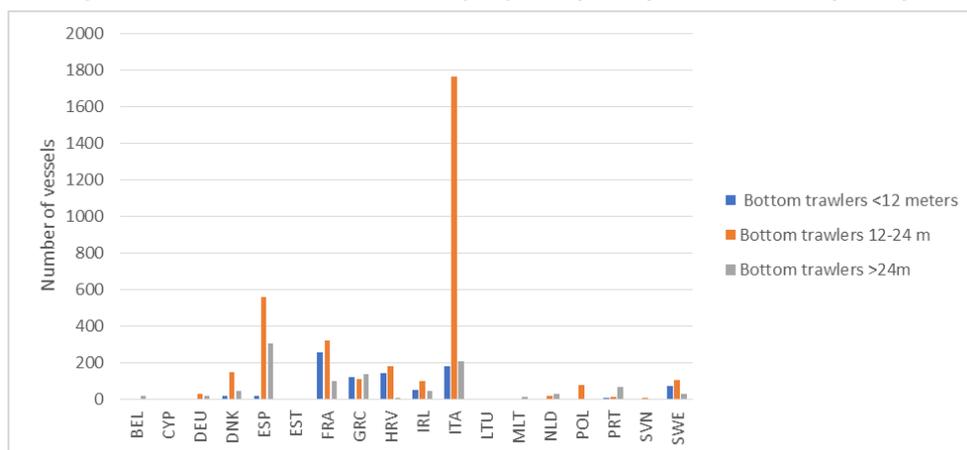
In terms of share in the total EU fishing fleet, bottom trawlers are most represented in the largest length classes of the fleet (LOA >24m), while their share in LOA <12m classes is small (less than 2%). The majority of the bottom trawlers belong to the LOA between 12 and 24 metres (3 448 vessels), followed by those above 24 metres (1 047 vessels) and those below 12 metres (883 vessels).



**Figure 2.29 Share of DTS segments in number of vessels in EU fishing fleet (left) and Number of DTS vessels by length class (right)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

Regarding number of vessels, the Italian DTS fishing fleet generates the highest share in the EU DTS fishing fleet with 40%, followed by Spain (16%) and France (13%).



**Figure 2.30 Number of vessels in DTS segment by Member State**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)).

In 2019, an estimated 855 000 fishing days were deployed, 2% more than in 2018. The number of days at sea for the EU bottom trawlers fleet represented 14% of the total EU fishing fleet in 2019.

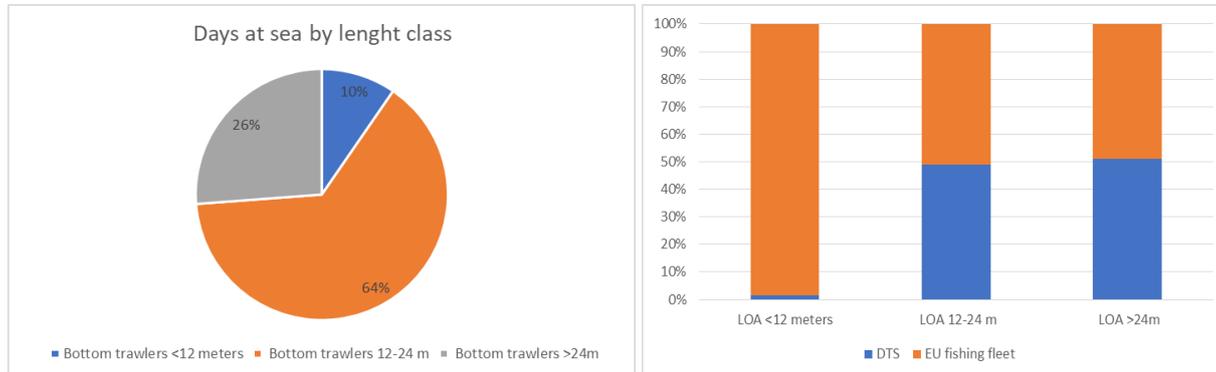
**Table 2.7 Demersal Trawlers and Demersal Seiners by days at sea**

Days at sea	Bottom trawlers <12 meters	Variation 2019-2018	Bottom trawlers 12-24 m	Variation 2019-2018	Bottom trawlers >24m	Variation 2019-2018
BEL	-		-		3.338	21%
CYP	-		-		765	73%
DEU	247	-62%	4.066	9%	3.883	6%
DNK	1.922	-19%	21.548	-2%	11.697	-4%
ESP	2.009	-3%	106.111	-3%	70.537	-1%
EST	-		-		-	
FRA	34.293	-10%	69.436	-5%	27.170	8%
GRC	9.636	-22%	17.384	-8%	29.399	-1%
HRV	13.396	-8%	22.215	-8%	1.839	-3%
IRL	642	-6%	19.254	4%	10.846	-2%
ITA	13.817	1%	263.648	-6%	35.275	13%
LTU	-		-		-	-100%
MLT	-		-		1.360	32%
NLD	-		2.644	221%	5.959	13%
POL	-		6.933	-14%	223	9%
PRT	1.781	8%	3.591	-2%	15.750	-1%
SVN	-		817	-26%	-	
SWE	4.012	-10%	11.230	-8%	5.843	-1%
<b>Total</b>	<b>81.754</b>	<b>-10%</b>	<b>548.877</b>	<b>-5%</b>	<b>223.884</b>	<b>2%</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

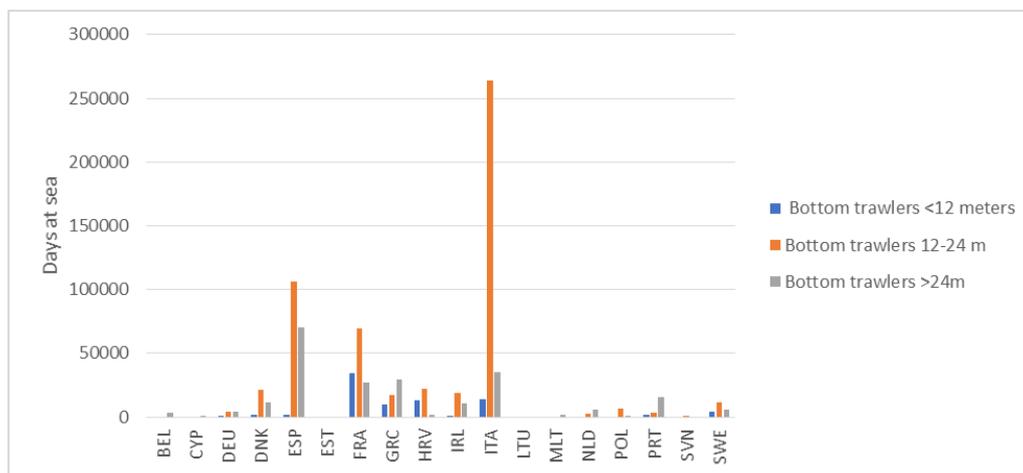
In terms of days at sea (DaS) in 2019, the majority belongs to DTS VL 12-24m (548 877 DaS), followed by DTS VL>24m (223 884 DaS) and DTS VL<12m with 81 754 DaS. Bottom trawlers are most represented in the largest length classes of the fleet (VL >24m with 51% of the DaS), closely followed by DTS VL 12-24m with 49%, while the share in DTS VL <12m is small (less than 2%).

Also in terms of days at sea and by Member State, the Italian DTS fishing fleet generates the highest share in EU DTS fishing fleet with 37%, followed by Spain (21%) and France (15%).



**Figure 2.31 Days at sea of DTS vessels by length class (left) and share of DTS segments in days at sea in the EU fishing fleet (right)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));



**Figure 2.32 Days at sea of DTS segments by Member State**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

## Demersal Trawlers and Demersal Seiners Distant water fleet (DWF) - capacity and effort

EU DWF bottom trawlers fleet comprised 77 vessels in 2019, covered 1.4% of the total DTS fleet and 0.1% of total EU fishing fleet. Bottom trawlers DWF fleets covered 2.5% (20 874) of the DaS deployed by the EU bottom trawlers fleet and only 0.3% of the entire EU fishing fleet. EU DWF bottom trawlers fleet is considered as very active fleet, reaching an average of 271 days per vessel in 2019. It consists of two Spanish segments (VL24-40 and 40-XX) and one Italian (VL40-XX).

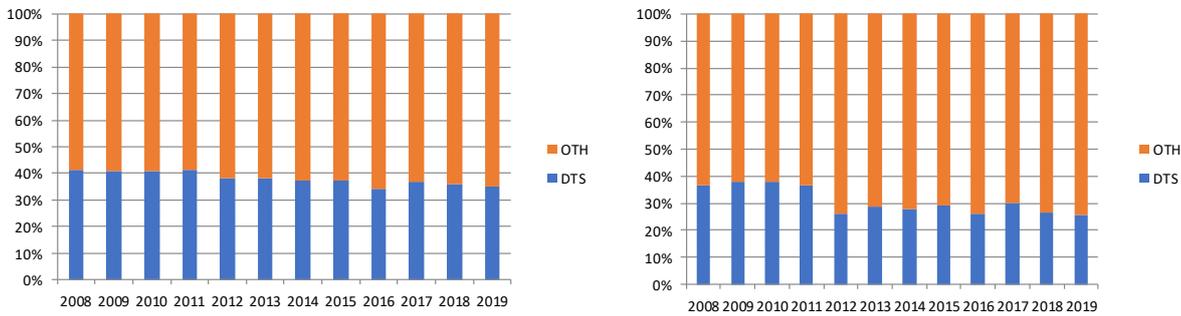
**Table 2.8 Capacity and effort of Demersal Trawlers and Demersal Seiners Distant water fleet**

Segment	Year	No. of vessels	Days at sea
ESP DTS 24-40	2019	38	10.907
ESP DTS 40-XX	2019	23	8.640
ITA DTS 40-XX	2019	7	1.327

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

## Landings

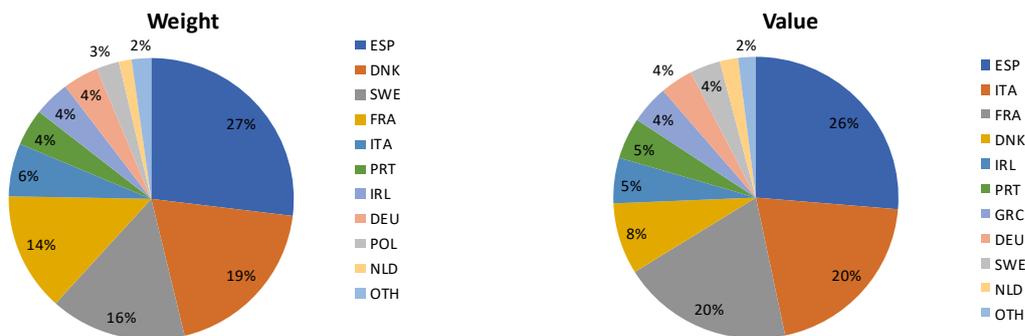
The EU bottom trawlers fleet landed 1.04 million tonnes of seafood in 2019, a decrease since 2018 (-12%). The value of landings reported were EUR 2.2 billion, an 8% decrease compared to 2018. Demersal trawlers contributed to 25% of total landing value or 26% landing weight of EU fishing fleet in 2019. The relative importance of the fleet in terms of share in total EU fleet landed weight and value deteriorated over the 2008-2019 period from 37% to 26% and 41% to 35%, respectively.



**Figure 2.33 Share of demersal trawlers (DTS) in total landed weight (right) and value (left), 2008-2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

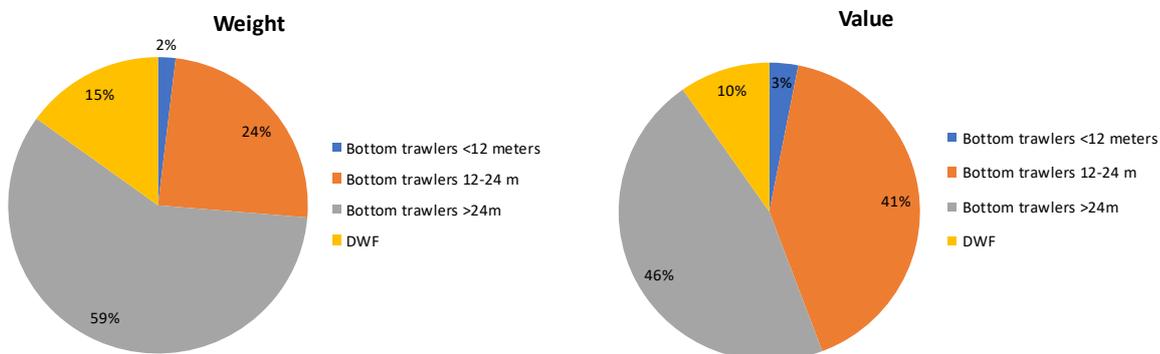
At EUR 577.1 million and 280 600 tonnes, Spain generated over a quarter of the total EU demersal trawlers fleet landings value or 27% of landings weight, followed by Italy (EUR 446.8 million, 20%), France (EUR 426.5 million, 20%) and Denmark (EUR 179.7 million, 8%).



**Figure 2.34 Share by MS in landed weight and value of demersal trawlers fleet, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

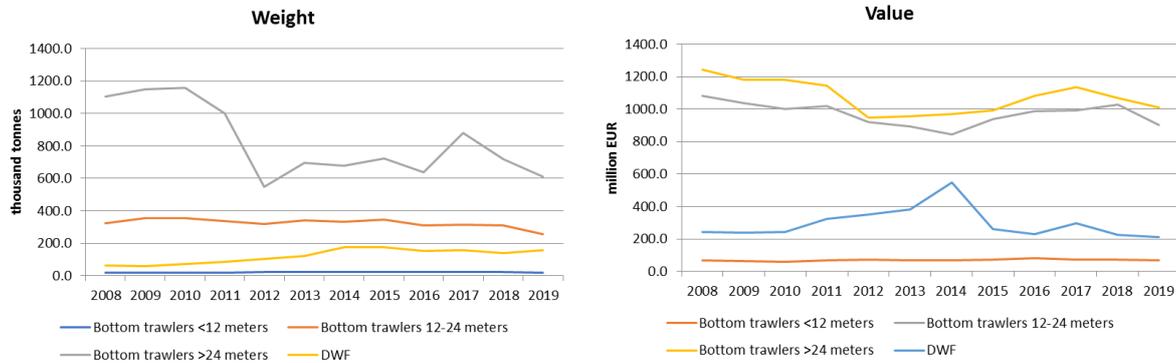
Bottom trawlers >24m made up the largest share in terms of landed weight of EU demersal trawlers fleet in 2019 (59%), followed by bottom trawlers 12-24m (24%) and DWF bottom trawlers (15%). The largest value of fish was as well landed by bottom trawlers 24-40 m, EUR 1 billion (46% share).



**Figure 2.35 Demersal trawlers fleet landings weight and volume structure by length classes, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

Despite changes in the landed weight and value observed between 2008 and 2019, the total value varied less than the total weight. This could be explained by the fluctuation of average fish price or changes in species composition over the period (decreased landings associated with higher average prices or increased importance of high value fish species). The demersal trawlers landings volume in 2019 decreased 21% compared to long time (2008-2018) average or 10% for landing weight, while the other EU fleet landings increased by 3% and 4%, respectively.



**Figure 2.36 Trends on landings in weight and value for EU demersal fleet, 2008-2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

**Table 2.9 Demersal trawlers, weight of landings by Member State, 2019.**

Live weight of landings	Bottom trawlers <12 meters	Variation 2019-2018	Bottom trawlers 12-24 m	Variation 2019-2018	Bottom trawlers >24m	Variation 2019-2018	DWF	Variation 2019-2018	Total	Variation 2019-2018
BEL	-		-		5 073 022	21%			5 073 022	21%
CYP	-		-		185 123	25%			185 123	25%
DEU	258 486	-49%	7 344 107	-5%	34 661 701	-12%			42 264 294	-11%
DNK	953 939	-52%	36 522 947	-48%	163 531 554	-28%			201 008 440	-33%
ESP	198 808	2%	28 041 065	-8%	96 733 072	-3%	155 601 894	11%	280 574 839	4%
FRA	11 244 125	-14%	65 270 677	-6%	65 057 644	-6%			141 572 446	-7%
GRC	656 220	-11%	3 576 103	-3%	9 207 051	-13%			13 439 374	-10%
HRV	809 155	-4%	2 728 165	-3%	565 864	-6%			4 103 184	-4%
IRL	1 833 410	-5%	20 827 204	5%	20 183 683	-5%			42 844 297	0%
ITA	696 692	-14%	50 461 840	-20%	11 044 557	10%	1 145 696	0%	63 348 785	-15%
MLT	-		-		167 016	27%			167 016	27%
NLD	-		2 671 050	154%	12 459 145	2%			15 130 195	14%
POL	-		22 517 286	-1%	4 246 088	-18%			26 763 374	-4%
PRT	634 498	35%	1 204 791	7%	42 214 141	11%			44 053 430	11%
SVN	-		73 632	-6%	-				73 632	-6%
SWE	2 369 741	-6%	13 136 557	-25%	145 631 509	-17%			161 137 806	-18%
<b>Total</b>	<b>19 655 074</b>	<b>-15%</b>	<b>254 375 422</b>	<b>-18%</b>	<b>610 961 170</b>	<b>-15%</b>	<b>156 747 590</b>	<b>11%</b>	<b>1 041 739 257</b>	<b>-12%</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

**Table 2.10 Demersal trawlers, value of landings by Member State, 2019.**

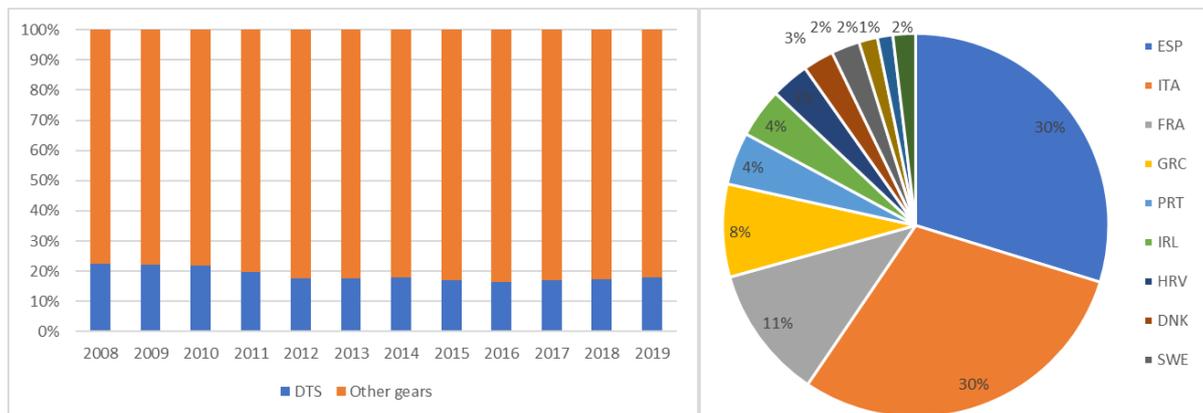
Value of landings	Bottom trawlers <12 meters	Variation 2019-2018	Bottom trawlers 12-24 m	Variation 2019-2018	Bottom trawlers >24m	Variation 2019-2018	DWF	Variation 2019-2018	Total	Variation 2019-2018
BEL	-		-		16 648 754	19%			16 648 754	19%
CYP	-		-		1 309 888	19%			1 309 888	19%
DEU	287 945	-49%	10 772 951	12%	70 426 824	0%			81 487 719	1%
DNK	2 132 006	-28%	70 259 994	-13%	107 295 780	-21%			179 687 780	-18%
ESP	955 535	-4%	146 491 144	-13%	221 639 079	-14%	207 972 293	-5%	577 058 050	-11%
FRA	43 670 817	-11%	208 467 997	-6%	174 378 695	2%			426 517 509	-4%
GRC	3 527 421	20%	25 843 109	15%	67 383 452	1%			96 753 982	5%
HRV	2 764 383	-1%	10 124 678	2%	2 261 164	-4%			15 150 225	1%
IRL	2 974 000	-16%	60 775 979	1%	50 770 537	-7%			114 520 516	-3%
ITA	5 276 622	-9%	327 919 437	-21%	108 340 846	14%	5 309 014	-6%	446 845 918	-14%
MLT	-		-		1 851 987	40%			1 851 987	40%
NLD	-		8 847 983	146%	36 599 930	-1%			45 447 913	12%
POL	-		8 653 046	-16%	-				8 653 046	-16%
PRT	2 483 168	17%	9 042 478	9%	92 533 592	-8%			104 059 238	-6%
SVN	-		406 054	-2%	-				406 054	-2%
SWE	3 590 551	13%	15 638 859	-5%	57 009 755	-1%			76 239 165	-1%
<b>Total</b>	<b>67 662 448</b>	<b>-8%</b>	<b>903 243 707</b>	<b>-12%</b>	<b>1 008 450 282</b>	<b>-6%</b>	<b>213 281 307</b>	<b>-5%</b>	<b>2 192 637 744</b>	<b>-8%</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). All monetary values have been adjusted for inflation; constant prices (2015).

## Employment

In 2019 EU bottom trawler (DTS) segments represented 18% of total EU fleet employment and compared to 2018 decreased by 1% to 23 100 employees corresponding to 22 500 FTE. DTS vessels under 12m length employed 1 711 fishers and represented 3% of total employment of the under 12 metres EU fishing fleet showing the low importance of bottom trawler segment in the EU fleet under 12 metres. Compared to 2018, number of employees in DTS under 12 metres increased by 2.5%. France

(508 employees), Italy (371 employees), Greece (296 employees) and Croatia (259 employees) represented 84% of total employment in 2019. DTS 12-24m fleet employed 11 800 fishers covering around 34% of crew in total EU 12-24m DTS segments and it decreased by 5% compared to 2018. Italy and Spain represented 66% of total employees in 12-24m DTS segments. In 2019, around 42% of employment in EU fleet above 24m (excluding DWF) were engaged in vessels operating with DTS and compare to 2018 number of employees increased by 3%. Around 68% of employees in DTS above 24m segments were represented by Spain (2 290 employees), Italy (1 084 employees) and Greece (965 employees). DWF bottom trawlers accounted for 34% of total DWF employment and compare to 2018 increased by 7% to 2 172 employees. Spain represented 96% of DWF bottom trawlers employment.



**Figure 2.37** Share of number of employees in DTS (left) and distribution by Member State (right)

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

**Table 2.11** Number of employees in DTS segments by length class and Fishing activity 2008-2019.

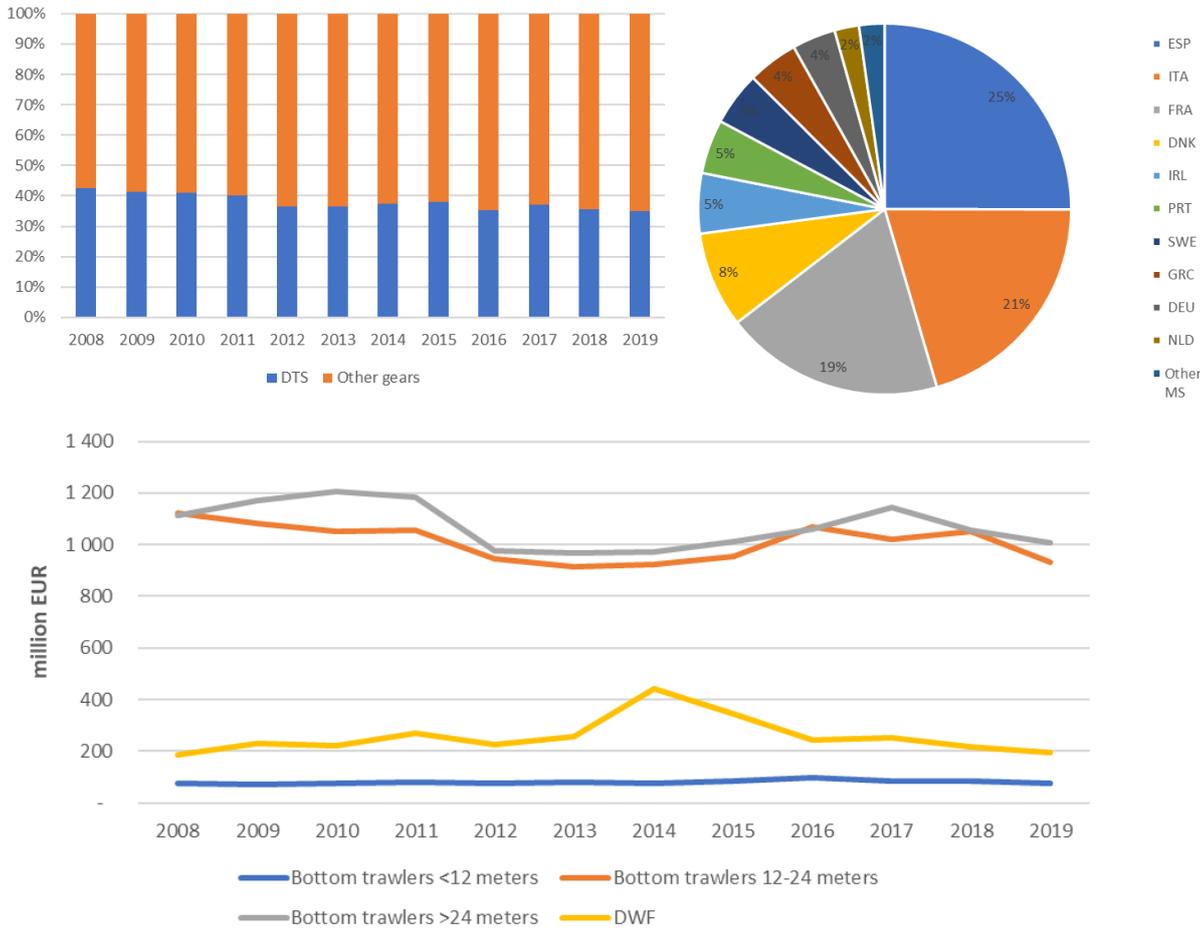
Fishing activity	Length class	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	%? 2019-2018	%? 2019-avg2008-18
LSF	VL0010	221	263	252	239	235	210	218	266	258	220	191	194	1.86	- 16.85
	VL0612	271	398	399	384	1 495	1 115	669	552	520	893	876	960	9.65	39.48
	VL1012	607	521	591	559	580	573	581	567	612	573	602	556	- 7.59	- 3.86
	VL1218	6 579	6 385	6 437	5 895	5 806	6 354	5 847	5 848	5 816	5 917	5 782	5 569	- 3.70	- 8.12
	VL1824	8 039	7 677	7 129	6 775	7 767	6 626	7 517	6 899	6 829	6 666	6 641	6 217	- 6.39	- 12.96
	VL2440	7 367	8 101	7 288	6 502	7 212	7 014	6 997	6 507	5 933	6 242	5 964	6 260	4.96	- 8.34
	VL40XX	2 329	2 057	1 934	1 675	1 216	1 393	1 275	1 219	1 253	1 277	1 259	1 186	- 5.80	- 22.75
DWF	VL2440	2 056	1 486	2 143	749	851	892	1 094	997	875	1 006	1 029	1 074	4.37	- 10.35
	VL40XX	975	917	1 104	1 084	1 118	957	1 042	928	902	1 076	1 001	1 098	9.69	8.77
<b>Total</b>		28 444	27 805	27 277	23 861	26 281	25 134	25 241	23 782	22 998	23 870	23 345	23 114	- 0.99	- 8.55

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021));

In 2019, labour productivity in bottom trawler segments, compared to 2018 decreased by 12% to EUR 46 500 of GVA per FTE. However, in relation to the 2008-2018 average, GVA/FTE in 2019 was 2.3% higher. The highest labour productivity was observed in DTS VL1012m (EUR 87 300) followed by DTS VL40XX (EUR 72 100). Bottom trawlers had 40% higher GVA/FTE productivity than the other EU fishing vessels.

### Economic indicators

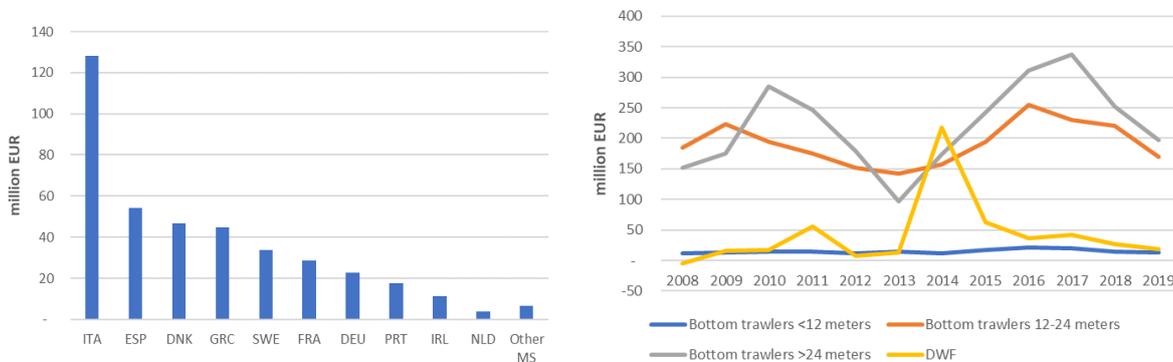
In 2019 EU bottom trawlers segments generated EUR 2.2, billion a decrease of 8% compared to 2018. Demersal trawlers contributed by 35% of revenues generated by EU fishing fleet. Around 25% of revenues in DTS segments were generated by Spanish fleet (EUR 554 million) followed by Italy (EUR 452 million) and France (EUR 421 million). Compared to 2008-2018 period, revenues generated by bottom trawlers were 9% lower.



**Figure 2.38 Revenues of EU demersal fleet by fishing gear, vessel length and Member State, 2008-2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Gross profit margin for EU bottom trawler fleet was 18% in 2019 (21% in 2018). 2019 gross profit margin was very close to the 2008-2018 average gross profit margin (19%). In 2019 the largest part of gross profit was generated by the Italian bottom trawlers (EUR 128.1 million), followed by Spain (EUR 54.3 million), Denmark (EUR 46.8 million) and Greece (EUR 4.7 million). Compared to 2018, gross profit for the EU bottom trawlers segments declined by 22.5%, mostly influenced by the largest demersal fleets from Spain and Denmark, which deteriorated gross profits by 34%. The largest drop of profitability was observed in the French demersal trawlers segment, corresponding to 49% decline. Of the total EU fishing fleet gross profit, bottom trawlers contributed by 32%, mostly from the DTS vessels 12-24m and above 24m of length. Net profit of EU bottom trawlers decreased by 38% in 2019 to EUR 158.7 million and reached the lowest level from 2014.



**Figure 2.39 Gross profit of EU demersal fleet by Member State in 2019 and by vessel length in 2008-2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 2.12 Economic indicators of EU bottom trawlers fleet 2008-2019.**

variable_name	fishing_a ctivity	vessel_len gth	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	%?2019- 2018	%?2019- avg2008-18
Revenue	LSF	VL0010	13.28	10.51	12.23	15.04	12.08	11.75	11.75	15.20	16.35	17.78	15.52	12.78	- 17.66	- 7.20
Revenue	LSF	VL0612	12.49	20.05	16.81	13.56	15.95	16.86	14.35	12.93	14.35	12.16	13.15	13.14	- 0.04	- 11.13
Revenue	LSF	VL1012	50.05	41.30	46.85	51.99	48.35	49.06	51.33	55.15	64.79	55.05	56.69	50.81	- 10.37	- 2.05
Revenue	LSF	VL1218	452.38	443.83	447.90	424.88	367.99	381.64	352.83	375.02	411.76	386.34	438.43	361.67	- 17.51	- 11.26
Revenue	LSF	VL1824	668.68	637.27	601.35	632.42	575.89	532.23	568.80	579.29	658.35	632.31	612.53	569.67	- 7.00	- 6.46
Revenue	LSF	VL2440	784.28	823.88	716.96	762.06	726.99	691.10	712.48	715.28	765.48	830.92	748.76	752.30	- 0.47	- 0.03
Revenue	LSF	VL40XX	327.62	346.43	487.75	422.61	249.85	274.80	258.09	295.07	296.10	312.65	305.69	256.26	- 16.17	- 21.19
Revenue	DWF	VL2440	94.73	132.50	99.17	76.38	73.11	95.57	220.38	114.99	93.00	80.01	60.04	58.07	- 3.27	- 43.96
Revenue	DWF	VL40XX	89.87	96.41	123.34	193.48	150.99	162.32	222.90	231.68	150.14	170.18	157.07	138.64	- 11.73	- 12.77
GrossValueAdded	LSF	VL0010	7.57	5.62	6.95	8.40	7.05	5.89	5.77	8.82	10.00	10.63	8.97	7.17	- 19.99	- 7.88
GrossValueAdded	LSF	VL0612	5.26	12.49	9.41	5.68	5.87	9.02	7.01	7.00	6.79	7.57	6.16	6.68	- 8.34	- 10.67
GrossValueAdded	LSF	VL1012	26.95	21.76	24.84	28.19	23.57	25.44	24.96	30.40	37.58	32.27	30.89	27.63	- 10.57	- 0.97
GrossValueAdded	LSF	VL1218	213.46	259.01	241.43	199.59	174.54	185.98	171.12	210.13	238.30	221.68	237.86	193.11	- 18.81	- 9.73
GrossValueAdded	LSF	VL1824	280.02	320.93	267.32	263.53	232.30	213.54	245.58	274.84	353.67	324.25	297.00	263.08	- 11.42	- 5.83
GrossValueAdded	LSF	VL2440	291.83	371.39	330.63	307.80	301.54	226.43	298.03	342.60	420.64	460.67	374.38	359.17	- 4.06	- 6.04
GrossValueAdded	LSF	VL40XX	158.92	165.25	286.55	241.77	124.21	141.09	134.73	187.64	185.55	193.09	177.97	130.14	- 26.87	- 28.30
GrossValueAdded	DWF	VL2440	9.75	26.26	20.47	25.34	21.24	19.21	161.76	40.32	27.04	18.05	0.70	11.67	1556.45	- 65.31
GrossValueAdded	DWF	VL40XX	27.04	43.47	52.79	81.34	36.55	51.63	101.18	84.59	55.01	79.31	78.81	52.96	- 32.80	- 15.78
Grossprofit	LSF	VL0010	- 0.05	0.93	2.13	2.49	2.30	1.61	1.89	3.32	4.08	3.30	4.48	2.69	- 39.91	11.72
Grossprofit	LSF	VL0612	2.30	5.44	4.14	2.29	1.06	4.15	2.31	3.44	2.69	4.13	0.58	1.36	135.99	- 54.12
Grossprofit	LSF	VL1012	9.23	6.33	8.18	9.97	8.08	9.31	7.03	10.21	13.89	12.04	9.72	8.62	- 11.36	- 8.83
Grossprofit	LSF	VL1218	89.15	106.54	100.26	79.21	66.34	74.27	65.52	95.91	106.90	100.49	104.66	75.92	- 27.46	- 15.59
Grossprofit	LSF	VL1824	94.94	116.36	94.77	95.62	84.84	67.80	91.17	98.16	147.89	129.86	116.47	93.31	- 19.89	- 9.80
Grossprofit	LSF	VL2440	83.67	109.31	122.56	113.66	127.78	31.46	110.77	131.50	204.34	229.11	159.85	150.18	- 6.05	16.01
Grossprofit	LSF	VL40XX	67.82	66.28	163.14	133.22	51.25	65.45	63.11	110.70	106.34	107.72	91.81	46.87	- 48.95	- 49.79
Grossprofit	DWF	VL2440	- 9.91	- 7.23	- 5.87	15.37	4.67	1.50	148.61	24.24	14.42	1.61	- 15.79	- 1.86	- 88.23	- 111.91
Grossprofit	DWF	VL40XX	5.54	22.65	22.94	40.41	2.41	12.23	68.49	38.62	21.38	39.79	42.03	20.96	- 50.13	- 27.14
Net profit	LSF	VL0010	- 1.02	- 0.64	0.22	0.69	0.74	0.17	0.52	2.14	2.34	1.07	1.11	0.08	- 92.74	- 87.94
Net profit	LSF	VL0612	1.16	3.69	2.52	0.52	- 2.01	1.55	- 0.64	1.12	0.48	2.37	- 1.80	- 2.06	14.22	- 352.98
Net profit	LSF	VL1012	5.87	0.75	2.96	3.48	1.43	2.98	0.50	3.48	7.55	6.06	4.19	3.73	- 11.12	4.48
Net profit	LSF	VL1218	37.91	49.80	44.67	27.40	16.44	29.88	24.99	55.94	68.17	64.10	68.88	41.78	- 39.34	- 5.85
Net profit	LSF	VL1824	- 13.29	- 2.57	- 13.65	- 14.11	- 10.56	- 15.53	8.71	16.23	70.10	53.19	45.70	32.12	- 29.72	184.42
Net profit	LSF	VL2440	- 60.09	- 59.42	3.06	- 1.01	10.27	- 86.23	- 0.53	28.73	116.79	140.43	73.53	57.63	- 21.63	283.01
Net profit	LSF	VL40XX	- 1.84	- 17.77	82.74	58.95	17.04	25.07	29.00	65.76	70.80	49.03	48.89	18.07	- 63.04	- 53.53
Net profit	DWF	VL2440	- 28.57	- 20.33	- 16.16	13.35	- 4.58	- 0.71	145.64	21.69	13.22	0.19	- 18.39	- 3.84	- 79.09	- 140.14
Net profit	DWF	VL40XX	- 7.73	9.15	9.53	28.47	- 6.66	3.41	59.13	28.74	11.84	28.07	33.48	11.27	- 66.34	- 37.20

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## 2.7 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, the declining trend of profitability from 2017 to 2019 is being observed. Net profit in 2019 decreased by 29% compared to 2018 although still 6% higher than the average of the 2009 to 2018 period.

Economic performance vary by Member State, fishing activity and region. All of the 22 EU coastal Member States fleets analysed recorded gross profits in 2019, which declined by 17% to EUR 1.251 billion. Net profit continued to elude three Member States fleets (Cyprus, Germany and Finland) but overall, the EU fleet made a net profit of EUR 595 million, 26% less than in 2018. The considerable decline of profitability in 2019 had a strong impact from the growth of operating variable costs. Compared to 2018, total revenues of EU fishing fleet decreased by 7%, following the decline of total DaS by 2%, whereas other variable costs increased by 3%.

Compared to 2018, the fleet spent less days-at-sea (-2%), 2% less fishing days and consumed almost the same fuel (-0.4%). Overall, weight and value of landings declined by 10% and 6%, respectively, compare to 2018.

GVA decreased by 11% compared to 2018 (EUR 3.4 billion); with a 6% reduction in FTE, and the average wages per FTE also decreased by 1.3% compared to 2018.

For the SSCF, GVA and net profit decreased by 7% and 2%, respectively, whereas higher drop in economic performance was observed in EU LSF fleet. GVA and net profit in LSF dropped by 10% and 21%, respectively.

In 2019, the EU DWF GVA decreased by 22%, gross profit by 47% and net profit by 60%, whereas fishing days increased by 6%. Weight and value of landings in DWF decreased by almost 2% to 698 000 tonnes or EUR 978 million.

With a fleet as diverse as the EU fishing fleet, operating in fishing areas across the globe, it is difficult to pin-point the underlying drivers of economic performance. In fact, different factors will have varying levels of impact on different fleets. However, several factors stand out, some more sector-specific than others, as the main driving forces behind the decline of profitability in 2019, mostly related to decline of fishing opportunities for the main target species.

### Summary of main drivers affecting economic performance

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

#### North Sea and Eastern Arctic

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

- Increase in the TACs over time for saithe, and Norway lobster.
- Atlantic herring, European plaice, haddock, saithe and Norway lobster in the North Sea are all managed at levels compatible with producing the MSY. However, not all Norway lobster stocks have a MSY analytical target.
- Increase in average prices for some of the main species, such as Atlantic cod, Atlantic mackerel and saithe.
- More vertical integration is being observed leading to shifts in ownership.
- Fuel prices remained almost unchanged.

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

- Decrease of average prices for Atlantic herring and common shrimp .
- Reduced TACs and quotas in 2019 for stocks such as North Sea herring (-40%), Atlantic mackerel (-20%), blue whiting (-20%), Atlantic cod (-35%) and plaice.
- Especially for the Dutch fleet, the ban on pulse fishing technique will raise fuel costs and decrease net profits when enterprises have to switch to the more traditional beam trawl or twinrig fishing technique.

## Baltic Sea

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

- Based on ICES advice in 2019, the stock for the sprat, which is a commercially important species, is exploited at levels capable of producing the MSY and harvested sustainably. The same applies to the Baltic herring stock in the Gulf of Riga.
- From 2017, the average price of cod recovered.
- The compensations from EMFF 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 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 Member States) may have significantly helped to improve the economic performance of certain fleets.
- While aging vessels, obsolete equipment and insufficient investment all lead to increased maintenance costs and reduce the profitability of the fleet, the EMFF does provide the possibility of engine replacement if the fishing capacity is proven to be in balance with exploitation. Some Member States have already introduced such schemes.

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

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

## North Western Waters

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

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

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

- An overall decrease in landed weight by 7%.
- Energy costs and usage increased even though overall days at sea decreased by 3%, in 2019.
- Average wage for LSF decreased by 3%.
- TAC reductions for mackerel.

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

- With the agreement of the TCA large impacts on fleets operating in the region are expected. Furthermore, there is a high dependency on United Kingdom waters for a number of Member States: Ireland, France, Spain, Belgium, the Netherlands and Germany. See Section 2.9 on TCA impacts in this report.

### South Western Waters

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

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

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

- Decreased TACs for a number of stocks, e.g. mackerel, hake and blue whiting.
- Low average prices for European anchovy and chub mackerel.
- Increase in fuel prices resulting in high energy costs, especially for pelagic fisheries.
- Certain potential economic and social impacts have been identified, such as additional handling time in sorting and storing of unwanted catches, regarding the LO. It should be also referred the difficulty in dealing with some catch composition rules currently in force, the role of choke species in mixed fisheries or, specifically, the loss of quota, low prices and technical difficulties for commercialization of fish non-directed for human consumption.

### Mediterranean Sea

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

- High average prices: in particular, the SSCF sold at higher prices compared to the LSF thanks to shorter fish supply chain, direct sales to end consumers and to restaurants. In 2019, an increasing trend in prices was registered for small pelagic species (anchovies and pilchards) and giant red shrimps. For the first time, the role of Producer Organizations has improved in recent years, with the adoption of initiatives aimed at improving product quality and a better control of the supply. For the giant red shrimps, the introduction of innovative market strategies, including the implementation of labelling and certification schemes helped the demersal trawlers to add value to the fishery product.
- Increase of the EU quota for bluefin tuna: this impacted positively the profitability of purse seiners and longliners involved in fishing this species. In 2019, in terms of value, bluefin tuna was the second most important species in the region (increase of 10% in value of bluefin tuna landings was observed for 2019 compared to 2018).
- Moderate decrease in fuel prices resulting in slightly lower energy costs, especially for pelagic fisheries and trawlers.

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

- Stock status: Mediterranean fisheries are highly multi-specific (mixed) and many of the stocks under assessment are reported as overexploited. According to the STECF, only very few demersal

stocks are currently being sustainably exploited, even if the recent trend shows some little improvements both in biomass and in the ratio  $F/F_{MSY}$  for some stocks and in some GSAs.

- SSCF is losing social and economic importance at local level: in 2019, the number of active vessels decrease by 6% compared to 2018 and this led to a job loss of about 4 000 fishers in one year. SSCF contribute to environmental sustainability by using fishing gears with a low impact on the marine environment and stocks, and to social sustainability through a short value chain and by selling fresh products that includes local species that are becoming less and less familiar to consumers; factors such as the high average age of fishers, the difficulty in attracting the younger generations, the poor working conditions and low wages severely affected the SSCF fishery in the region. Inefficient SSCF vessels with poor economic performance, exit from the sector or stay inactive. This option gives room for the remaining vessels to improve their economic sustainability.
- Energy efficiency is not improved in the region; this is due to a low level of investment in new fishing gear and equipment with lower environmental impact.
- Annual wages and salaries decreased; the reduction can be linked to the negative trend in revenues as, in most countries, labour costs are directly related to revenues and variable costs as the traditional based income sharing system between the ship-owner and the crew is the most prevalent.

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

- New management measures, in particular the introduction of fishing effort regime for demersal fisheries in Western Mediterranean and Adriatic Sea that have been introduced to reach the MSY related targets for the Mediterranean fish stocks.
- 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, based on the most recent data (FAO, 2021), an increase in effort and capacity of non-EU fleets is likely to still occur in some areas.

### **Black Sea**

After the trend for improvement of the fleet's economic performance between 2015 and 2017 with an increase in both gross and net profits, in 2018 both indicators decreased and this trend continue also during 2019 where the level of economic profitability decreased near the level of 2016 but still is not drop down significantly.

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

- An increase in the turbot quota for both Bulgaria and Romania in 2019 and 2020 together with management plan and for third countries fishing in the Black Sea.
- The stable average prices for some important species with significant landings as sea snail and maintaining the average prices for the other species.
- The sea snails stock in GSA 29 is fished below  $F_{MSY}$ , which means that fishing vessels and processing plants utilising this species will continue to provide employment in the region.
- Keeping the trend with lower fuel costs at the regional level is directly connected with the energy costs, which remain the major part of the expenses.

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

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

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

- The Black Sea fishery is highly dependent on very few species. In terms of landing weight and value, the sea snail is the most profitable species and according to the most recent available stock

assessment from 2017, its stock in the Black sea is fished below  $F_{MSY}$ . Sprat, which is the second most important fishery in economic terms, is evaluated as sustainably exploited.

- The GFCM has established a set of emergency measures for stocks in the Black Sea region to align the implementation of management measures by all countries operating in the region.

## EU long distant and OMR fleets

### Main factors affecting the performance of the fleet

#### OMR

- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet. The conch stocks is subject to worry and the fishery was closed for the 2020-2021 season.
- OMRs are 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.
- There has been no increase in the landing prices over the past ten years. One of the reasons given is the importation of seafood from international markets in a context of region's dependence on imports.
- Internal competition within the SSCF sector and in some cases with recreational fisheries.
- The sustainability of the sector is also threatened by the quality of habitats environment dependent on coastal development and agriculture.
- 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.
- The number of landings points is very important in Guadeloupe. The quality of port infrastructure is an important element for maintaining fishing activity and attracting young fishers. Efforts have been made by the competent authorities but the situation could be improved to facilitate the work of fishers.

#### NAFO

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

- All the EU fleets presented a good economic performance from 2014 to 2017 due to a high value in the key commercial species landed and energy efficiency. However, in 2018 they showed the lowest value of landings of all the time series (near EUR 93.2 million). In 2019, landings seem to have recovered both in weight and value.
- The witch flounder 3NO stock was reopened in 2015, following many years with no directed fishery. This may positively affect the Spanish and Portuguese vessels that have traditionally targeted the 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.

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

- Despite the increase in landings in weight and value in 2019, this has not been translated into higher profitability of the fleets, due to higher non-variable and variable costs. It makes that the gross profit margin in 2019 is considerably lower than previous years (i.e., decrease of 30%).
- Capacity, effort, and landings in weight have decreased in general since 2013. This seems to be consistent with the adaptive fishing strategies and business plans of the concerned fleets. In recent years, demersal fishing trawlers targeting cod and redfish have increased their annual level of catch in other 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.

- There is a slight but steady decline in employment (in FTE), although this might be partially linked to the modernisation of boats and mechanisation of processing activities at sea, together with a rotation system of the employed full-time staff on several fishing trips.
- The annual wages have increased since 2014 for the case of Portugal, Spain. Germany remained stable at high levels although in 2019 they have decreased.
- The increase in fuel prices and the lower average market prices have contributed negatively to the overall performance.

## ICCAT

- It is observed a continuous increase from the Spanish purse seiners in their catch data while the French purse seiners present a more stable pattern. The degree of dependency of the Spanish purse seine fleet reached a peak level in 2018 of above 70% of the share of value in landings. This might be partially linked to a displacement of effort or change of fishing strategy with less presence and activity in ICCAT due to combination of technical measures and FAD closure seasonal area to reduce catches of bigeye and yellowfin tunas in this area.
- The current regulatory framework with increased control of tuna landings and transshipments coupled with the implementation of technical measures such as 2 months' time closure for FADs might have a negative impact in terms of fleet presence of French and Spanish purse seine active vessels in ICCAT RA.
- Regarding shortfin mako, the Commission could not reach a consensus on annual catch limits but agreed to impose restrictions for vessels to catch and retain on board, tranship or land North Atlantic shortfin mako. Stringent measures and increases in observer coverage might likely have as well an impact in terms of catches of these species reported by Spanish and Portuguese surface longliners and a possible displacement of effort to other areas including the Indian Ocean.
- A full assessment of Atlantic bigeye tuna stock was conducted in 2018 with worrying results in terms of biomass. Efforts are being made to gather and collect missing datasets particularly from non-European longliners and purse seiners. However, the lack of a comprehensive and periodic control system to monitor quota uptake and the unilateral increase of capacity by many CPCs could hamper the process.
- In 2019, full scientific stock assessments were carried out for two species: yellowfin tuna and white marlin, while new projections were provided for the northern shortfin mako shark. Ongoing work will continue in 2020 in terms of assessment for mako which seems to be in a dire situation (according to SC, even with zero tonnes catch, biomass will decline until 2035) where ambitious rebuilding measures might be adopted including an improved data collection and registration of dead individuals as by-catches and release of alive specimens of the sea.

## IOTC

- The IOTC agreed to the mandatory use of non-entangling FADs from 1 January 2020 and use of biodegradable FADs from 1 January 2022. In addition, the IOTC further reduced the limit on active FADs to 300 for 2020 (down from 500 in 2015 and 350 in 2017) and the number acquired annually per purse seiner to 500 (down from 700). The non-entangling FADs should not have a great economic impact in the fishing activity of French and Spanish purse seiners as they have them already installed and internalized in their operating costs. However, the limitation of FADs per vessels could bring a considerable reduction of catch landings in weight and increase the number of days at sea.
- Skipjack and yellowfin tuna are the two main species fished in this area, both in terms of volume (over 85% of total) and value (84% of total). It has been noted a considerable increase in 2018 and 2019, in particular of catches of skipjack, representing near 60% of the total in both years .
- The Spanish and French purse seiners above 40 metres LOA show a high degree of dependency in this area. The Spanish purse seine fleet are around 70% (slightly above in 2018 and 69% in 2019) in value while the French purse seiners are above 60%. This confirms that the Indian Ocean is the main fishing ground for both fleet segments followed by ICCAT, where they have over 20% of their

value of landings. There is also one Italian purse seiner above 40 metres showing a 100% dependency.

- The stability of fuel costs and market first sale prices have contributed to sustain an overall gross profit and positive economic performance of the EU fleet targeting the tropical tuna species, mainly purse seiners. However, a contraction in their growth and benefits is shown which could be partly explained due to a higher ratio of catches for skipjack (of lower value) vis à vis large yellowfin in the catch composition. The reductions in catch of large yellowfin tuna in the Indian Ocean are the consequence of a sharp reduction of 15% in average in comparison to 2014 levels as a result of a regulatory decision adopted to tackle poor status of the stock in the area.
- 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, following lower quota than the one adopted by IOTC. The implementation of the catch limits by each Member State imposed more stringent management to reduce in average 17% of the catch average from the period 2014-2016. If we consider the EU catch by the reference year (2014), the effective reduction by EU flag state 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 has 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 vessel 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 is now caught in higher quantities than in the past while having a lower market value in overall terms.
- The reduced purse seiner activity is having serious socio-economic consequences not only for the European fleet, but also for the economies and livelihoods of some coastal countries in the Indian Ocean where these companies have investments and work with supply chains. Some of the detrimental effects are reduced access fees, lack of raw material at canning factories, and economic loss due to a drop of services and economic activity in several coastal countries.
- In terms of economic performance, it must be noted that some Spanish and French operators are the beneficial owners of purse seine vessels flagged and registered in third countries such as Seychelles which are coastal states of IOTC and have their own quota. Although this fleet is not part of the analysis under the EU-MAP, this might have an implication in terms of calculation of cost structure and economic returns for some of those companies which act as holding due to integration of their economic activities as European investments in third countries with likely financial transfers to the parent company.

## 2.8 Assessment for 2020 and outlook for 2021 and beyond

### Nowcasts for 2020 and 2021

The nowcast results for 2020 and 2021 for the main analyses are provided throughout each of the chapters (also in Table 2.7 and the Annex 2 data tables). This section summarises the estimates on the performance of the EU-27 fleet in 2020 and 2021, based on preliminary data. See Annex 1 for the methodology used:

- Preliminary results forecast a 1.1% drop in landed weight in 2020 compared to 2019 (-10.5% compared to 2018), accompanied by an 3% decrease in value, reflecting lower average prices (2% lower than in 2018).
- Nowcasts suggest that in 2020 there is a decrease in all costs compared to 2019, which is especially relevant for fuel costs (-19.6%). There is a slight improvement in performance results in 2020 in terms of GVA (+1%), gross profit (+7.6%) and in net profit (+10.4%); the latter also driven by the low interest rates affecting the opportunity costs of capital.
- In regards to the previous year's results, projections indicate that the EU fleet still continued to operate at stable profit margins in 2020.
- In relative terms, projected results show a GVA to revenue of 56% in 2020 (equal to 2018 and higher than in 2019), gross profit margin at 22% (up from 20%) and a net margin at 11% (up from 9%).
- Nowcast results for 2021 indicate a decrease of 4% in landed value in 2021 compared to 2020; and 5.5% less than in 2019.
- Nowcast results for 2021 indicate a decrease of 1.6% in FTE in 2021 compared to 2020; and 5% less than in 2019.
- In 2021, a 2.4% decrease in revenue compared to 2020 and 4% compared to 2019, is accompanied by an increase in fuel costs (16%) and labour costs (0.3%). The EU fleet as a whole is expected to reduce severely the profitability in gross (-7%) and net terms (-9.4%), although with still positive margins in both.
- By Member State, projected results for 2020 and 2021 indicate that all the national fleets generated gross profits, except Malta in 2021. Lithuania, at a gross loss in 2018, is projected to move to a positive position in 2020 in both, gross and net profits and in gross profits in 2021.
- With the exception of Estonia, Finland, Germany and Cyprus and Malta, all Member States fleets are projected to generate net profits in 2020 and Malta as well in 2021.
- Generally, the performance of most Member State fleets deteriorated in 2020, and further in 2021 specially compared to 2018 and is similar to the year 2019.
- By type of fishery the highest GVA decrease predicted in the 2020 (compared to 2018) is for the DWF (-20%), followed by the SSCF (-10%) and LSF (-7.7%). However, the reason for this fall are different. For DWF the prediction shows a reduction of fish prices close to 5%, for LSF and SSCF the main effect comes from decreased landings in weight (-12.5% and -8.3%, respectively) while prices remain relatively stable.
- In the 2021 the projections show any of these types of fisheries (DWF, LSF and SSCF) will recover. Furthermore, gross profits they will be hampered by the increase in fuel costs observed in the first semester of the year 2021. However, it is also projected that the three types of fisheries will be profitable, both in 2020 and 2021.
- At regional level, the Mediterranean and Black Sea supra-area and the Other Fishing Regions are predicted to suffer a highest drop in the gross value added in 2020 compared to 2018 (and similar values to 2019). However, in 2021, in the North Atlantic supra region which is the one predicted to show the highest reduction in this indicator, compared to 2020.

Table 2.13 Main results for the EU-27 by Member State fleet for 2019 and nowcasts for 2020 and 2021

	Gross Value Added (EUR million)			% diff 2020- 2019	% diff 2021- 2020	Gross profit (EUR million)			% diff 2020- 2019	% diff 2021- 2020	Net profit (EUR million)			% diff 2020- 2019	% diff 2021- 2020	GVA to revenue (%)			% diff 2020- 2019	% diff 2021- 2020	Gross profit margin (%)			% diff 2020- 2019	% diff 2021- 2020	Net profit margin (%)			% diff 2020- 2019	% diff 2021- 2020									
	2019	2020	2021			2019	2020	2021			2019	2020	2021			2019	2020	2021			2019	2020	2021			2019	2020	2021			2019	2020	2021	2019	2020	2021	2019	2020	2021
	BEL	36.7	36.8			28.4	0%	23%			9.8	12.3	7.0			25%	-43%	2.5			4.9	0.3	97%			94%	47	52			46	10%	12%	13	17	11	37%	35%	3
BGR	4.5	2.9	2.6	-37%	8%	3.5	1.8	1.7	47%	-9%	3.6	1.8	1.5	51%	13%	70	58	55	-17%	6%	54	37	35	31%	-8%	55	36	31	36%	12%									
CYP	2.9	2.9	2.8	0%	-2%	1.6	1.6	1.6	0%	-5%	-0.6	-1.3	0.5	131%	61%	42	42	41	0%	-2%	24	24	23	0%	-5%	-8	-19	8	131%	60%									
DEU	61.5	59.9	56.6	-3%	6%	17.9	18.8	15.5	5%	-18%	-7.9	5.3	-7.5	33%	41%	49	53	50	8%	5%	14	17	14	17%	17%	6	5	7	26%	42%									
DNK	275.2	283.6	239.9	3%	-15%	161.2	179.2	144.8	11%	-19%	86.4	108.5	77.9	26%	28%	65	69	65	6%	6%	38	44	39	15%	10%	20	26	21	30%	20%									
ESP	855.4	865.0	805.6	1%	-7%	222.9	235.7	188.1	6%	-20%	125.4	134.6	95.3	7%	-29%	49	50	48	2%	6%	13	14	11	7%	19%	7	8	6	9%	28%									
EST	8.1	7.1	6.6	-13%	-7%	2.9	2.4	2.1	-17%	-13%	0.8	0.3	0.1	-137%	123%	57	57	55	0%	-2%	20	19	17	5%	-9%	6	2	1	142%	124%									
FIN	17.4	15.6	13.1	-10%	-16%	8.5	8.3	6.6	3%	-20%	-8.5	9.4	-9.1	11%	-3%	49	52	49	6%	6%	24	28	25	14%	-11%	-24	-32	-34	31%	-8%									
FRA	592.3	600.8	536.0	1%	-11%	134.2	157.9	106.6	18%	-32%	43.0	68.6	23.3	59%	66%	48	51	48	6%	-7%	11	14	9	23%	30%	4	6	2	67%	65%									
GRC	266.4	256.4	244.4	-4%	-5%	121.1	111.1	100.6	8%	-9%	76.8	59.7	55.9	22%	6%	63	60	56	4%	-7%	28	26	23	8%	-11%	18	14	13	22%	-8%									
HRV	50.5	49.8	44.3	-1%	-11%	23.8	21.8	17.0	8%	-22%	4.0	1.2	0.5	69%	-60%	59	58	54	-1%	8%	28	26	21	8%	-19%	5	1	1	69%	58%									
IRL	150.8	147.0	135.1	-3%	-8%	52.5	54.1	45.4	3%	-16%	40.2	37.8	33.4	6%	-12%	50	53	51	7%	-5%	17	20	17	14%	13%	13	14	13	4%	-9%									
ITA	545.4	562.8	537.0	3%	-5%	295.0	307.4	281.6	4%	-8%	137.9	155.3	139.2	13%	-10%	62	64	61	3%	-5%	33	35	32	4%	-9%	16	18	16	13%	11%									
LTU	17.7	16.8	13.8	-5%	-18%	10.6	11.0	8.1	4%	-26%	2.7	3.8	1.0	39%	-73%	23	26	21	14%	-18%	14	17	12	25%	27%	4	6	2	66%	-73%									
LVA	7.6	6.9	7.0	-10%	2%	3.2	2.8	2.7	-11%	-3%	2.8	2.4	2.3	14%	-2%	42	44	43	3%	-2%	18	18	17	2%	-7%	16	15	14	1%	-6%									
MLT	7.6	4.3	3.7	-43%	-14%	3.5	0.5	0.0	85%	-102%	2.2	0.6	-1.2	-128%	100%	57	46	41	-19%	-11%	26	5	0	-79%	-102%	17	6	-13	139%	-107%									
NLD	146.9	149.9	122.5	2%	-18%	43.9	52.6	31.1	20%	-41%	27.2	33.6	13.3	24%	-61%	43	47	41	9%	12%	13	17	11	29%	37%	8	11	4	33%	58%									
POL	23.2	18.9	14.1	-19%	-25%	6.4	7.9	4.1	24%	-48%	4.0	8.1	4.8	100%	40%	55	59	52	8%	12%	15	25	15	64%	39%	10	25	18	166%	30%									
PRT	236.2	254.3	236.6	8%	-7%	91.0	109.2	94.6	20%	-13%	32.0	51.4	36.1	61%	30%	63	67	63	7%	6%	24	29	25	19%	12%	8	14	10	60%	29%									
ROU	2.9	1.6	1.4	-46%	-10%	2.1	1.0	0.9	51%	-14%	1.8	0.7	0.6	63%	5%	72	62	55	14%	-11%	51	41	34	21%	15%	44	26	24	41%	-7%									
SVN	1.7	2.1	2.0	22%	5%	1.4	1.6	1.5	16%	-6%	1.3	1.5	1.4	11%	4%	80	80	78	1%	3%	62	59	56	5%	-5%	61	56	54	8%	3%									
SWE	58.7	63.4	65.0	8%	2%	34.3	0.0	41.4			17.4	0.0	23.9			50	59	58	19%	3%	29	0	37			15	0	21											
EU 27	3,370	3,409	3,119	1%	9%	1,251	1,299	1,103	4%	-15%	595	657	493	10%	25%	53	56	52	5%	-7%	20	22	18	11%	16%	11	13	9	20%	25%									

## Outlook for 2020 and beyond

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

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

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

The model results do provide a clear picture of the possible reduction of volume of landings of around 10.6% when compared to 2018 and 1% compared to 2019, while for prices a reduction of around 2% is observed compared to 2019. Overall, a reduction of the value of landings of around 9.7% when compared to 2018 and 3% compared to 2019 has been estimated. This is partially outweighed by the reduction in fuel costs in 2020, in such a way that when compared to 2018 a 14% reduction in gross profit has been estimated, although a 4% increase if compared to 2019. The numerical results presented in the nowcasting of the year 2020 cannot be taken as an impact assessment of the COVID-19 effect on the economic performance of the EU fleets. These figures are the result of applying the observed and anticipated drivers and variables, where in this case, COVID-19 is only one (an important one) of those. The estimation for 2021 also enhances this profitability deterioration, specially derived from the 20% increase in fuel costs estimated for this year.

## Production

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

According to OECD-FAO (2020)<sup>8</sup>, after strong growth in 2018, with overall production, trade and consumption reaching historic peaks, the global fisheries and aquaculture sector declined slightly in 2019. Aquaculture production continued to expand by over 2%, while capture fisheries declined by about 4% due to lower catches of certain species including cephalopods, cod and selected small pelagic species.

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

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

<sup>8</sup> OECD/FAO (2020), OECD-FAO Agricultural Outlook 2020-2029, FAO, Rome/OECD Publishing, Paris. <https://doi.org/10.1787/1112c23b-en>.

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

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

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

## **Fish prices**

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

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

## **Fuel prices**

In 2020 fuel price collapsed due to the reductions in demand as a result of the COVID-19 crisis. However, oil prices increased by 39% between August 2020 and February 2021 on positive vaccine news and the rapid economic recovery in Asia (U.S. Energy Information Administration (EIA) 2021). International Monetary Fund, in its latest release of the World Economic Outlook, predicts a slightly less severe drop and more modest recovery with Brent oil prices to plunge to \$36.9 per barrel in 2020 and then rebound to \$58.5 in 2021.

Oil price forecasts depend on the interaction between supply and demand for oil on international markets. Among the most important supply-side factors weighing on pricing, expectations are US shale oil production, US crude oil stocks, and OPEC (Organization of the Petroleum Exporting Countries) oil supply.

The decrease in oil prices coincided with slowing increases in global oil demand —in line with International Energy Agency projections of a steady decline in oil inventories, with oil demand (supply) projected at 96.4 million barrels a day (95.5 million barrels a day) in 2021.

The decrease in fuel price accompanied by the International Maritime Organization's 2020 regulations and reduction of fishing activities definitely will play important role in the decrease in energy cost in the EU fishing fleet in 2020 but also it is predicted (and observed in the first half of 2021) that this situation will be reversed in 2021.

## **GDP, inflation and employment**

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

The sharp contraction in economic activity is also reflected in the inflation slowdown. Headline inflation decreased further to 0.1% in May, from 0.3% in April, mainly on account of the continued fall in energy prices. Over the coming months, HICP inflation is expected to be close to zero percent, averaging 0.3% in 2020, before slowly recovering to 0.8% next year and reaching 1.3% in 2022. The inflation projection is also subject to unprecedented uncertainty, with a faster recovery in the mild scenario.

Although employment declined only by 0.2%, quarter-on-quarter, in the first quarter of the year, recourse to national employment schemes remained at unprecedented levels. Labour costs are expected to be subject to strong fluctuations. Growth in compensation per employee is projected to turn negative in the short term but to recover in line with economic activity in 2021 and display growth rates of around 2% in 2022. After the lockdowns, compensation per employee is expected to bounce back, albeit not to the level recorded before the lockdowns, and to continue to rise gradually over the remainder of the projection horizon.

## 2.9 Trade and Cooperation Agreement (TCA) Assessment

### Introduction

The TRADE AND COOPERATION AGREEMENT BETWEEN THE EUROPEAN UNION AND THE EUROPEAN ATOMIC ENERGY COMMUNITY, OF THE ONE PART, AND THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND, OF THE OTHER PART, (hereafter referred to as the 'TCA') establishes the Parties' shares of the TACs for 124 stocks listed in three Annexes (FISH.1, FISH.2, and FISH.3) to the TCA, and includes the changes in these shares applicable to the EU and the United Kingdom in each of the 5 years 2021 to 2025 (and 2026 onwards).

Because the changes contained in the TCA include 55 stocks where the United Kingdom share is increased in 2021 and beyond, the total catch opportunity available to the Union's fishing fleets is reduced *ceteris paribus* as a consequence. Further, as the changes vary from stock to stock, they directly impact the relative stability of the Union's sharing arrangements for catch opportunities by Member State and, in turn, will impact different EU fleets to a greater or lesser extent. In the most extreme cases these changes will alter the balance between the available fishing opportunity post Brexit and the current capacity of Member States fleets; changes that may, in some cases, necessitate fleet adjustment to restore the required balance.

While the total impact of the TCA may not be fully enumerated until factors in addition to the changes to the sharing arrangements are known (for example, trade volumes, fish prices, indirect effects arising from, so called, flag-vessels, etc.) nonetheless, the direct - quota-share impact - of the TCA can be determined by comparing the Member States quotas in 2020 with the equivalent quotas that would result if the new sharing arrangements, set out in the Annexes to the TCA, are applied to the 2020 (pre UK EU leave) shares.

It should be noted that where the UK share of a stock increases over the period 2021-2025, only 60% of the total change applies in year 1 (2021). The balance of any change (40%) is phased in over successive years as follows: 70% (+10%) in 2022, 80% (+10%) in 2023, 92% (+12%) in 2024, and 100% (+8%) in 2025. Therefore, while the approach used here does provide an estimate of the relative impact of the TCA by Member State, the precise final amount, either by volume (tonnes) or value (euro), will depend on a number of other factors including:

- The Total Allowable Catch (TAC) for each of these stocks in each of the years 2021–2025.
- In the case of value, the average price per tonne in each of these years.

In addition to the direct changes to the sharing arrangements set out in the TCA, further indirect changes also arise as a consequence of the Hague Agreement. Of the 36 stocks for which Hague Preferences apply all but two (sole and place in ICES 7bc) are impacted by Brexit.

- 11 stocks for which the United Kingdom alone has Hague Preferences.
- 18 stocks for which both the United Kingdom and Ireland have Hague Preferences.
- Five stocks for which Ireland alone has Hague Preference.

Following UK EU leave, the United Kingdom will forego any direct benefit arising from the Hague Agreement and Member States that have traditionally transferred quota to the UK, on the latter's invocation of a preference, will see their relative share increase.

Conversely, Ireland which benefitted in certain cases from a UK contribution to an Irish Hague Preference based redistribution of quota, will see its relative share reduced for a number of stocks. It should be noted that these changes are permanent rather than once-off losses (or gains in some cases) and, consequently, represent a further change to the catch opportunity available to the member state concerned.

To further understand the likely economic impact of these changes, the new quotas post Brexit were compared with the expected utilisation using 2019 uptakes as the most recent estimates of likely utilisation. Where a TCA based change results in a Member State's share falling below what it might be expected to utilise (based on its recent, 2019, uptake and its pre Brexit 2020 quota) the TCA changes are considered to have a direct economic impact. This is in contrast to those stocks where the catches expected by a Member State are considered unlikely to exceed its revised (post UK EU leave) share.

## Historic Background to Hague Preferences

The Hague Preferences defined for the United Kingdom (along with Ireland, and, originally, Denmark on behalf of Greenland, and France on behalf of St Pierre and Miquelon) minimal levels of national quotas for specified stocks of fish. Hague preferences are so called because they have their origin in Annex VII of Council Resolution of 3<sup>rd</sup> November 1976 – the “Hague Resolution”<sup>9</sup>. However the basis for this policy can be traced back even further, to the very beginning of the Common Fisheries Policy in 1970. When Denmark, Norway, Ireland and the UK applied to join the then European Economic Community, all four applicants had major fishing interests and much of the fishing by three of the original six Member States took place in their waters. Council regulations 2141/70 and 2142/70, enacted just as the new members were joining, provided for a Common Organization of the Market in Fishery Products and a Common Structural Policy for the fishing industry. These regulations also ensured that no Member State could exclude the vessels of any other Community Member State from fishing in its waters. It is important to note that in 1973, when the three new members finally joined the EEC, the only limits considered were the, then generally recognised, 6 and 12 mile limits

There was, however, a further unanticipated turn of events. Originally referred to as “the sea fishery limit problem”, this resulted from the wording in regulation 2142/70 which refers to waters ‘coming under the sovereignty or within the jurisdiction of member States’. If there was to be any future extension of these waters, then they too would come under the ambit of the Regulation. This problem became very clear when the United Nations Convention on the Law of the Sea (UNCLOS) gave effect to the principle of the Exclusive Economic Zone. Introduced to halt the increasingly heated clashes over fishing rights, including the Iceland ‘cod wars’, EEZs extend 200 nautical miles (370 km) from the baseline and within this area the coastal nation has sole exploitation rights over all natural resources, including fisheries that are exclusively within the EEZ while simultaneously having a duty to cooperate for the conservation of the resources with neighbouring coastal states.

At the time the EEC lacked legal identity and could not of its own volition extend Community waters. Rather, individual Member States were required to do so on a state by state basis. It is important to emphasize that the United Kingdom was a full member of the EEC when the Community as a whole extended its territorial limits for fisheries to 200 miles.

When the Council met in Luxembourg on 18-19 October 1976 to discuss the coordinated creation of a 200-mile Community fishing zone, a number of Member States, including the UK and Ireland, saw themselves as contributing significantly to, what would become, the newly extended and fish ‘rich’ Community waters and sought some recognition from other Member States who would also benefit from the new arrangements. Noting that the Council required unanimity (including the agreement of the United Kingdom) to reach a binding decision, these Member States took the opportunity to present their case for a fisheries policy, capable of dealing with regional, social and economic problems. Finally, on the 29<sup>th</sup> October 1976, the Heads of Government agreed a compromise which was approved, by written procedure, on the 3<sup>rd</sup> November 1976. Unusually, only part of this agreement was published: Annex I, which deals with the 200 mile EEZ was published in 1981. Annex II to IV concern agreements with third countries; Annex V and VI outlined the approach Member States were to take when implementing their 200 mile zone. The final annex, Annex VII, covered the issue of internal fisheries systems. It is this (as yet unpublished) Annex that sets the Hague Preferences. The main elements of the agreement were:

- As from the 15th January 1977 Member States should, by means of concerted action, extend the limits of their fishing zones by 200 miles off their North Sea and North Atlantic coasts.
- Fishing within these zones would be governed by agreements between the community and third countries concerned, the Community to obtain access to zones of non-member states by concluding appropriate agreement with the latter.
- In the area of conservation, member states were not to adopt unilateral measures pending the adoption of Community measures.

In addition to these quite general elements, paragraphs 3 and 4 of Annex VII states:

- "Having regard to the economic relationships which characterise fishing activity in Ireland, the Council declares its intention so to apply the provisions (of the Common Fisheries Policy, as further determined by the Act of Accession, and adapted to take account of the extension of waters to 200

<sup>9</sup> Annex VII of Council Resolution of 3 November 1976 – the “Hague Resolution”. OJ 1981 C105/1

miles, as to secure the continued and progressive development of the Irish fishing industry on the basis of the Irish Government's Fisheries Development Programme for the development of coastal fisheries."

- "The Council furthermore recognises that there are other regions in the Community, inter alia those referred to in the Commission's proposal to the Council 10 where the local communities are particularly dependent upon fishing and the industries allied thereto. The Council therefore agrees that in applying the Common Fisheries Policy, account should also be taken of the vital needs of these fishing Communities"

The system of Hague preferences was created to accommodate the last of these criteria. For the northern part of the United Kingdom, Ireland, and Greenland the "special needs" of the local populations were considered as being represented by quantities of fish landed from certain stocks of importance to the local populations. France also benefited from the Hague Preferences in respect of waters off St Pierre et Miquelon (NAFO 3Ps). These quantities were referred to as the "Hague preferences" and were intended as minimum levels of national quotas for specified stocks of fish.

## Application of the Hague Preferences

While the Hague Resolution was agreed in 1976, Member State's quotas were only introduced, finally, in 1983. The Commission's contribution to the negotiations over the period 1976 to 1983 included the preparation and presentation of a series of working documents and associated proposals in which allocations of Community shares were indicated according to the criteria defined by the Council. In a Communication from the Commission to the Council (Com(80) 338, June 1980) and a subsequent working paper (Sec 81 (105), 21 Jan 1981) the Commission setting out, in considerable detail, the calculations that form the basis of the final relative stability keys (the so called key of 1983). The Commission notes in particular that their method for allocating resources takes into account the Council Declaration of 30 May 1980 which stated that "in compliance with the Treaties and in conformity with the Council Resolution of 3 November 1976 (the "Hague Agreement"), policy should be based on the following guidelines:

- 1) fair distribution of catches having regard, most particularly, to
  - a) traditional fishing activities,
  - b) to the special needs of regions where the local populations are particularly dependent upon fishing and the industries allied thereto<sup>11</sup>, and
- 2) the loss of catch potential in third country waters".

It is the second part of the first of these (1b) 'the special needs of regions where the local populations are particularly dependent upon fishing and the industries allied thereto', that is of particular interest. When establishing the original keys, the first step undertaken by the Commission was to work out the basic figures necessary to put into effect the guidelines laid down by the Council. In respect of internal and joint stocks, the Commission interpreted the first criterion (1a), that of traditional fishing activities, as the average fishing by member States in the base period 1973 to 1978, removing from the 1978 figures any catches that exceeded the quotas proposed for that year but taking into account quota exchanges between member States.

The second step was to apply the guarantees or preferences decided by the Council Resolution of 3 November 1976 to the average catches 1973/1978. The criteria determining the magnitude of the transfers to be made for this purpose (referred to as the "Hague transfers") were different for the Hague areas: the Northern part of the United Kingdom, Ireland and France.

- For the Northern United Kingdom: the landings (tonnes) in 1975 from the stocks concerned by vessels of length less than 24 metres in length (80 feet) in the ports in the United Kingdom Hague area.
- For Ireland: twice the level of landings (tonnes) by Irish vessels in 1975 from the stocks concerned. This allowed for continuation of the Irish development plan which was originally intended to double Irish landings by 1979.

<sup>10</sup> The regions referred to are Greenland, northern parts of the United Kingdom (Scotland, Northern Ireland, Isle of Man and English ports from Bridlington to the Scottish border), and Ireland.

<sup>11</sup> See, paragraph 3 and 4 of Annex VII to the Council Resolution of 3 November 1976.

- The French catch possibilities (tonnes) in waters off St Pierre et Miquelon (NAFO 3Ps) were assimilated, for the purpose of the various calculations, to the Hague preferences.
- In respect of (1b) a Commission working paper of 1981 refers to these special needs in the Hague areas as being represented by quantities of fish (i.e. the Preferences) shown in the table below.

**Table 2.14 The Hague preferences**

Stock	United Kingdom	Ireland
Cod IV	43 179	-
Cod VI	4 710	2 282
Cod VIIa	1 223	6 954
Cod VII excl. VIIa	-	1 067
Haddock IV	60 000	-
Haddock VIa	5 918	1 960
Haddock VII	20	1361
Saithe IIIa, IV	3 877	-
Saithe VI	4 922	624
Saithe VII	380	2 090
Whiting IV	29 091	-
Whiting VIa,b	12 271	4 858
Whiting VIIa	2 334	7 196
Whiting VII excl. VIIa	-	5 425
Plaice IV	3 616	-
Plaice VI	872	656
Plaice VIIa	180	1 768
Plaice VIIb,c	-	306
Plaice VIIf,g	-	372
Sole IV	43	-
Sole VIa	8	38
Sole VIIa	39	98
Sole VIIb,c	-	38
Sole VIIf,g	-	194
Mackerel IIIa Skagerrak, IV	4 079	-
Mackerel Vb, VI, VII, VIII	12 630	45 000
Sprat IV	14 167	-
Hake IV, VI, VII, VIII	2270	1300
Norway pout IIIa, IV	26 610	-
Herring IV, VIId	13 170	-
Herring VIa (N) excl. Clyde	79 717	5266
Herring VIa (S)	-	24 930
Herring VIa (Clyde)	2 500	-
Herring VIIa (Mourne)	2 629	1 622
Herring VIIa (Manx)	14 285	4 812

Using this interpretation of the Council's resolution, the Commission then calculated the Hague transfers for each stock. Critically the Commission next established the principle of 'equalisation'; the negative values that arose for all but the beneficiaries of Hague Transfers (United Kingdom, Ireland, Denmark and France) were equalised so that each Member State contributed to the Hague transfers in proportion to its total 1981 catch possibilities. It should be noted that as the 1982 TACs were, in many cases, large relative to the preferences, and this, initial, application of the Hague Preferences did not significantly impact many stocks and then only to a limited extent.

A second aspect of these minimum level guarantees was their recurring nature and the Hague Preferences are applied in any year when the quota, calculated using the basic key (key of 83), falls below the preference level. This both underlines the guarantee implicit in the Hague Preferences and reflects the wording in Annex VII of the Resolution wherein 'the Council declared its intention to apply the provisions of the Common Fisheries Policy, ..., adapted to take account of the extension of waters

to 200 miles, to secure the continued and progressive development of the Irish fishing industry...<sup>12</sup>. In 1998, the European Court upheld the appropriateness of the Council giving effect to the principle of relative stability through the application of the allocation keys together with the operation of the Hague Preference<sup>13</sup>. Therefore if the allocation of a Community share pro rata to the established key would result in a national quota less than the corresponding Hague Preference, this system of allocation should be replaced by an alternative which provides a national quota at least equal to the Hague Preference. This means that other Member States which have quotas within the same Community share will receive less fish than would otherwise be the case (see example below).

In 1983, Council considered these matters when arriving at a final agreement on allocation of Community shares a posteriori for 1982. In so doing, the Council established for the majority of the stocks the so called "key of 1983". These keys have remained the basis of allocation of the Community share of associated Total Allowable Catches ever since.

## Allocating quota following the invocation of a Hague Preference

The first invocation of Hague Preference occurred in 1988. The TAC for haddock in the North Sea for 1989 was set at a level such that allocation of the Community share of this TAC by the allocation key of 1983 would have resulted in an allocation to the United Kingdom of 48 760 tonnes. On this occasion the United Kingdom invoked its Hague preference, claiming that its minimal allocation should be 60 000 tonnes.

Under the allocation key for North Sea haddock, United Kingdom expected 77.6136% of the Community share. If the TAC is set at 77 306 tonnes then the United Kingdom receives 77.6136% of 77 306 tonnes equal to 60 000 tonnes (the UK preference) and the remainder of the Community share is distributed among Member States. The value of 77 306, which is the TAC required to invoke of a Hague Preference, is referred to as the 'trigger'.

The Council was therefore faced with the requirement to decide between two implied methods of allocation. The method favoured by the United Kingdom implied that the latter should receive 60,000 tonnes, and that the remainder of the Community share should be allocated pro rata to the key of 1983 but excluding any allocation within that key to the United Kingdom. Other Member States favoured allocation pro rata to the key of 1983. The two systems of allocation are shown in the table below. With the application of the preference (60 000 tonnes to the United Kingdom) the quantity available to other Member States fell from 13 740 tonnes to 2 500 tonnes.

**Table 2.15 Hague Preference shares and Key of '83 shares of North Sea Haddock, 1989**

	Key of 1983	Full Hague Preference
EC Total	62,500	62,500
United Kingdom	48,760	60,000
Balance for other Member States	13,740	2,500
Belgium	670	120
Denmark	4,580	830
Germany	2,910	530
France	5,080	930
The Netherlands	500	90

In a final compromise the Council in 1988<sup>14</sup> adopted the average of the two possibilities (key and Preference) for each Member State. Thus the United Kingdom would receive 54 380 tonnes (average of 60 000 and 48 760 tonnes) with the remainder 8 120 tonnes (62 500–54 380 tonnes), going to other Member State, distributed pro rata to the key of 1983:

<sup>12</sup> Annex VII of the Hague Resolution, 1976.

<sup>13</sup> Judgment of the Court of 19 February 1998. Case C-4/96. *European Court reports 1998 Page I-681*.

<sup>14</sup> Council Regulation (EEC) No 4194/88 of 21 December 1988 fixing, for certain fish stocks and groups of fish stocks, the total allowable catches for 1989 and certain conditions under which they may be fished. *OJ L 369, 31.12.1988, p. 3–37*.

**Table 2.16 Hague Preference shares for North Sea Haddock, 1983**

	Key of 1983	Hague Preference	Hague Preference*
EC Total	62,500	62,500	62,500
United Kingdom	48,760	60,000	<b>54,380</b>
Balance for other Member States	13,740	2,500	8,120
Belgium	670	120	395
Denmark	4,580	830	2,705
Germany	2,910	530	1,720
France	5,080	930	3,005
The Netherlands	500	90	295

**Table 2.17 TOTAL VOLUME OF HAGUE TRANSFERS FOR KEY STOCKS IN THE NORTH SEA, IRISH SEA, CELTIC SEA, AND WEST OF SCOTLAND FOR YEARS 2010 – 2020**

	Belgium	Denmark	Germany	France	Ireland	The Netherlands	Sweden	United Kingdom
COD/2A3AX4				-2				0
HAD/2AC4	-853	-5,863	-3,731	-6,503		-639	1,465	17,588
WHG/2AC4	-1,158	-5,011	-1,304	-7,533		-2,895	0	17,901
<b>Total North Sea</b>	<b>-2,011</b>	<b>-10,873</b>	<b>-5,035</b>	<b>-14,038</b>	<b>0</b>	<b>-3,532</b>	<b>1,466</b>	<b>35,489</b>
COD/07A	-50			-133	696	-8		-505
PLE/07A	-386			-172	4,134	-123		-3,453
SOL/07A	-178			-5	255	-60		-14
WHG/07A	-10			-77	414			-325
<b>Total Irish Sea</b>	<b>-623</b>	<b>0</b>	<b>0</b>	<b>-387</b>	<b>5,498</b>	<b>-191</b>	<b>0</b>	<b>-4,297</b>
COD/7XAD34	-121			-1,961	2,295			-214
PLE/7BC				-30				
PLE/7FG	-488			-869	1,798			-442
PLE/7HJK	-2			-14	61	-30		-14
SOL/7BC				-22				
SOL/7HJK					-10			
WHG/7X7A-C	-11			-1,633	1,956	-21		-291
<b>Total Celtic Sea</b>	<b>-622</b>	<b>0</b>	<b>0</b>	<b>-4,526</b>	<b>6,152</b>	<b>-41</b>	<b>0</b>	<b>-959</b>
COD/5BE6A	-4		-45	-507	314			242
COD/5W6-14	-2		-12	-117	70			62
HAD/5BC6A	-55		-44	-2,318	3,829			-1,412
HAD/6B1214	-6		73	-74	173			-166
PLE/56-14				-113	251			-138
POK/56-14			-1,825	-17,889	2,143			17,570
WHG/56-14			-8	-121	-11			141
<b>Total West of Scotland</b>	<b>-66</b>	<b>0</b>	<b>-1,860</b>	<b>-21,140</b>	<b>6,768</b>	<b>0</b>	<b>0</b>	<b>16,299</b>
<b>Grand Total</b>	<b>-3,323</b>	<b>-10,873</b>	<b>-6,895</b>	<b>-40,091</b>	<b>18,418</b>	<b>-3,764</b>	<b>1,466</b>	<b>46,532</b>

## Method

Relative stability is the generally understood method by which catch opportunities are distributed across Member States within the European Union. The method has applied, annually, since its formal adoption in 1983 and, as its name implies, relative stability is based on Member States receiving fixed proportions of the total catch of a given stock available (to the EU) in any year.

The shares or keys that make up relative stability are well established and provide a degree of year-to-year certainty to Member States when allocating fishing opportunities across their fleets. Relative stability is also an essential part of maintaining the necessary balance between the capacity (GT and kW) of each fleet and the opportunities available to it.

Adapting these keys post Brexit is a relatively simple process. If Member State  $M$  has a share,  $K$ , of the Union quota,  $U$ , for a given stock,  $stk$ , then its quota,  $Q$ , can be calculated as

$$Q_{stk, M} = K_{stk, M} U_{stk}$$

Post Brexit, the Union quota ( $U^*$ ) will no longer include any share available to the United Kingdom, and the basic calculation is given as:

$$Q_{stk, M} = K^*_{stk, M} U^*_{stk}$$

The relationship between  $K^*_{stk, M}$  and  $K_{stk, M}$  is  $K^*_{stk, M} = K_{stk, M} / \sum K_{stk}$  where  $\sum K_{stk}$  is the Union share read, for any year 2021 – 2025 etc., in the appropriate TCA table, or, more conveniently, the sum of shares for all Member States excluding the United Kingdom.

### Example 1, Cod I ICES 7d (Cod/07, see table Fish.1, stock number 14 in the TCA).

Four Member States traditionally share this stock:

**Table 2.18 Example 1. Cod I ICES 7d**

	Key	Quota (tonnes) 2020	Key post Brexit	Estimation of the post Brexit Key
Belgium	4.3%	37	4.75%	= 0.043/(1-0.0925)
France	84.0%	721	92.55%	
Netherlands	2.4%	21	2.70%	
UK	9.25%	79		

As the United Kingdom share does not increase post Brexit the quota each Member State receives remains unaltered but the relative share of the (reduced) Union share increases pro rata. The TCA has no direct impact.

### Example 2, Anglerfish in ICES area 7 (ANF/07, see table Fish.1, stock number 2 in the TCA).

Seven Member States traditionally share this stock. As the United Kingdom share increases post-Brexit, the quota share each Member State will receive (all else being equal) decreases year on year up to 2025. All of these losses are a (direct) result of the TCA.

**Table 2.19 Example 2: Anglerfish in ICES area 7**

	Key	Quota (tonnes) 2020	Key post Brexit	Quota (tonnes) 2021	Quota (tonnes) 2022	Quota (tonnes) 2023	Quota (tonnes) 2024	Quota (tonnes) 2025
Ireland	7.58%	2,675	9.24%	2,570	2,552	2,535	2,514	2,499
Belgium	9.24%	3,262	11.27%	3,133	3,111	3,090	3,064	3,047
Germany	1.03%	364	1.26%	349	347	344	342	340
Spain	3.67%	1,296	4.47%	1,244	1,236	1,227	1,217	1,210
France	59.30%	20,932	72.30%	20,105	19,967	19,829	19,664	19,554
Netherlands	1.20%	422	1.46%	407	404	401	398	396
UK	17.98%	6,347						
UK share post Brexit				21.22%	21.76%	22.30%	22.95%	23.38%

While relative stability keys are fixed, additional changes may arise as a consequence of the Hague Agreement. For those stocks where preferences apply, the final quotas reflect both the total Union share, and the preference share agreed for the member state (United Kingdom and/or Ireland) to which the preference applies. Invocation of a Hague Preference affects both the recipient Member State and other Member States that have quotas for that stock.

### Example 3, Saithe, west of Scotland (POK/56-14, see table Fish.1, stock number 48 in the TCA).

To illustrate this point consider Saithe, west of Scotland (Pok/56-14). In 2020 (pre Brexit) the total catch available to the EU was 7 340 tonnes. Based on the normal sharing arrangement France, with a key of 72.5%, might have expected a share (quota) of 5 323 tonnes, the United Kingdom 1 299 tonnes, etc.

**Table 2.20 Example 3: Saithe west of Scotland**

	Key	Quota - Key only	Hague Adjustments	Quota (tonnes) 2020
France	72.52%	5,323	-1,846	3,476
UK*	17.70%	1,299	1,811	3,111
Ireland*	2.44%	179	222	402
Germany	7.33%	538	-187	351
<b>UNION</b>		<b>7,340</b>		<b>7,340</b>

*\*Hague Preference applied*

However, both the United Kingdom and Ireland invoked Hague Preferences for this stock in 2020 with the result that the final United Kingdom quota increased from 1 299 tonnes to 3 111 tonnes (+1 811 tonnes), while Ireland's quota increased from 179 tonnes to 402 tonnes (+222 tonnes). Conversely, France had its share reduced by 1 846 tonnes and Germany by 187 tonnes.

If these shares are now calculated post Brexit (e.g. in 2021) the overall year to year change can be partitioned into three components: a) changes to the TAC, b) Changes arising from the Hague agreement, and c) Changes arising from the TCA.

**Table 2.21 Example 3: Saithe west of Scotland**

	Quota (tonnes) 2020	Changes to TAC 2021	Changes due to Hague Agreement	Changes due to TCA	Quota (tonnes) 2021
France	3,479	-952	+1,739	-1,104	3,159
Ireland*	402	-14	0	-18	370
Germany	350	-96	+176	-112	318

In this example the United Kingdom forfeited quota as a result of losing its Hague preference to the benefit of both France and Germany. However, in other cases the opposite can apply and the United Kingdom benefits; these are stocks where, in the past, the United Kingdom contributed to the Hague transfers. This is illustrated in the following example.

## Example 4, Cod, Irish Sea (COD/07A, see table Fish.1, stock number 13 in the TCA).

Consider Irish Sea cod. In 2020 Ireland invoked a Hague Preference for this stock and had its quota share increased from 120 tonnes to 169 tonnes. This increase (49 tonnes) came from France (9 tonnes), Belgium (3 tonnes), the Netherlands (1 tonne) and the United Kingdom (36 tonnes). After Brexit however the United Kingdom portion is no longer available and Ireland sees its share drop by 36 tonnes.

**Table 2.22 Example 4: Cod Irish sea**

	Key	Quota - Key only	Hague Adjustments	Quota (tonnes) 2020
Ireland	46.76%	120	49	169
Belgium	2.70%	7	-3	3
France	7.30%	19	-9	9
Netherlands	0.54%	1	-1	1
UK	42.68%	110	-36	74
UNION		257		257

	Change 1 post Brexit - UK Loss of Hague Preference	Change 2 post Brexit - UK share increases (TCA) from 42.68% to 43.95%		
Ireland	-36	134	-3	131
Belgium	0	3	0	3
France	0	9	0	9
Netherlands	0	1	0	1
UNION	-36	147	-3	144
UK		110		113
Total		257		257

## Overall value of the UK Hague Preferences

- Of the 11 stocks where the United Kingdom alone has Hague Preferences, the benefit to the EU27 of discontinuing these post Brexit is approximately EUR 6.9 million. These are all NSEA stocks in ICES areas 2a, 3a, 4, along with herring west of Scotland and in the Eastern Channel. However, as the United Kingdom, traditionally, only invoked Hague Preferences on two stocks in the North Sea (haddock and whiting) these comprise all the transfers in this area. They represent 80% of all transfers from the UK to the EU27 (i.e. North Sea, West of Scotland, Irish Sea, Celtic Sea and Channel).
- For the five stocks where Ireland alone has Hague Preferences there is no gain to the EU from Brexit. On the contrary, the Brexit (and by implication the Hague Agreement) costs the EU27 - EUR 0.36 million. Traditionally the UK was amongst those Member States transferring quota to Ireland when the latter invoked Hague Preferences. If the United Kingdom is no longer part of the EU sharing mechanism post Brexit then Ireland permanently loses these transfers, and consequently there is a permanent or net cost to the EU.
- For the 16 stocks where both the United Kingdom and Ireland have Hague Preferences the explanation is complex. In some cases the United Kingdom was a beneficiary of Hague Preferences, in others a contributor. For example, with Irish Sea cod, Ireland and the United Kingdom had 47% and 43% respectively of the EU share. Following a Hague invocation by Ireland, the United Kingdom (along with other Member States) transferred part of its quota to Ireland increasing Ireland's share of this stock. After Brexit it is assumed that the United Kingdom will no longer make this transfer and the result will mean a permanent loss to Ireland.
- For other stocks, for example Saithe west of Scotland (ICES 5b, 6, 12 & 14), both the UK and Ireland benefitted from Hague Preferences. Following Brexit, the UK will no longer be in a position

to invoke its preferences and, consequently, the EU27 will no longer transfer fish, valued at EUR 2.8 million in 2020, to the UK.

- The overall result for these 16 stocks is a permanent (year-on-year) transfer to the EU valued at EUR 2.1 million and represents 24% of all transfers from the UK to the EU27 (i.e. North Sea, West of Scotland, Irish Sea, Celtic Sea and Channel).
- The final group of seven stocks in the Celtic sea are ones where Ireland has a Hague but the UK does not. If the UK had a quota for any of these stocks then it would have transferred some of its quota to Ireland on foot of an Irish Hague invocation. After BREXIT these transfers will be lost permanently. The overall result for these seven stocks is a permanent (year-on-year) loss to the EU (i.e. Ireland) of EUR 0.4 million equivalent to -5% of all transfers from the UK to the EU27.

### UK loss of Hague Preferences – Impact by Member State

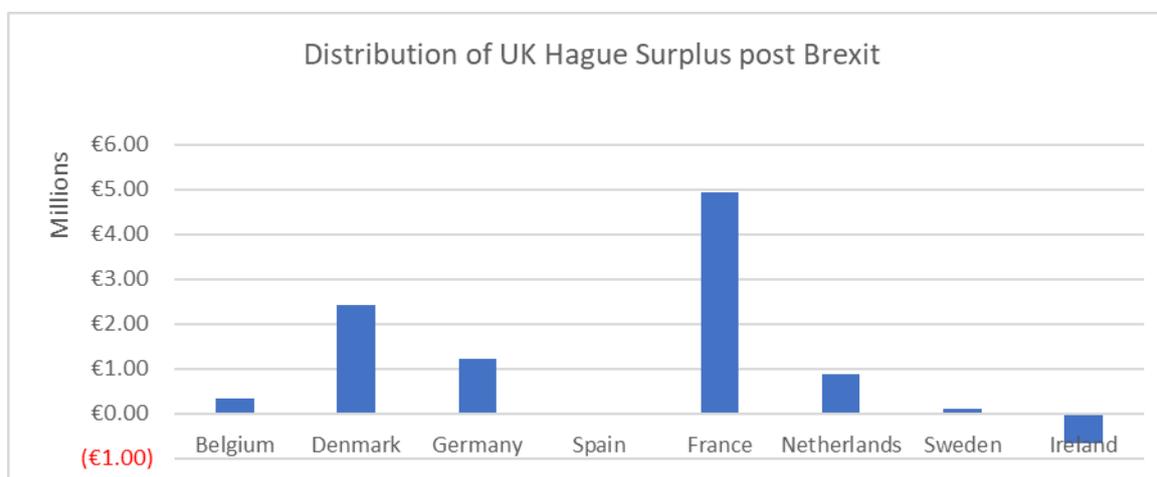
The distribution of the United Kingdom surplus (post Brexit/without Hague Preferences) by Member State based on the 2020 published quotas by Member State with (column 2) and without (column 3) the normal Hague Preferences applied. Note this table includes all stocks for which Hague Preferences were invoked in 2020 and provides the net impact on the UK assuming Hague preferences are lost in 2021.

Overall, the UK forfeits some 6 657 tonnes of quota, valued at EUR 9.24 million, as a consequence of Brexit and loss of the Hague Preferences.

**Table 2.23 Distribution of losses/gains by MS**

Member State	*With Hague Transfers Pre-Brexit	*Without Hague Transfers Post Brexit	Impact (tonnes)	Impact Value (€'000.)
Belgium	19,764	20,029	265	345
Denmark	112,574	114,178	1,603	2,411
Germany	42,764	43,569	805	1,227
Spain	18,677	18,677	0	0
France	101,540	105,150	3,610	4,940
Netherlands	105,130	105,769	639	876
Sweden	6,073	6,133	61	107
Ireland	99,266	98,940	-326	-663
EU27	505,788	512,445	6,657	9,243

**Figure 2.40 Distribution of UK Hague surplus post Brexit**



## Results

Using the approach illustrated, it is possible to estimate the total impact of Brexit on both the UK and individual EU Member States. This can be done for 2025 as follows:

1. Assume that there are no changes to the total allowable catches for all stocks in the period 2020 - 2025. This assumption is necessary as these changes cannot be predicted in advance. Indeed even if they were known they would still be ultimately discounted as they do not for part of the Brexit impact.
2. Calculate the quota shares, by member state, assuming the UK remained part of the EU. In other words, the normal pre Brexit quotas.
3. Recalculate these shares but this time without the UK: the net losses/gains illustrated in examples 3 and 4 apply.
4. Apply any changes to the UK share as set out in the TCA: the net losses/gains illustrated in examples 1 and 2 apply.

The differences between 2 and 3 above represent the changes arising from the Hague Preferences (indirect) while the differences between 3 and 4 above represent the TCA (direct) impact of Brexit. Finally the differences between 2 and 4 above represent the full cost of Brexit.

Alternatively, the cost in 2021 can be calculated including any TAC changes (i.e. changes to the TAC for scientific and other reasons). In this case the latter are first calculated and then steps 2 to 4 above are applied. The total year on year change can thus be broken down into

- Changes arising from scientific advice, etc.
- Changes arising from the UK's withdrawal from the Hague Agreement.
- Changes arising from the TCA.

**Table 2.24 Quota reductions attributable to TCA by Member State in 2021**

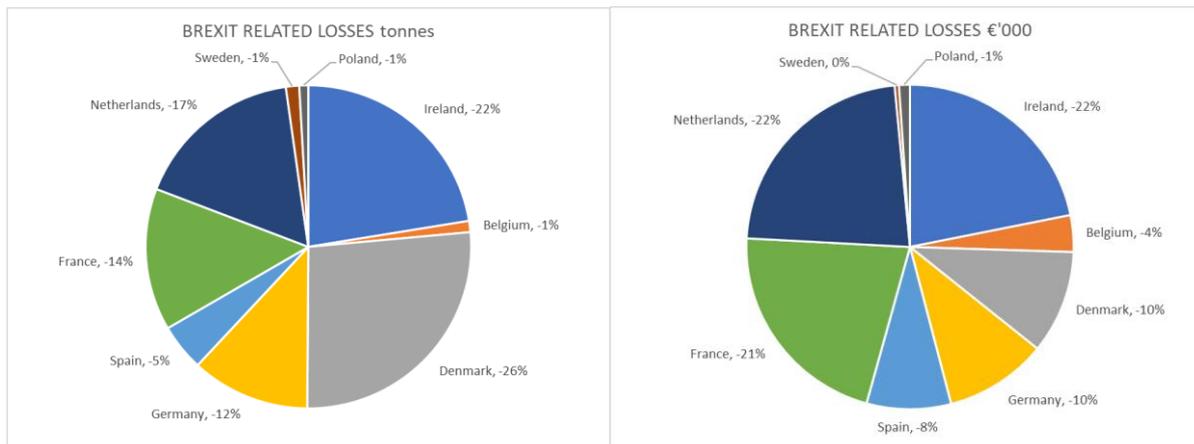
	Union	Belgium	Denmark	Germany	Ireland	Spain	France	Netherlands	Sweden	Poland	Portugal
Pelagic	-57,836	-172	-18,577	-7,038	-14,235	-576	-4,693	-11,094	-954	-320	-66
Demersal	-14,933	-645	-868	-1,600	-1,648	-2,779	-5,357	-1,321	-14	-336	-363
Shellfish	-928	0	0	0	-509	-83	-336	0	0	0	0
<b>Total</b>	<b>-73,697</b>	<b>-817</b>	<b>-19,445</b>	<b>-8,638</b>	<b>-16,392</b>	<b>-3,438</b>	<b>-10,387</b>	<b>-12,415</b>	<b>-968</b>	<b>-655</b>	<b>-429</b>
1 North Sea	-29,044	-401	-16,103	-3,753	-65	-19	-2,395	-5,953	-354	0	-2
2 ICES VI	-1,779	-38	0	-57	-503	-128	-983	-69	0	0	0
3 Celtic Sea	-4,769	-287	-1	-15	-1,090	-470	-2,886	-19	0	0	-1
4 Irish Sea	-1,820	-50	0	0	-1,713	0	-44	-14	0	0	0
5 Channel	-401	-24	-195	-3	-2	-2	-133	-42	0	0	0
6 International Waters	-27,723	-16	-437	-3,842	-12,681	-889	-3,498	-5,884	-108	-258	-35
Others	-8,161	-1	-2,710	-969	-338	-1,931	-448	-435	-505	-397	-392
<b>TOTAL</b>	<b>-73,697</b>	<b>-817</b>	<b>-19,445</b>	<b>-8,638</b>	<b>-16,392</b>	<b>-3,438</b>	<b>-10,387</b>	<b>-12,415</b>	<b>-968</b>	<b>-655</b>	<b>-429</b>

NOTE: as the precise year-on-year TAC changes were not fully finalised when the Committee met in June the following estimate for the Brexit impact is based on method 1a above, which compares Brexit changes to 2020 TACs assuming no change.

Losses due to the TCA are observed in all major seafood groups (pelagic, demersal and shellfish) and in all major fishing areas. Pelagic fisheries account for 57 836 tonnes (78.5%) of the total, demersal 14 933 tonnes (20.3%) and shellfish 928 tonnes (1.3%). The distribution by area is concentrated in the North Sea, 29 044 tonnes (39.4%) and in international waters, 27 723 tonnes (37.6%) with the balance, 23%, distributed across all other fishing areas.

By Member State, Denmark, with losses of 19 445 tonnes (26.4% of the total), Ireland, 16 392 tonnes (22.2%), the Netherlands, 12 415 tonnes (16.8%) and France, 10 387 tonnes (14.1%) together share 80% of the impact of Brexit.

**Figure 2.41 TCA related losses by MS in 2021**



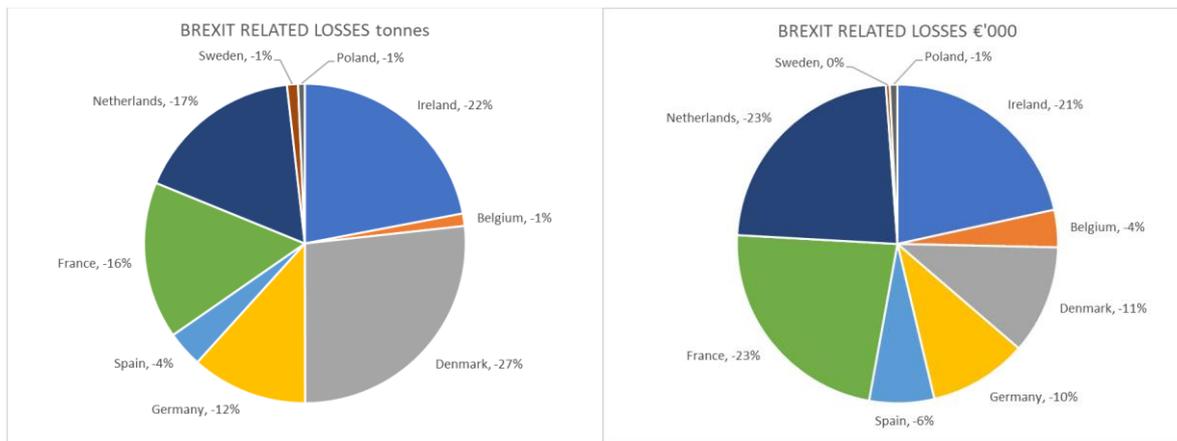
**Table 2.25 Quota reductions attributable to TCA by Member State in 2025**

	Union	Belgium	Denmark	Germany	Ireland	Spain	France	Netherlands	Sweden	Poland	Portugal
Pelagic	-94,365	-285	-30,170	-11,590	-23,494	-839	-7,750	-18,202	-1,291	-492	-91
Demersal	-26,981	-1,251	-2,516	-2,700	-2,532	-3,466	-11,122	-2,627	-63	-336	-364
Shellfish	-1,547	0	0	0	-849	-138	-560	0	0	0	0
<b>Total</b>	<b>-122,893</b>	<b>-1,537</b>	<b>-32,686</b>	<b>-14,290</b>	<b>-26,875</b>	<b>-4,444</b>	<b>-19,432</b>	<b>-20,830</b>	<b>-1,354</b>	<b>-828</b>	<b>-455</b>
1 North Sea	-52,042	-881	-27,907	-6,680	-108	-32	-5,443	-10,356	-631	0	-4
2 ICES VI	-4,202	-64	0	-205	-870	-213	-2,734	-114	0	0	0
3 Celtic Sea	-7,803	-470	-1	-25	-1,797	-783	-4,694	-31	0	0	-2
4 Irish Sea	-2,759	-54	0	0	-2,630	0	-60	-14	0	0	0
5 Channel	-668	-40	-324	-5	-4	-3	-221	-70	0	0	0
6 International Waters	-46,205	-26	-729	-6,404	-21,128	-1,482	-5,831	-9,810	-180	-430	-58
Others	-9,214	-1	-3,724	-970	-338	-1,931	-448	-435	-542	-397	-392
<b>TOTAL</b>	<b>-122,893</b>	<b>-1,537</b>	<b>-32,686</b>	<b>-14,290</b>	<b>-26,875</b>	<b>-4,444</b>	<b>-19,432</b>	<b>-20,830</b>	<b>-1,354</b>	<b>-828</b>	<b>-455</b>

NOTE: as the precise year-on-year TAC changes cannot be known in advance, the following estimate for the Brexit impact is based on method 1a above, which compares Brexit changes to 2020 TACs assuming no change.

By 2025 losses due to the TCA will have increased to their final value. As in 2021, pelagic fisheries account for the bulk of losses amounting to some 94 365 tonnes (78.5%) of the total, demersal 26 981 tonnes (20.3%) and shellfish 1 547 tonnes (1.3%). The distribution by area is remains concentrated in the North Sea, 52 042 tonnes (39.4%) and in international waters 46 205 tonnes (37.6%) with the balance, 23%, distributed across all other fishing areas.

By Member State, Denmark, with losses of 32 686 tonnes (26.6% of the total), Ireland, 26 875 tonnes (21.9%), the Netherlands, 20 830 tonnes (16.9%) and France, 19 342 tonnes (15.8%) together, share 81% of the impact of Brexit.

**Figure 2.42 Brexit related losses by MS in 2025**

## Economic Impact of TCA

One way to illustrate the likely economic impact of Brexit, is to determine how TCA related changes impact the expected uptake, by Member State, in any year post Brexit. Here this is done using 2019 uptakes as the most recent estimates of utilisation and average fish prices from the DCF.

For example: In 2020 France had a quota of 3 479 tonnes of Saithe west of Scotland (see example 3). Under the terms of the TCA, the United Kingdom share of this stock will increase from 17.7% to 37.68% in 2021 and Member States shares should fall by an equivalent amount (-19.98% or a -24.28% reduction). However, as shown in example 3, because of changes arising from the Hague agreement, France actually expects a quota of 3 162 tonnes in 2021 which represents a reduction of only 9%. In 2019, France utilised 26.5% of its quota and pro rata in 2021 might be expected to take 922 tonnes (26.5% of 3 479 tonnes). Following Brexit however, the available quota will be 3 162 tonnes and consequently there is unlikely to be any direct economic impact.

**Table 2.26 Economic impact of Brexit**

	Quota (tonnes) 2020	Changes to TAC 2021	Changes due to Hague Agreement	Changes due to TCA	Quota (tonnes) 2021	2019 Utilisation	Expected 2021 Utilisation	Difference (expected utilisation - quota)	Portion of LOSSES attributable to Brexit Losses	Expected 2021 Brexit Impact
France	3,479	-952	1,739	-1,104	3,162	26.5%	922	2,240	Not Relevant	NIL
Ireland*	402	-14	0	-18	370	31.7%	127	243	Not Relevant	NIL
Germany	350	-96	176	-112	318	0.1%	0	318	Not Relevant	NIL

However, where a TCA based change results in a Member State's share falling below what it might be expected to utilise the TCA changes are considered to have a direct economic impact. This is illustrated in the case of western mackerel.

Under the terms of the TCA, in 2021 the UK's share of western mackerel (ICES areas 2a, 5b, 6, 7, 8, 12, 14) will increase.

**Table 2.27 Example 5: Mackerel western stock**

	Quota (tonnes) 2020	Changes to TAC 2021	Changes due to Hague Agreement	Changes due to TCA	Quota (tonnes) 2021	2019 Utilisation	Expected 2021 Utilisation	Difference (expected utilisation - quota available)	Portion of difference attributable to Brexit Losses	Total Brexit Losses
Ireland	78,052	-5,907	0	-11,295	60,847	100%	78,011	-17,164	-11,295	-€13.98
Germany	23,416	-1,772	0	-3,389	18,254	105%	24,493	-6,239	-3,389	-€4.20
Spain	25	-2	0	-4	19	100%	25	-6	-4	€0.00
France	15,612	-1,181	0	-2,259	12,171	95%	14,864	-2,693	-2,259	-€2.80
Netherlands	34,147	-2,584	0	-4,942	26,620	93%	31,611	-4,991	-4,942	-€6.12
Poland	1,649	-125	0	-239	1,286	100%	1,649	-363	-239	-€0.30
Estonia	195	-15	0	-28	152	0%	0	152	-28	-€0.03
Latvia	144	-11	0	-21	112	0%	0	112	-21	-€0.03
Lithuania	144	-11	0	-21	112	0%	0	112	-21	-€0.03

In this case the losses directly attributable to Brexit are considerably greater than the TAC changes in 2021. In addition utilisation of this stock is traditionally very high. The net result of these two factors is

that the fleets utilising the western mackerel stock will see significant reductions in their available quota in 2021 which will have a direct bearing on their economic performance.

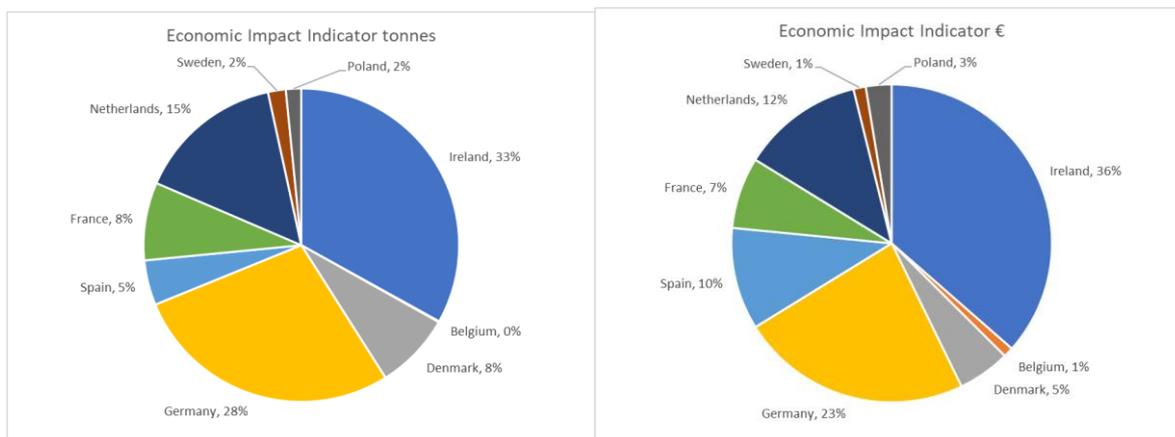
The method outlined above was applied to all stocks affected by the TCA and the results aggregated by members state.

In total, Member States fleet expect to catch some 38 880 tonnes less fish in 2021 as a direct result of Brexit with a loss of income of EUR 42.97 million. The breakdown by Member state is shown in Table 2.28 and Figure 2.43.

**Table 2.28 Economic impact Break down by MS in 2021**

	Ireland	Belgium	Denmark	Germany	Spain	France	Netherlands	Sweden	Poland	Portugal	Other MS	Total
Volume Tonnes	-12,433	-33	-3,153	-10,933	-2,242	-3,006	-5,520	-841	-702	-8	-10	-38,880
Value € million	-€14.91	-€0.40	-€2.31	-€10.13	-€5.44	-€2.99	-€4.84	-€0.59	-€1.29	-€0.08	€0.00	-€42.97

**Figure 2.43 Break down by MS 2021**

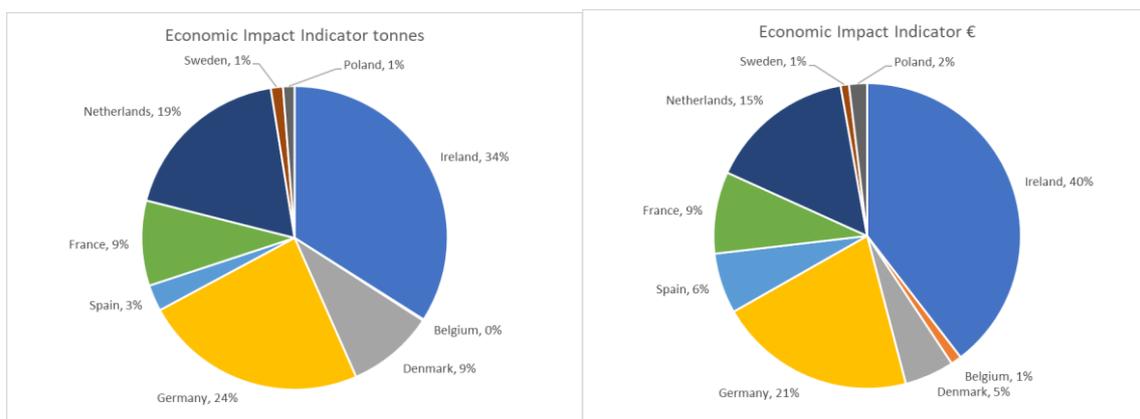


By 2025, when the full Brexit changes (as set out in the TCA) come into force these figure will rise to 67 000 tonnes and approximately EUR 71.5 million.

**Table 2.29 Example 5: Break down by MS in 2025**

	Ireland	Belgium	Denmark	Germany	Spain	France	Netherlands	Sweden	Poland	Portugal	Other MS	Total
Volume Tonnes	-22,808	-85	-6,191	-15,870	-1,881	-6,076	-12,417	-859	-810	-8	-10	-67,016
Value € million	-€28.28	-€0.81	-€3.72	-€14.85	-€4.57	-€6.18	-€11.02	-€0.63	-€1.35	-€0.08	€0.00	-€71.49

**Figure 2.44 Break down by MS 2025**



## 3 EU Regional Analysis

---

### Introduction

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

This section analyses the economic performance of the EU fishing fleet by main fishing region. For this economic data provided by fleet segment at the supra-region level are disaggregated based on effort and landings data provided by sub-region (FAO level 3 or 4) (see Annex 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
- Long distant fisheries (LDF) – NAFO, ICCAT, IOTC, CECAF and NEAFC

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

## 3.1 North Sea & Eastern Arctic

### Regional Details

The North Sea & Eastern Arctic region (NSEA), as defined for this report, comprises ICES areas 27.1, 27.2, 27.3a, 27.4, 27.5, and 27.7d. French data were incomplete and are only included in the analysis from 2010 onwards. In addition, where insufficient data were provided for fleet segments these may have been excluded from all or some of the analyses. As, for confidentiality reasons, not all data were provided for the German pelagic trawlers and some high seas Polish vessels; these segments are not included in the analysis. Trends and absolute regional figures should therefore be interpreted and considered with care.

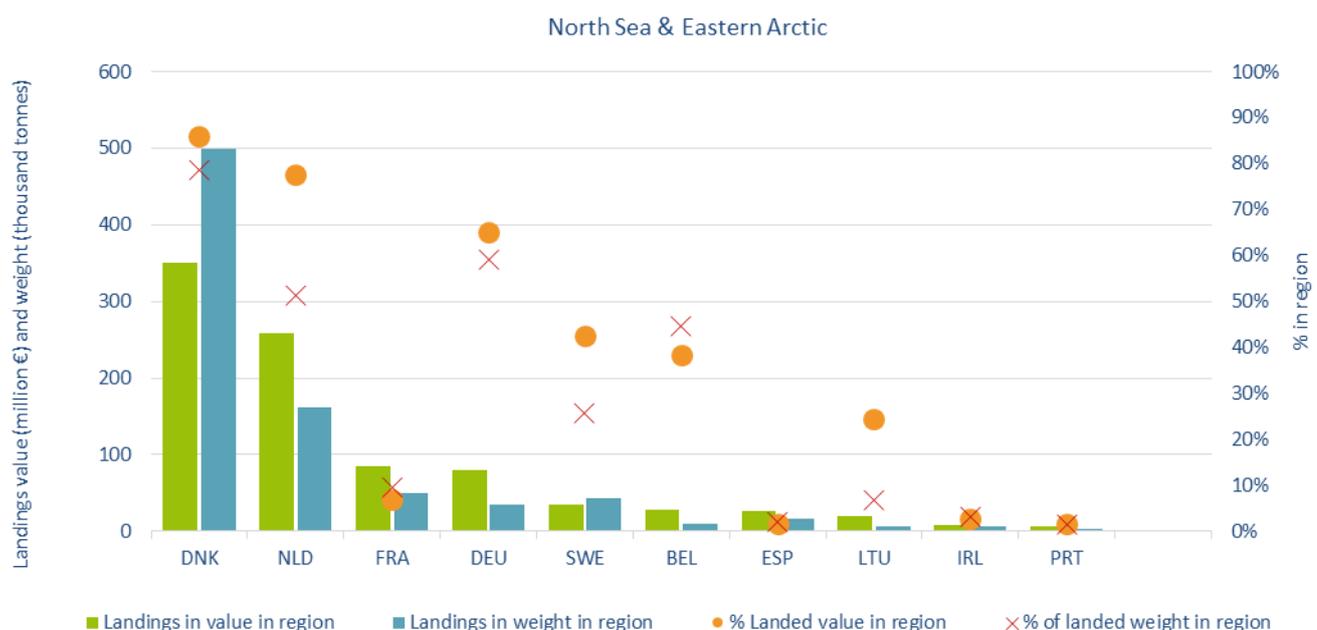
The analysis includes reported landings from 10 Member States' fleets: Belgium, Denmark, Germany, France, Ireland, Lithuania, the Netherlands, Portugal, Spain and Sweden. These fleets target high value species including common sole (the Netherlands, Belgium, Germany and France), common shrimp (The Netherlands, Germany, Denmark and Belgium) and Norway lobster (Denmark, the Netherlands, Germany, Sweden and to some extent Belgium). Other important demersal species include Atlantic cod (France, Spain and Denmark) 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).

Annex 2 contains the tables with all the economic performance figures of the NSEA fleet by Member State, main type of fishing activity and fleet segment.

None of the Member States' fleets is entirely dependent on the region for their fishing activity, yet based on the value of landings, the North Sea & Eastern Arctic region is a very important fishing region for Denmark (86% of total landings), the Netherlands (78%), Germany (65%), Sweden (43%) and Belgium (38%) (Figure 3.1).

Two main players dominate the seascape of this region. In 2019, the Danish fleet was the most important in terms of both landed weight (498 000 tonnes) and landed value (EUR 350 million). Furthermore, the Dutch fleet is also an important contributor. The share of the French, German, Swedish and Belgian fleets is considerably lower, but except for the French fleet, the region itself is of major importance for these national fleets (Figure 3.1).

In terms of landed weight, Denmark caught 79% of their landings in the NSEA region, followed by Germany (59%), the Netherlands (51%) and Belgium (45%). The pelagic fisheries influence these ratios to a large extent. Large volumes of sandeel are caught by the Danish fleet, while this is not a high valued species.

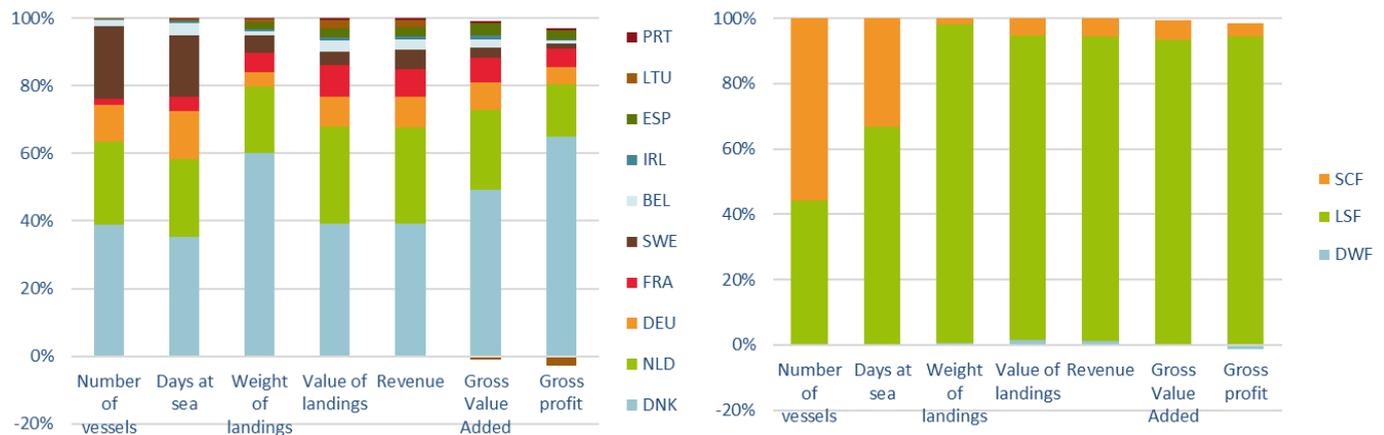


**Figure 3.1 Importance of the NSEA for MS fisheries in landings weight and value, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Even though the share of the number of small-scale vessels is more than 50% and the effort is about one third of the total days-at-sea in the NSEA, their economic contribution as well as their share of the

landed weight is marginal. The LSF landed 98% of the total weight and 94% of the total value (Figure 3.2).



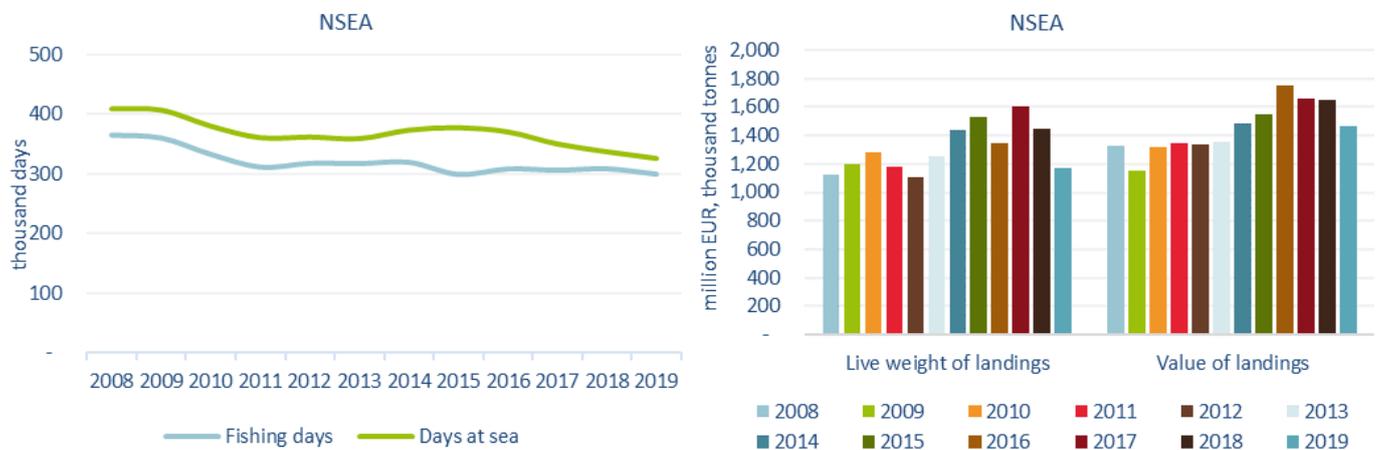
**Figure 3.2 Share by MS fleet and fishing activity in the NSEA, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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

### Fishing effort and landings

Fishing effort has decreased only slightly (-2.9%) while landings have dropped considerably from 2018 (Figure 3.3). The value of landings in 2019 was about average between 2008 and 2019. For a number of important North Sea fish species prices varied grossly compared to 2018. The price for common shrimp was particularly high in 2016 and 2017, but dropped 30% in 2018, which was then overcompensated by doubled weight of landings. However, in 2019 prices dropped by 26% and landings by even 60%. Prices for herring dropped 20% in 2019, while prices for cod (+12%), mackerel (+16%) and saithe (+26%) increased. The total landings in weight decreased by 23% in 2019 compared to 2018. Fuel prices remained almost unchanged in 2019. 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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

Over the past years, employment measured in terms of FTE showed a rather stable trend between 2010 and 2018 with an estimated 4 528 FTE for 2018. In 2019 there was a sharp decrease (-18%) in employment compared to 2018. The main contributors to the employment are the Netherlands (38%), Denmark (22%) and Sweden (12%).

Wages per FTE decreased by 5% in the LSF from 2018 to 2019. There was a trend between 2008 and 2019 where the wages per FTE increased by 58% (Figure 3.4). In 2019, the average wage in the LSF was estimated at EUR 68 900. In the SSCF there was an overall increase (15%) between 2008 and 2019. Between 2018 and 2019 the average wage per FTE for the SSCF increased by 7.8%, being EUR 38 300.

The productivity (GVA/FTE) of the LSF increased considerably between 2010 and 2016 (+60%). This coincided with a slight decrease in employment. In 2017 and 2018 labour productivity dropped for two years in a row and then remained unchanged in 2019. For the SSCF, labour productivity increased considerably in 2017, remained stable in 2018 and increased again by 10% in 2019.



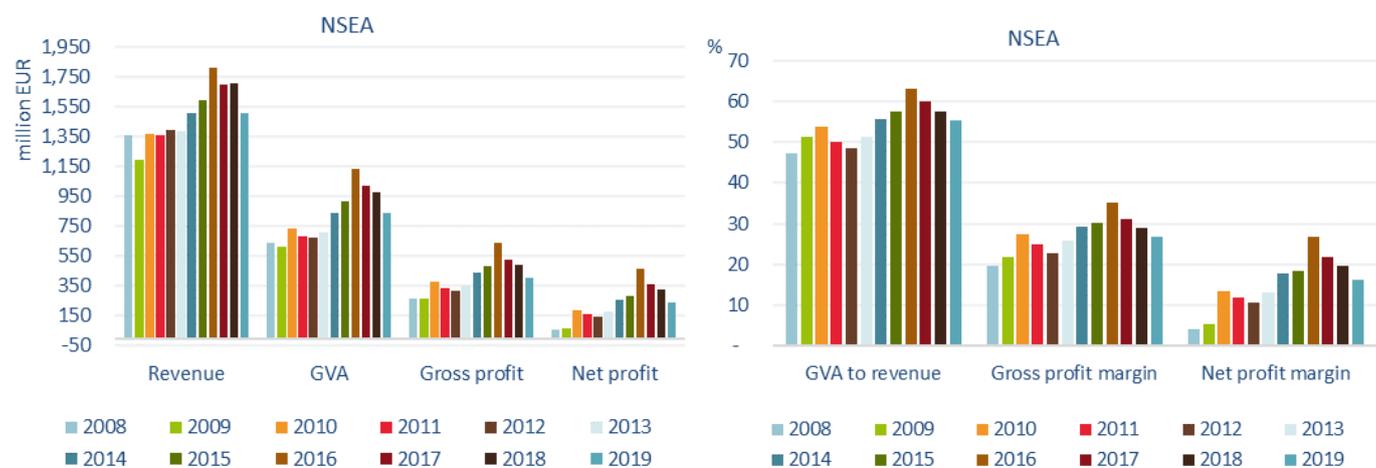
**Figure 3.4 Trends on average wage per FTE and GVA per FTE by fishing activity for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Economic performance

The revenue generated by the NSEA fleet in 2019 was estimated at about EUR 1.5 billion, thus decreasing by 11% compared to 2018.

GVA produced by the fleets covered in the analysis was estimated at about EUR 817 million, representing an overall decrease of about 14.7% compared to 2018. The fleets made about EUR 410 million in gross profit, an estimated 19% decrease compared to 2018 (Figure 3.5).



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

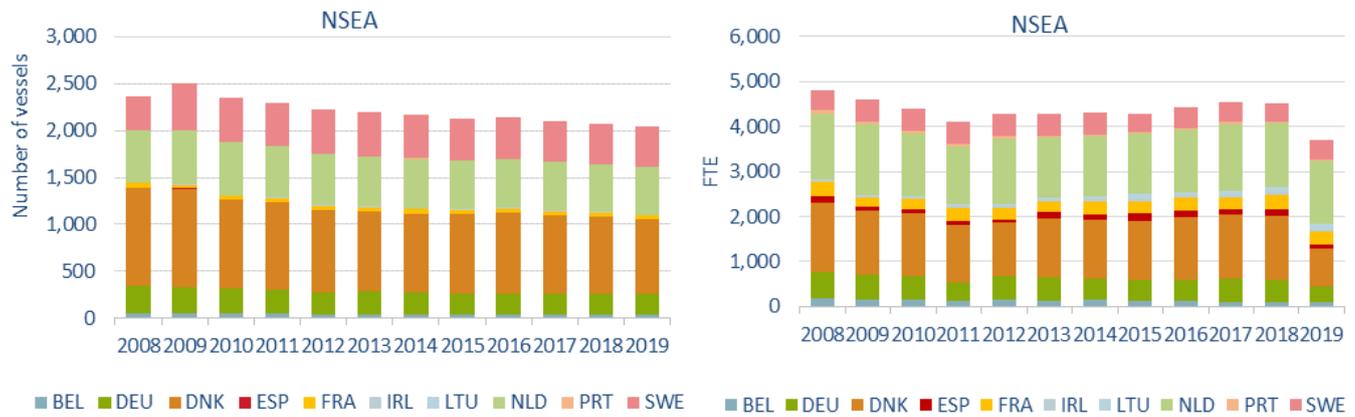
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Trends by Member State fleet

### Fleet capacity and employment

Member State fleets operating in NSEA in 2019 numbered 2 043 vessels, a slight increase of about 1% from 2018. The Danish NSEA fleet comprised the largest in number (794 active vessels), accounting for 39% of the total reported for the region and 65% of their national fleet (Figure 3.6)

Overall the number of vessels operating in the region has followed a decreasing trend between 2010 and 2019. The employment, measured in terms of FTE, showed a rather stable trend between 2010 and 2018, but a sharp decline (-18%) in 2019 (Figure 3.6). In terms of employment, the SSCF generated 2 759, mostly part time jobs (862 FTE) while the LSF generated 6 698 jobs (5 782 FTE).



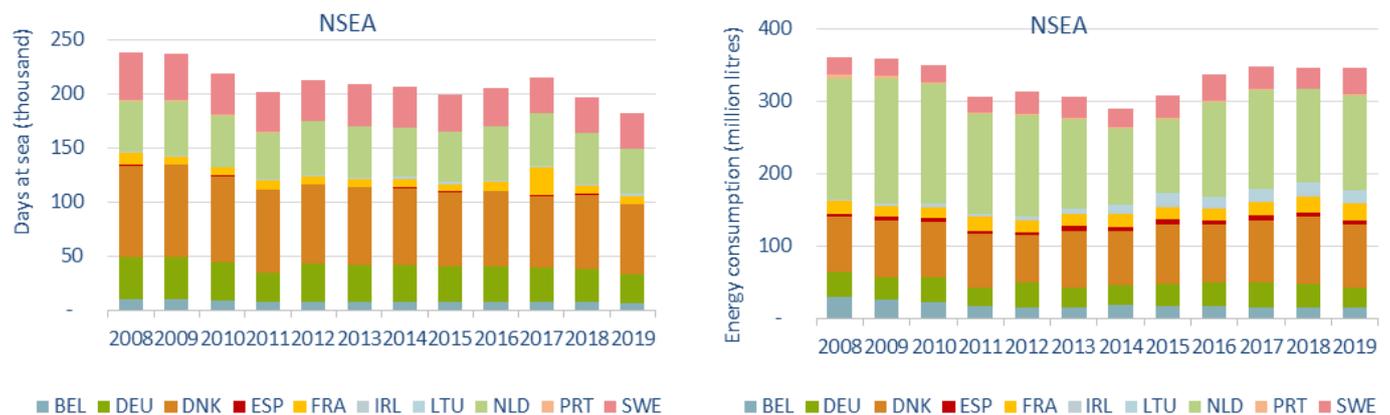
**Figure 3.6 Trends on number of vessels and employment (in FTE) for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2021))

## Fishing effort

Effort followed the fleet capacity development, with a stable phase between 2011 and 2017 and considerable decrease since 2017 mainly attributed to the Dutch, Danish and German fleet. Fuel consumption decreased significantly from 2010 to 2011, continuing on a steady decreasing trend until 2014 (Figure 3.7). Since then, fuel consumption has slightly increased until 2017 and remained almost unchanged until 2019.

Around 21% of the days-at-sea were undertaken by SSCF. Swedish small scale vessels accounted for 44% of this effort. LSF accounted for most of the remaining 81% of the days-at-sea. Denmark (33%), the Netherlands (27%), Germany (18%) and Sweden (11%) were the most active nations with respect to days-at-sea of the LSF.



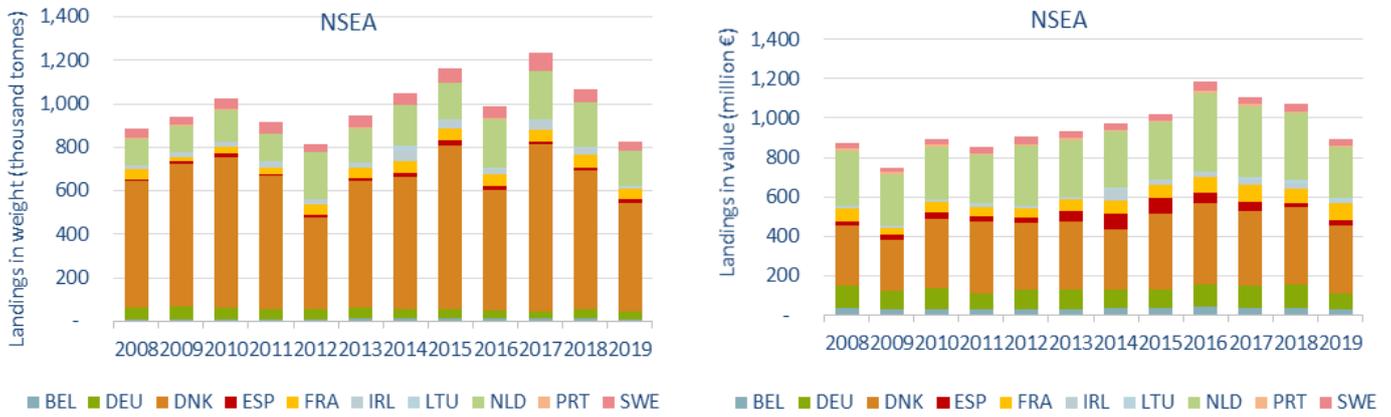
**Figure 3.7 Trends on fishing effort (in days-at-sea) and fuel consumption for MS fleets operating in the NSEA**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2021)).

## Landings and top species

In 2019, the weight and value of landings generated by the fleet amounted to approximately 828 million tonnes and EUR 895 million, respectively. Landings in weight decreased sharply by about 22% compared to 2018, and the value of the landings decreased almost by the same amount (-17%).

Landings in weight decreased sharply between 2010 and 2012, mainly due to lower catches made by the Danish fleet. It increased steadily from 2013 onwards, again due to the contribution of the Danish fleet, dipping again in 2016. Landings in 2017 were rather high, but then decreased in 2018 and again in 2019. Landings in value remained rather stable over the period 2010 to 2013, increasing in 2014, 2015 and even more in 2016 (Figure 3.8). Despite lower landings in terms of weight, there was a strong increase in value in 2016. Since 2017 the value of landings has decreased, particularly sharp in 2019.



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

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

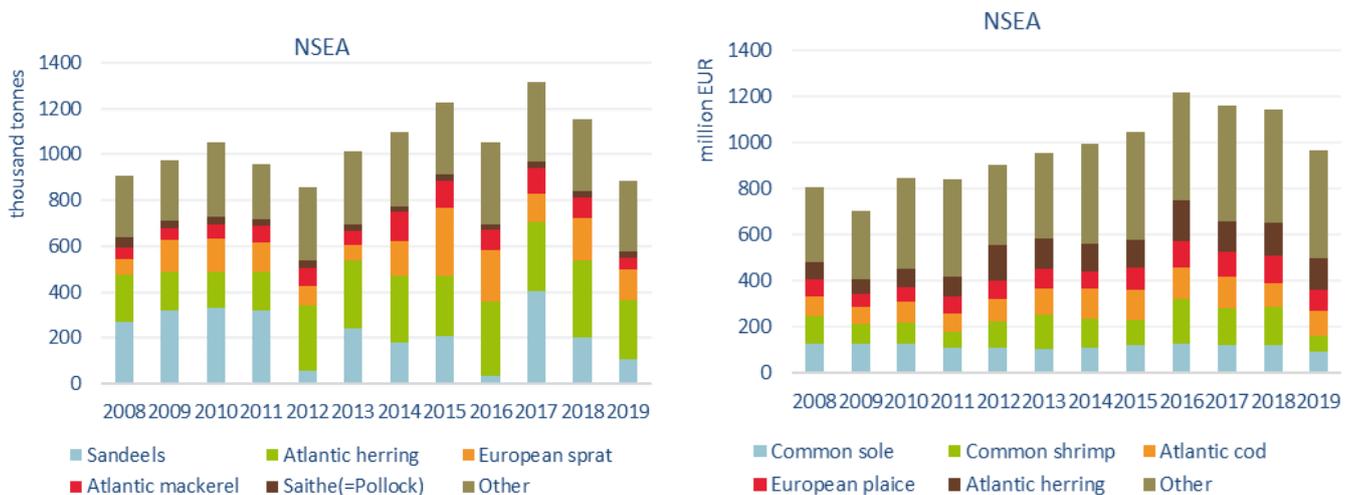
In 2019 Atlantic herring (253 000 tonnes, -26%) and sandeel (109 000 tonnes; -45%) were the most important species in terms of weight. Landings of European sprat (134 000 tonnes; +25%), Atlantic mackerel (52 000 tonnes; -42%) and Atlantic cod (45 000 tonnes; -32%) were the next most important species in terms of weight (Figures 3.9 and 3.10).

In terms of value, the most important species in 2019 were: Atlantic herring (EUR 135 million), Atlantic cod (EUR 109 million), followed by European plaice (EUR 95 million), common sole (EUR 92 million), common shrimp (EUR 67 million) and Norway lobster (EUR 63 million) (Figures 3.9 and 3.10). Especially, the decrease in landed value of sandeel (-45%) and Atlantic mackerel (-42%) were noteworthy in 2019.



**Figure 3.9 Top 10 species in landed weight and value from the NSEA, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

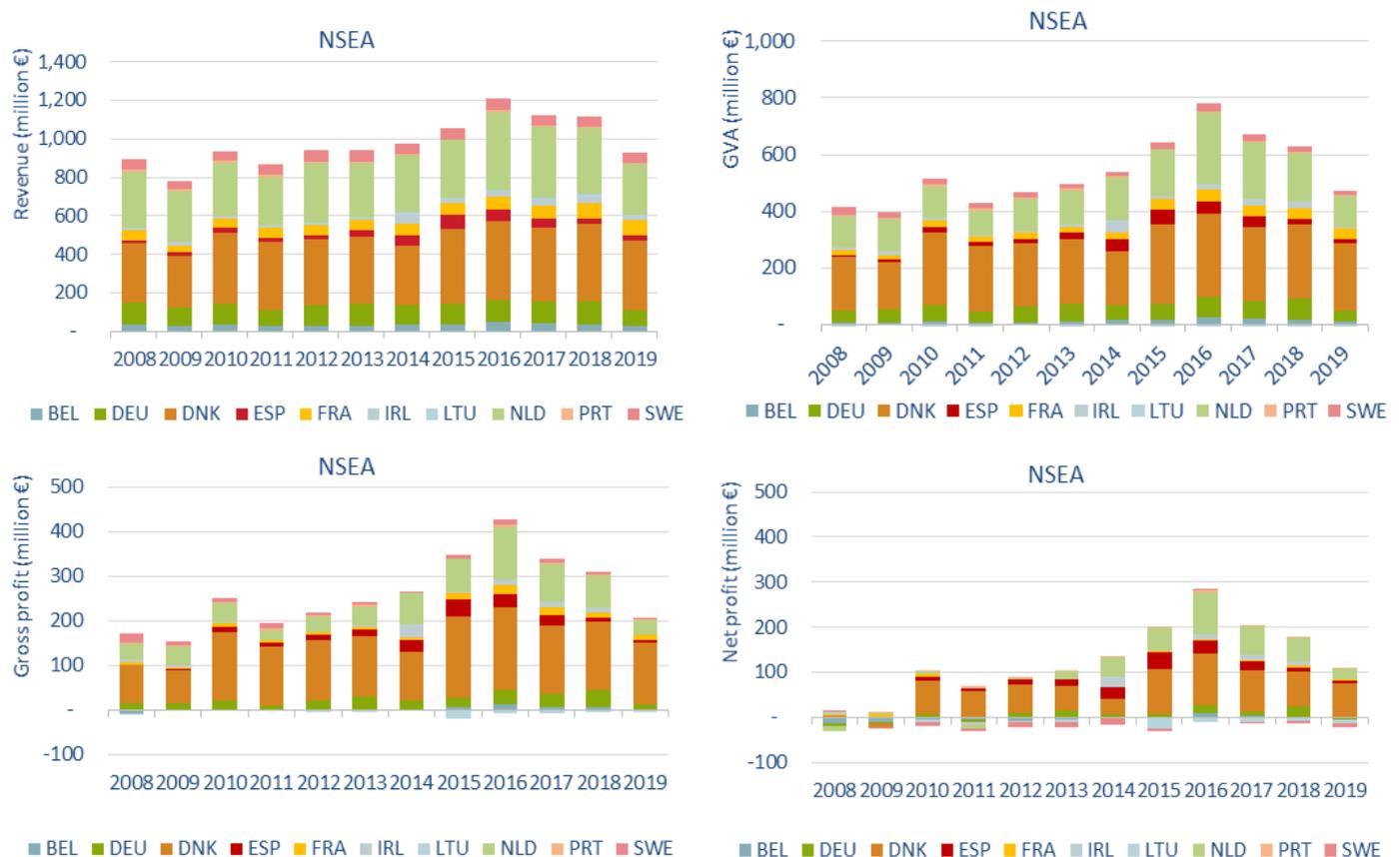
## Economic performance

The revenue generated by the NSEA fleet in 2019 was estimated at EUR 928 million, 39% of which was provided by Denmark (EUR 363 million), 29% by the Netherlands (EUR 266 million), and 9% by Germany (EUR 82 million) (Figure 3.11).

Revenue basically decreased for all countries in 2019 compared to 2018: the Netherlands (-EUR 78 million; -23%), Germany (-EUR 41 million; -33%), Denmark (-EUR 38 million; -9%), Ireland (-EUR 21 million; -73%), and Belgium (-EUR 6 million; -17%) suffered highest decrease compared to 2018.

GVA produced by the fleet covered in the analysis was estimated at about EUR 469 million in 2019. This represented an overall decrease of 25% compared to the GVA generated in 2018. The fleets made EUR 200 million in gross profit, a 34% decrease compared to 2018 (Figure 3.11).

By fishing activity, the SSCF generated EUR 22 million in revenue, a 13% decrease relative to 2018, while the LSF generated EUR 920 million in revenue, a decrease of 16% from 2018.



**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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

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

Factors that may have contributed to an overall deteriorated situation include:

- Decrease of TAC of important stocks, e.g. North Sea herring (-40%), mackerel (-20%), blue whiting (-20%), cod (-35%), plaice (-12%).
- Decrease in both landings and prices of common shrimp
- Stable fuel prices added no further burden on the sector.

## Regulation and Fisheries management in the region

The management plans in force in 2019 (including proposals for 2020 and 2021) that impacted on the North Sea included:

- Conservation of fisheries resources and the protection of marine ecosystems through technical measures. One of the technical measures that has impact in particular for the Dutch (and to lesser extend Belgium and German) fleet, is the pulse ban. Fishing with electric pulse trawl shall be prohibited in all Union waters as of 1 July 2021 (Regulation EU 2019/1241). The use of electric pulse trawl should remain possible during a transitional period until 30 June 2021 and under certain strict conditions. During the transitional period ending 30 June 2021, fishing with electric pulse trawl in ICES divisions 4b and 4c shall continue to be allowed under the conditions set out in this and any conditions defined in accordance with point (b) of Article 24(1) of this Regulation.
- Long-term plan 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 EU Parliament and Council Regulation No 2016/2094. This is a long term plan and as it was already implemented a few years ago (since 2016) it will not have a significant impact on 2019 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 for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union vessels, in certain non-Union waters (Council Regulation (EU) 2021/92 of 28 January, 2021). The Total Allowable Catch (TAC) are annually defined which determine the weight of fish per stock and fishing area for the EU fisheries.
- 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 management measures that may affect economic performance of the fleets operating in the North Sea include marine protected areas and other national legislation.

## Status of important stocks

At the overall level, 28 out of 46 stocks in the NSEA are having a fishing pressure below  $F_{MSY}$  (ICES 2020). Atlantic herring, European plaice, haddock, saithe 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. According to ICES advice, the plaice stock's spawning stock biomass continues to develop favourably under the current management plan (ICES 2021).

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

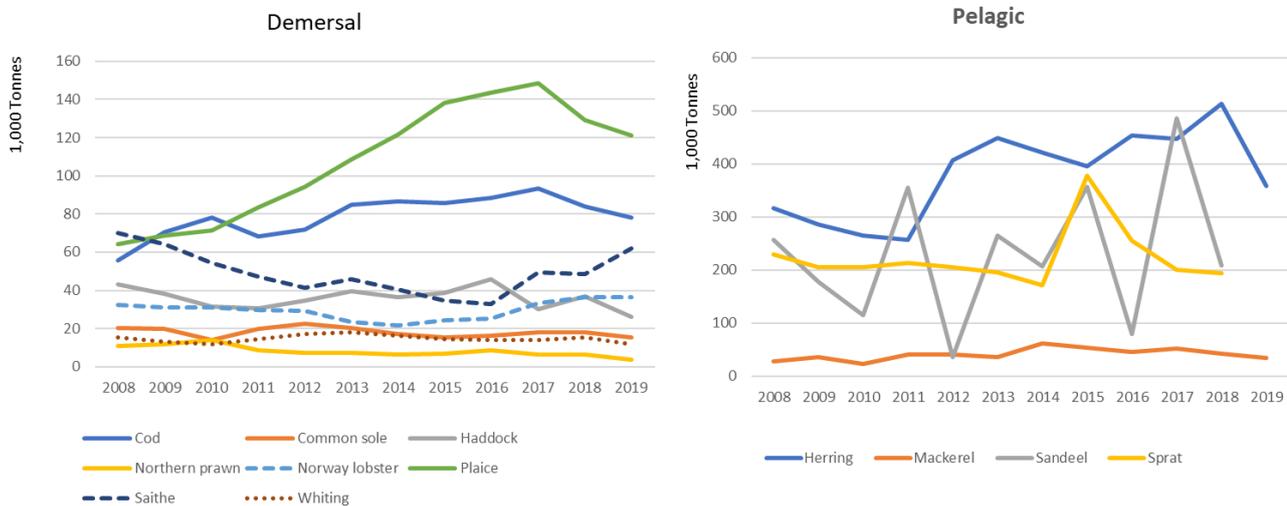
Another economically important species is brown shrimp (*Crangon crangon*). This species is currently not under a TAC regime. However, there have been initiatives from the fishing industry to move towards implementing harvest control rules and in 2016 measures were taken to regulate the weekly fishing effort. This was one of the requirements to qualify for an sustainability certificate. The fishery was certified in 2017. In 2018, the landings were at a very high level, as not seen in decades before, but in 2019, it decreased to almost the same level as previous years.

## TAC development of main species

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

Between 2008 and 2014 the TAC for Atlantic mackerel shows an increasing trend. In 2014 the TAC for Atlantic mackerel increased compared to 2013 (+77%), but shows an overall decreasing trend between 2014 and 2019 (-46%).

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



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

Source: Calculated based on TAC Council Regulations

## Landing obligation (LO)

In 2019 an economic impact by the implemented LO was hard to observe due to several 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, but required Member States having a direct management interest to submit additional scientific information supporting the exemption in order for STECF to assess the provided scientific information. In 2021 a new evaluation of the impact and performance of the LO is planned by the EU.

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

## Description of relevant fisheries in the region

The most important LSF segments were the Danish pelagic trawlers over 40 metres based on revenue (EUR 120 million), followed by the Dutch beam trawlers over 40 metres (EUR 115 million) and the Danish demersal trawlers from 24 to 40 metres (EUR 66 million). The most important fleets in terms of GVA were again the Danish pelagic trawlers over 40 metres and Dutch beam trawlers over 40 metres.

## Small-scale coastal fleet

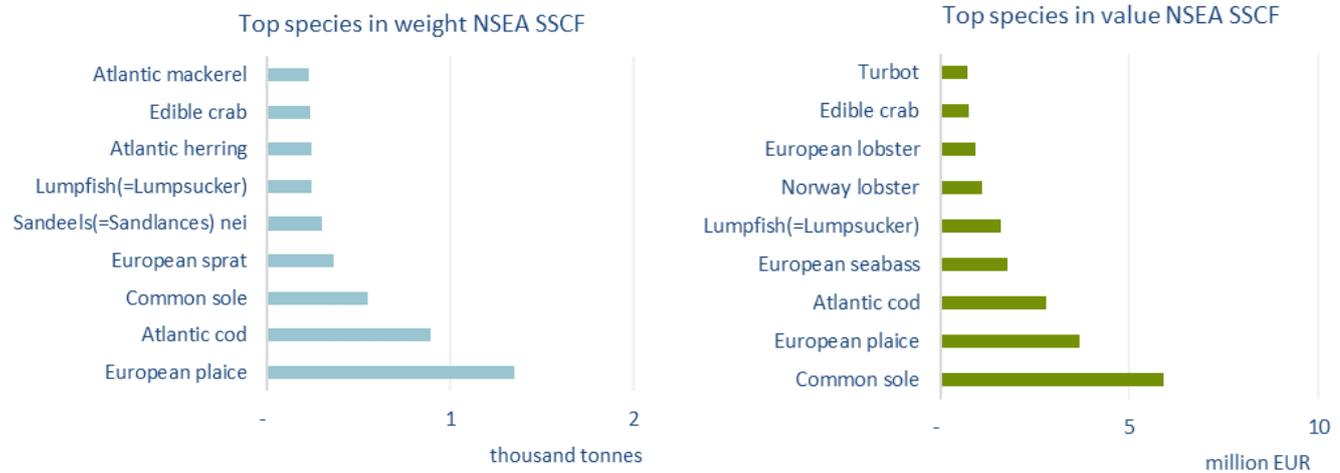
SSCF from six Member States operated in NSEA in 2019. Of these, the Danish fleet, consisting on 479 vessels and employing 88 FTEs, generated the highest revenue (EUR 14 million) and net profit (EUR 0.8 million). In the NSEA region, Danish SSCF contributed by 23.5% of total active vessels, 2.4% of FTE and 1.5% of revenues. The Swedish SSCF, with 264 vessels generated revenue of EUR 5 million but a net profit of -EUR 1.9 million.

Overall the SSCF segment was profitable in 2019, posting a EUR 174 000 net profit, although a strong decrease by 90% from 2018. Indeed, from all SSCF in the NSEA region, the German, French, Swedish and the Irish fleets generated net losses.

The most profitable in terms of gross and net profit was the Dutch fleet with EUR 1.7 million and EUR 1.3 million, respectively. All Member States fleets in the NSEA demonstrated a lower FTE in

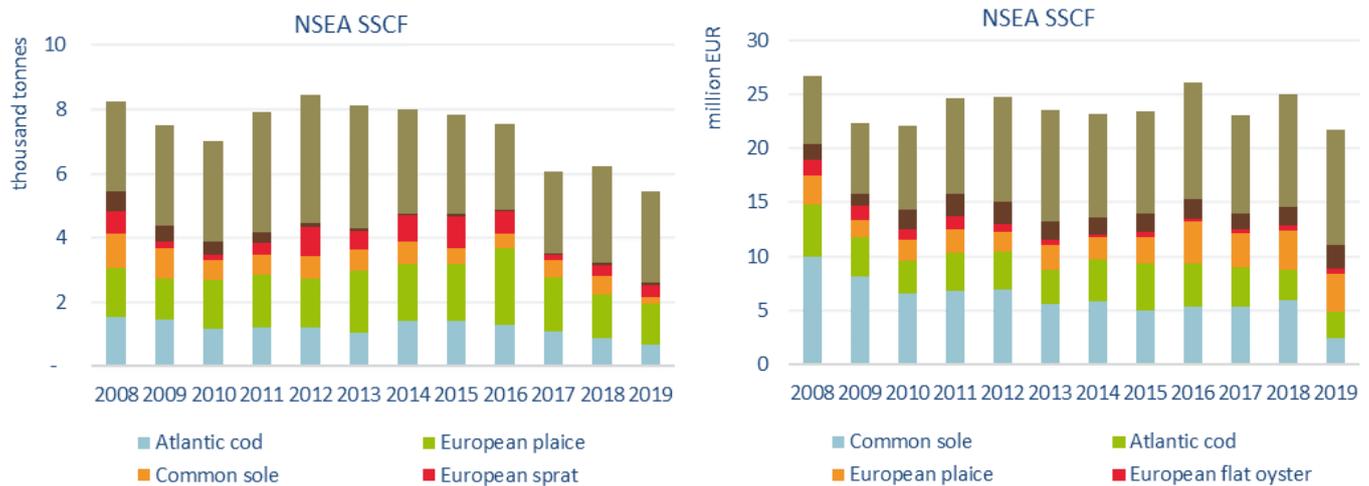
comparison with total employed indicating that a large majority of those employed in the SSCF are part-time or casual workers. SSCF fisheries contributed to 8.4% of total FTE in the region.

Landings were valued at EUR 22 million in 2019. The most important species for SSCF in 2019 were European plaice, Atlantic cod and common sole in weight. In value the top species were again common sole, European plaice and Atlantic cod (Figure 3.13).



**Figure 3.13 Top 10 species landed in weight and value by MS SSCF operating in the NSEA, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Large-scale fishery

There were 10 Member States LSF operating in the NSEA totalling 1 622 vessels. The Netherlands, Denmark, Germany and Sweden had the largest number of active vessels contributing 94% of the total active vessels in the region.

The Dutch and Danish LSF, consisting of 328 and 315 vessels, respectively, generated the highest revenue (EUR 262 million and EUR 349 million, respectively), followed by the German LSF (EUR 82 million).

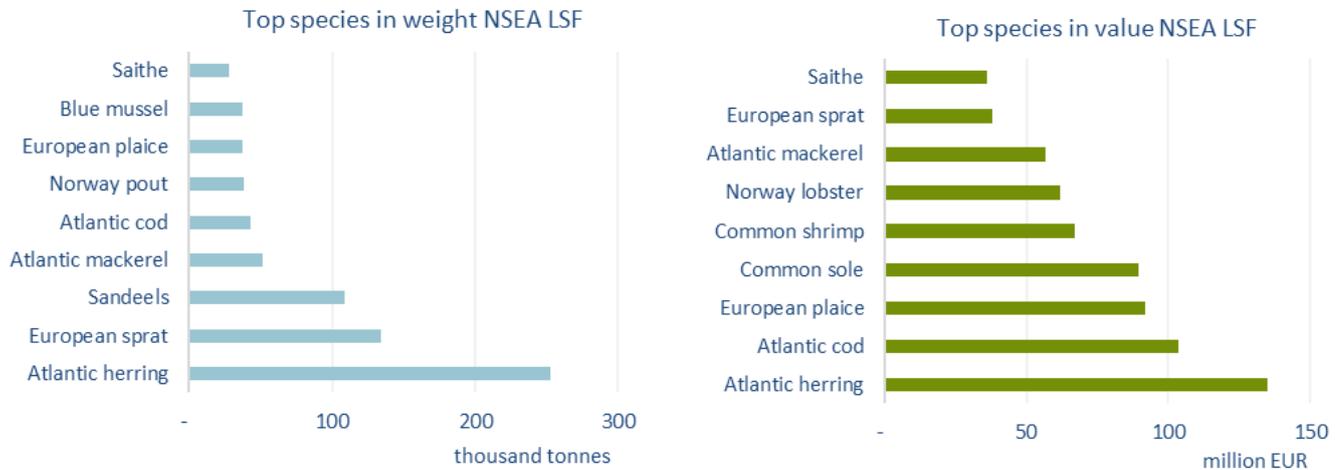
Overall the LSF was profitable in 2019, generating EUR 459 million in GVA and EUR 204 million in gross profit. Compared to 2018, GVA and gross profit declined by 25% and 33%, respectively. The most profitable fleets in terms of gross and net profit were the Danish fleets with EUR 136 million and EUR 74 million, Netherlands with EUR 31 million and EUR 20 million, respectively.

Total employment for the LSF was highest for the Netherlands and Denmark totalling 1 346 and 870, respectively. While the SSCF demonstrates a difference between the total number employed and total FTE for all Member States, the LSF figures for total employed and FTE are closer in value, indicating the high level of full time employment in this segment.

Landings were valued at EUR 855 million in 2019. Danish LSF contributed to 25% of landings value in the region. In term of weight, the most important species for the LSF in the region in 2019 were

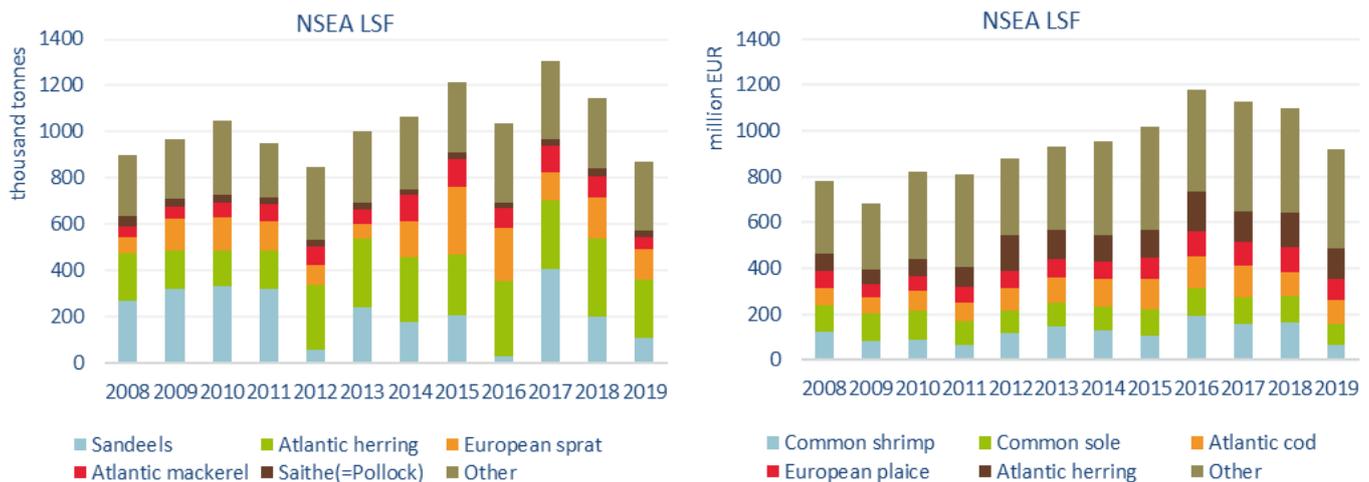
Atlantic herring, European sprat and sandeels in weight, whereas the top species in value were Atlantic herring, Atlantic cod and European plaice.

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



**Figure 3.15 Top 10 species landed in weight and value by MS LSF operating in the NSEA, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



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

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Pelagic fishery

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

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

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

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

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

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

Important target species were cod, *Nephrops*, haddock, saithe and hake. Haddock, saithe and hake were fished close to or below F<sub>MSY</sub>, cod fisheries were still above F<sub>MSY</sub> in 2019. The cod recovery plan in the North Sea had not yet fulfilled assessment experts' expectations on improvement of the stock status over the past years.

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 *Nephrops* 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 *Nephrops* fishery has gained importance for some vessels it remains of minor importance overall.

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

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

The Spanish 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 fishery targeting primarily Norway lobster.

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 2019 were the Netherlands, Denmark, Belgium, France and Germany. Important target species were common sole and European plaice, and at a lower level brill and turbot. Sole was fished below F<sub>MSY</sub> in 2019, the recruitment in 2020 was estimated to be the highest since the start of the time series in 1957. Overall, the performance of most flatfish beam trawl fleets was positive in 2019. However, since 2016 there is a decreasing trend in terms of landed weight and value and therefore a lower economic performance.

The Netherlands exert by far the most activity in the flatfish fishery, carried out mainly by large beam trawlers in the southern North Sea (ICES Division 5c), using the pulse technique. In 2018 almost all EU permitted 'pulse fisheries exemptions' were used in Dutch fleets, resulting in considerable fuel savings (minus 40-50% compared to conventional beam trawling). Common sole is very important due to high prices. As a result, this fishery is profitable. Since June 2019 this fishing technique was forbidden with a transition period for the exemptions until July of 2021.

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

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

Flatfish is a major species for Belgian beam trawlers in the southern North Sea. Opposed to the Dutch pulse gear, the Belgian beam trawlers use the more traditional beam trawl gear, although they have made a number of technical adjustments in order to reduce fuel consumption. In the Belgian beam trawl fleet there were new build vessels ordered in 2019 for the future. Most of these vessels were aimed to save 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 took part on the shrimp fishery in 2019 were the Netherlands, Germany, Denmark, and Belgium. The fishery is carried out by smaller beam trawlers (mainly below 24 metres). Considerable catches are being made in coastal areas of the southern North Sea. Overall, the performance of the participating fleets decreased considerably in 2019 as catches dropped 45% and even prices decreased by about 24%. Dutch and German catches account for about 90-95% of the total weight. In 2019, the Dutch fleet caught about 55% of the total brown shrimp catch (in landed value). The Danish and the Belgian fleets also contribute to this total while for the French fleet only negligible amounts are reported. Some German vessels operate under Dutch ownership. Some Dutch vessels switch between flatfish and shrimp fishery.

### **References**

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

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

ICES. 2020. ICES Fisheries Overviews: Greater North Sea ecoregion. 3 December 2020.  
<https://doi.org/10.17895/ices.advice.7605>.

ICES. 2021. ICES Advice 2021 – ple.27.420. 7 May 2021. <https://doi.org/10.17895/ices.advice.8113>.

### 3.2 Baltic Sea

Tables in the Annex 2 contain a summary of the economic performance of the Baltic Sea fleet by Member State, main type of fishing activity and fleet segment.

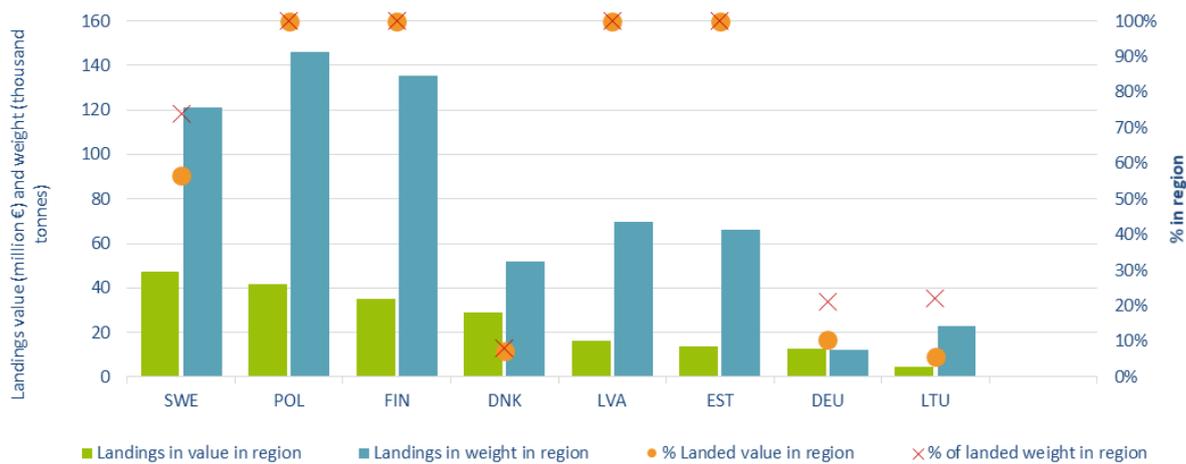
#### Regional Details

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

Eight Member States were involved in Baltic Sea fisheries in 2019: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden (Figure 3.18). Most of the Member States bordering the Baltic Sea are highly dependent on the region, where the main species targeted include herring, sprat and cod.

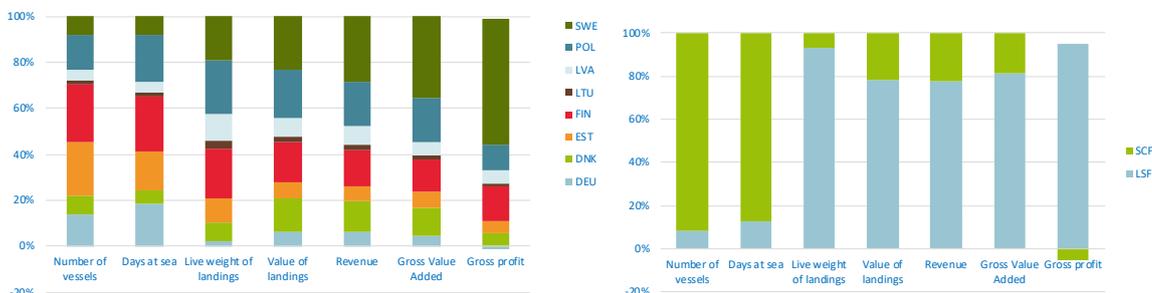
In terms of landings, and based on the EU-MAP data available, the Estonian, Finnish, Latvian and Polish fisheries are fully dependent on the Baltic Sea region. However, it should be noted that Estonian, Latvian and Polish vessels operating in the high seas (DWFs) are not included in the analysis due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

In 2019, the Swedish fleet was the most important fleet in terms of landed value (EUR 47 million), while the Polish fleet was the most important fleet in terms of landed weight (145 962 tonnes) (Figure 3.17).



**Figure 3.17 Importance of the Baltic Sea region for MS fleets in terms of landings in weight and value, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



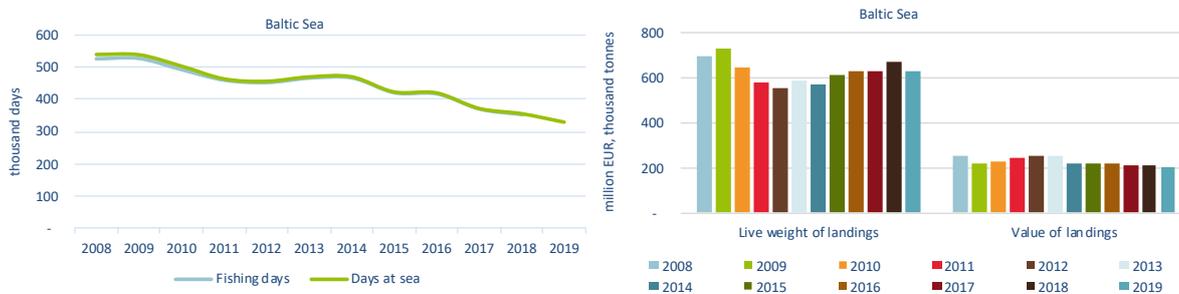
**Figure 3.18 Share by MS and fishing activity fleets operating in the Baltic Sea, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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

### Fishing effort and landings

The EU Baltic Sea fleets spent 322 017 days-at-sea in 2019 (7.2% less than in 2018). Generally, the effort variables show a decreasing trend compared to 2008. The weight and value of landings was approximately 624 767 tonnes and EUR 200 million. Landings (by weight) from the Baltic declined between 2009 and 2012, followed by a slight increase in 2013 and further increase after 2014. However, from 2018 to 2019 the weight of landings decreased with 7.2%. Conversely, landings by value increased steadily from 2009 to 2013, decreased significantly in 2014 (due to slump in the price for small pelagic species) and had still not entirely recovered in 2019 following a reduction from 2018 to 2019 with 3.6% (Figure 3.19).



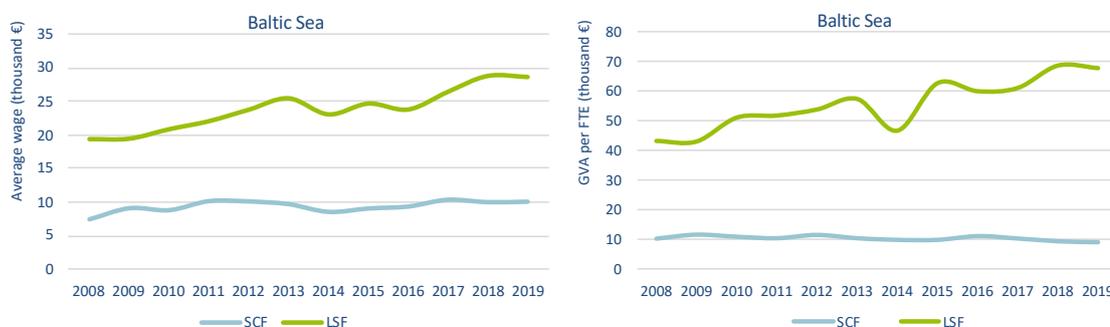
**Figure 3.19 Trends on effort and landings for MS fleets operating in the Baltic Sea region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

For the SSCF, the overall average wage per FTE increased by 1.0% in 2019 compared to 2018, thus being EUR 9 976 in 2019 (Figure 3.44). Average wages per FTE in the LSF decreased by 0.5% between 2018 and 2019 and was EUR 28 566 in 2019.

The overall labour productivity (GVA/FTE) for the SSCF decreased 4.0% in 2019 compared to 2018, being EUR 8 742 in 2019. The overall labour productivity (GVA/FTE) for the LSF decreased 1.0% to a level of EUR 67 849 (Figure 3.20).



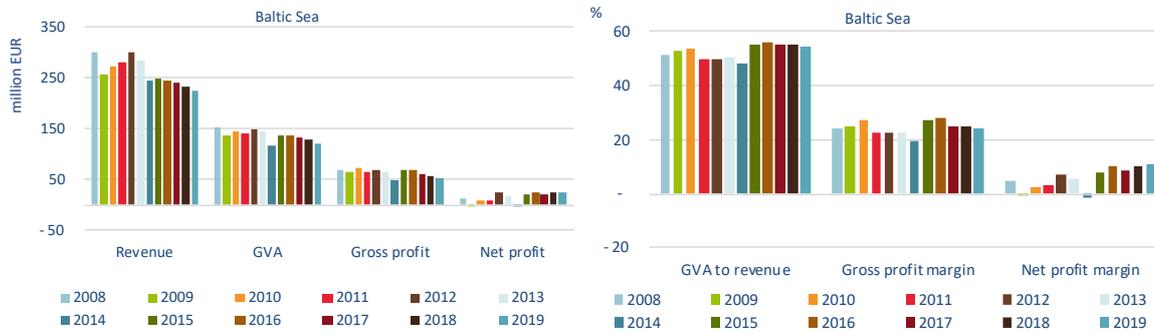
**Figure 3.20 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the Baltic Sea**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic performance

The revenue generated by the EU Baltic Sea fleet in 2019 was estimated at almost EUR 224 million, a decrease of 3.9% compared to 2018.

GVA produced by the fleets covered in the analysis was over EUR 122 million and compared to 2018, decreased by 5.3%. The fleets operating in the region made almost EUR 54.2 million in gross profit, an estimated 6.7% decline from the previous year profits record (EUR 58 million). Net profit has a slight decrease by 1.0% compared to 2018 (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 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

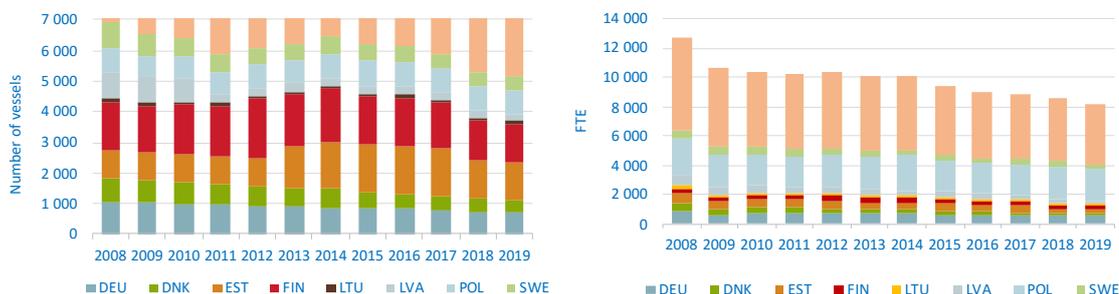
## Trends by Member State fleet

### Fleet capacity and employment

Member State fleets operating in the Baltic Sea collectively numbered around 5 153 active vessels in 2019. The Finnish fleet was the largest with 1 279 active vessels, some 25% of the total. The number of vessels decreased steadily between 2008 and 2011, mainly a result of capacity reductions in the Latvian and Polish fleets but rose again with the entry of Finnish and Estonian vessels in 2013 and 2014. However, in 2019 the total number of vessels operating in Baltic Sea declined annually by 2.6% and reached their lowest level since 2008 (Figure 3.22).

Total capacity remained stable in 2019 corresponding to 60 610 GT with the largest share made up of Polish (15 078 GT) and Finnish (11 701 GT) vessels. Compared to 2008, capacity in GT, decreased by 35.6%. Capacity reductions resulted mainly from decommissioning programmes implemented in Latvia (after EU accession) and Poland, the introduction of an ITQ system in the Swedish pelagic fisheries in 2009, and the introduction of entry restrictions to the Swedish eel fishery. Recent reduction in the number of active vessels was mostly visible in SSCF segments.

While the SSCF had 92% of the vessels (4 730 vessels) in 2019, total employment in the sector amounted only to 2 605 FTE or 64% of the total, indicating the predominantly part-time nature of employment in this fleet segment mostly reflected in Estonian and Finnish fleets with 0.22 FTE per person. Employment, measured in terms of FTE, showed a decreasing trend over the period, apart from a small increase in 2012. Overall, FTE decreased 4.6% in 2019 and reached the lowest level since 2008. Number of persons employed declined by 5.5% to the lowest level from 2008. Reduced employment in the region resulted in a higher labour productivity, for example GVA/FTE in 2019 was 7.5% higher than multiannual 2008 to 2018 average. In the LSF fleet, in 2019 labour productivity decreased by 1.2% to EUR 67 849 per FTE, whereas in the SSCF fleet it declined by 4.3% to EUR 8 742 per FTE.



**Figure 3.22 Trends on the number of vessels and employment in FTE for MS fleets operating in the Baltic Sea**

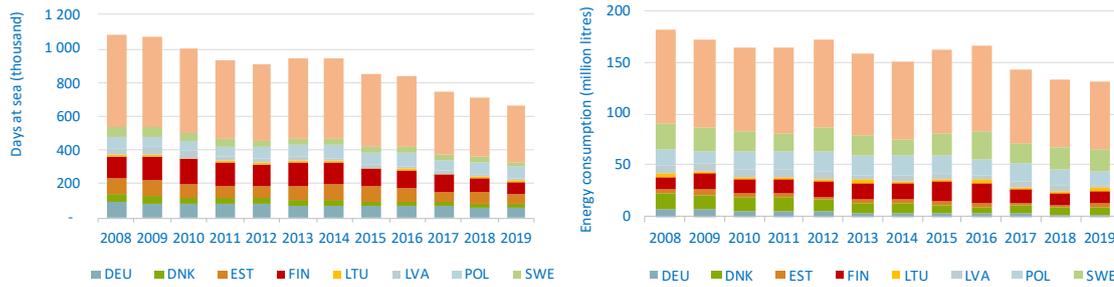
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021))

### Fishing effort

The EU Baltic Sea fleets spent 332 017 days-at-sea in 2019 with annual 7.2% decrease between 2018 and 2019 and reached the lowest level since 2008. Vessels from Finland had the highest effort of the region, accounting for 24% of total days-at-sea. Most (86%) of the effort resulted from the SSCF. Within the LSF, most of the effort was deployed by pelagic trawlers.

In 2019 the total number of days-at-sea per vessel in the region was 17.2% less than in 2008 and 12.3% less than the 2008 to 2018 average. The biggest reductions were seen in the Latvian, Danish

and Swedish fleets (Figure 3.23). However, decline in effort with higher landings resulted in considerably higher CPUE in terms of weight of landings per day at sea in the region. For example, in 2019 CPUE was 46% higher than in 2008 and 35% higher compared to the average of 2008 to 2018.



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

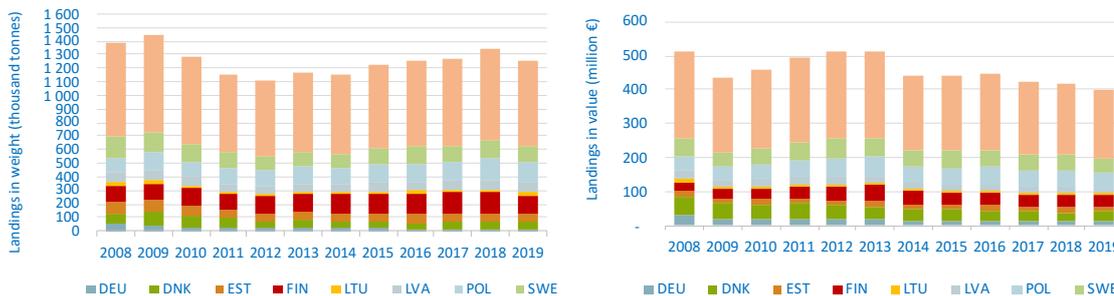
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021))

In 2019 Baltic Sea fleet consumed 65.7 million litres of marine fuel and compared to 2018 it decreased by 1%. Fuel consumed per landed weight of seafood, in 2019, was 18.3% lower than 2008-2018 average indicating better energy efficiency of current Baltic Sea fleet.

### Landings and top species

The weight and value of landings was 624 767 tonnes and EUR 200.3 million in 2019. The LSF landed 93% of the total weight and 77% of the total value (Figure 3.24). Compared to 2018 weight and value of landings in Baltic Sea decreased by 7.2% and 3.6%, respectively.

In terms of landed weight, Poland (145 962 tonnes), Finland (135 132 tonnes) and Sweden (121 035 tonnes) were the leading Member States. Sweden (EUR 47.1 million), Poland (EUR 41.9 million), Finland (EUR 35.3 million) and Denmark (EUR 29.1 million) collectively accounted for around 76% of the total value of landings in 2019.

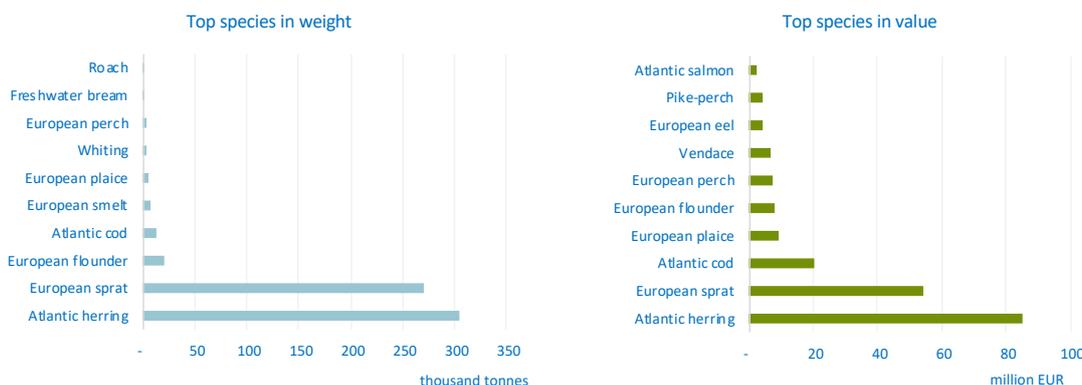


**Figure 3.24 Trends on landings in weight and value for MS fleets operating in the Baltic Sea**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

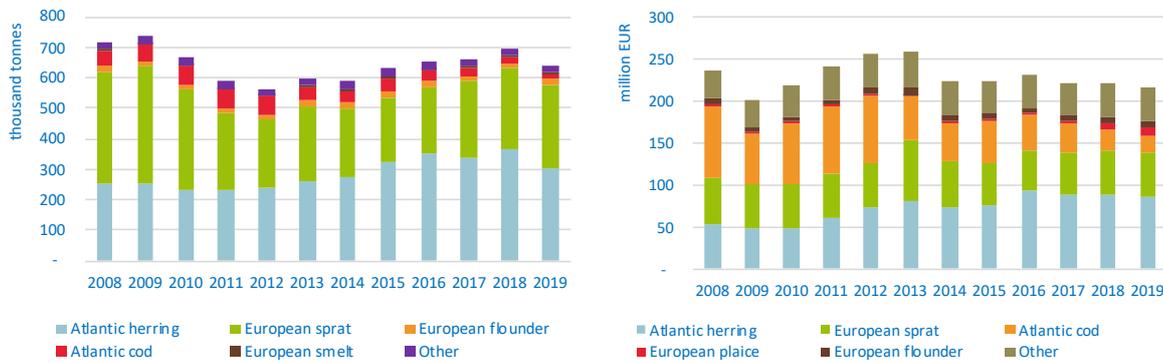
In 2019, the most important species (by weight of landings) were herring (304 761 tonnes, 48.3% of the landed weight), sprat (270 948 tonnes), flounder (20 208 tonnes) and cod (13 061 tonnes) (Figure 3.43).

Herring generated the highest value (EUR 84.8 million), representing 42.3% of the landed value), followed by sprat (EUR 54.2 million, 27% of the landed value) and cod (EUR 20.2 million, 10% 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, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**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 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Sprat landings, by weight and value, increased by 1% in 2019 compared to 2018. The total landed weight and value of Baltic herring declined by 16.1% and 3.7%, respectively. Cod landings dropped by 28.8% in weight and 17% in value in 2019 compared to 2018 (Figure 3.26).

### Economic performance

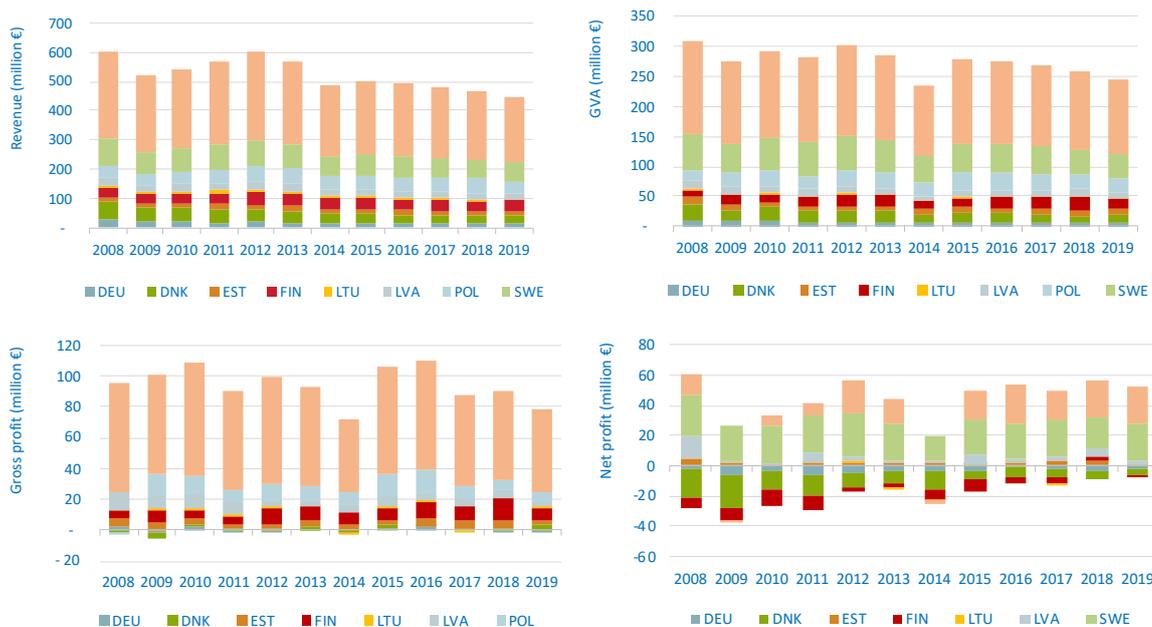
Overall, the Baltic fleet was profitable in 2019, generating EUR 54.2 million gross profit. However, concerning net profit, three Member States’ fleets – Denmark, Germany and Finland - suffered net losses in 2019 in the region (Figure 3.27).

The revenue generated in 2019 was estimated at EUR 224 million, a decrease of 3.9% from the previous year. Four Member States accounted for 77% of all revenues: Sweden (EUR 64.4 million), Poland (EUR 42.3 million), Finland (EUR 35.2 million) and Denmark (EUR 30.8 million).

GVA was estimated at over EUR 122 million (-5.3%), gross profit at EUR 54.2 million (-6.7%) and EUR 24.2 million in net profit.

Overall, the gross profit margin of the region remained almost unchanged in 2019 at 24% level. Largest gross profit margins were observed in Sweden (47%), Finland (24%) Estonia (20%) and Latvia (18%).

Despite the increase in regional productivity indicators as GVE/FTE and CPUE in 2019, profitability in terms of gross profit margin was relatively stable considering a longer-term period. For example, in 2019 regional gross profit margin was 3% lower than in 2018 and 1% lower compared to the 2008 to 2018 average.



**Figure 3.27 Trends on revenue and profits for MS fleets operating in the Baltic Sea region**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

The major factors that may have negatively influenced economic performance:

- Based on ICES advice the stock decrease implemented in 2020 for herring which is a main target species for the Baltic region (53% in 2018) and the forecasted stock decrease in 2021 is likely to have a considerably negative effect on the Baltic Sea fleet profitability and could cause further reductions of the fishing fleet capacity in all countries operating in the Baltic region.
- Due to the critical condition of cod stocks in the Eastern and Western part of the Baltic Sea, the commercial cod fishing was significantly reduced in 2019 and direct fisheries on cod were not permitted in 2020, except for small-scale fisheries on the western cod stock. The cod catches are allowed only as an unavoidable by-catch to the other species. The cod limits for such cases are critically low and, in a situation, where the cod limit is exceeded, all fishing should be stopped. In some countries, that can threaten the biggest part of the fleet and the negatively affect fishery sector in the country. ICES expects that the cod stock most probably will remain in a dire condition in the middle-term.
- Energy costs continue to be one of the main expenditure items for the LSF, especially for trawlers. The increase in fuel price was observed in 2019 which substantially increased operational costs of vessels. However, the lock down during April-May in 2020 (COVID-19) was the reason that the price has dropped in the first half of the year which can slightly improve the situation in the fishery sector in 2020.
- Some management measures are planned for the LSF vessels targeting cod and operating with DTS, DFN, HOK fishing gears as well as coastal fishing vessels operating with gears PGP or PG. Temporary seasonal bans on fishing are planned for these vessels, change of fishing gear or re-arranging from cod fishery to other species (such as flounder and round goby) are recommended by the local rules or legislation.
- In 2019, a decrease was observed of the average price for sprat which is a commercially important species.
- Fishing performance, especially in the SSCF, is very weather dependent. Even with favourable economic conditions, it can be a limiting factor for fleet performance, especially for seasonal fisheries.

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

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

## Regulation and fisheries management in the region

To incorporate the ecosystem approach in the fisheries management a multiannual management plan for the Baltic Sea fisheries has been developed. According to the plan objectives (Regulation (EU) 2016/1139)<sup>15</sup>, it shall apply 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 additional aims are elimination of discards by avoiding and reducing, as far as possible, unwanted catches and implement the ecosystem-based

<sup>15</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R1139>

approach to fisheries management to ensure that negative impacts of fishing activities on the marine ecosystem are minimised.

The LO has been in force since 1 January 2015 for pelagic and demersal fisheries in the Baltic Sea. The new established Regulation (EU) 2018/306<sup>16</sup> aims to progressively eliminate discards for Baltic Sea cod and place fisheries through the introduction of a landing obligation, as regards cod and plaice caught in the fisheries for herring, sprat and cod in the Baltic Sea.

A ban on driftnet fisheries was introduced after a three-year transitional period in 2008. 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; to use bottom-set gillnets, entangling nets and trammel nets for some species. For the optimisation of exploitation patterns and to provide protection for juveniles and spawning aggregations of marine biological resources Regulation (EU) 2019/1241<sup>17</sup> on the conservation of fisheries resources and the protection of marine ecosystems through technical measures was established. Some of the objectives are to minimise an incidental catch of sensitive marine species and the negative environmental impacts of fishing on marine habitats.

The European eel recovery plan also affects several Baltic states. Within this plan, Member States are required to allow 40% of adult eels to escape from inland waters to the sea where they can spawn. EU regulations also include technical conservation measures, including mesh size, minimum landing size, by-catch limitations as well as periods and areas closed to fishing.

A salmon management plan was proposed by the EU Commission in August 2011 (COM (2011) 470 final). This established fishing mortality rate-based harvest control rule with each Member States' setting annual fishing limits in rivers at the appropriate MSY level. It also sets targets for salmon management in rivers: 75% of smolt (juvenile salmon) production to be reached in 5 to 10 years, depending on the status of the rivers. However, the EU Council and the European Parliament have not yet reached an agreement on the Commission's proposal.

The work also is underway on protected area 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, and plaice and these fisheries are all managed using TACs.

### TAC development of main species

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

Figure 3.28 provides the development of TACs for the main species in the Baltic Sea. TACs are defined based on the status of stock, assessed by ICES, and the cod management plan.

On one hand the exploitation of the available TACs by Member State, provided in the Table 3.2 suggests that in several cases, e.g., Finland and Latvia, the available sprat quota could be a limiting factor (choke species) in the mixed pelagic fishery. On the other hand, available cod fishing opportunities were not fully utilised by most Member States in the Baltic Sea from 2016 to 2020.

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

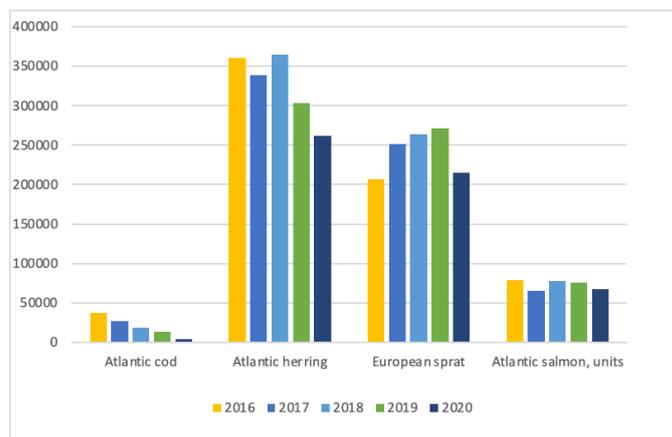
- Western Baltic herring 50% reduction.
- Eastern Baltic cod by 70%.
- Western Baltic cod by 11%.
- Central herring by 36%.
- Salmon in the Gulf of Finland by 10%.

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

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

<sup>16</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R0306>

<sup>17</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1241>



**Figure 3.28 Reported catches for the four most important TACs species in the Baltic Sea region, 2016-2020**

Data source: EU Catch reporting system (FIDES3)

### Status of important stocks

Based on ICES advice in 2021, sprat stock was at MSY level and harvested sustainably. However, the TAC for sprat is not going to increase due to the mixed fishery with herring which the TAC decreased significantly.

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

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

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

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

**Table 3.1 - TAC use for some of the most important stocks in the Baltic Sea region, 2016-2020**

		Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden
Atlantic cod	2016	55%	74%	0%	9%	55%	63%	72%	48%
	2017	52%	78%	0%	28%	70%	77%	60%	56%
	2018	71%	52%	0%	9%	42%	53%	56%	33%
	2019	55%	43%	1%	17%	8%	20%	42%	20%
	2020	88%	71%	8%	24%	22%	58%	34%	30%
Atlantic herring	2016	98%	89%	86%	82%	75%	97%	79%	89%
	2017	90%	87%	90%	77%	62%	100%	79%	71%
	2018	95%	90%	87%	86%	96%	99%	85%	91%
	2019	92%	92%	94%	91%	94%	99%	83%	92%
	2020	93%	86%	87%	95%	102%	100%	88%	92%
European sprat	2016	99%	96%	93%	100%	95%	100%	98%	99%
	2017	99%	90%	90%	100%	98%	98%	92%	98%
	2018	91%	90%	95%	100%	99%	100%	98%	91%
	2019	98%	90%	97%	95%	99%	99%	97%	90%
	2020	96%	93%	95%	97%	104%	100%	95%	94%
Atlantic salmon	2016	85%	44%	47%	76%	6%	16%	48%	108%
	2017	46%	13%	50%	74%	3%	18%	48%	83%
	2018	60%	32%	43%	81%	69%	77%	52%	90%
	2019	58%	44%	48%	91%	93%	26%	58%	88%
	2020	24%	16%	50%	85%	38%	27%	78%	86%
European plaice	2016	91%	52%		0%			36%	46%
	2017	87%	30%		0%			42%	6%
	2018	90%	44%					100%	25%
	2019	90%	43%					59%	9%
	2020	90%	50%					41%	5%

Data source: EU Catch reporting system (FIDES3)

## Description of relevant fisheries in the region

### Small-scale coastal fleet

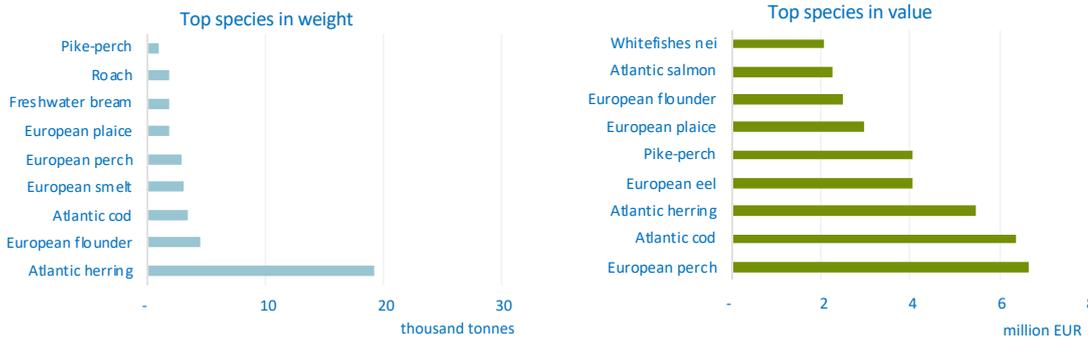
Socio-economic aspects determinate the importance of the Baltic SSCF. In 2019 as much as 92% of the total number of Baltic Sea vessels belonged to the fleet. The total number of people employed on boards of the small-scale boats amounted to 5 500 fishers (4 000 FTE) in 2019 it contributed to 75% (or 65%) of the total employment in the Baltic Sea.

The fleet accounts for 7% of weight and 22% of the landed value. Revenue generated by the SSCF in 2019 was EUR 50.2 million -3% compared to 2018.

In 2019, the SSCF generated EUR 22.8 million in GVA (EUR 25.2 million in 2018). The decrease (-10%) can be mainly attributed to a lower value of landings. The profitability of the SSCF deteriorated again, from gross losses of -EUR 2.1 million in 2018 to gross losses of -EUR 3.2 million in 2019.

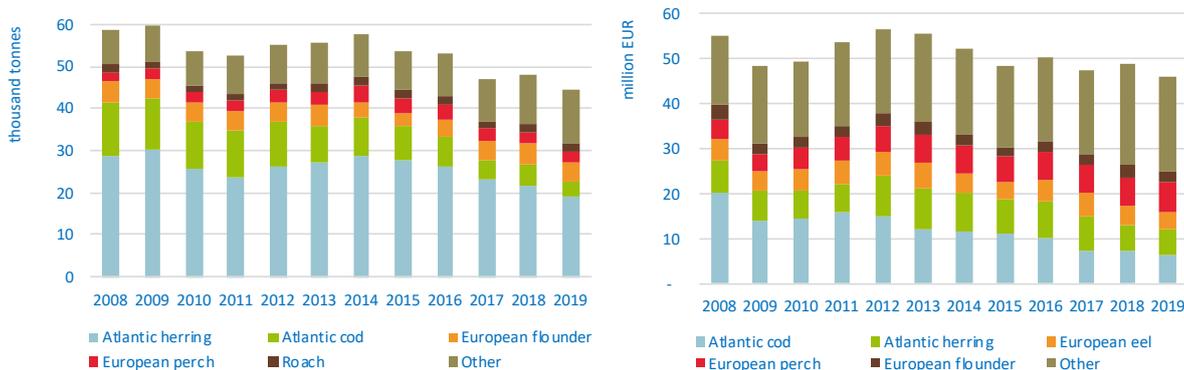
European perch followed by Atlantic cod and Atlantic herring are the three most important species in terms of the landings value. The species composition of landings has however, changed across the past 10 years disfavoured Atlantic cod as a the most important one, from the revenues point of view. That has been a result of the deteriorated stock status of cod, mainly the Eastern Baltic stock. Moreover in 2019 (July 22) the Commission decided to close cod fisheries in ICES subdivision 24,25 and 26 of the Baltic Sea 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 36.3% in 2008 to 15.1% in 2018 and dropped to 14% in 2019. In the same period the value of European perch has raised from 7.4% to 14.5%.



**Figure 3.29 Top 10 species landed in weight and value by the SSCF operating in the Baltic Sea, 2019**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.30 Trends in landings of the top species landed in weight and value by the SSCF operating in the Baltic Sea**

Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Deteriorated Baltic cod stocks condition has affected the most Swedish coastal fisheries. Between 2008 and 2019 cod landings value of Swedish SSCF decreased by 80%, followed by Denmark (-67%) and Germany (-52%). Total value of SSCF cod landings of all Baltic EU countries was 68% lower in 2019 than in 2008. In the same period the European perch catches increased 63%

The countries with a relatively low cod dependency like Finland reported high positive gross profits in 2019, the other profitable in 2019 fleets belonged to Sweden and Lithuania. Denmark (EUR -2.9

million), Germany (-EUR 1.7 million), Poland (-EUR 1.6 million), Estonia (-EUR 0.6 million), Latvia (-EUR 0.2 million) reported negative gross profits.

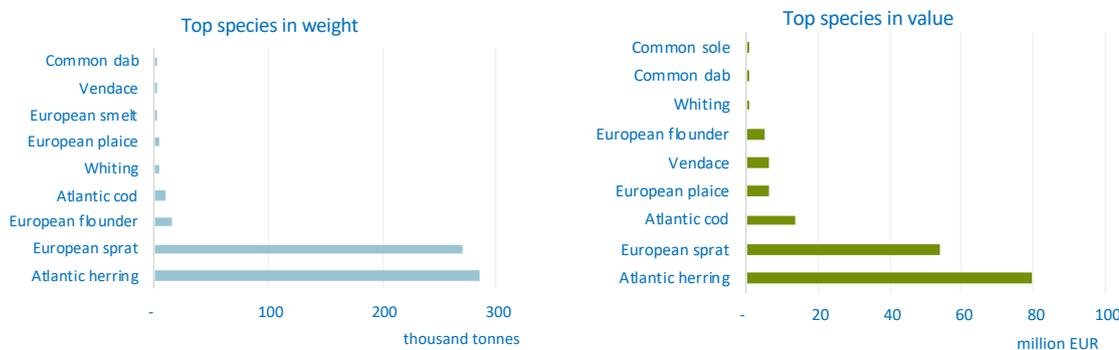
After taking account of estimated capital costs, all fleets were making negative net profits in 2019. Swedish, Danish and Finnish SSCF have continued being unprofitable since 2008. Net profit of Estonian SSCF deteriorated the most from -EUR 0.4 million in 2018 to -EUR 1.7 million in 2019. This has affected the overall economic picture of the sector in the Baltic Sea. The Baltic SSCF made -EUR 12.5 million net loss in 2019. The negative output was mainly caused by relatively high capital costs (mostly in case of Finland) as well as high labour costs in the Swedish, Estonian, Polish and Danish fleet (mostly in unpaid labour).

### Large-scale fleet

In 2019 LSF in the Baltic consisted of 424 vessels, 4% less than in 2018. Revenue generated by the fleet in 2019 was EUR 173 million, 5% less compared to 2018. Consequently, gross profit and net profit generated by LSF decreased by 5% and 1%, respectively.

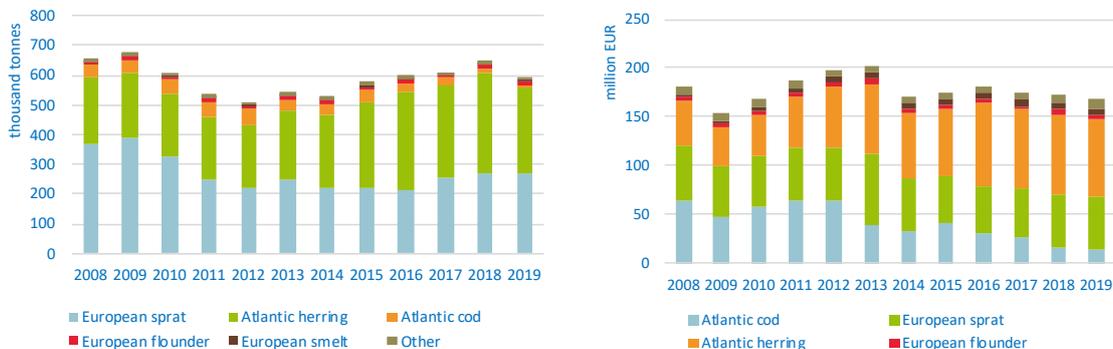
Number of people employed decreased by 1% only or 3% FTE. Smaller number of fishing days deployed (-14%) caused that CPUE improved by 7% (live weight/fishing day) or 13% in monetary values (value of landings/fishing day).

GVA/revenue indicator did not change compared to 2018 (57), improved for Danish (+10%) German (+9%) Swedish (+7%) and Polish (+4%) fleets and deteriorated for other countries (in case of Finland as much as -21%).



**Figure 3.31 Top 10 species landed in weight (left) and value (right) by LSF operating in the Baltic Sea, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.32 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 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Atlantic herring followed by sprat and Atlantic cod continued to be the three most important species in terms of landings value. The fishing pattern of the fleet landings has changed significantly from 2008 to 2019. Atlantic cod landings value decreased by 78% and its contribution to total revenues of the LSF decreased from 35% in 2008 to 8% in 2018. In the same period, the value of Atlantic herring raised by 75% and its contribution to fishing revenues increased from 25% in 2008 to 47% in 2019 (Figures 3.50 and 3.56).

Considering countries highly dependent on Baltic cod, deteriorated stocks condition has affected the most Swedish, German, Danish, Lithuanian and Latvian LSFs. Between 2008 and 2019 cod landings value of Swedish LSF decreased by 91% followed by German (-73%), Danish (-74%), Lithuanian (-96%) and Latvian (-95%).

LSF total net profit in 2019 was positive and amounted to EUR 36.8 million (-1%). Swedish fleet was the most profitable one (EUR 24.8 million) followed by Polish (EUR 6,2 million) and Latvian (EUR 3.2

million). The profitability of Swedish and Polish fleets improved 17% and 12%, respectively while Latvian fleet deteriorated 35%. Gross profit of the Finnish LSF fleet become negative -EUR 0.5 million in 2019 compared to EUR 4 million in 2018, what was caused by 10% decreased revenues and higher costs (mainly energy costs +17% and other variable costs +22%)

Labour and energy costs were most important items in the costs structure, both change slightly compared to 2018 by -3% and -6%, respectively. Employment costs increased in Danish fleet (+16%), Finnish (+7%) and Estonian (+2%) while decreased in Lithuanian (-33%), Polish (-14%), Latvian (-7%) Swedish (-5%) and German (-4%). Energy costs decreased in Latvian, Polish, Lithuanian and German fleets (-40%, -25%, -17%, and -12%, respectively) and increased in Finnish (+17%), Danish (+13%), Estonian (+6%) and Swedish fleets (+2%).

## Performance by fleet segment

Segments using passive gears (PG, PGP and DFN) dominated the Baltic Sea fleet accounting for 91% (4 698 units) of the total number of vessels (-2% compared to 2018), following by pelagic trawlers (TM) (218 vessels) (1% compared to 2018) and demersal trawlers (DTS) (171 vessels) (-13% compared to 2018). Pelagic and demersal trawlers dominated in production output contributed to 43% and 33%, respectively of the total value of landings in 2019. DTS segments produced the highest gross profit EUR 32.3 million (EUR 28.9 million in 2018) following by TM EUR 24.9 million (EUR 31.5 in 2018). Passive gear segments suffered losses -EUR 2.2 million in 2019 compared to -EUR 1.7 million in 2018. One important reason for the gross losses of smaller vessels 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 segment, the estimated cost of labour may be high in proportion to the catch value, making the gross profit negative (Table 3.14).

Segments using passive gears deployed the highest effort with 333 100 fishing days in 2019 (-3% compared to 2018) followed by DTS with 63 900 (-3% compared to 2018) and TM 21 700 days (-13% compared to 2018).

Of the 48 fleet segments in 2019 and 49 in 2018, 29 in 2019 and 31 segments in 2018 made positive gross profits. On the top 10 most profitable segments five belonged to pelagic trawlers, four to demersal trawlers and one to passive gear vessels below 10 metres (FIN PG 0010). The 10 most unprofitable segments were dominated by SSCF segments out of which eight belonged to either PG, PGP, PMP or DFN. One segment belonged to DTS2440 and one to TM1218.

At the fleet segment level, the Swedish demersal trawl and seine 24-40m segment generated the highest revenues in 2019 (EUR 37.2 million) followed by the Finnish pelagic trawl 24-40m segment (EUR 20.9 million) and the Polish pelagic trawl 24-40m segment (EUR 18.7 million). The gross profits produced by these three top segments amounted to EUR 17.7 million (+14% compared to 2018), EUR 63.6 million (-45%) and EUR 6.7 million (+27%), respectively. The explanation of the successful business doing by the Swedish demersal trawl and seine 24-40m could be that the segment is fishing also (half by half) in North Sea waters, so isn't limited by the Baltic Sea fishing quotas only. The second most profitable fleet's segment - Finnish pelagic trawl 24-40m- gross profit decrease (-45%) was caused by higher labour and energy costs (24% and 27%, respectively). The economic performance of the Polish pelagic segment improved thanks to lower fuel costs (-35%) and labour costs (-18%).

### 3.3 North Western Waters

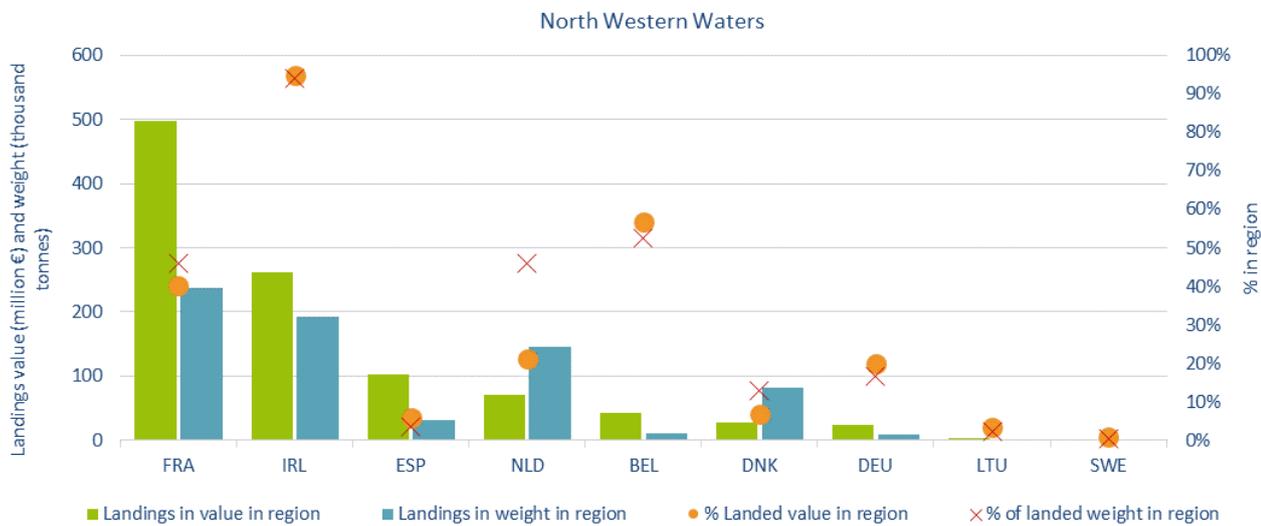
#### Regional Details

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

The Member States fishing in the NWW are Belgium, Denmark, France, Germany, Ireland, Lithuania, the Netherlands, Sweden, Portugal and Spain. The main fleets operating in 2019 were from France and Ireland. The Netherlands, Spain, Belgium and Denmark also conduct part of their fishing activity in the NWW (Figure 3.33).

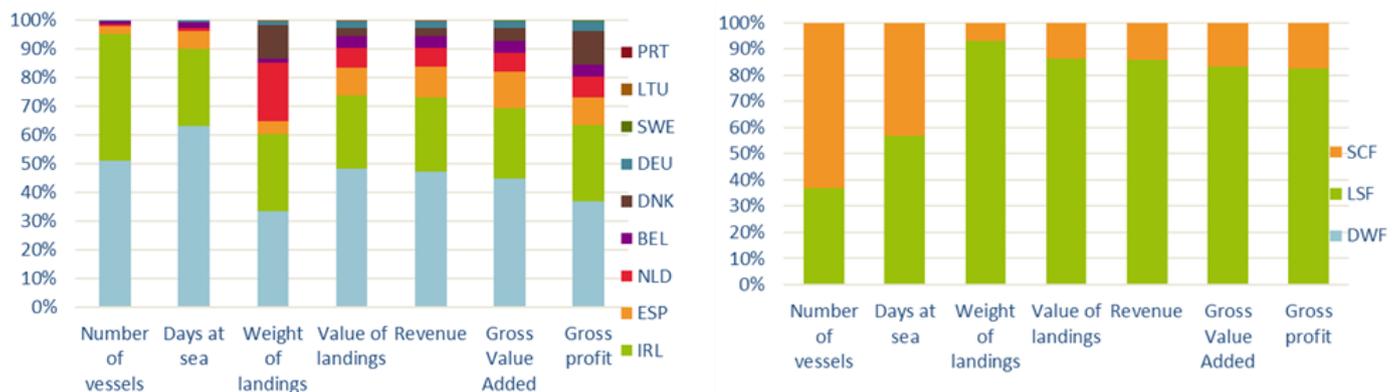
Based on the value of landings, the French and Irish fisheries have the highest level of landings in the NWW. However, Ireland has the highest total percentage of national landed value from the region at 95% indicating their high dependency on this area (98% of the days-at-sea take place in these waters). Belgium (45%) and France (30%) also have a high dependence on the area in terms of DAS. While Ireland and Belgium have high dependency, the highest share of fishing is conducted by France and Ireland (Figure 3.34).

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



**Figure 3.33 Importance of the North Western Waters for MS fleets in terms of landings in weight and value, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.34 Share by MS fleet and fishing activity in NWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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

### Fishing effort and landings

After a decrease from 2008 to 2009, fishing effort have been almost stable since then. The highest value of landings was observed in 2008, while the lowest was in 2009. Since then, the value of landings has increased gradually over the years, being at the same level in 2018 and 2019. The lowest value of landings was observed in 2011, then it gradually increased to the highest level in 2016, and since then decreased each year until 2019. Comparing the value of landings in 2008 with 2019, it decreased by 3% (Figure 3.35). The total landings in weight decreased by 9% in 2019 compared to 2018, the exclusion of the United Kingdom primarily driving this decrease.



**Figure 3.35 Trends on effort and landings for MS fleets operating in NWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

Total employment in this region in 2019 was estimated at 8 328 with the number of FTE employees at 7 037, which is at the same level compared to 2018. The most important fleets in terms of overall employment correlate to those fisheries that have the highest dependency on this area. France has the highest level of employment with 2 791 FTE, follow by Ireland (2 379 FTE) and Spain (1 424).

Total employment for the LSF is highest for France and Ireland, totalling 2 196 and 1 633, respectively, reflecting the high number of active vessels in these Member States. These numbers have been stable for the last years. The SSCF, for all Member States, demonstrates a marked difference between the numbers of total employed and total FTE indicating that a large number of those employed in the SSCF are part-time or casual workers. Total employed for the SSCF was again highest for France and Ireland reflecting their high number of SSCF vessels. LSF figures for total employed and FTEs are closer in value indicating a high level of full-time employment in this segment in comparison to the SSCF.

The overall average wage per FTE for the SSCF increased by 4% from 2018 to 2019, fluctuating around EUR 35 000. For the LSF average wage decreased by 3% to a value of EUR 56 900 after it peaked in 2017 with EUR 62 700. Labour productivity in the LSF decreased by 9% from 2018 to 2019 being EUR 82 560 per FTE, while the labour productivity for the SSCF decreased with 10% from 2018 to 2019 to a level of EUR 53 493 per FTE (Figure 3.36).

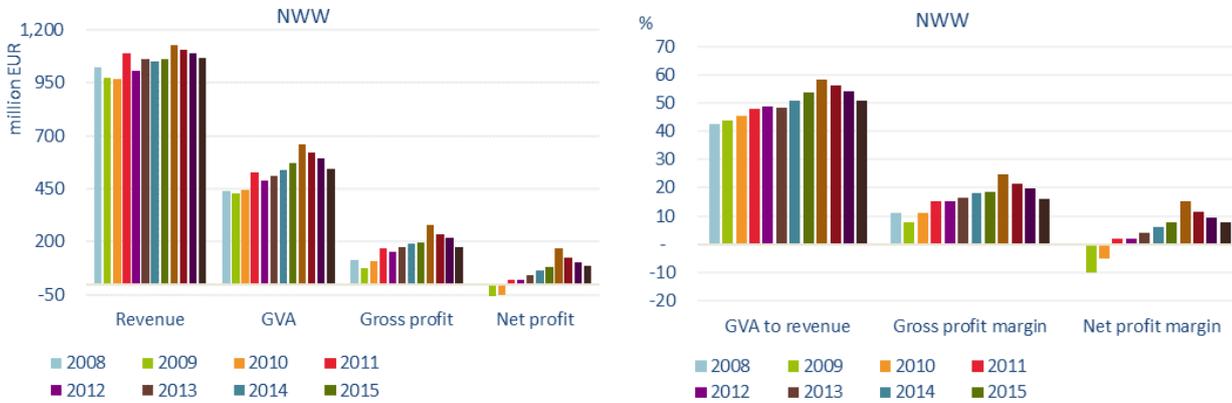


**Figure 3.36 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in NWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic performance

The revenue (income from landings and other income) generated by the NWW fleet covered in the analysis in 2019 was estimated at EUR 1.06 billion, representing 18% of the total revenue for the EU fleet. This is a reduction in revenue of 1.8% from 2018. The GVA was estimated at EUR 542 million, representing an overall decrease of 8% compared to the previous year. The fleet made EUR 173 million in gross profit, a decrease of 19% compared to 2018. The net profit, at EUR 84 million, also decreased by 18% compared to 2018 (Figure 3.37). Furthermore, fuel prices increased slightly with an average price of EUR 0.51 per litre while fuel consumption increased 14%. Fuel is an important operational cost and therefore an important driver for profits.



**Figure 3.37 Trends on revenue and profits for MS fleets operating in NWW**

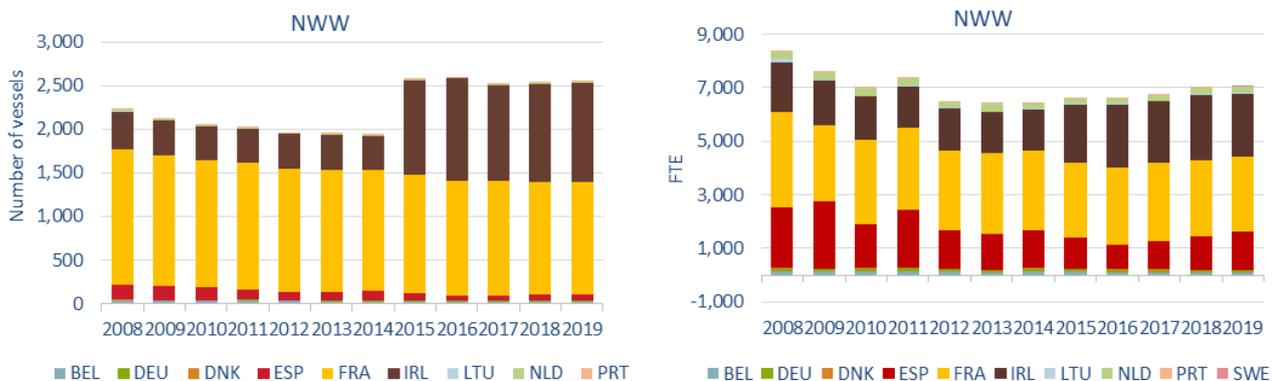
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Trends by Member State fleet

#### Fleet capacity and employment

The 10 Member States fleets operating in the NWW collectively numbered over 2 542 active vessels in 2019, a decrease of 46% from 2018 however this is in particular due to excluding United Kingdom (Brexit). French and Irish fleets collectively contributed to more than 95% of the total of vessels in 2019. The number of vessels has remained relatively stable in the last 10 years even excluding the United Kingdom over the entire time series. An increase in vessel number was recorded in 2015 accounted predominantly by Ireland but this is an artefact of better data reporting that allowed vessels, especially in the SSCF, to be assigned to a fishing region (Figure 3.38).

Employment in the region reached 7 049 FTE in 2019, a stable development from 2018 (7 017 FTE). French fleet contributes to 40% of the total FTE, with a total number of FTE reaching 2 791, in 2019. Followed by the Irish (34%) and Spanish (20%) fleets. The Spanish fleet represents the dominance of LSF activity for this Member State in that region. Employment followed the slight decrease of fleet capacity from 2008 to 2014, while from 2015 the trend was upwards again per year.



**Figure 3.38 Trends on the number of vessels and employment (in FTE) for MS fleets operating in NWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)).

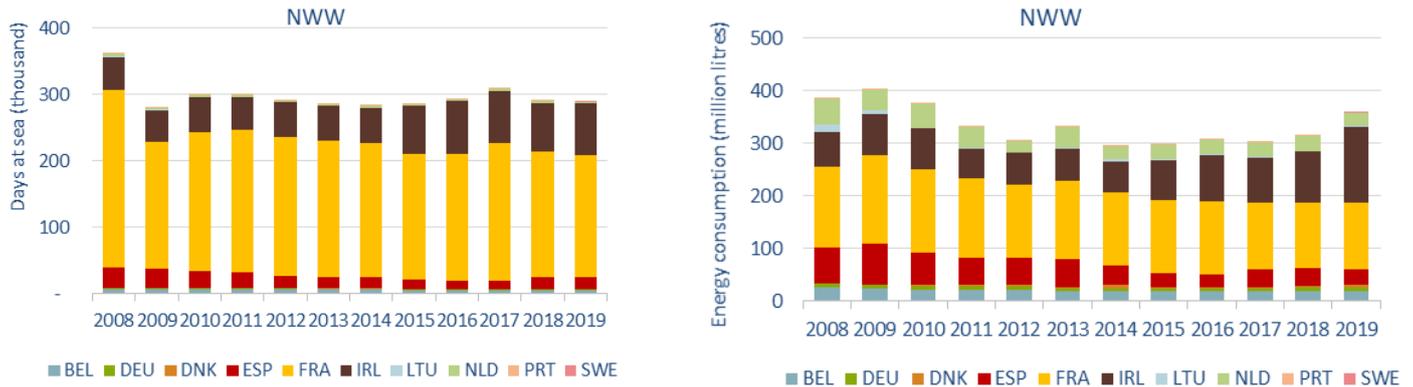
#### Fishing effort

The EU NWW fleet spent over 289 114 DaS in 2019. This was less than 1% decrease compared to 2018. French and Irish fleets represented almost the total effort deployed in the region (90% of total in

2019). 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 2019, so conclusions regarding effort need to be taken with caution as Ireland’s effort is underestimated for its less than 10 metres segments (Figure 3.39).

Energy consumption for the EU NWW fleet amounted to 358 million litres in 2019, 75% of which were consumed by the French and Irish fleets. Spanish, Dutch and Belgium fleets combined contribute to 20% of the total energy consumption, due to the dominance of the LSF activity for these Member States in that region.

Fishing effort and energy consumption has followed a general decreasing trend by 20% for EU NWW fleet between 2008 and 2019. The fishing effort (DaS) for the French fleet decreased by 3% while a 2% increase of energy consumption from 2019. For the Irish fleet there was a small increase of 5% of effort (DaS) but a rather larger increase (47%) of energy consumption. This increase in energy consumption is limited to the Irish LSF but is an overestimation based on estimates from survey returns.



**Figure 3.39 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in NWW**

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

### Landings and top species

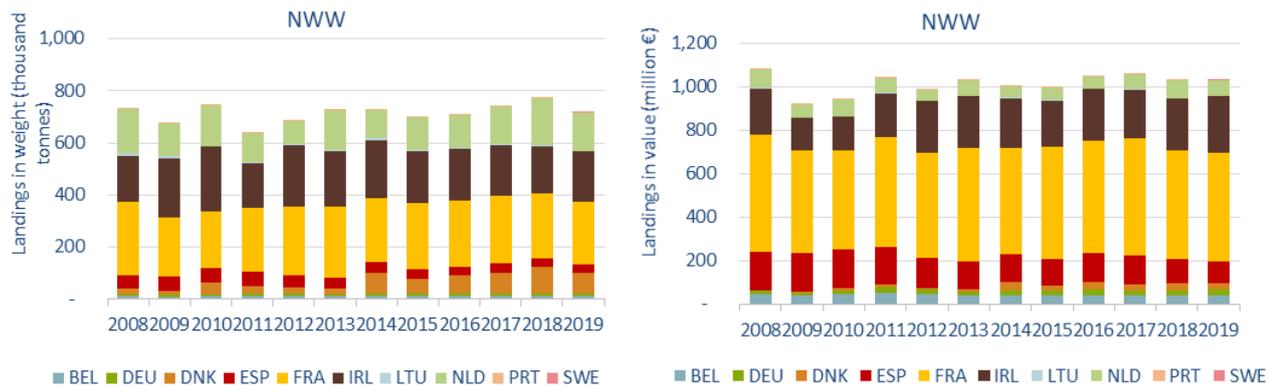
The weight and value of landings amounted to approximately 1.11 million tonnes and EUR 815 million, respectively in 2019. In terms of landed weight, the French, Irish, Dutch and Danish were the leading national fleets, together accounting for 93% of the total weight landed (Figure 3.58).

With regards to the landed value, French and Irish fleets contributed 74% of the total of the EU NWW fleet in 2019. The contribution of the Netherlands and Denmark was less important in value than in volume, the majority of their landings being pelagic species.

At NWW fleet level, landings weight and value had lots of variations over the period 2008-2019. At country fleet level, Denmark landings increased from 2008 to 2019 by almost three times in weight and by six times in value reaching 82 405 tonnes for EUR 28 million in 2019. On the same period, Irish landings also increased on a lesser extent by 26% in value while Spanish landings followed a decreasing trend by 42% in weight and in value.

In 2019, the three main species landed in terms of weight were small pelagic species including blue whiting, Atlantic mackerel and Atlantic horse mackerel (Figure 3.40).

The top 10 species in value included European hake and great Atlantic scallop, but also a diversity of other species like pelagic (mainly large in landed weight) or species with high price values as crustaceans, bivalves, flatfishes and whitefishes: Atlantic mackerel, blue whiting, Norway lobster, anglerfishes, whelk and common sole.



### Figure 3.40 Trends on landings in weight and value from MS fleets operating in NWW

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The top species, through their availability, TACs and quotas and fish market prices, are drivers for fleets' performance. The share in landed values of the crustaceans, Norway lobster and edible crab, is dominated by Ireland. The great Atlantic scallop and the whelk landing values are dominated by France. Atlantic mackerel landing values are dominated by Ireland and France. The share in landed values of European hake is dominated by Spain and France, while Belgium and France dominated for common sole.

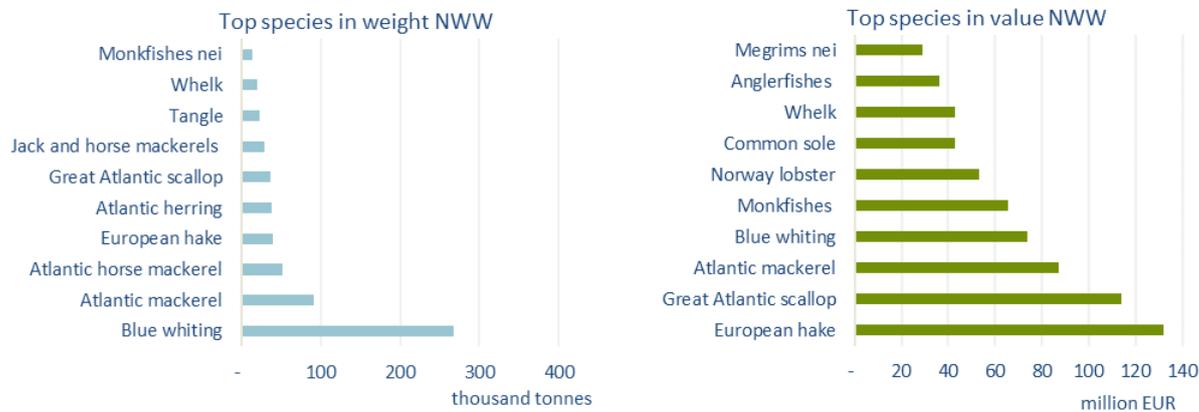


Figure 3.41 Top 10 species in landed weight and value for MS fleets operating in NWW, 2019

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Temporal trends in the value and weight of landings, have been significantly influenced by fluctuations in TAC and quotas for Atlantic mackerel, blue whiting and hake (Figure 3.41).

Mackerel went through a significant increase in 2014 followed by a decrease in 2015 and another one in 2018, which impacted the total value of landings for Member States targeting this species (Figure 3.42). In 2019 mackerel landings increased by 13% to a total of 91 000 tonnes. Blue whiting landed weight and value increased in 2018 and 2018 as TAC increased but weight and value decreased in 2019 by 15% and 24%, respectively.

European hake landings were multiplied by 2.5 in weight and by 3 in value from 2008 to 2016 as TAC increased on the same time period before a decrease in 2018. Great Atlantic scallop landed weight and value followed a significant increasing trend from 2015 to 2018, reaching its higher value in 2018, thanks to a successful management of those local stocks.

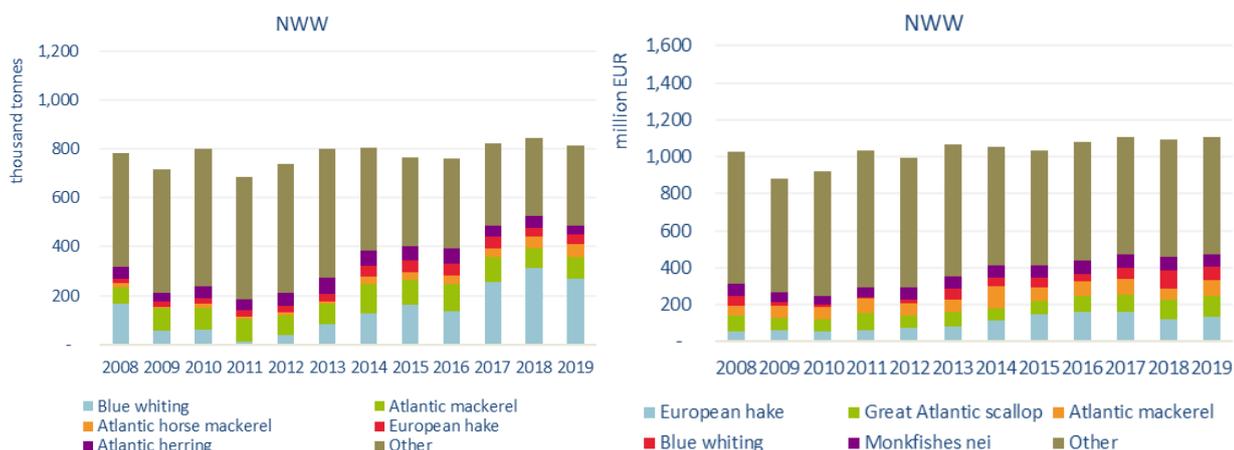


Figure 3.42 Trends on landings of the top six species landed value for MS fleets operating in NWW

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

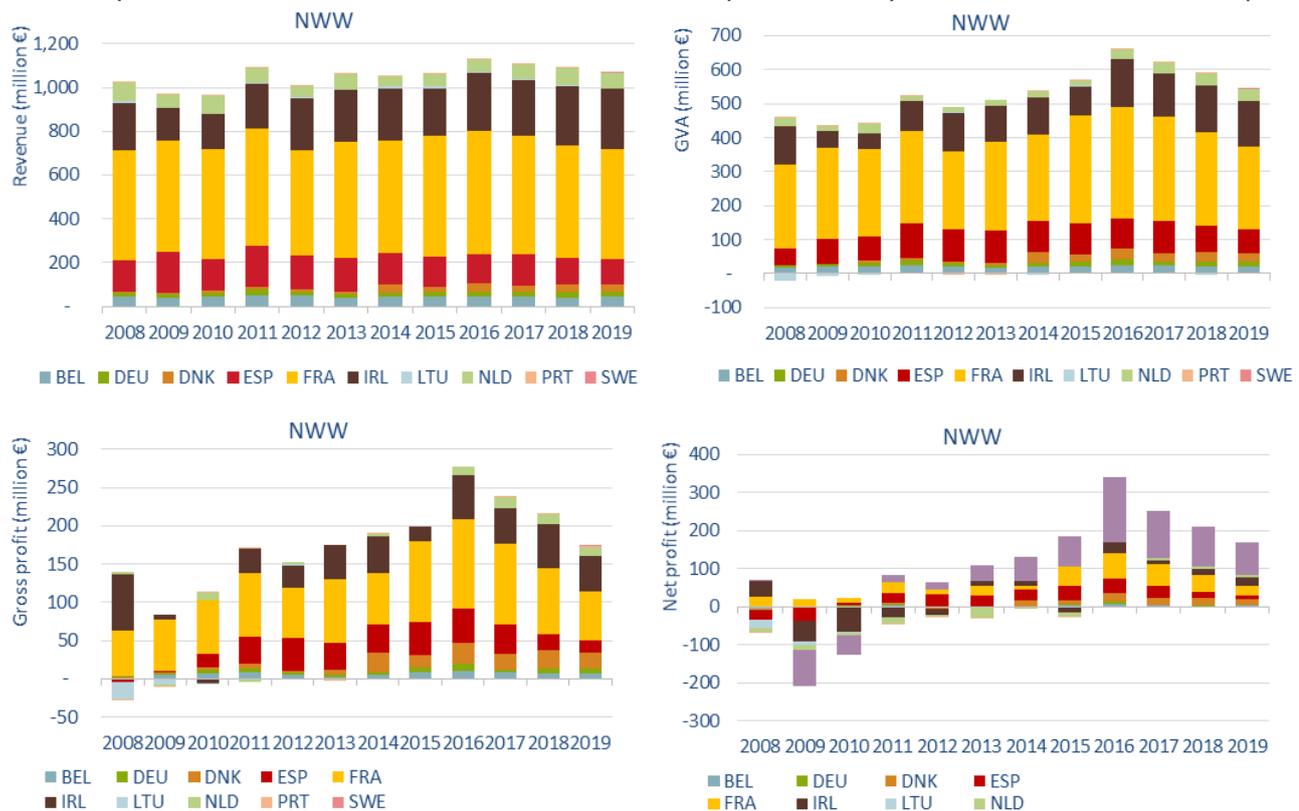
## Economic performance

The revenue generated by the NWW fleet covered in the analysis in 2019 was estimated at EUR 1.06 billion, over 84% produced by three Member States fleets: France (EUR 502 million), Ireland (EUR 276 million) and Spain (EUR 116 million) (Figure 3.43).

The majority of the Member States saw a decrease in overall revenues from 2018 to 2019. Four of them saw increases in revenue Belgium (4%), Ireland (1%), Germany (4%) and Lithuania (87%). The highest-ranking Member States' fleets, besides Ireland, all suffered a decrease in revenue with a

decrease of 6% and 2% for Spain and France, respectively. These decreases are primarily driven by TAC and quota reductions.

The GVA produced was estimated at EUR 545 million in 2019. This represented an overall decrease of 8% compared to 2018. A decreased in GVA was experienced by all Member States except Belgium.



**Figure 3.43 Trends on revenue and profit for MS fleets operating in NWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The fleet made EUR 173 million in gross profit, a decrease of 20% compared to 2018. All of the Member State's fleets operating in the NWW generated positive gross and net profits with the three highest France (EUR 63 million), Ireland (EUR 45 million), Denmark (EUR 20 million) and Spain (EUR 16 million) accounting for 81% of the total gross profit.

The temporal variation in total annual revenue is mainly linked to annual fluctuations in TACs, quotas, and fish prices. On the whole, the value of landings remained stable from 2018 even with a decrease in landed weight in the same period of 7%.

## Main factors affecting the performance of the fleet

### Main drivers affecting fleet performance in the region

Factors that may have contributed to the positive situation include:

- Recovery of some stocks, e.g. the biomass of most herring stocks has increased, and the Northern hake stock continues to follow a positive trend.
- Increased TACs for a number of stocks and maintaining of fish prices.
- Stable fish prices generally and higher average prices for some important species e.g. common sole and *Nephrops*.

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

- An overall decrease in landed weight by 7%.
- Energy costs and usage have increased even though overall DaS had decreased by 3% in 2019.
- Average wage for LSF decreased by 3%.
- TAC reductions for mackerel.
- With the agreement of the TCA there will be large impacts on fleets operating in the region. Furthermore, there is a high dependency on the United Kingdom waters for a number of Member

States including Ireland, France, Spain, Belgium, the Netherlands and Germany. Refer to the Brexit forecasts for impacts.

## Regulation and Fisheries management in the region

- The EU-UK Trade and Cooperation Agreement (TCA) concluded between the EU and the United Kingdom sets out preferential arrangements in areas such as trade in goods and in services, digital trade, intellectual property, public procurement, aviation and road transport, energy, fisheries, social security coordination, law enforcement and judicial cooperation in criminal matters, thematic cooperation and participation in Union programmes. The TCA was signed on 30 December 2020, applied provisionally as of 1 January 2021 and entered into force on 1 May 2021. In June 2021 the EU and the United Kingdom concluded the negotiations on an agreement in principle setting out catch limits for jointly managed fish stocks for 2021. The agreement closes the first ever annual consultations on fishing opportunities between the EU and the UK under the terms of the TCA. The agreement in principle on the management of key shared stocks secures the fishing rights of both the EU and the United Kingdom fleets in both the EU and the United Kingdom waters until the end of 2021, as foreseen under the TCA. It establishes the total allowable catches (TAC) for 75 shared fish stocks for 2021, as well as for some deep-sea stocks for 2021 and 2022. It also provides clarity on access limits for non-quota species.
- Council Regulation (EC) No 1300/2008 established a multi-annual plan for the herring stock distributed to the west of Scotland and the fisheries exploiting that stock in international and EU waters in ICES Divisions 5b and 6b, and the northern part of ICES Division 6a excluding the Clyde. The United Kingdom and Irish fleets are the most important fleet segment for this fishery. Most herring stocks (North Sea, Irish Sea and Celtic Sea) are fished in accordance with MSY, with corresponding 2016 TAC for these stocks. The situation is also positive for southern and western horse mackerel and the TAC allows fishing at levels corresponding to MSY in 2016.
- Long-term plan for cod stocks and the fisheries exploiting those stocks (Council Regulation (EC) No 1342/2008). The long-term plan for cod has an impact on the North-eastern Member States. The French, Belgian, German, United Kingdom, Irish, Dutch, Spanish and Portuguese fleets all have quota for cod and thus interact with the cod fisheries. As days-at-sea restrictions are becoming more constraining, it may have an effect on the economic performance of the fleets.
- Council Regulation (EC) No 388/2006 established a multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay covering ICES Divisions 8a and 8b. The French DFN segments are the most important fleets in term of sole landings in weight in the Northeast Atlantic with 26 000 tonnes (61%).
- Council Regulation (EC) No 509/2007 established a multi-annual plan for the sustainable exploitation of the stock of sole in the Western Channel (ICES Division 7e). The sole fishery is the most important to the United Kingdom and French fleets.
- Council Regulation (EU) No 713/2013 establishing the fishing opportunities for anchovy in the Bay of Biscay for the 2013/14 fishing season. This management plan concerns mainly Spanish and French fleets.
- Measures for the recovery of eel. Area covered includes EU estuaries and rivers that flow into seas in ICES areas 3, 4, 6, 7, 8 and 9 and the Mediterranean (Council Regulation (EC) No 1100/2007 of 18 September 2007). In the region, this management plan applies mainly to France.
- Council Regulation (EC) No 302/2009- 500/2012 Measures concerning a multiannual recovery plan for bluefin tuna in the eastern Atlantic and Mediterranean. According to STECF data, in 2015, three national fleets operated in this fishery with the French fleet representing 50% of the total of landings value in the Northeast Atlantic (followed by Portugal (48%) and the Irish fleet (1%).
- Council Regulation (EC) No 811/2004 to increase the quantities of mature fish in the Northern hake stock to at least 140 000 tonnes. This management plan concerns Spanish, French, Portuguese, Irish, United Kingdom, Dutch and Belgian fleets and has been successful.

Other management measures that may affect economic performance of the fleets operating in the NWW include marine protected areas and other legislation that has a multispecies impact.

## Status of important stocks

Overall fishing mortality (F) for shellfish, demersal, and pelagic fish stocks has reduced since the late 1990s although the pelagic stock are now above the reference point according to ICES. Mean F is now closer to  $F_{MSY}$ . The fishing mortality on 45 stocks has been evaluated against MSY reference points; of

these, 30 stocks are now fished at or below  $F_{MSY}$ . A number of stocks still have very low stock biomasses, namely cod, haddock, and whiting to the west of Scotland, cod and sole in the Irish Sea, and herring in ICES Divisions 6a, 7b, and 7c.

### TAC development of main species

In 2019, there were quotas for over 32 fish species defined for the region.

#### Demersal species:

- The total TAC increase is mainly due to the positive development of hake stocks.
- In NWW, TAC of anglerfish increased by 28% from 2008 to 2019.
- Norway lobster TAC in NWW quite stable but has experienced decreased in 2018 by 6%. However, since 2008 to 2017 there has been an overall 13% reduction in the TAC of this area. There has been an increase again in 2019 and 2020.

#### Pelagic Species:

TACs for pelagic species in the Northeast Atlantic region have varied since 2001 especially for blue whiting and mackerel with very high values in 2005 and then again in 2014 (Figure 3.44).

- After a peak in 2014, the mackerel TAC decreased from 2014 to 2015, horse mackerel TAC decreased in NWW from 2014 to 2015. Both of these reductions impacted the Irish and British fleets and having a knock-on effect on total revenue and economic indicators. Mackerel quotas in the area experienced a reduction in 2018 and 2019 by 20% annually since 2017 impacting negatively in the overall revenue of the NWW fleets in 2018. This will undoubtedly have a continued negative impact on the total profitability of the pelagic sector and the overall fleets for future economic analysis in 2019.
- TAC of blue whiting increased by 107% from 2008 to 2017, with an 85% increase from 2016 and 2017. However, in 2018 this increase was moderate and in 2019 has decreased again to 2017 levels.
- Herring has fluctuated from 2008 and overall has experienced a 56% decline from 2008 to 2018.



**Figure 3.44 Trends on TACs for major demersal (left) and pelagic (right) stocks in the NWW**

Source: Calculated based on 2019 TAC Council Regulations and BEMEF modelling

### Landing obligation

The introduction of the LO may be implemented with little extra effort in the pelagic sector as well as in the saithe fisheries as these fisheries traditionally have had low bycatch rates. However, more challenges are to be expected for demersal fisheries. Fishers fear that the LO will have a large impact on their profitability, mainly due to increased costs. Another concern is related to potential choke species. Particularly, in a mixed fishery this could be an issue as many species are caught at the same time and multiple choke species may occur. Whiting, haddock, ray, cod, sole, plaice, dab, turbot and brill are potential choke species candidates in mixed demersal fisheries. Therefore, to continue fishing throughout the year, it will be vital to have either enough adapted quota available or adapt fishing

strategies with more selective technical measures taking into account EU Regulation n° 2019/1241, fishing closures or by using those possibilities that landing obligation allow fishers to use such as inter-species flexibility, *de minimis* or negotiating swaps with other Member States

## Description of relevant fisheries in the region

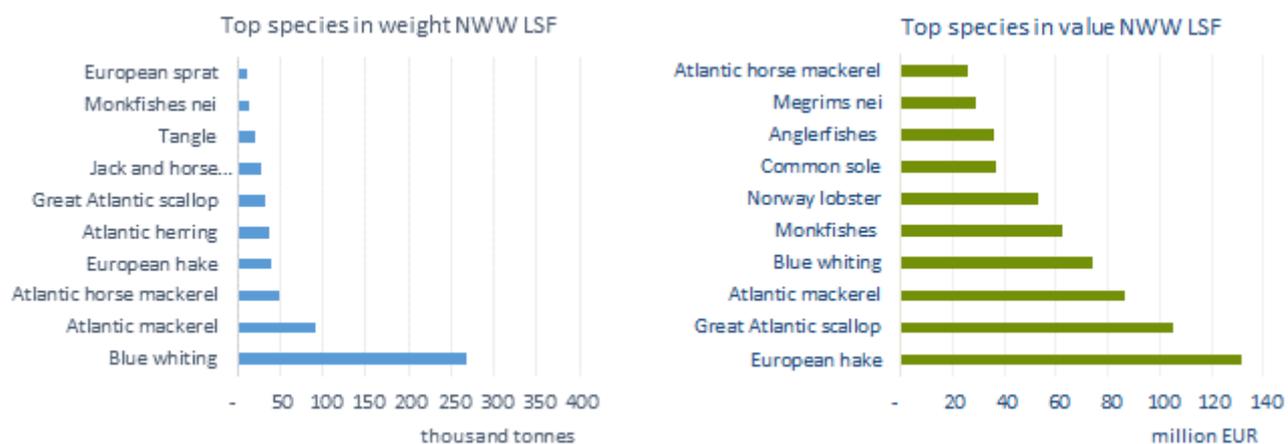
### Large-scale fleet

There were nine Member States' LSF operating in the NWW region totalling 1 242 active vessels. France has the largest number of active vessels in the area with 673 vessels. However, the area is more important to the Irish fleets with 97% of their LSF active in the area. Total employment for the LSF is highest for France totalling 2 870 jobs, reflecting the high number of active vessels in this Member State.

Overall, the LSF was profitable in 2019, totalling EUR 470 million in GVA and EUR 148 million in gross profit. The French NWW LSF, generated the highest revenue (EUR 420 million), followed by Ireland (EUR 243 million) and Spain (EUR 117 million). At Member State level, all LSF generated gross profits in 2019. Additionally, one DWF Lithuanian fleet was also active in the region in 2019. 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.

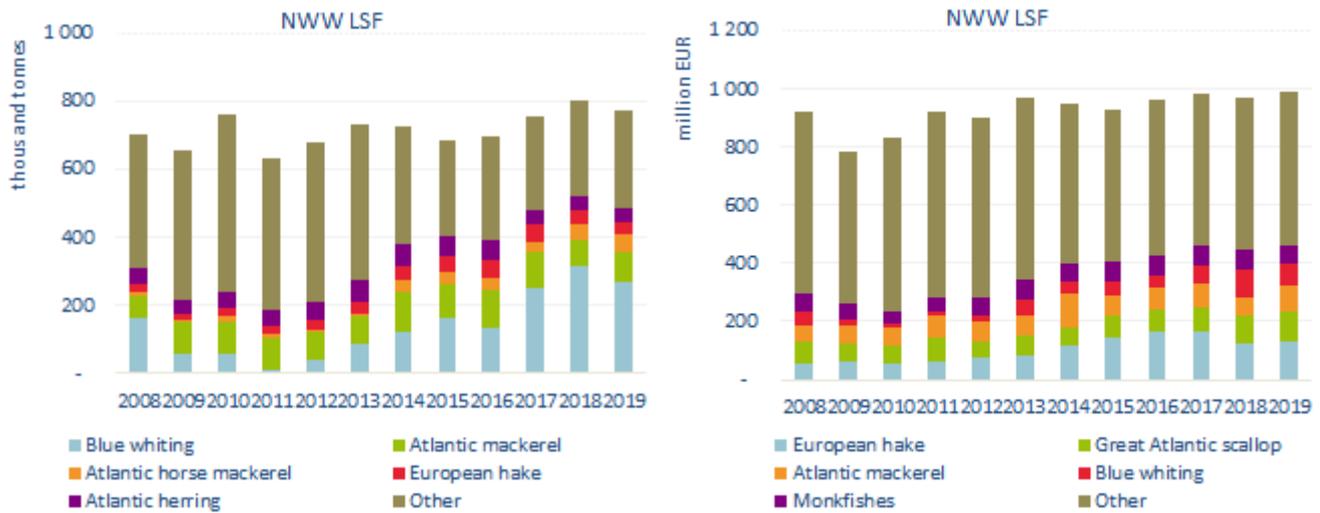
Member States can be classed into different categories according to their dependency which is representative of their LSF landings composition in the NWW:

- In Ireland, the main value species were Atlantic mackerel and Norway lobster totalling 37% of the total value. These two species had landing values of EUR 50 million.
- In the Netherlands, Germany and Denmark, main species were blue whiting (EUR 52 million), in addition to mackerel.
- For Spain and France, there was a more diverse landing composition, with hake playing a key role for both Member States. The main species by landing value for France were scallop (17%), monkfish (13%), and hake (11%).



**Figure 3.45 Top 10 species landed by LSF operating in NWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.46 Trends in landings of top species landed by LSF operating in NWW**

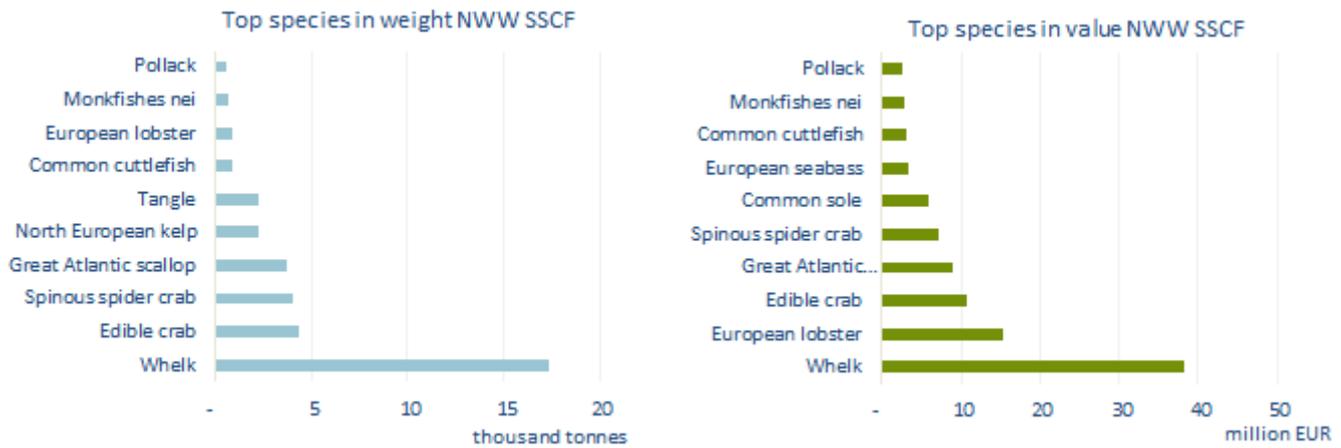
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Small-scale coastal fleet

There were SSCF from three Member States operating in the NWW. While 100% of Irish SSCF fished in the NWW in 2019, it represented only part of the SSCF fishing activity for France (46%), and the Netherlands (<1%) as they were also active in the Mediterranean Sea and/or in the North Sea. In terms of vessel numbers, Ireland and France had the highest number of active SSCF vessels with 678 and 622 active vessels, respectively.

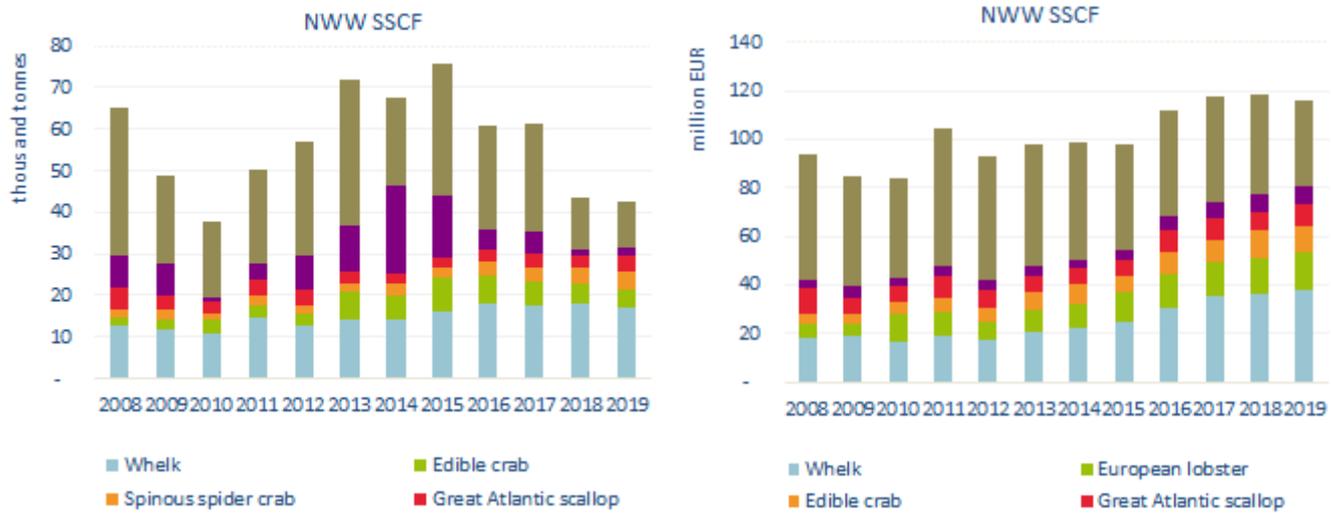
Total employment for the SSCF is highest for France totalling 1 182 jobs, followed by Ireland with 816 jobs, reflecting the largest number of active vessels. These Member States in the NWW demonstrated a significant lower FTE figure in comparison with total employed indicating that a large majority of those employed in the SSCF are part-time fishers.

Overall, the SSCF was profitable in 2019, totalling EUR 72 million in GVA and EUR 25 million in gross profit. The most relevant SSCF fleet with high profitability was the Irish SSCF, with gross profit margins of 28%, followed by France (19%). In terms of productivity, the GVA per FTE varied from EUR 84 500 (France) to EUR 28 790 (Ireland).



**Figure 3.47 Top 10 species landed by SSCF operating in NWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.48 Trends in landings of top species landed by SSCF operating in NWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Performance by fleet segments

There were an estimated 81 segments operating in the NWW region. At fleet segment level, the French demersal trawlers between 24 and 40 metres generated the most revenue in 2019 (EUR 81 million), followed by the French demersal trawlers between 18 and 24 metres (EUR 78 million) and the Spanish polyvalent passive gears between 24 and 40 metres (EUR 74 million).

There were 24 EU fleet segments that operated 80% or more in the NWW region in 2019, accounting for 62% of the number of vessels, 49% of the days-at-sea deployed, 48% of the FTE, 37% of the landed weight and 43% of the landed value. Collectively, these "resident" fleets represent more than one third of the value and weight of landings, as there is a mix of LSF and SSCFs.

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

- The French demersal 24 to 40 metres segment has a GVA of EUR 25 million, gross profit of EUR 54 600 and GVA per FTE (labour productivity) of EUR 61 000.
- The French demersal 18 to 24 metres segment has a GVA of EUR 32 million, gross profit of EUR 8 million and GVA per FTE (labour productivity) of EUR 88 800.
- The Spanish polyvalent passive 24 to 40 metres segment has a GVA of EUR 41 million, gross profit of EUR 6.6 million and GVA per FTE (labour productivity) of EUR 38 300.
- The Irish pelagic trawlers over 40 metres segment has a GVA of EUR 29 million, gross profit of EUR 7 million and GVA per FTE (labour productivity) of EUR 148 700.

### 3.4 Southern Western Waters

#### Regional Details

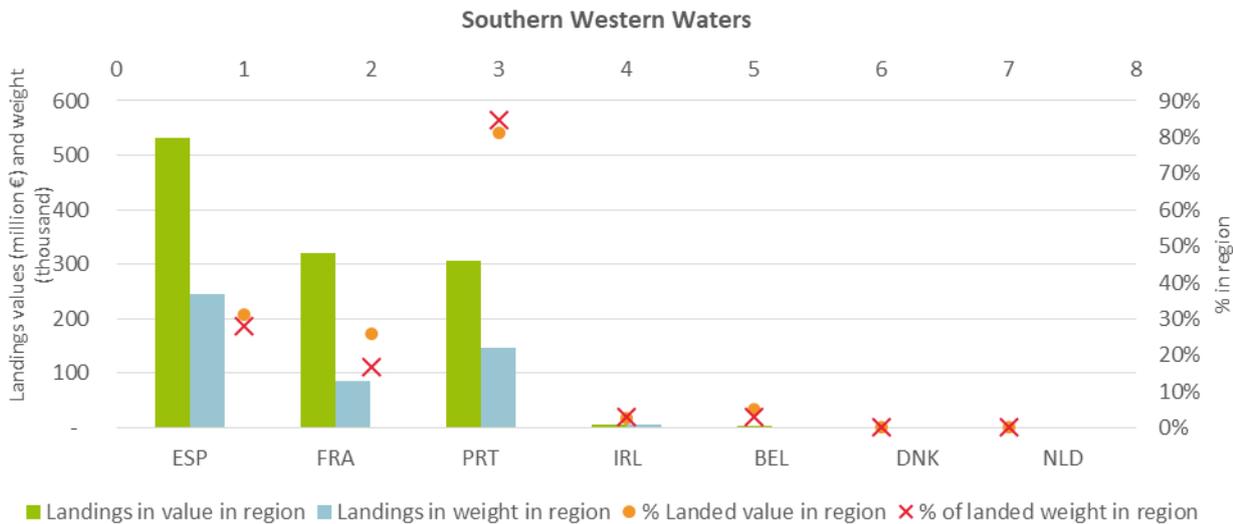
The Southern Western Waters (SWW) covers the Atlantic zone running from the tip of Brittany in the North, to the Strait of Gibraltar in the south and including the outermost regions of Madeira, the Azores and the Canary Islands (ICES areas 8, 9 and 10, and the COPACE divisions 34.1.1., 34.1.2, 34.2.0). For simplicity EU vessels operating in the aforementioned fishing areas are referred to as the EU SWW fleet.

The main fleets operating in the region were the Spanish, French, and Portuguese. Besides those, four more EU fleets operated in the region in 2019: Ireland, Belgium, Denmark and the Netherlands, yet having limited fishing activity in the region (effort and landings shares in the region were less than 1% of the total)

Based on the value of landings, Spain produces the most from the region, followed by France and Portugal. However, Portugal has the highest total percentage of national landed value from the region at 81%, followed by Spain (31%) and France (26%).

The SWW region represents 5% of the landings value in Belgium, 3% in Ireland and is residual for the Netherlands and Denmark. While Portugal has high dependency, the highest share of fishing is conducted by Spain (Figure 3.49).

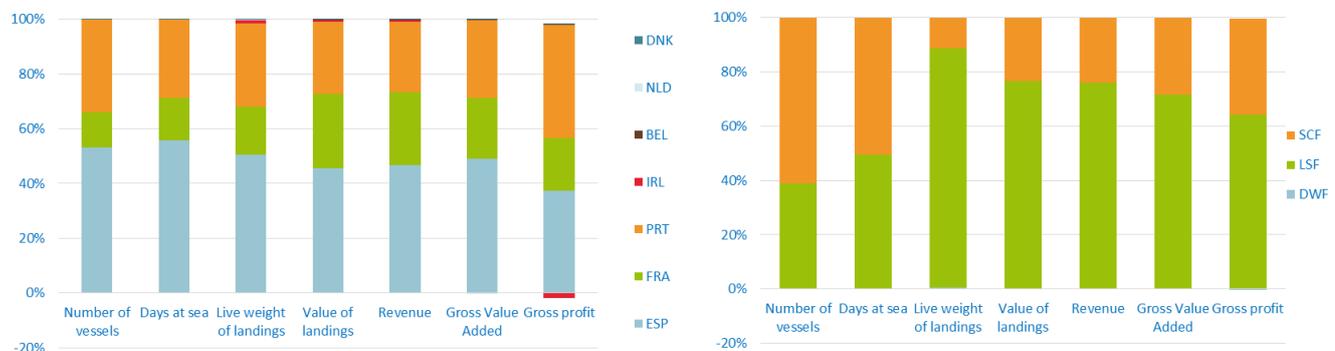
Tables in the Annex 2 of this report contain a summary of the economic performance of the SWW fleet by Member States, main type of fishing activity and fleet segment.



**Figure 3.49 Importance of the SWW for MS fleets in terms of landings in weight and value, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

SSCF dominates in number of vessels while the LSF is the main segment in terms of production. Effort, in terms of days at sea, was equally shared between the two fleets. (Figure 3.50).



**Figure 3.50 Share of MS fleets and fishing activity in the SWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

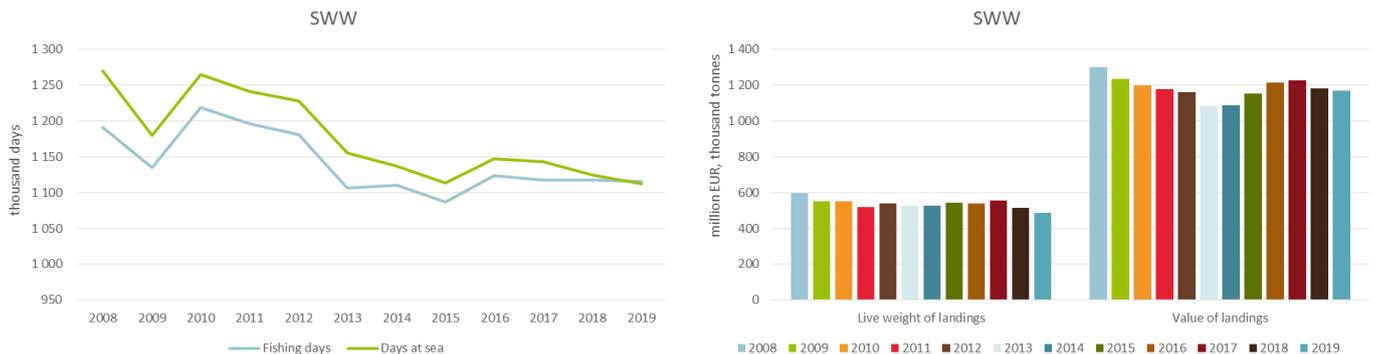
## Overview of the main results for EU fleets in the SWW

### Fishing effort and landings

Fishing effort has decreased over the period analysed while landings have been stable in volume between 2008 and 2014, but decreased from 2017 onwards, reaching the lowest value in 2019 (6% less in 2019 compared to 2018). The value of landings also decreased since 2017, even if less sharply (-1% from 2018 to 2019). (Figure 3.51).

For certain species, it is particularly clear the inverse relationship between volume and prices, as in the case of the European anchovy, which landings decreased by 6% compared to 2018, while prices rise by 19%. On the contrary, the increase in octopus landings (+13%) was accompanied by a 17% price decrease.

Fishing opportunities and prices are major drivers of revenues, but also operational costs, as fuel, whose prices averaged 0.53 euro/litre.



**Figure 3.51 Trends on effort and landings for MS fleets operating in the SWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

Total employment in the region was estimated at 34 400 with the number of FTE employees at 22 800. Engaged crew in this region has followed a decreasing trend (-12% in FTE compared to 2008), even though yearly variations are observed. From 2018 to 2019, the engaged crew as decrease 1% while FTE increased by 1%, indicating more time dedicated to the fishing activity by fishers. This behaviour is particularly evident in Spain as a raise of 2% in the engaged crew originated an increase by 6% in FTE.

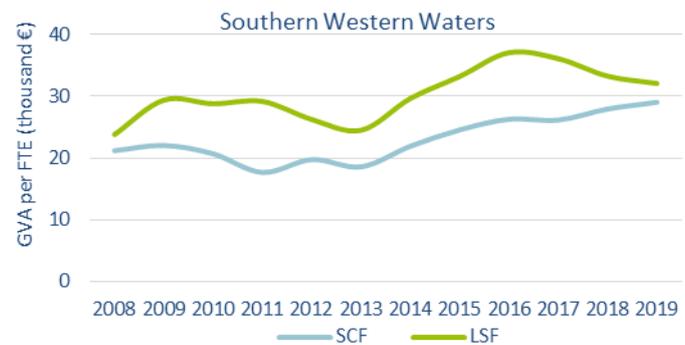
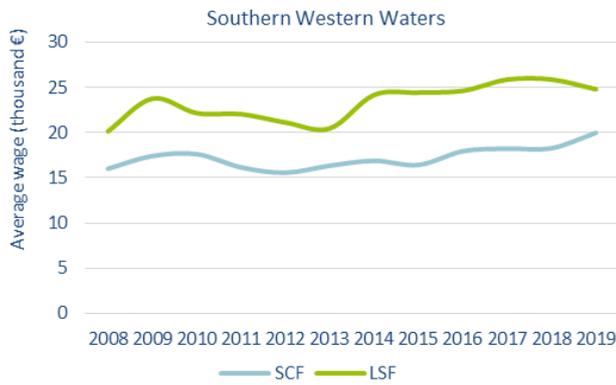
The most important fleets in terms of overall employment correlate to the same fleets with the highest dependencies on the region. Spain employs the most fishers (60% of the FTE), followed by Portugal (30%) and then France (9%). Together, these three Member States covered almost 100% of the employment.

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 total employed and total FTE indicating that a large number of those employed are part-time employees. This situation is particularly evident in Portugal, where FTE is about 36% of the engaged crew.

Employment for the LSF is the highest for Spain and Portugal, 62% and 28% 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 2018, the FTE has increased in Spain (7%) while in Portugal decreased in Portugal (-8%). LSF figures for engaged crew and FTEs are closer in value than in the SSCF fleet, indicating a high level of full time employment.

Average wages per FTE in the SSCF have grown 9% in 2019, being 17% above the average of the previous 10 years. Nevertheless, this growth is not equally distributed along the years. In fact, salaries started to grow from 2013 onwards and in particular after 2015.

For LSF, wages also decreased until 2013 but have grown since then till 2018. In 2019 salaries in the Southern Western Waters LSF decreased by 4% and currently they are 6% above the average of the last 10 years. The gap in salaries between SSCF and LSF has increased from 2010 to 2018, but decreased in 2019, being around EUR 20 000 and EUR 25 000 for SSCF and LSF, respectively (Figure 3.52). However, the gap between labour productivity (GVA per FTE) in the SSCF and LSF increased until 2016 but started to get closer since then.

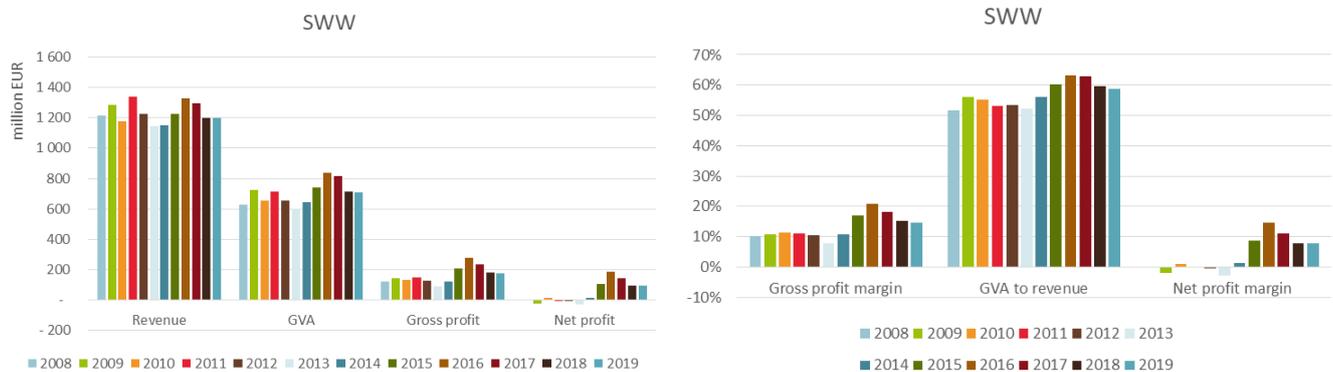


**Figure 3.52 Trends on average wage and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the SWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic performance

In 2019, the fleet operating in the SWW generated over EUR 1.2 billion in revenue, EUR 708 million in GVA and EUR 178 million in gross profits. Overall, revenue and profits have recovered since 2013, going from a loss making position to posting net profits, although they have deteriorated over the past three years. The fleet as a whole was profitable in 2019, posting a net profit of over EUR 95 million (8% profit margin) (Figure 3.53).



**Figure 3.53 Trends on revenue and profits for MS fleets operating in the SWW \***

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Trends by Member State fleet

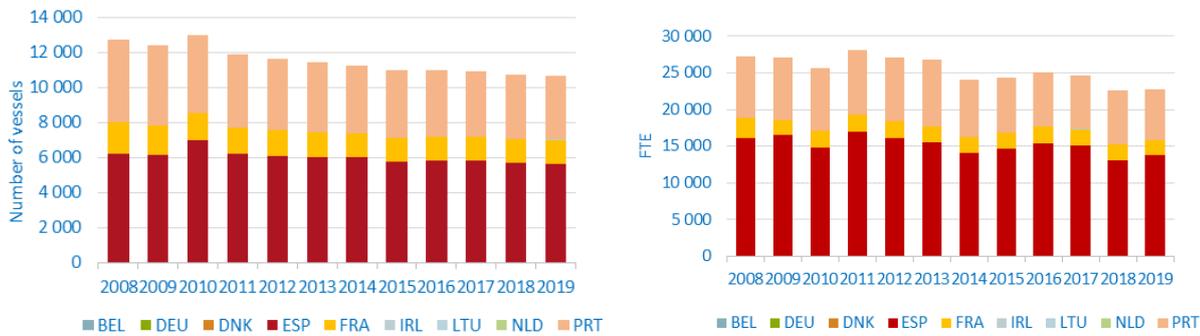
#### Fleet capacity and employment

The seven Member States fleets operating in the SWW collectively numbered over 10 645 vessels even though Spain, Portugal and France represent 99.9% of the total. The Spanish fleet comprised the largest fleet in number (5 643 active vessels in the region), followed by Portugal (3 611) and France (1 381).

The SSCF accounted for 61% of the number of vessels and 50% of the days-at-sea, while LSF generated by far the highest landed weight, with 88% of the total and 76% of the value in 2019.

In 2019, the employment estimated for the SSCF amounted around 14 375 jobs corresponding to 6 943 FTE, very slight difference comparing to 2018, that makes the proportion of each remaining almost the same as the previous year (42% of the total jobs and 30% of the total FTE in the region), which indicates the dominant part-time nature of this fishing fleet.

Fleet capacity and employment in the region have followed a general decreasing trend over most of the period analysed, apart from a slight increase in FTE from 2015 to 2016, keeping in 2019 in the same levels that in 2018 (Figure 3.54).



**Figure 3.54 Trends on the number of vessels and employment (in FTE) for MS fleets operating in the SWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021))

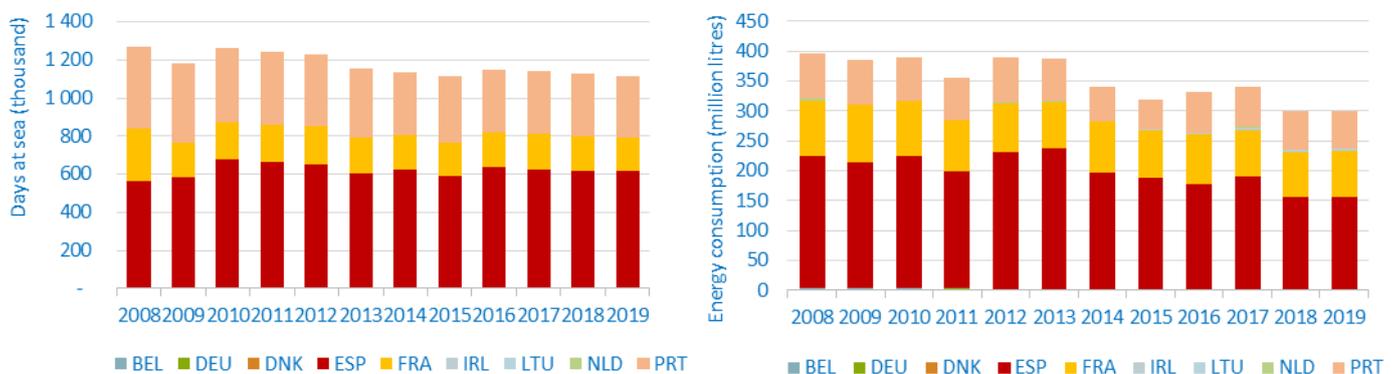
## Fishing effort

SWW fleet spent over 1.1 million DaS in 2019; 56% of which were deployed by the Spanish fleet (Figure 3.55).

The number of DaS per fishing activity has remained quite balanced in recent years. In 2019, SSCF vessels accounted for 50% of the total number of days-at-sea but only 11% of the landed weight and 23% of the value.

Fishing effort has decreased much in line with capacity, with a 18% decrease in the number of vessels from 2010 and a 12% decrease in days-at-sea. Between 2010 and 2019, more than 2 322 vessels ceased activity in the region, 57% of which were Spanish vessels. This decreasing trend in vessel number and also in engine power and gross tonnage is expected to continue for the coming years.

Energy consumption has also followed a general decreasing trend from 2012 to 2015, followed by an increase in 2016 and 2017, but in 2018 and 2019 the decreasing trend returned, reaching the lowest values in the series.



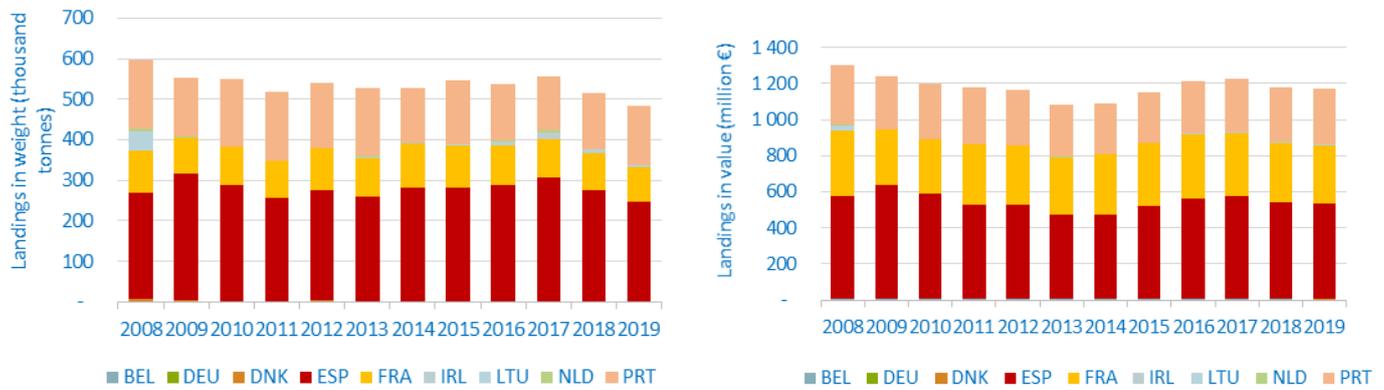
**Figure 3.55 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the SWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021))

## Landings and top species

The weight and value of landings generated by the SWW fleets amounted to approximately 485 500 tonnes and EUR 1.17 billion, respectively. In terms of landed weight, the Spanish (50% weight, 45% value), Portuguese (30% weight, 27% value) and French (18% weight, 26% value) were the most important national fleets, and together accounted for over 99% of the totals.

Landings in weight decreased by 6% in 2019 compared to 2018, while in value, they decreased by 1% (Figure 3.56). The decrease in value was centred on the French fleet. Landings were mainly generated by the LSF, making up 88% of the live weight and 97% of the landed value.

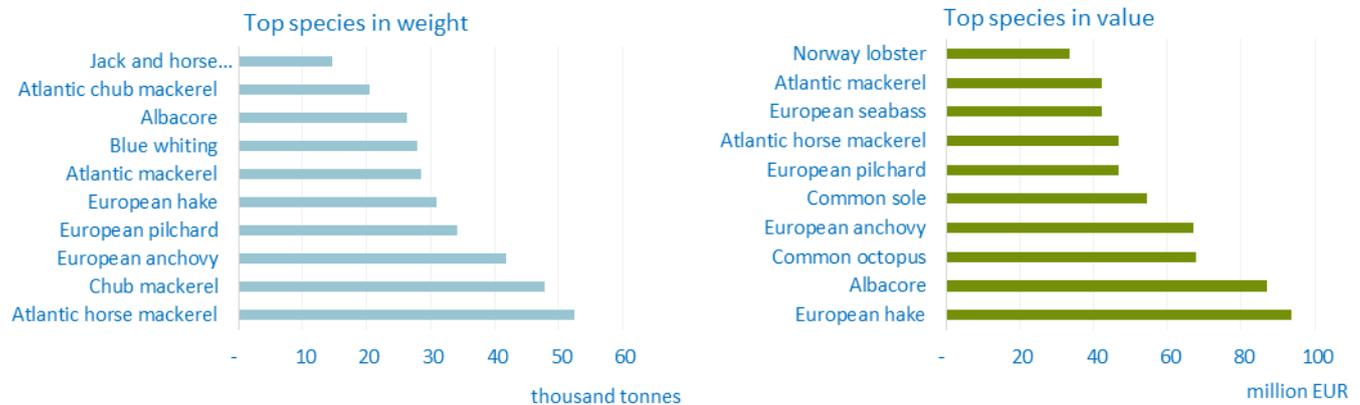


**Figure 3.56 Trends on landings in weight and value from MS fleets operating in the SWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2019, the main species landed by the SWW fleet in terms of weight were small pelagic species, namely: Atlantic horse mackerel (52 518 tonnes), chub mackerel (47 806 tonnes), anchovy (41 704 tonnes), European pilchard (34 197 tonnes), followed by European Atlantic mackerel (28 520 tonnes). These species all together represents 63% of the total landings weight in the SWW. In terms of value, European hake was the most important species in 2019 (EUR 93 million), followed by albacore (EUR 87 million), common octopus (EUR 68 million) and European anchovy (EUR 67 million) (Figure 3.57).

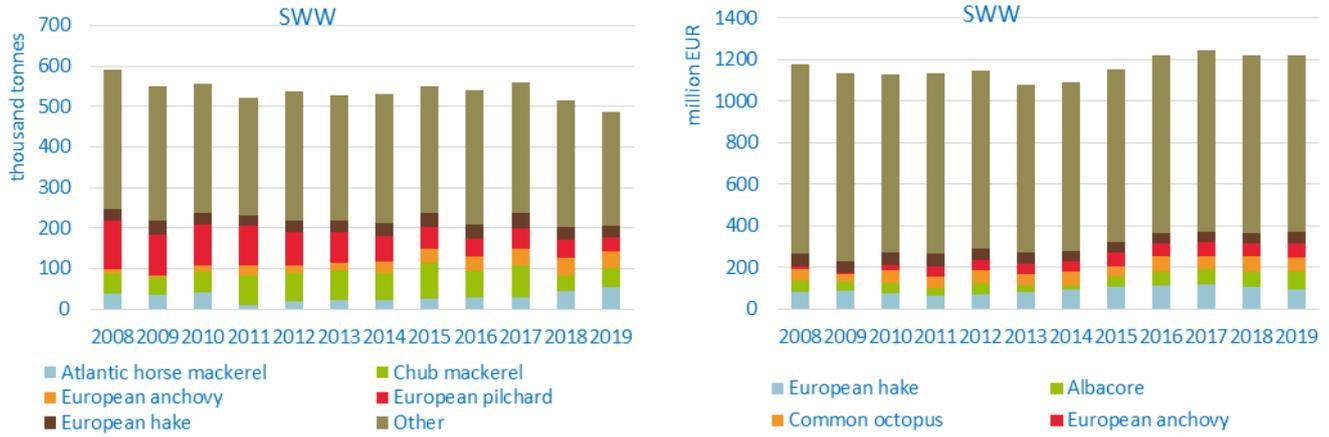
The top species can be seen as drivers for this region’s fleets. The share of landed value of European hake is dominated by Spain and France (94%). Norway lobster, common sole and European seabass landings values, were dominated by France, with 81%, 79% and 69% of the total, respectively. Albacore landed values were dominated by Spain (68%). Regarding small pelagic fishes, European pilchard landings were led by Portugal (42% share) followed by France (33%) and Spain (25%). For European anchovy and Atlantic mackerel, Spain was the main Member State dependent on these species with 75% of the share. Finally, common octopus is shared between the Portuguese (54%) and the Spanish fleet (46%).



**Figure 3.57 Top 10 species in landed weight and value for MS fleets operating in the SWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Temporal trends in the value and weight of landings have been influenced by fluctuations in TAC and quotas for Atlantic mackerel, blue whiting and hake. Mackerel went through a significant increase in 2014 followed by a decrease after 2015, which impacted the total value of landings for Member States targeting this species. European pilchard is of particular importance in the region, the biomass of which has been declining and, consequently, landings in 2019. (Figure 3.58).



**Figure 3.58 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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

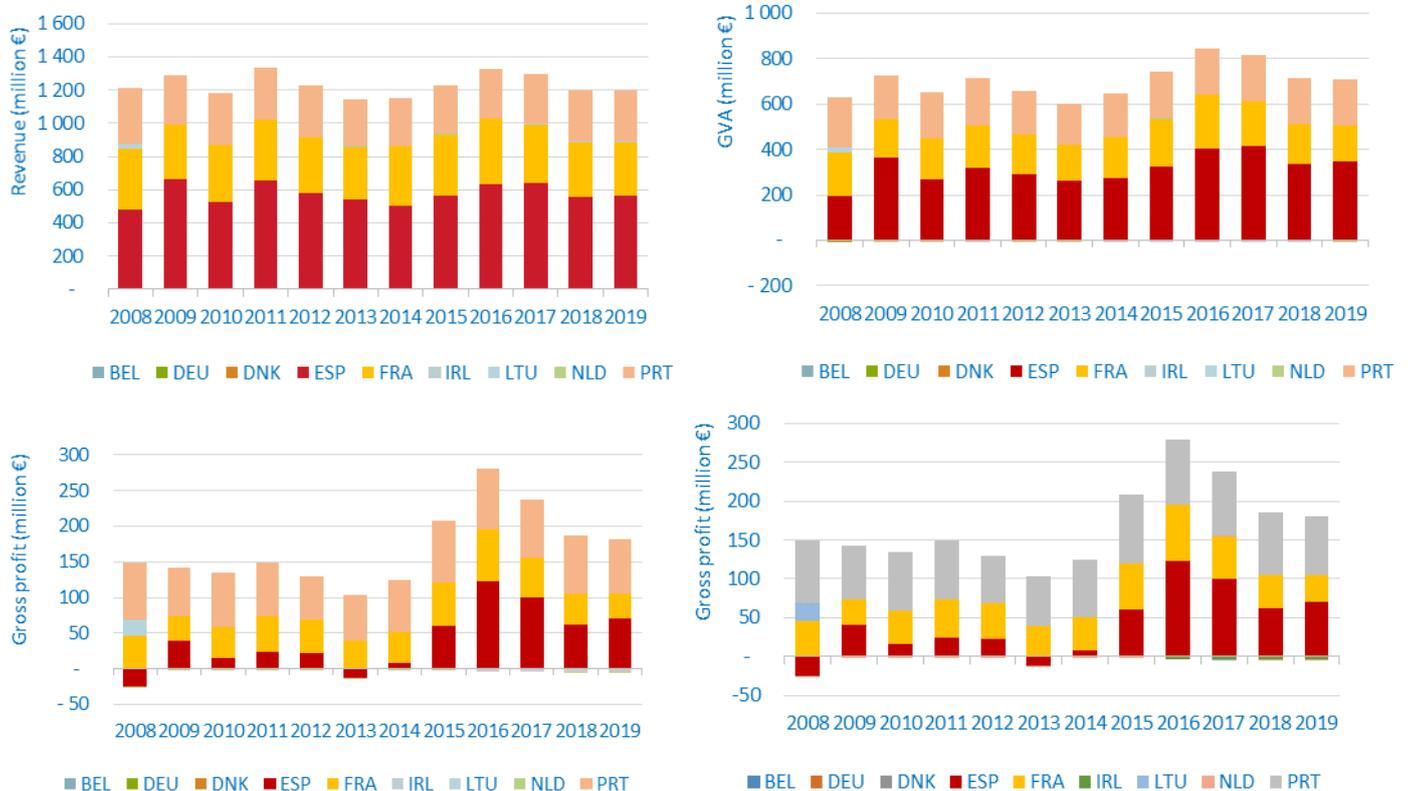
### Economic performance

The revenue generated by the SWW fleet in 2019 was estimated at EUR 1.2 billion, 99% produced by three Member States fleets: Spain (47%), France (27%) and Portugal (26%). Revenue kept at the same level in 2019 than in 2018, so the same gap in respect to 2017 kept (Figure 3.59).

The GVA generated amounted to EUR 708 million, a very slight decrease of 1% compared to 2018 increasing the gap in relation to 2017. GVA decreased 10% for the French fleets and 1% for the Portuguese while the Spanish fleets had an increase of 3%.

The fleet made EUR 177 million in gross profit, a decrease of 2% compared to 2018 continuing with the trend in relation to 2017. By Member States, the Portuguese fleet produced the highest gross profit (EUR 76 million), followed by the Spanish fleet (EUR 69 million) and then the French fleet (EUR 36 million).

By fishing activity, the SWW SSCF generated EUR 287 million in revenue in 2019, while the LSF generated EUR 892 million in revenue (76%).



**Figure 3.59 Trends on revenue and profit for MS fleets operating in the SWW**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Main factors affecting the performance of the fleet

### Main drivers affecting fleet performance in the region

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

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

### Regulation and fisheries management in the region

Landing Obligation related regulations:

- Commission Delegated Regulation (EU) No 1394/2014 establishing a discard plan for certain pelagic fisheries in south-western waters.
- Commission Delegated Regulation (EU) 2019/2237 specifying details of the landing obligation for certain demersal fisheries in South-Western waters for the period 2020-2021.

Other relevant regulations are:

- 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.

Other management measures that may affect economic performance of the fleets operating in SWW include marine protected areas and other legislation that has a multispecies impact. The EU is working in a new Regulation in order to include measures of the LO in NWW and SWW for the period 2021-2023.

### Status of important stocks

Fishing has generally progressed towards MSY in all areas of the Northeast Atlantic since 2006 and specifically in the SWW region.

Some important stocks in this area are: hake and mackerel. TAC for both species has decreased in recent years although due to different reasons. On one hand, and what is referred to hake, southern stock (ICES Divisions 8c and 9a) has a very specific model for the assessment and has shown a retrospective tendency to overestimate SSB and underestimate fishing mortality. The reasons for this pattern are not understood and ICES has not been able to solve this issue so far. On the other hand, under the guidelines of the CFP, the recommendation and TAC setting have been guided under the MSY principle. Both factors have led to the mention decrease on the TAC even the SSB has increased since 1998 and has been above MSY  $B_{trigger}$  (value of SSB that triggers a specific management action),  $B_{pa}$  (precautionary reference point for SSB), and  $B_{lim}$  (limit reference point for SSB) since 2007. Regarding fishing mortality, this value is decreasing although is still above  $F_{MSY}$ , but below  $F_{pa}$  (precautionary reference point for fishing mortality) and  $F_{lim}$  (limit reference point for fishing mortality). On the contrary, hake fished in the Bay of Biscay is part of northern component that shows a healthier trend because the SSB has increased substantially since 2006. In 2016 it reached the maximum in the time series, and since then it has declined slightly. Fishing mortality decreased markedly between 2005 and 2012, and has been stable below  $F_{MSY}$  since then. On the other hand, mackerel is a stock of wide distribution covering from SWW up to waters of Norway, Faroe Islands, Iceland and even Greenland. So the EU TAC fixed for ICES Divisions 8c and 9a (shared only by Portugal and Spain) depends on the evaluation and status of the stock in the whole area of distribution. The SSB is estimated to have increased since 2007, reaching a maximum in 2014, and has been declining since then even it remains well above MSY  $B_{trigger}$  since 2008. The fishing mortality has declined since 2003, but is estimated to have remained above  $F_{MSY}$ .

Regarding some other stocks of importance, there are two stocks of horse mackerel. On one side, southern horse mackerel fished in the ICES Division 9a by Spain and Portugal has a level of SSB above MSY  $B_{trigger}$  over the whole time-series, with a continuous and steep increase in the last few years, and is currently at its highest level. Recruitment (R) has been above the time-series average since 2011. F

has been below  $F_{MSY}$  over the whole time-series. The situation of the other horse mackerel stock, the western component that in SWW distributes along Cantabrian Sea and Gulf of Biscay, is very dependent on occasional high recruitments. After a series of low recruitments, the estimates since 2014 are above average (1983–2018). SSB has been declining since 2006 and has been around  $B_{lim}$  since 2015.  $F$  has decreased since 2013, but remains above  $F_{MSY}$ .

Anchovy has two separate stocks, one for ICES Division 9a and another one for ICES area 8. The one in Division 9a presents some specificity that make difficult its complete evaluation and assessment. On the other side, the one in ICES area 8 the SSB has been above  $B_{lim}$  since 2010, and the year 2019 is assessed as the highest of the historical series. Recruitment has been mostly above the long-term average since 2010 but is estimated to be below average in 2020. Harvest rates have been below the long-term average since the reopening of the fishery in 2010.

Finally, Iberian sardine in ICES Divisions 8c and 9a is seriously evolving from a situation clearly outside safe biological limits to be inside those. The biomass of age 1 and older fish (biomass 1+ or  $B_{1+}$ ) is above  $MSY B_{trigger}$  for the first time since 2009. Recruitment in 2019 is the highest since 2004 and above the long-term geometric mean. Fishing mortality has been declining since 2012 and is the lowest in the time-series; however, it is still above  $F_{MSY}$ . The reason of those changes in the stock status is the Fisheries Long Term Monitoring Program Sampling Protocol implemented by Portugal and Spain since 2017 that is foreseen to get the total recovering of the stock by 2023.

Anglerfishes are fished in correspondence with  $MSY$  and sole (FAO 27.8c and FAO 27.9a) stock status is unknown.

### TAC development of main species

The impact of changes in TACs and prices at Member State level varies as their species composition and species dependency of the fleets can differ considerably. In the SWW, the main fishing Member States, Spain, France and Portugal, rely on a diversified group of species, while less relevant countries in this area, such as Belgium, Ireland, Denmark or the Netherlands are strongly oriented to one specific species.

Concerning the year 2019, it is important to highlight the following quotas:

#### Demersal species:

- In 2019 the southern hake TAC kept in the same levels than in 2018 regarding despite the biomass increase due to the model used for the evaluation and because of the objective of achieving the  $MSY$  level as mentioned before. Hake in the Bay of Biscay has shown a notably increase in the TAC from 2018 to 2019, around 22%.
- In SWW anglerfish TAC, considering the two different stocks, has shown a global small decrease in relation to 2018, due to the influence of major decrease for Bay of Biscay TAC. The southern quota (ICES Divisions 8c and 9a) showed a very small increase.
- TAC of common sole showed an small increase due to the one fished in the Bay of Biscay as the southern TAC kept in the same levels.
- Norway lobster has some different stocks covering SWW. The one for ICES Division 9a (shared by Spain and Portugal) has shown a small increase in TAC in 2019. Due to the analysis of the stock in different functional units (FU), ICES kept its recommendation, finally reflected in TAC as in 2018, of limiting the captures in FU 26 (south of Galicia) and 27 (north of Portugal) to a percentage of the TAC and the total amount in FU 30 (Gulf of Cádiz) up to 100 tonnes.

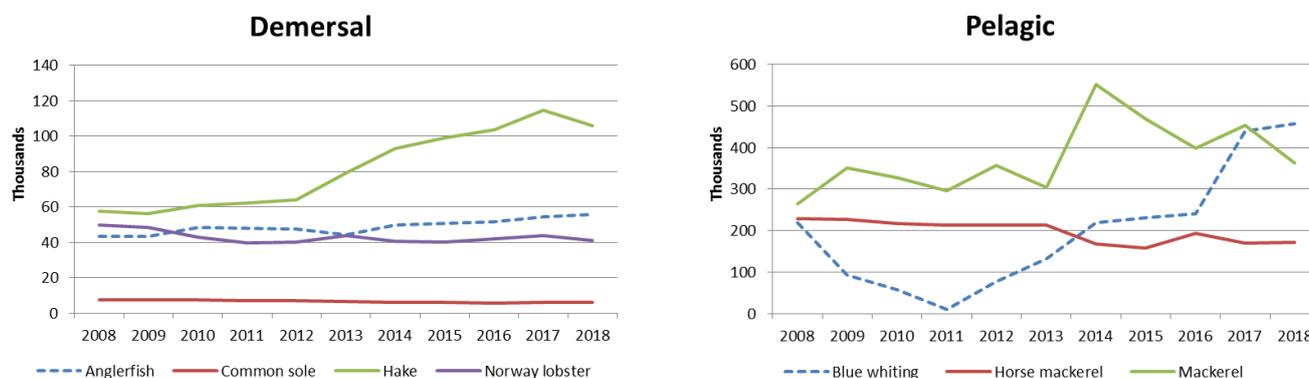
In the Cantabrian Sea, ICES Division 8c, the TAC remained at 0 tonnes due to the status of the stock in the correspondent UF 25 and 31. The only change was to approve a very small quota to Spain with the purpose of performing scientific surveys to improve the knowledge and data for the evaluation of the stock.

Finally, regarding TAC in the Bay of Biscay, TAC increased slightly.

#### 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). Since 2014, there has been an agreement for sharing the TAC between Norway, Faroe Islands and Norway. The TAC in 2019 in ICES Divisions 8c and 9a for Spain, Portugal and France had a decrease of 20% as rules settled in the LTMP approved at the level of Coastal States, which included a paragraph to limit the interannual TAC variation to 20% if ICES advice recommends a higher decrease.

- TAC for horse mackerel: TAC has increased from 2018 to 2019 in all fishing grounds (Bay of Biscay, Cantabrian Sea and southern waters) being specially significant the increase in ICES Division 9a of 70%.
- TAC for anchovy in ICES area 8 (shared by France and Spain) kept at the same level according to the result of LTMP. In FAO area 27.9 the major change has been that from July 2019 the TAC (shared by Portugal and Spain) moved from 1 of January to 31 of December to 1 of July to 30 of June of the following year.
- TAC for blue whiting increased each year from 2014 to 2017. However, in 2018 and 2019 had a slightly decrease. It is also important to point that this TAC is also negotiated at Coastal States, where EU has a high percentage of the total TAC.



**Figure 3.60 Trends on TACs for major demersal (left) and pelagic (right) stocks in the SWW**

Source: Calculated based on 2017 TAC Council Regulations and BEMEF modelling

## Landing obligation

Certain potential economic and social impacts have been identified, such as additional handling time in sorting and storing of unwanted catches, regarding the LO. It should be also referred the difficulty in dealing with some catch composition rules currently in force, the role of choke species in mixed fisheries or, specifically, the loss of quota, low prices and technical difficulties for commercialization of fish sold for non-direct human consumption. In this area whiting, red seabream, hake and alfonsinos are the most likely to become choke species and Spain, France and Portugal, the Member States most likely to be affected.

There are evidences of economic and social impacts mentioned by Member States in their scientific justifications of LO exemptions and in the annual report on the impact of the LO on their fleets.

## Description of relevant fisheries in the region

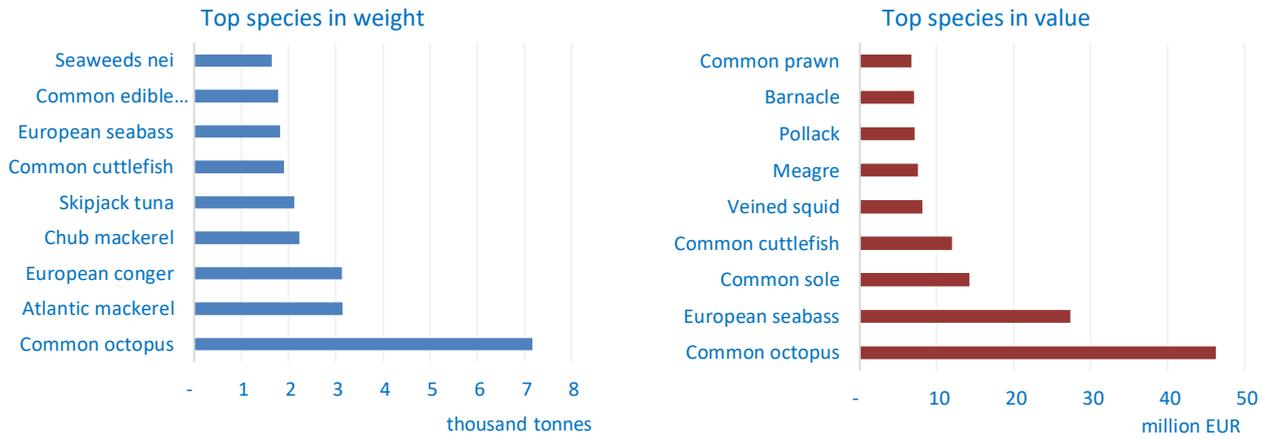
### Small-scale coastal fleet

Three Member States have SSCF in the SWW: Spain, France and Portugal. The dependency of these fleets of this area is different. While 100% of the Portuguese SSCF fished in the area in 2019, it represented 73% of the SSCF fishing activity for Spain and 21% for France. In terms of vessel numbers, Spain and Portugal had the highest number of active SSCF vessels with 2 894 vessels and 2 888 vessels, respectively.

Overall, the SSCF was profitable in 2019, totalling EUR 202 million in GVA and EUR 63 million in gross profit. The most profitable in terms of gross and net profit margins was the Portuguese SSCF with 37% and 27%, respectively. In terms of labour productivity, the GVA per FTE varied from EUR 22 000 (Spain) to EUR 83 000 (France).

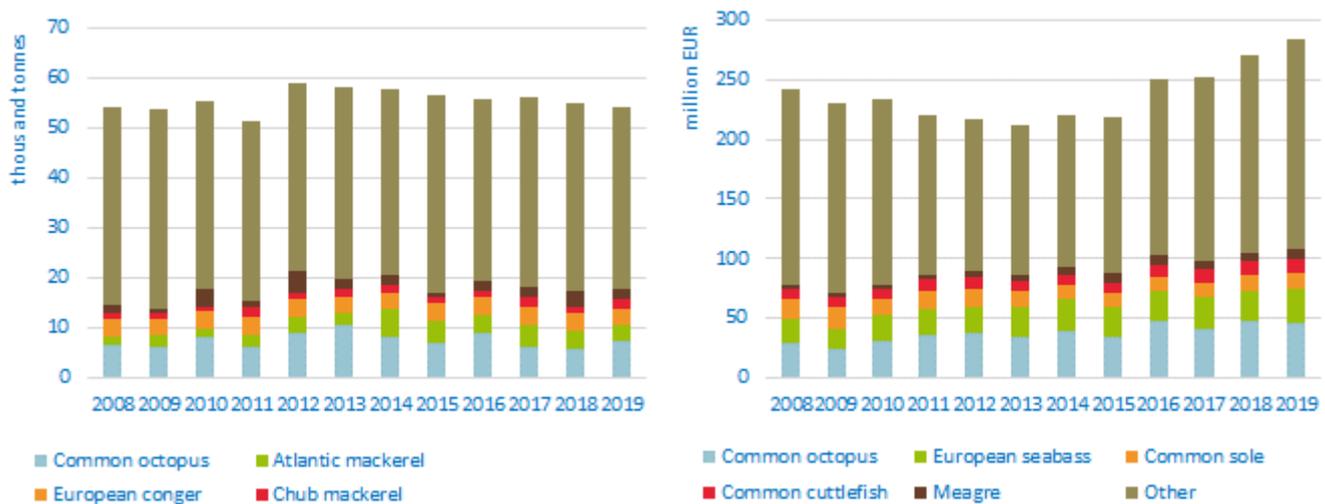
Total employment for the SSCF is highest for Spain and Portugal, totalling 6 316 and 6 825, respectively, reflecting the high number of active vessels in these Member States. All of them in the SWW demonstrated a much lower FTE figures than total employed indicating that a large majority of those employed in the SSCF are part-time employees.

The most important species caught by this fleet are the common octopus (16% of the landed value) followed by the European seabass (10%).



**Figure 3.61 Top 10 species landed by SSCF operating in the SWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Large-scale fleet

There were seven Member States LSF operating in SWW totalling 4 143 active vessels. Spain, Portugal and France had the largest number of active vessels and together account for 99.7% of the total number of vessels in the region.

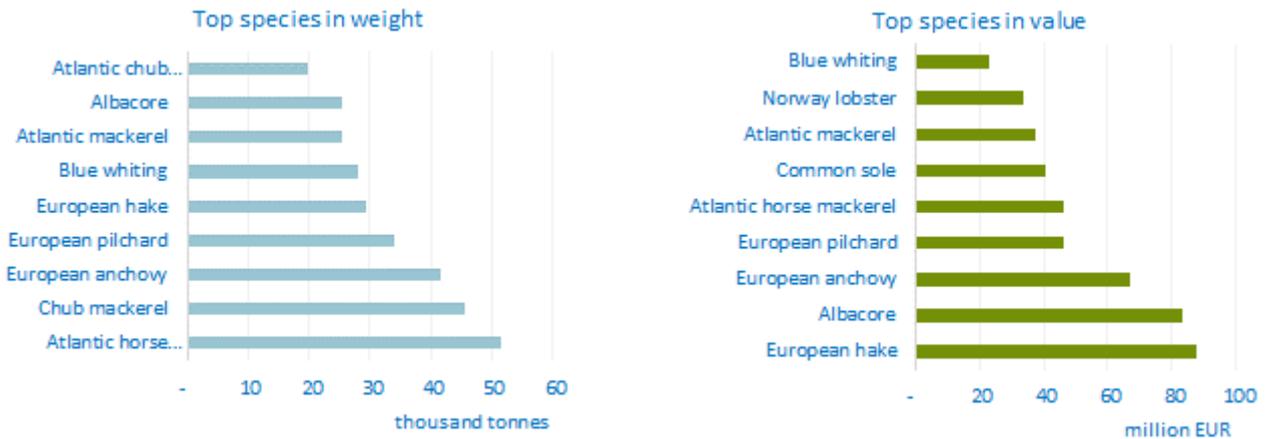
The LSF was profitable in 2019, totalling EUR 505 million in GVA and EUR 115 million in gross profit. The Spanish LSF is responsible for 47% of the gross profit of the LSF in the SWW region, followed by Portugal that contributed with 38% and the French fleet with 19%. As for profitability, gross and net profit margins were 20% and 9% for the Portuguese fleet, 12% and 8% for the Spanish and 9% and 0.2% for the French fleet, respectively. When considering average GVA per vessel, differences are also noticeable; EUR 187 000 for the Portuguese fleet, EUR 166 300 for the French fleet and EUR 94 400 for the Spanish fleet.

Additionally, two distant water fleets (Portuguese and Spanish fleets) had some activity in the region in 2019. The EWG notes, however, that data on the EU distant water fleets operating in the region is limited and the economic indicators are to be interpreted with caution.

Total employment for the LSF for Spain and Portugal totalled 11 136 and 6 205, respectively, reflecting the high number of active vessels in these two Member States. While the SSCF, for all Member States, demonstrates a considerable difference between the numbers of total employed and total FTE, the LSF figures for total employed and FTE are closer in value indicating the high level of full-time employment in this segment.

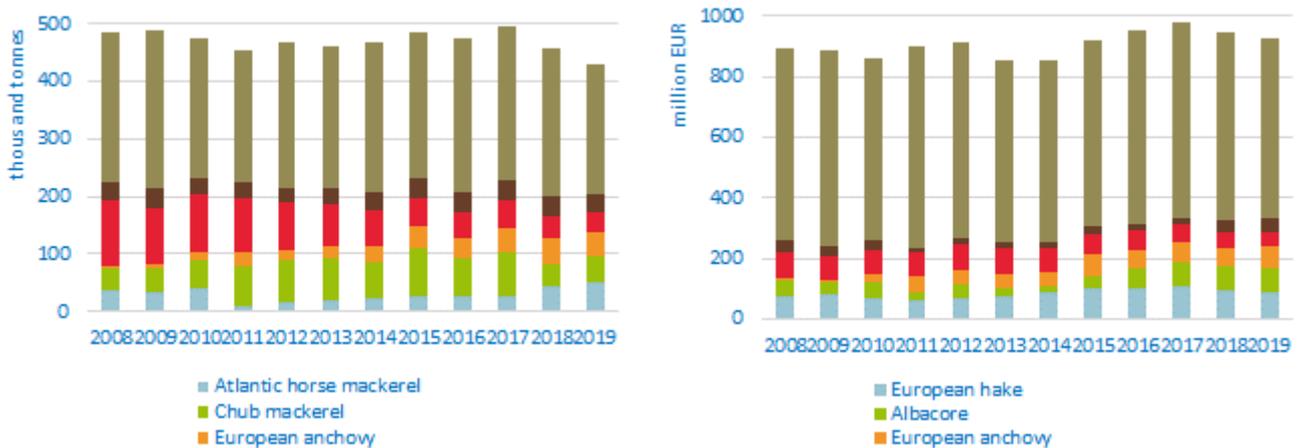
Member States can be classified into two categories according to their dependency which is representative of their LSF landings composition in SWW:

- Three Member States had a high dependency on one or two species in the region. For the Belgian fleet common sole constituted 88% of landing value, Atlantic mackerel and Blue whiting represented 95% of the value of the Dutch LSF. Albacore represented 92% of the landing value of the Irish fleet.
- 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 (13%), anchovy (11%), hake (10%), and Atlantic mackerel (6%). For France, hake (14%), common sole (13%), Norway lobster (11%), monkfishes (7%) and sardine (6%). Finally, the main species by landing value for Portugal were Atlantic horse mackerel (9%), sardine (9%), Chub mackerel (8%), anchovy and black scabbardfish (7%) and common octopus (5%).



**Figure 3.63 Top 10 species landed by LSF operating in the SWW, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Performance by fleet segments

50 fleet segments, out of the 138 fleet segments identified in the area, represented over 83% of the vessels, 86% of the landed weight and 87% of the value generated by fleets in the region in 2019.

At fleet segment level, the Spanish vessels with less than 10 metres using active and passive gears generated the most revenue (EUR 84 million), followed by the Spanish demersal trawlers between 24 and 40 metres (EUR 76 million) and the Spanish purse seiners between 24 and 40 metres (EUR 73 million).

In this set of top 50, nine fleet segments are not profitable and five of them are clustered. Disregarding the three clusters, whose analysis may be biased, stands out the Portuguese longliners between 24 and 40 metres, the Spanish demersal trawlers between 24 and 40 metres which was the fleet with the second higher revenue, the Portuguese demersal trawlers between 24 and 40 metres and the French demersal trawlers between 12 and 18 metres. The segments with the highest profitability were the Spanish vessels between 24 and 40 metres using hooks and the Portuguese vessels under 10 metres using pots and/or traps.

Considering labour productivity within the top 50 fleet segments, the upper positions were occupied mostly by the French fleets. Considering the Spanish and Portuguese fleet, it is observed that the most productive fleet segments were the Spanish Purse seines between 24 and 40 metres, followed by the Portuguese demersal trawlers between 18 and 24 metres and the Spanish vessels between 24 and 40 metres using hooks.

There is a wide gap between the most and the least efficient fleets, the latter (in the range of the top 50) occupied by the Portuguese vessels between 24 and 40 metres using hooks.

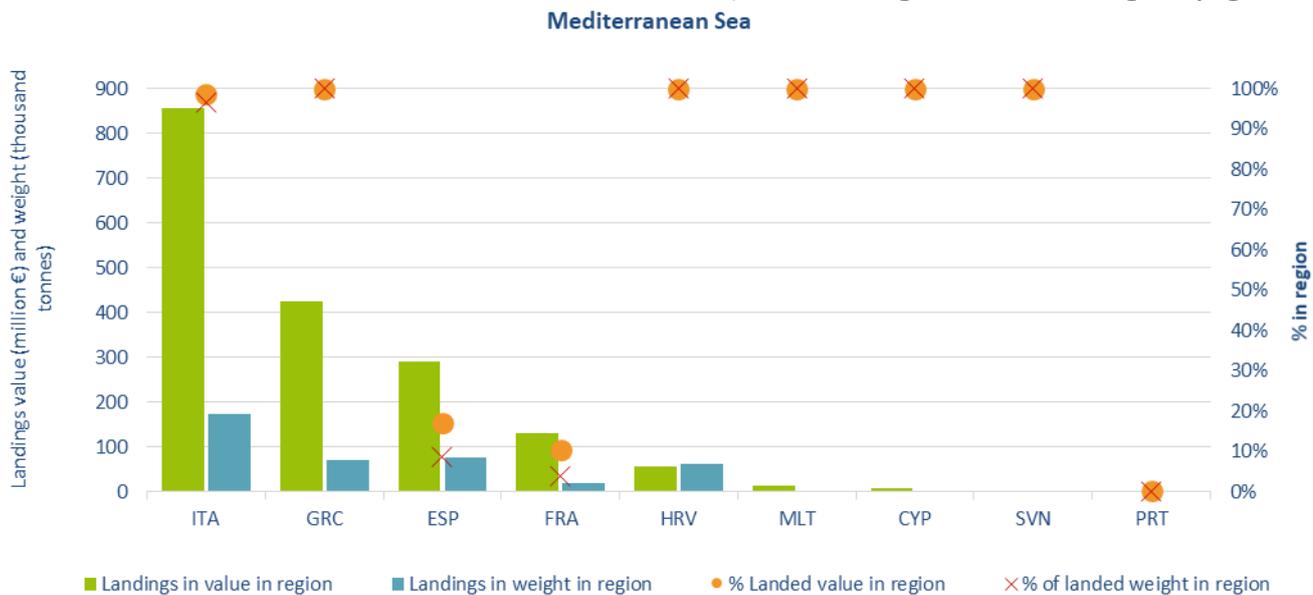
### 3.5 Mediterranean Sea

#### Regional Details

The Mediterranean region covers FAO fishing areas 37.1, 37.2, and 37.3 and nine Member States: Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Slovenia, and Spain. Due to incomplete datasets for time series, Greece, one of the main fishing nations in the region, is included for the 2019 analysis but excluded for trends analysis. Data for Croatia is available from 2012 onwards only (Croatia entered EU in 2013).

The Mediterranean fleet accounted for 58% of all EU vessels and 46% of the EU employment (FTE) in 2019. The Mediterranean fleet also contributed to 10% of the EU landings in weight and 30% in value.

Most Member State's fleets were totally dependent on the Mediterranean basin for their primary fishery production. Almost all landings by the Cypriot, Croatian, Greek, Italian, Maltese, and Slovenian fleets were originated from the region. For Spain and France, the percentage of landings in weight originated from Mediterranean waters was less than 10%, and marginal for Portugal (Figure 3.65).

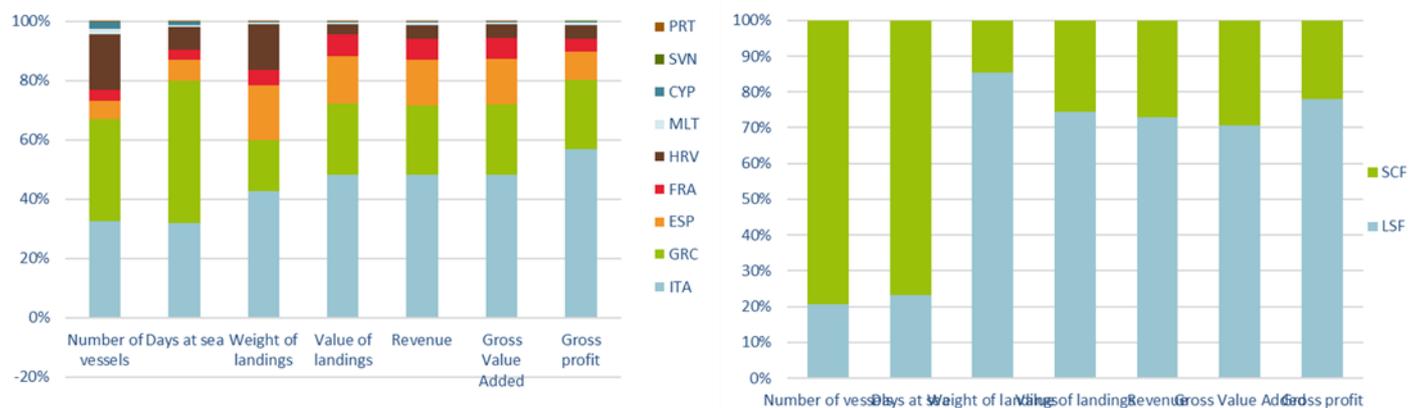


**Figure 3.65 Importance of the Mediterranean Sea for MS fisheries in terms of landings in weight and value, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The Greek fleet is the first contributor in terms of the number of vessels (34%) and days-at-sea (48%) while the Italian one is the dominant fleet in terms of landings (43% in weight and 48% in value), revenue (48%), gross value added (46%) and gross profit (57%) (Figure 3.84).

In terms of landed weight, Spain caught 18% of the Mediterranean landings, followed by Greece (17%) and Croatia (16%). In terms of employment, Italy (38.8%), Greece (36.7%), and Spain (12%) accounted for 87.5% of it.



**Figure 3.66 Share by MS fleets and fishing activity in the Mediterranean Sea, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The economic performance was mostly driven by the LSF, which contributed to 74.5% of the landings value from the Mediterranean and to 85.4% of landings weight in 2019. In contrast, 79.2% of the vessels operating in the region belong to SSCF.

Around 76.8% of the DaS were undertaken by SSCF vessels. LSF accounted for 23.2% of the DaS, of which most were undertaken by the demersal fleet.

The Mediterranean SSCF generated 27.1% of the revenue in 2019, which remained stable compared to 2018. LSF generated EUR 1.3 billion in revenue.

The main SSCF fleet segments in terms of the number of vessel are the Italian polyvalent passive gears between 6 and 12 metres (4 917 vessels) and the Greek drift and/or fixed netters below 6 metres (2 668 vessels) and between 6 and 12 metres (5 162 vessels), which combined accounted for 47% of the Mediterranean fleet in 2019.

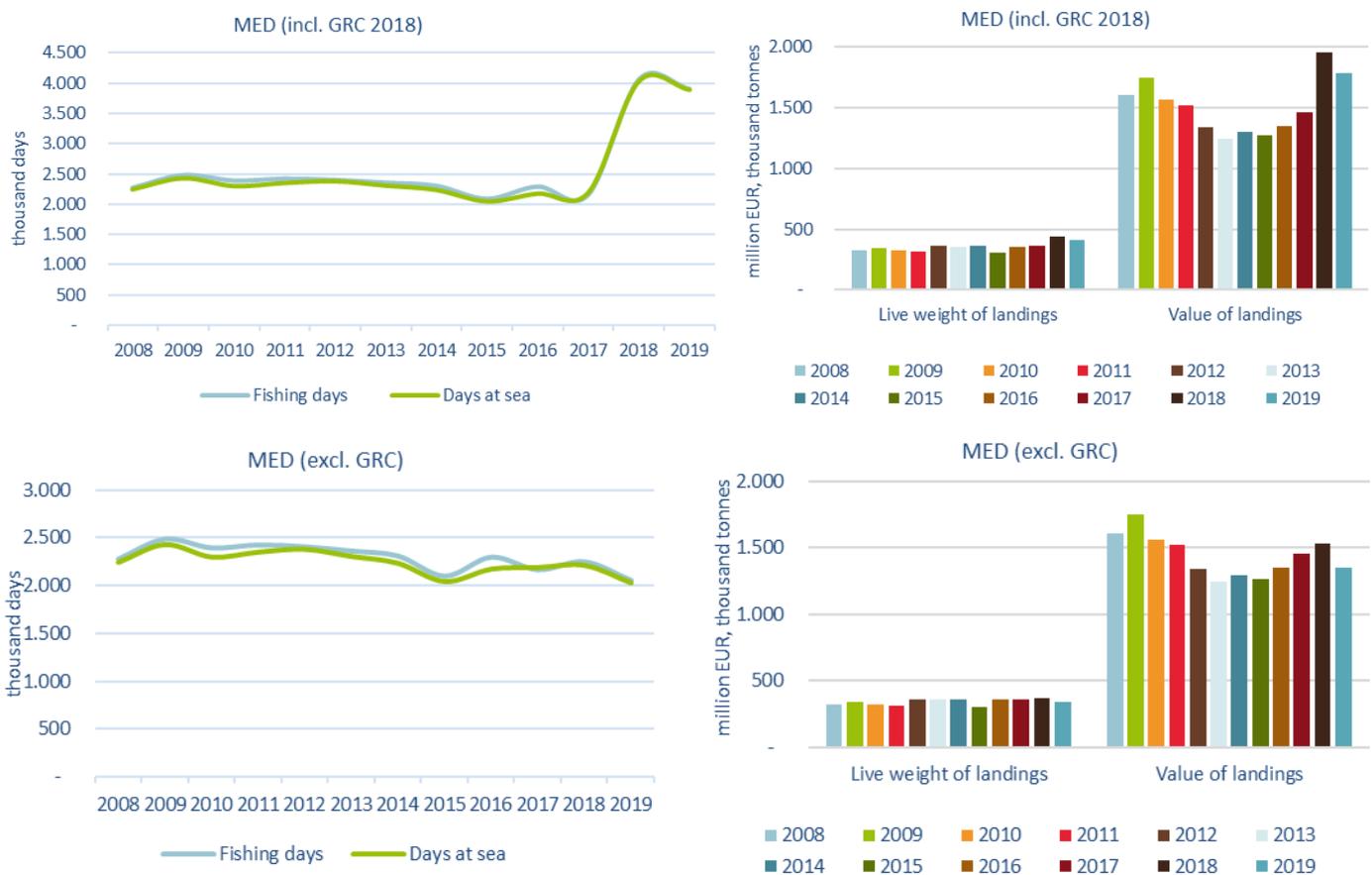
The main LSF fleet segments are the Italian demersal trawlers between 12-18m, 18-24m and 24 to 40 metres, the Spanish and Greek demersal trawlers between 24 to 40 metres, which altogether represented around 34% of total revenue from the area and 7.5% of the fleet covered.

Tables in the Annex 2 contain a summary of the economic performance of the Mediterranean fleet by Member State, the main type of fishing activity, and fleet segment.

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

### Fishing effort and landings

Fishing effort decreased compared to 2018 (Figure 3.67), (3.89 million days-at-sea and 3.91 million fishing days in 2019, including Greece). Effort decreased by 4% while landings, both in weight and value, have decreased by 7% and 9%, respectively, between 2018 and 2019 (excluding Greece). The weight and value of landings were approximately 408 300 tonnes and EUR 1.79 billion in 2019.



**Figure 3.67 Trends on effort and landings for MS fleets operating in the Mediterranean Sea.**

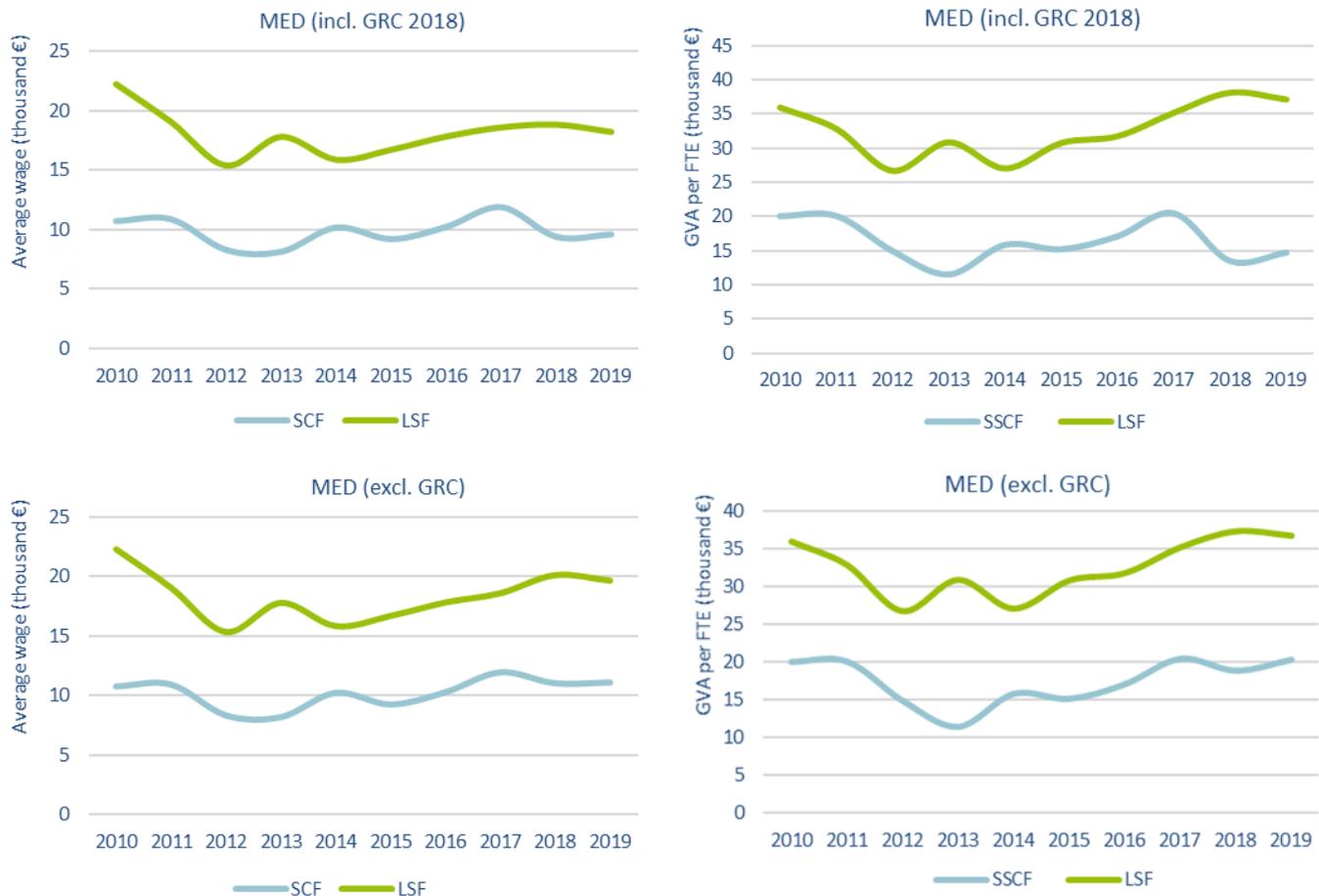
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Including and excluding GRC in 2018.

## Employment, wages and labour productivity

Employment in the Mediterranean fishing fleet (including Greece) in 2019 was estimated at 62 357 jobs, corresponding to 43 908 FTEs. Employment (measured as FTE) has decreased by about 12% relative to 2018. More than half of the employment is created by the SSCF; 35 270 jobs corresponding to more than 56% of total jobs, and 22 542 FTEs corresponding to almost 52% of total FTEs. The average employment per vessel is about 1.7. Additional information on capacity and employment are provided in the sections on trends and social aspects.

Annual average wages and salaries in 2019 for fishers in the SSCF and LSF were EUR 9 640 and EUR 18 198, respectively. Average wages in the LSF decreased by 3% relative to 2018. In the SSCF, average wages remained relatively stable compared to 2018 (Figure 3.68).

In LSF the labour productivity (GVA per FTE) decreased by about 3% compared to 2018, estimated at EUR 37 138, while in the SSCF labour productivity increased by 9% to EUR 14 695.

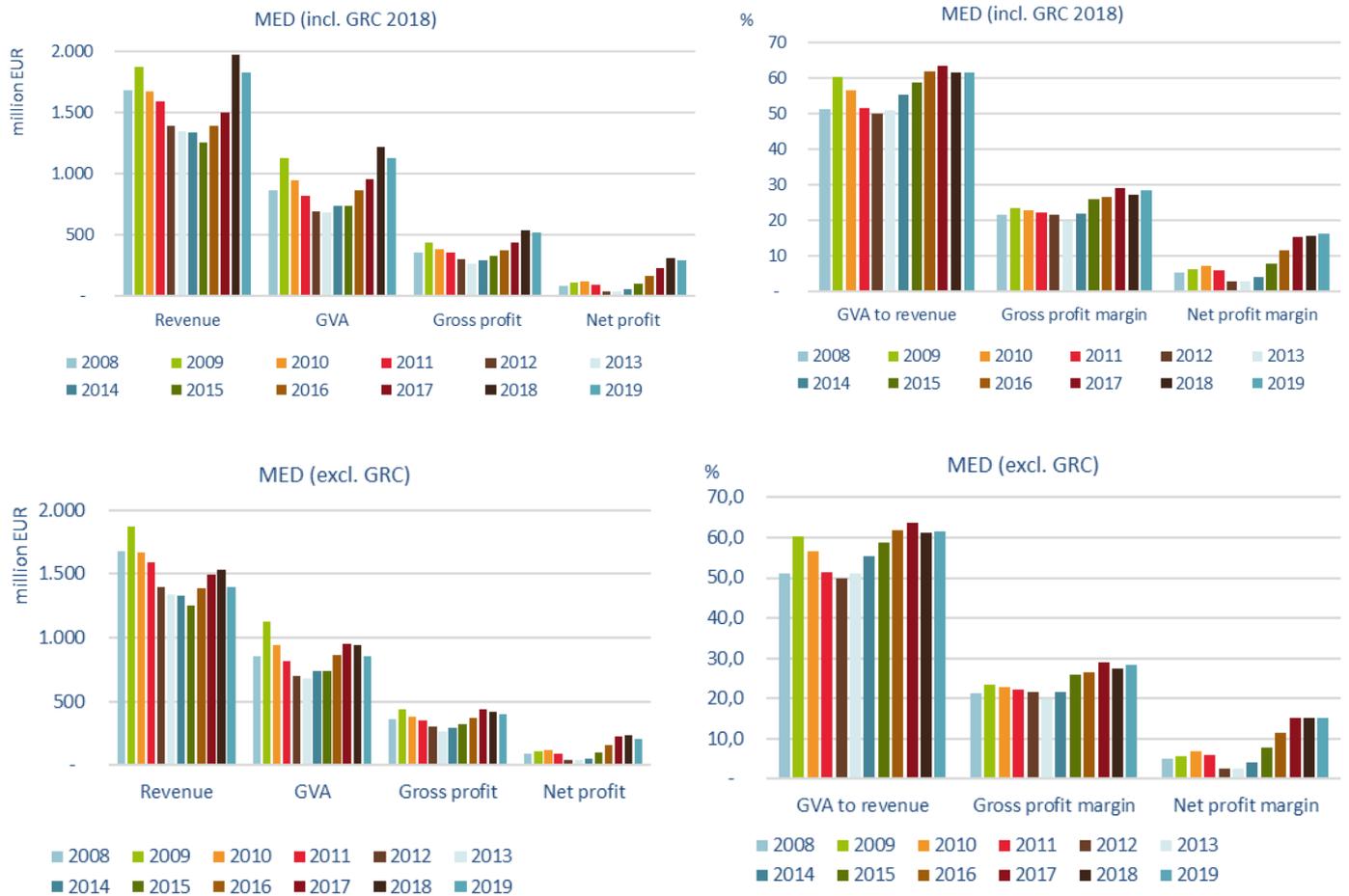


**Figure 3.68 Trends on average wage and labour productivity by fishing activity for MS fleets operating in the MED**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Including and excluding GRC in 2018. And in 2019

## Economic performance

In 2019, after several years of continued improvement since 2015, the Mediterranean fleet (excluding Greece) reached a point of stagnation with respect to economic performance indicators analysed. The revenue was estimated at EUR 1.82 billion, including Greece, decreasing by 8% compared to 2018. GVA produced by the fleets amounted to EUR 1.12 billion. GVA decreased by 7% compared to 2018. The Mediterranean fleets made almost EUR 520 million in gross profit, a decrease of 3% compared to 2018. Finally, net profit was EUR 292 million (decreased by 5% compared to 2018). In addition, GVA to revenue as well as gross and net profit margin pursued a relatively stable trend in period 2018-2019 (Figure 3.69).



**Figure 3.69 Trends on revenue, profits and profit margins for MS fleets operating in the MED**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Including and excluding GRC in 2018 and 2019.

## Trends by Member State fleet

### Fleet capacity and employment

The Mediterranean fishing fleet numbered 33 452 active vessels. The SSCF comprised 26 509 vessels (79% of the regional fleet). Among them, 32% belonged to the Greek fleet. Total employment, including Greece, was estimated at 62 357 jobs (39% belonging to the Italian fleet), corresponding to 43 909 FTEs (Figure 3.70) in 2019.

Trends on the number of vessels have remained relatively stable, increasing in 2012 with the entry of the Croatian fleet. The decrease in 2015 was mainly due to a misreporting in the number of Spanish vessels. Number of vessels and engaged crew have decreased in 2019 by 4% and 6%, respectively, compared to previous year, mostly due to a decrease in the Greek and Italian fleets.

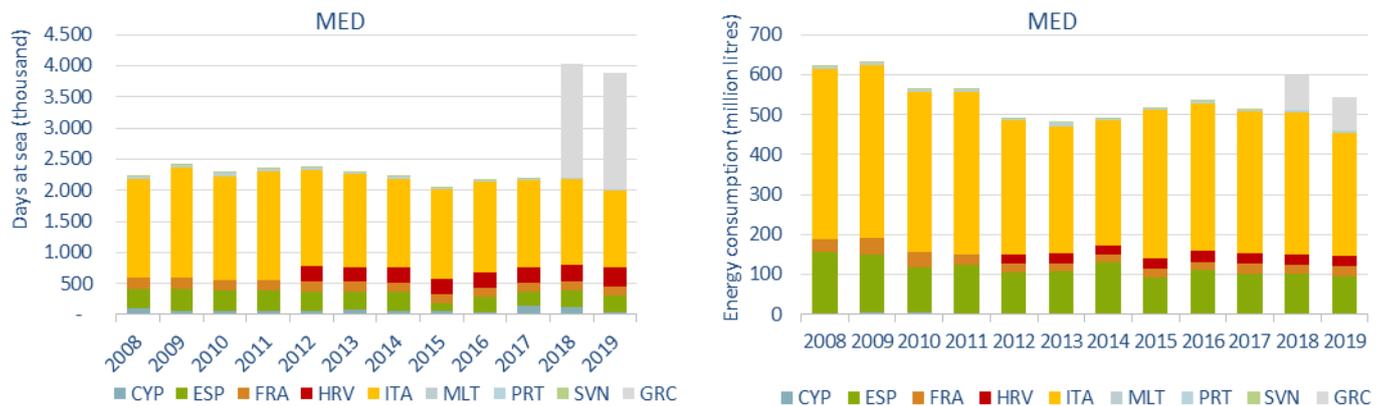


**Figure 3.70 Trends on the number of vessels and employment (in FTE) for the MS fleets operating in the MED**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)). Includes Greece in 2018 and 2019.

## Fishing effort

The Mediterranean fleet (including Greece) spent 3.9 million days-at-sea in 2019. The Greek fleet accounted for about 48% of the number of days, followed by Italy and Croatia (together around 40% of the overall activity) (Figure 3.71). The SSCF accounted for 77% of the days-at-sea.



**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 2021 Fleet Economic data call (MARE/A3/AC(2021)). Includes Greece in 2018 and 2019.

Energy consumption in 2019 (459 million litres) decreased by 10% compared to 2018 (-19% compared to 2010), mostly due to a 13% decrease of energy consumption in the Italian fleet.

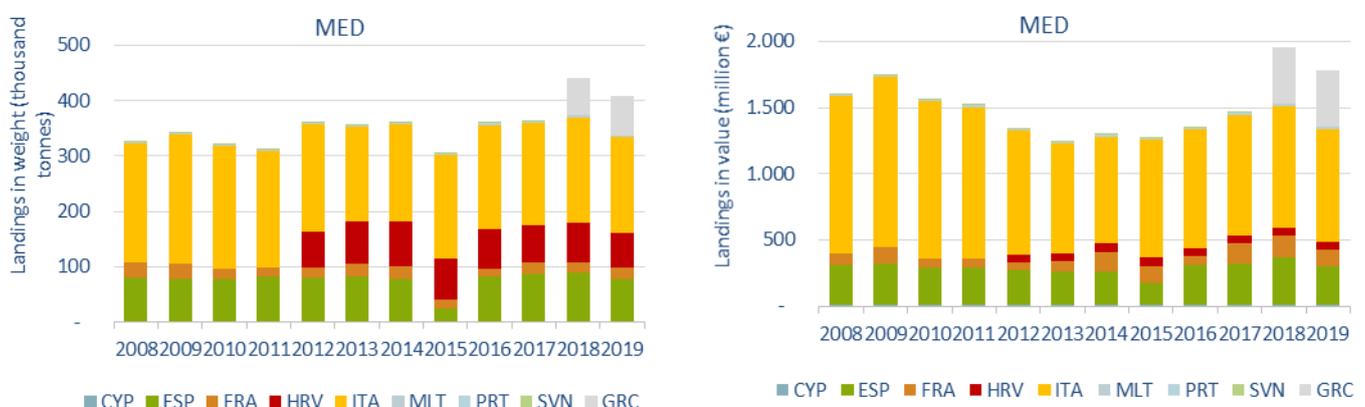
When including data energy consumption for Greece (available from 2014 onwards only), the energy consumed by the regional fleet amounted to over 544 million litres in 2019, a 9% decrease compared to 2018 (Figure 3.95). In 2019, Italy had the highest energy consumption in the region (57%), followed by Spain and Greece, with 17% and 16% energy consumption, respectively. Effort (in days-at-sea) deployed in the region followed a general decreasing trend, a slight increase between 2013 and 2016 and stabilising somewhat in period between 2016 and 2018 (Figure 3.89).

## Landings and top species

The weight and value of landings generated by the regional fleet (including Greece) in 2019 amounted to approximately 408 332 tonnes (-7% compared to 2018) and EUR 1.78 billion (-9% compared to 2018), respectively.

Regarding landed weight, Italy (174 012 tonnes), Spain (75 393 tonnes), Greece (70 990 tonnes) and Croatia (63 350 tonnes) were the leading countries, together accounting for 94% of the total weight and almost 92% of the value of landings from the EU Mediterranean basin.

The Croatian fleet landed 16% of the seafood in weight but only generated 3% of the value, indicating the predominance of low valued species composition of the catch (i.e. small pelagic species). The Italian fleet landed 43% of the weight and generated 48% of the value (Figure 3.72).



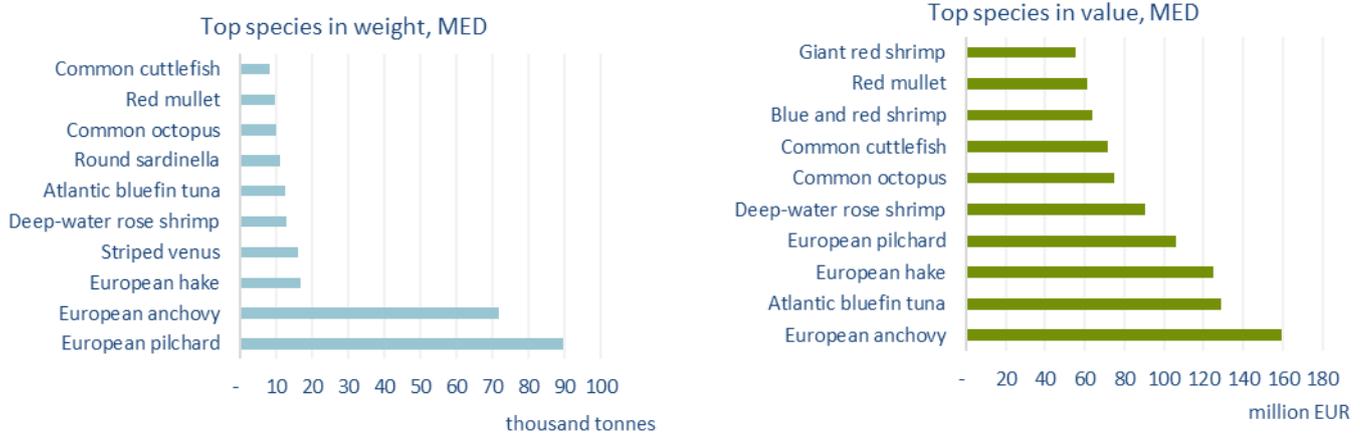
**Figure 3.72. Trends on landings in weight and value by MS fleets operating in the MED**

Includes GRC in 2018.

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece in 2018 and 2019.

In 2019, the main species (by weight) were pilchard (sardine, 89 788 tonnes), followed by European anchovy (71 752 tonnes), European hake (16 578 tonnes), striped Venus (15 953 tonnes) and deep-water rose shrimp (12 880 tonnes).

By value, the most landed species were anchovy (EUR 159 million), bluefin tuna (EUR 129 million), hake (EUR 125 million), sardine (EUR 106 million), deep-water rose shrimp (EUR 90 million) and common octopus (EUR 75 million) (Figure 3.73).



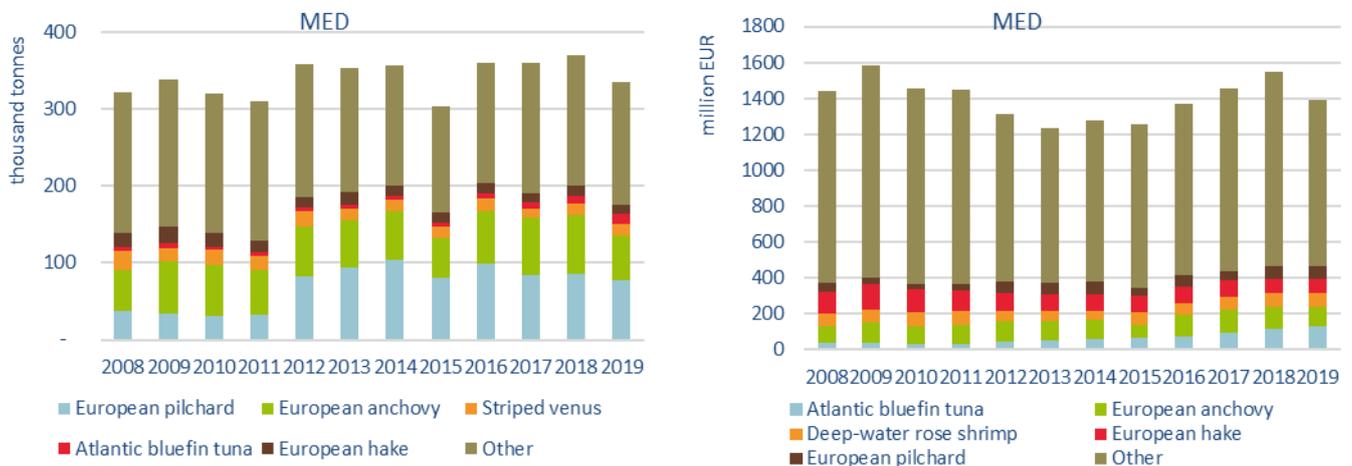
**Figure 3.73. Top 10 species in landed weight and value for MS fleets operating in the MED, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece.

Landings of small pelagic species have increased in the last decade, however in 2019 landings of sardine and anchovy decreased 17% in weight and 6% in value compared to previous year. Considering 2016, when landings of small pelagic species were the highest since 2012 (excluding Greece), anchovy landings decreased 17% in weight and 3% in value, and although sardine landings decreased 21% in weight, the landing value has increased 8%. After an increase in 2018, landings of deep water-rose shrimp decreased substantially (-10% in weight compared to previous year), however value has increased 3%. Landings of striped Venus increased as well (14% in weight and 23% in value).

Prices for sardines and anchovies show high variability between countries. In Croatia in 2019 the average price was and 0.4 EUR/kg for sardine and 0.9 EUR/kg for anchovies, while in Italy it was and 1.3 EUR/kg and 2.2 EUR/kg, respectively. The respective markets partly explain these price differences in each country; in Croatia, small pelagic species are used by the processing, salting, and marinating industries, as well as for fish feed for bluefin tuna farms, while in Italy, fish are sold fresh for local consumption and in minor quantities for export (mainly for processing in Spain).

In 2019 there was a very large increase also for the overall landings of bluefin tuna (10% in weight and value compared to 2018), mostly due to the increase in the overall Mediterranean quota – details in the section on management measures, quota and TAC.



**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 2020 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Excludes Greece

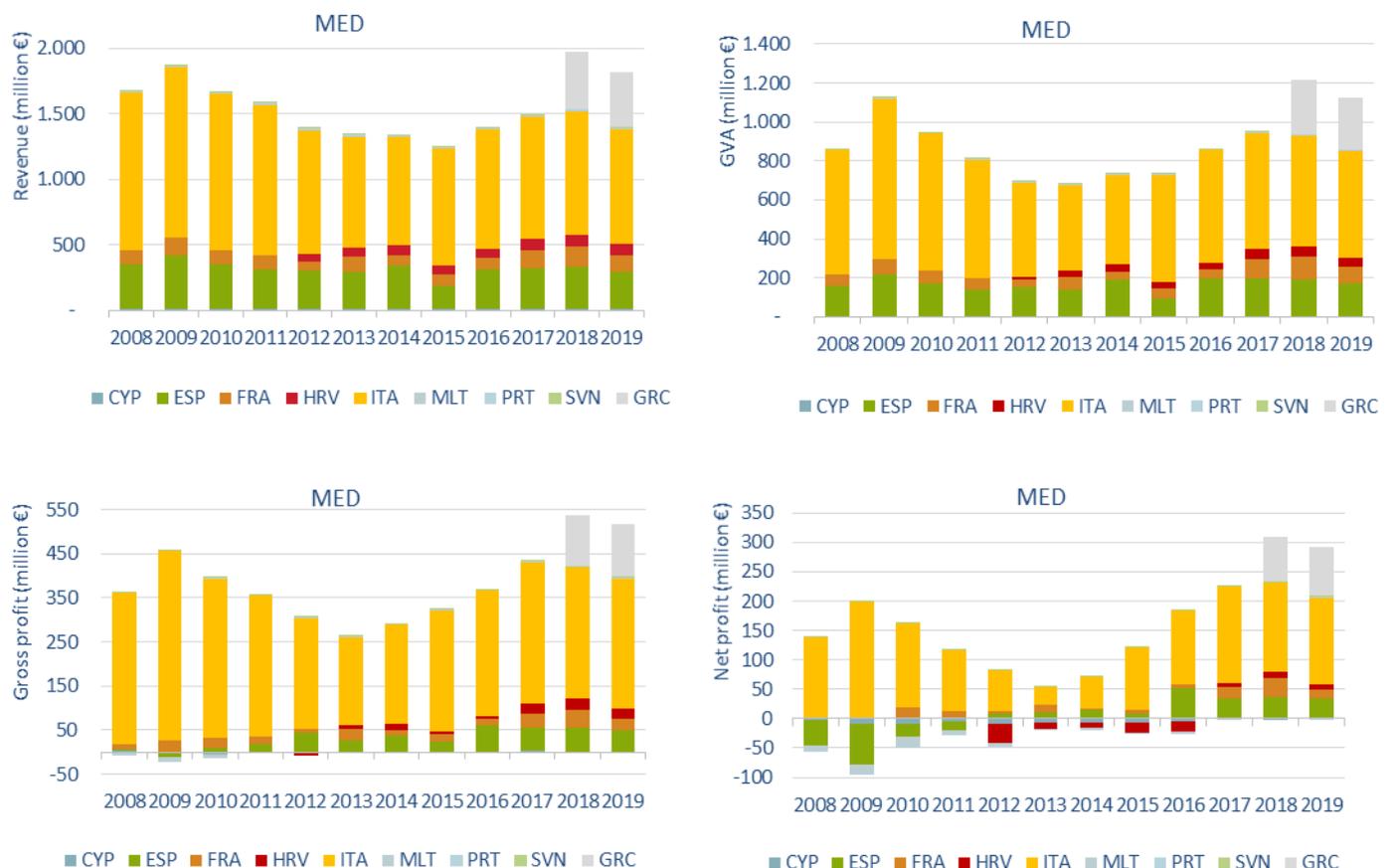
## Economic performance

The revenue (income from landings and other income) generated by the Mediterranean fleet in 2019 was over EUR 1.8 billion, 99% of which was provided by five Member States: Italy (EUR 876 million), Greece (EUR 425 million), Spain (EUR 281 million), France (EUR 131 million) and Croatia (EUR 85 million) (Figure 3.75).

Revenue decreased in 2019 by 9% compared to 2018, only in Cyprus and Slovenia revenues increased compared to the previous year, while the other Member States have seen their revenues decrease. Italy has had a decrease of 7%, Spain 12%, France 12% and Greece 3% (four Member States contributing to 98% of loss in revenue in the region).

GVA produced by Mediterranean fleet covered in the analysis was over EUR 1.1 billion in 2019, a decrease of 7% compared to 2018. The largest decrease in GVA was recorded in Portugal (-59%), followed by France (-28%) and Spain (-12%). The fleets operating in the region made almost EUR 519 million in gross profit, an estimated 3% decrease compared to 2018.

The Mediterranean fleet generated net profits in 2019 of about EUR 292 million with a deterioration of 5% compared to 2018. All Member States reported net profits in 2019, with the exception of Cyprus and Portugal.



**Figure 3.75. Trends on revenue and profits for MS fleets operating in the MED**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece in 2018 and 2019.

## Main factors affecting the performance of the fleet

In 2019, the regional fishing fleet's economic performance worsened with decreased gross profit and net profit even if variation across Member States can be observed (Greece, Cyprus, Malta and Slovenia showed an improving pattern in the net profit over the period). The overall negative trend was mainly driven by the Italian, French and Spanish fleet.

Factors that may have negatively affected the fleet performance in the region are:

- Stock status: Mediterranean fisheries are highly multi-specific (mixed) and many of the stocks under assessment are reported as overexploited. According to the STECF, only very few demersal stocks are currently being sustainable exploited, even if the recent trend shows some little improvements both in biomass and in the ratio F/FMSY for some stocks and in some GSAs.

- 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, based on the most recent data (FAO, 2021), an increase in effort and capacity of non-EU fleets is likely to still occur in some areas.
- SSCF is losing social and economic importance at local level: in 2019, the number of active vessels decrease by 6% compared to 2018 and this led to a job loss of about 4 000 fishers in one year. SSCF contribute to environmental sustainability by using fishing gears with a low impact on the marine environment and stocks, and to social sustainability through a short value chain and by selling fresh products that includes local species that are becoming less and less familiar to consumers; factors such as the high average age of fishers, the difficulty in attracting the younger generations, the poor working conditions and low wages severely affected the SSCF fishery in the region. Inefficient SSCF vessels with poor economic performance, exit from the sector or stay inactive. This option gives room for the remaining vessels to improve their economic sustainability.
- Energy efficiency is not improved in the region; this is due to a low level of investment in new fishing gear and equipment with lower environmental impact.
- New management measures, in particular the introduction of fishing effort regime for demersal fisheries in Western Mediterranean and Adriatic Sea that have been introduced to reach the MSY targets for the Mediterranean fish stocks.
- Annual wages and salaries decreased; the reduction can be linked to the negative trend in revenues as, in most countries, labour costs are directly related to revenues and variable costs as the traditional based income sharing system between the ship-owner and the crew is the most prevalent.

Factors that may have contributed to an improved situation include:

- Moderate decrease in fuel prices resulting in slightly lower energy costs, especially for pelagic fisheries and trawlers.
- Increase of the EU quota for bluefin tuna: this impacted positively the profitability of purse seiners and longliners involved in tuna fisheries. In 2019, in terms of value, bluefin tuna was the second most important species in the region (increase of 10% in value of bluefin tuna landings in 2019).
- High average prices: in particular, the SSCF sold at higher prices compared to the LSF thanks to shorter fish supply chain, direct sales to end consumers and to restaurants. In 2019, an increasing trend in prices has been registered for small pelagic species (anchovies and pilchards) and giant red shrimps. For the first, the role of Producer Organizations has improved in recent years, with the adoption of initiatives aimed at improving product quality and a better control of the supply. For the giant red shrimps, the introduction of innovative market strategies, including the implementation of labelling and certification schemes helped the demersal trawlers to add value to the fishery product.

In 2020, the COVID-19 affects both SSCF and LSF, even if the economic impact on fisheries is heterogeneous in the region. Numerous measures across the region were taken to mitigate the effects of the crisis on the fisheries sector (e.g. ensuring the continuity of food supply, expanding home delivery and direct sales and supporting national and local production through consumer awareness campaigns), complemented with enhanced investment in the fisheries sector (GFCM, 2020).

## Regulation and fisheries management in the region

The management of Mediterranean fisheries is based on technical measures that control fishing effort by limiting the capacity and the activity of the fleet. In the last years, significant advances have been made in terms of managing fisheries resources, with the adoption of several multiannual management plans.

The GFCM adopted recommendation GFCM/42/2018/8 on further emergency measures in 2019-2021 for small pelagic stocks and recommendation GFCM/43/2019/5 on a multiannual management plan for sustainable demersal fisheries in the Adriatic Sea. The first one established catch and effort limits for small pelagic stocks, the second one fishing effort regime for certain demersal stocks. These measures were implemented in Council Regulation (EU) 2019/2236.

Additional measures of reductions of the fishing effort have been introduced with the Western Mediterranean MAP; this plan lays down a 10% reduction in fishing effort (annual fishing days) the first

year of implementation (2020) in relation to the reference period (2015-2017) and up to a further reduction of an additional 30% until 2025. In addition to that, the reduction of fishing days must be complemented with temporal and permanent closures with the aim of protecting juveniles of hake and in general all the species affected by the plan. Any other measures as selectivity improvements could be approved. The combination of all these measures is expected to contribute significantly to the sustainability of Mediterranean Fisheries and to reach the objective of achieving MSY in 2025.

Important steps have been taken towards the spatial management of fisheries resources, through the introductions of FRAs (fisheries restricted areas); to date, nine FRAs have been established by the GFCM; 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 in the integration of the views of fishers and stakeholders in the implementation of spatial protection measures. The initial scientific evidence (FAO, 2021) showed higher abundance and densities of the main commercial species (e.g. European hake, Norway lobster, and deep-water rose shrimp) inside the FRA. Moreover, in general in GSA 17 (northern Adriatic Sea), the overall perception, including of fishers, is that the FRA is contributing to the recovery of the stocks (FAO, 2021).

### Status of important stocks

The Mediterranean is facing significant challenges in terms of resources' sustainability. In recent years, there has been a decrease in the percentage of stocks in overexploitation, as well as in the average exploitation ratio, which has decreased from 2.9 to 2.4 times the maximum sustainable yield fishing mortality over the same period (FAO, 2021). For priority species, a decrease in the exploitation ratio is registered for a number of species, such as European hake and common sole, while others, such as blue and red shrimp, Norway lobster and sardine, have shown an increase in exploitation ratios (FAO, 2021).

These trends should be related to increased management measures implemented in the Mediterranean Sea in recent years, particularly through the adoption of management plans.

Notwithstanding, the stock assessments in the Adriatic, Ionian and Aegean Seas indicate that most species are being significantly overfished (six out of the twelve species/areas combinations); in the Western Mediterranean Sea, the stocks assessments indicate that 13 out of the 19 stocks are being significantly overfished, five are being fished close to  $F_{MSY}$  and one is under-exploited (STECF-20-15 and STECF-20-09).

### 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 set at 17 536 tonnes in 2019 (121% increase compared to 2014 EU quota) and at 19 360 tonnes in 2020. Purse seiners and long lines are widely used to catch large-pelagic fish under the ICCAT jurisdiction. Large-scale purse seiners are dedicated only to this fishery, while longlines target both pelagic and demersal fish; in most cases they are artisanal boats with a LOA lower than 18 metres. All catch of bluefin tuna in purse seine fisheries is transferred to farming cages.

A 15-year recovery plan was implemented for swordfish in 2017. A TAC of 6 966 tonnes for swordfish for the year 2019 was identified. 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 (9.20 EUR/kg) remains quite stable in the last 3 years.

The pelagic fleet segments operating in the Adriatic Sea have to respect a catch limit for anchovy and sardines (set at 107 065 tonnes in 2019). Small pelagic species are the main resources of the Adriatic Sea, accounting for a large part of the total catches and revenue. In the eastern part fishing by Croatian vessels has been directed mostly at sardines, while anchovies are mainly landed by Italian pelagic fleet. The fleets involved totalled 310 vessels. Two kind of fishing gears are currently used to catch the small pelagic species in the Adriatic Sea: purse seiners and mid-water pelagic trawl. In Croatia and Slovenia, small pelagic are fished by purse seiners; the most used by the Adriatic Italian fleet is the mid-water pelagic trawl net towed by two vessels, mostly operated in the northern and central area. As the current fisheries for small pelagic species in the Adriatic are highly dependent on only two species (sardine and anchovy) they are consequently highly sensitive to management measures imposed on these stocks.

## Landing obligation

The landing obligation came into force gradually, starting in 2015, with full implementation since January 2019. In the case of Mediterranean Sea all species with a MCRS (minimum conservation reference size) according to part A of annex IX of Regulation 2019/1241, will be subject to this LO. There have not been major consequences of the landing obligation regulation for fishers so far. High survivability and *de minimis* exemptions for various single species and for some groups of species provided for a derogation to the landing obligation; derogations are in force until the end of 2020 for small-pelagic species and until the end of 2021 for demersal species.

Several ongoing projects in the region are aimed at providing more knowledge on selectivity, gear technology and fleet behaviour in relation to the stocks status and fleet economic performance with the aim to minimize discard rates through innovative technologies and fishing practices.

The H2020 projects DiscardLess and MINOUW, as well as IMPEMED, provide best-practice case studies on measures to avoid discarding through technological changes but also highlighted the main problems in implementing the LO encountered by fishers; among these: the inappropriate logistics and storage facilities at the landing points, logistic difficulties on board for the storage of discards and lack of interest of industrial companies in the processing of small and disperse quantities of discards that will produce a disproportionate cost for the management of catches subject to landing obligation.

MedBLand project (Synthesis of the Landing Obligation Measures and Discard Rates for the Mediterranean and the Black Sea) is aimed at improving understanding of the implementation of the landing obligation by mapping, assessing and evaluating the management measures and their impact on the development of the discard rates.

## Description of relevant fisheries in the region

### Small-scale coastal fleet

The SSCF in the Mediterranean represents 79.2% of the total fleet by the number of vessels and 56.6% of the employment (51.3% of the FTE). In 2019, there were 26 509 small-scale vessels (Greece 32%, Italy 20%, and Croatia 16%) with a combined gross tonnage of 52 841 GT and total power of 703 752 kW, active in the region.

Although over 76.8% of the effort (fishing days) was deployed by the SSCF, these vessels landed only 14.6% by weight and 25.5% by value. SSCFs are important from a social point of view. In 2019, 35 270 fishers were directly employed in the Mediterranean SSCF, corresponding to 22 543 FTEs. The majority of them are family-based enterprises. Two Member States represented major employers: Greece with 12 595 FTEs and Italy with 6 119 FTEs. Also, in some Member States (e.g., Greece and Cyprus), women play a crucial role in many SSCFs, often through unpaid labour. The SSCF in the Mediterranean follows a decreasing trend in terms of active vessels and employment.

The SSCF in the Mediterranean involves a significant number of fishing techniques (static nets like trammel nets, gillnets, set longlines, pots, and traps) targeting a variety of species, including common octopus (mainly Italy, Croatia, Greece, Spain, France, and Malta), European hake (mostly Italy, Croatia, Spain, and France), gilthead seabream (mainly France, Italy, Greece, Spain, and Croatia), red mullet (mainly Italy, Spain, France, Greece, and Croatia) and surmullet (mainly Cyprus, Greece, Italy, France, Malta, and Spain). Other target species include common cuttlefish (mostly Italy, Croatia, Greece, and Spain) and common sole (mainly Croatia and Slovenia).

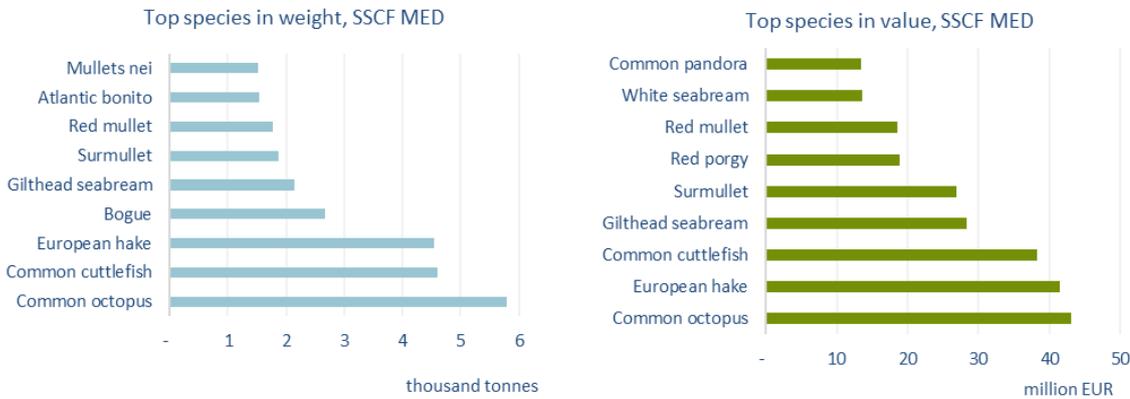
The higher value achieved by the SSCF (compared to the LSF) appears to reflect higher prices linked to differences in quality, freshness, product size, and the use of different marketing channels. The SSCF generally operates through very short supply-chains.

In 2019, SSCF vessels generated the 14.6% of landed weight and 25.5% of the landed value. The total weight landed by the SSCF was 493 million tonnes. The weight of landings had a decreasing trend for many of the top species in 2019, like changeable nassa (-21%), gilthead seabream (-18%), surmullet (-13%) in compared to 2018 with the exemption of octopus (+25%), sword fish (+26%), European hake (+10%) and common sole (+9). The value of landings has also faced a decreasing trend, but some had an increased value like octopus, common spiny lobster, and common sole (+20% respectively) while others went down like gilthead seabream (-38%) surmullet (-15%, and European hake (-10%) (Figure 3.100).

The Mediterranean SSCF generated 27.1% of the revenue (EUR 493 million) in 2019. GVA was around EUR 331 million (29.5% of the region), gross profit EUR 113 million (22% of the region) and net profit EUR 57 million. Labour productivity (GVA per FTE) was EUR 14 695, presenting a slight increase (8%)

compared to 2018. GVA to revenue reached 67%, gross profit margin (23.1%) and net profit margin (11.6%) improved in 2019 compared to 2018.

Overall, the economic performance of the SSCF had a positive net profit margin but follows a decreasing trend. The Italian SSCF generated the highest net profit at EUR 30 966 unless the deteriorated performance faced during the last years. Greece reported an improvement with a positive net profit margin. Cyprus reported weak net profits, but the economic performance has a slightly improvement compared to 2018. Only Malta reported gross and net losses but at a lower level than in 2018.



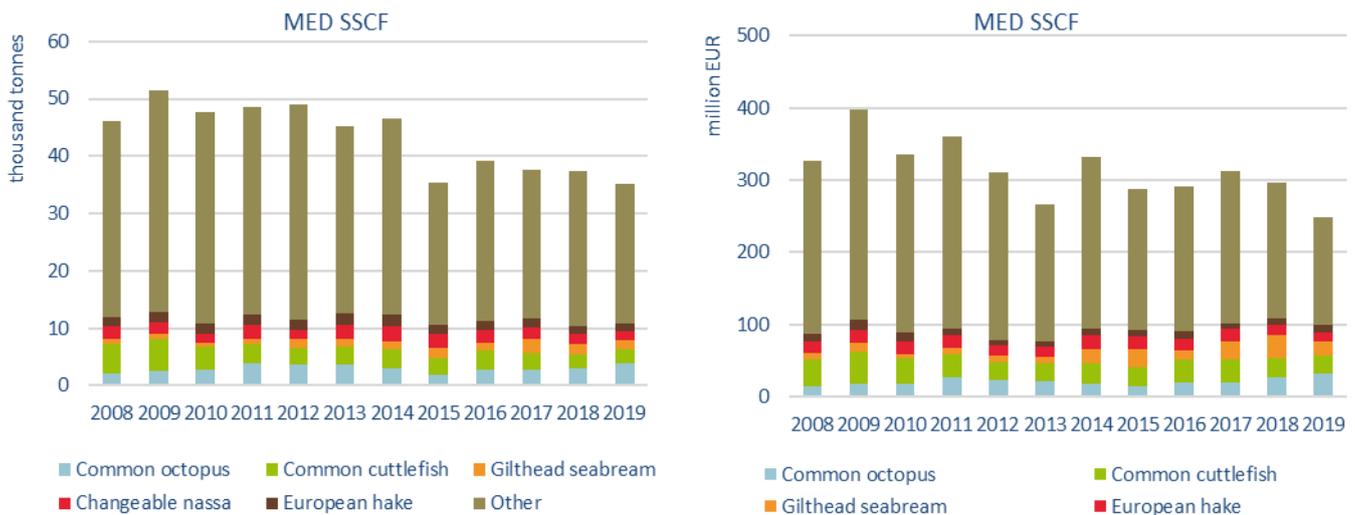
**Figure 3.76 Top 10 species landed by SSCF, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Includes Greece

Higher average prices mainly drove the higher value of landings due to the use of other market channels like short supply chains or new attractive ways to contact consumers (e.g. the use of an interactive website connected with mobile technologies to inform consumers in real-time of the direct sales possibilities in their local area).

Among problems that negatively still affect the economic performance of small-scale fishers, there are:

- Competition with an increasing number of recreational fishers, who usually fish in coastal areas and sometimes illegally sell their catch at low prices.
- The conflict between the small-scale and large-scale fleets.
- Older age profile, if compared with LSF employment: there is a low generational change because small-scale fisheries, being less rewarding than large-scale ones, are less attractive.



**Figure 3.77 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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Excludes Greece

### Large-scale fleet

In 2019, the LSF fishing in the Mediterranean (including Greece) consisted of 6 945 vessels (21% of the overall Mediterranean fleet) split into 74 segments, with a total tonnage of 258 769 GT and engine

power of 1 235 million kW, representing 83% and 64%, respectively. Italy, Spain, Croatia and Greece have the most important fleets in terms of the number of vessels, total tonnage and engine power.

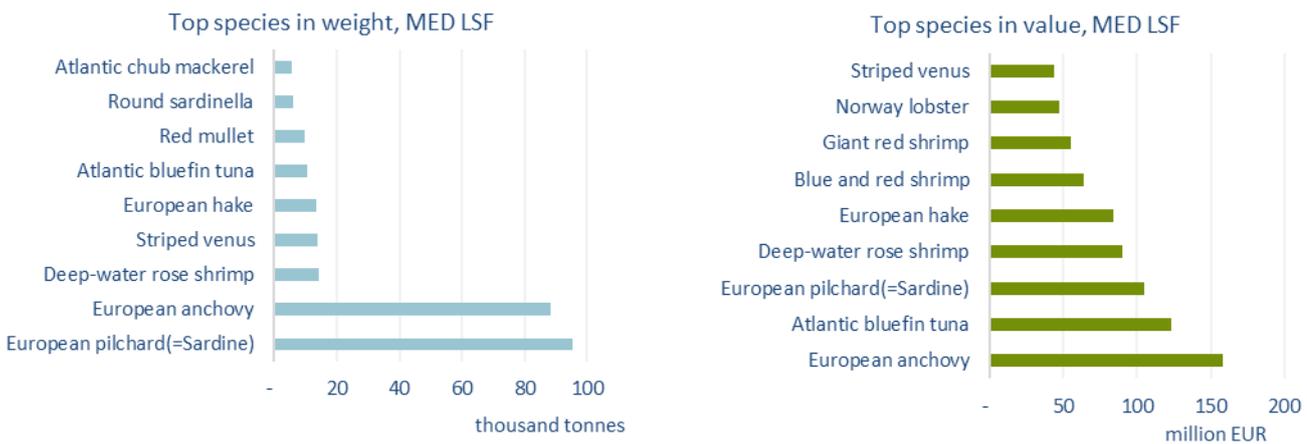
Italy, Spain, Croatia, and Greece had the largest number of active vessels in the region with numbers of 3 991, 1 002, 88, and 816 active vessels, respectively. Between 2017 and 2018, the number of vessels slightly increased by 1.8%.

LSF vessels generated, by far, the highest landed weight (85% of the total) and 74% of the landed value. The total weight landed by the LSF was 348 535 tonnes (-8% compared to 2018). With an estimated revenue of EUR 1.33 billion, these fleets recorded almost EUR 793 million in GVA and a gross profit of EUR 405 million. In addition, GVA to revenue and GVA per FTE reached 60% and EUR 37 138, respectively. In 2019, LSF registered a decline in all the economic performance indicators; GVA decreased by 6% and gross profit by 5%.

The main fleet segments in terms of the number of employees were the Italian demersal trawlers from 12 to 18 metres and from 18 to 24 metres and the Spanish demersal trawlers from 18 to 24 metres. These three segments represent 31% of the overall LSF-FTEs.

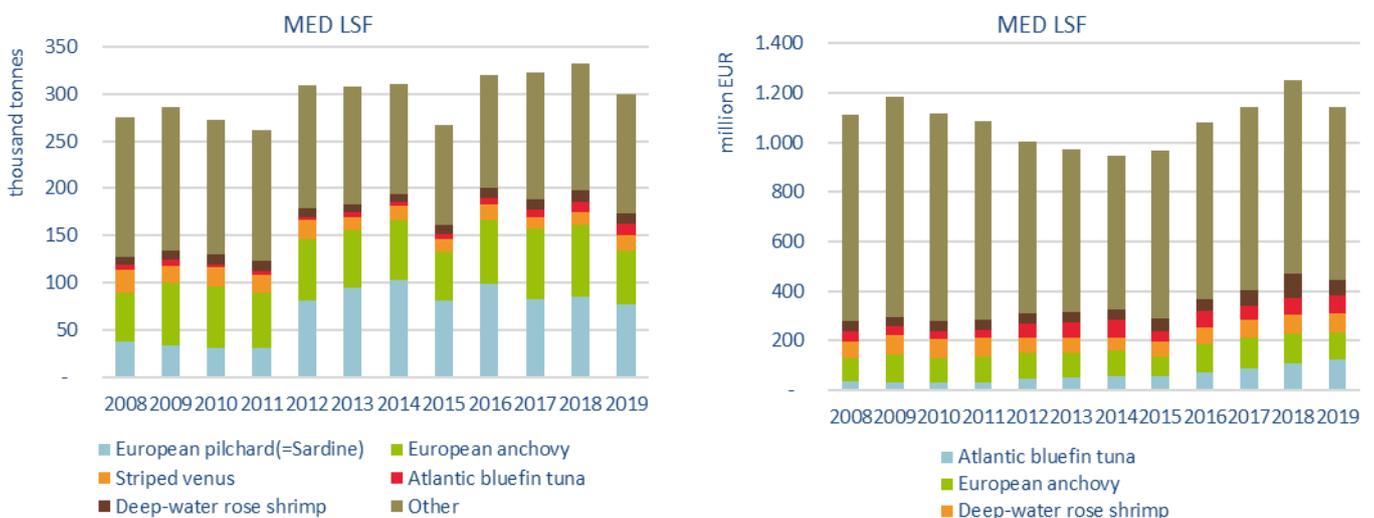
Small pelagic species accounted for 49% of the weight of the total landing of the area and 18% of landings value in 2019. In particular, these species are the main fisheries resources of the Adriatic Sea, accounting for bulk of the total catch. In the eastern part, Croatian vessels mainly target sardines, while anchovies are mainly landed by the Italian pelagic fleet.

The Mediterranean LSF is also heavily dependent on some demersal species such as the European hake, blue and red shrimps, deep-water rose shrimp, and giant red shrimp, combined accounted for 20% of total landings value in 2019. In addition, Atlantic bluefin tuna represented 9% of total landings value (Figure 3.78).



**Figure 3.78 Top 10 species landed by MS LSF operating in the MED, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). 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 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Excludes Greece

## Performance by fleet segment

Demersal Trawlers and purse seiners segments are the most important Mediterranean fleet segments in terms of economic performance. They include 44 segments out of the 129 active ones in the region, represented 13.5% of the number of vessels; covered 17% of the effort deployed (in days-at-sea); 32% of jobs; 74% of energy consumption; generated 61% of the landing value (EUR 1.07 billion); 55% of the GVA (EUR 623 million); and 62% of the gross profit (EUR 321 million). Italy and Spain have the most important demersal trawlers and purse seiners fleet regarding the number of vessels, landing value, and GVA.

At the fleet segment level, the Italian demersal trawlers from 12 to 18 metres, with 3.5% of the number of vessels, generated the highest revenue, EUR 173 million, or 10% of the total from the Mediterranean region in 2019. The Italian demersal trawlers from 18 to 24 metres followed with 9% of the total revenue produced (EUR 159 million), followed by the Greek drift and/or fixed netters segment from 6 to 12 metres, with 7% of the revenue (EUR 125 million), and then by the Italian polyvalent/passive gear segment from 6 to 12 metres, with 6.6% of the revenue (EUR 120 million). The same fleet segments also generated the highest GVA, EUR 344 million combined, or 31% of the total GVA generated by the regional fleet.

In terms of GVA per vessel, purse seiners segments are in the five top, with more than EUR 0.8 million GVA per vessel, while the average of all Mediterranean segments is EUR 30 870. The Italian purse seiners over 40 metres produced the highest value, on average EUR 3.2 million per vessel and 65% GRP margin (targeting mainly bluefin tuna), followed by the Spanish purse seiners from 24 to 40 metres (EUR 0.933 million per vessel and 40% margin) and then by the Greek purse seiners from 24 to 40 metres (EUR 0.876 million per vessel and 67% GRP margin).

Conversely, 20 out of 129 segments with negative gross profit represented 22% of the number of vessels (7 303 vessels) and 14% of the number of jobs (8 707 jobs). Most of these vessels are included in segments of vessels using hooks and polyvalent passive gears (6 106 vessels).

## References

FAO (2021) - The State of Mediterranean and Black Sea Fisheries 2020. General Fisheries Commission for the Mediterranean. Rome. <https://doi.org/10.4060/cb2429en> Last updated 10/03/2021.

GFCM. 2020. Fisheries and aquaculture in the Mediterranean and the Black Sea: A preliminary analysis of the impacts of the COVID-19 crisis. Rome, FAO

Scientific, Technical and Economic Committee for Fisheries (STECF) Stock Assessments in the Mediterranean Sea – Adriatic, Ionian and Aegean Seas (STECF-20-15). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27168-0, doi:10.2760/877405, JRC122994.

Scientific, Technical and Economic Committee for Fisheries (STECF) – Stock Assessments: demersal stocks in the western Mediterranean Sea (STECF-20-09). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27165-9, doi:10.2760/286667, JRC122993

### 3.6 Black Sea

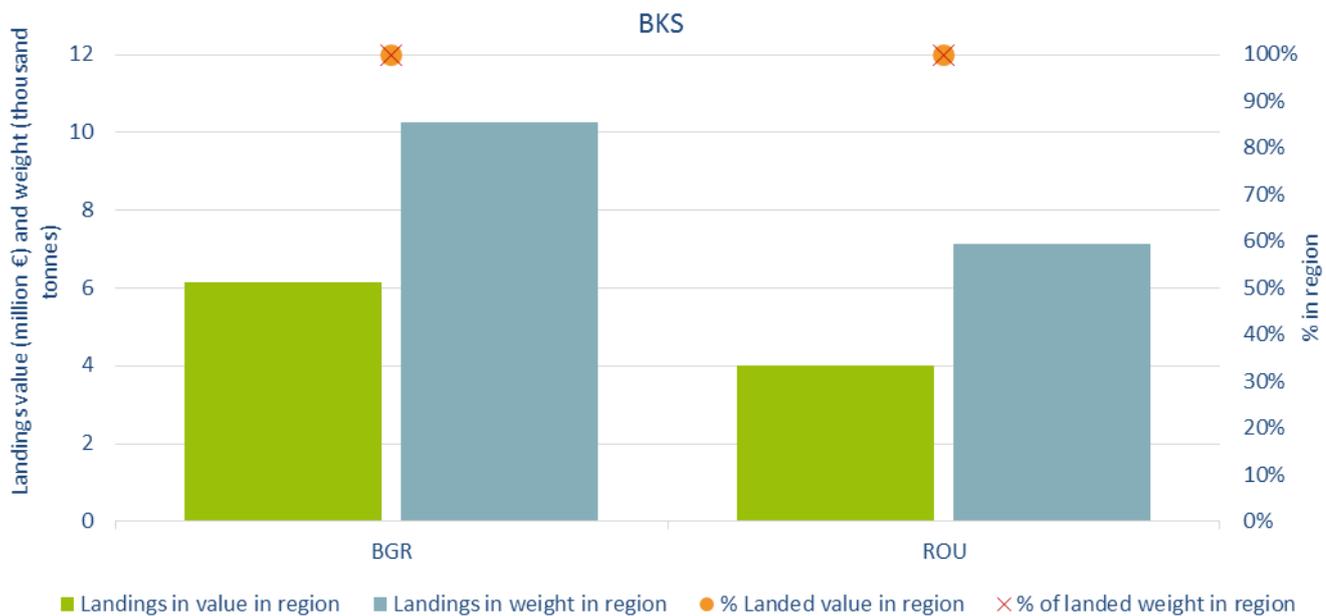
#### Regional Details

The Black Sea region covers FAO fishing area 37.4. Two Member States were involved in the Black Sea fisheries in 2019: 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 jurisdictional.

A comprehensive economic analysis, including both coastal Member States fishing fleets, was completed using data on the structure, activity and production for all vessels collected by Bulgaria and Romania. The data collection programme in place includes all economic and social variables.

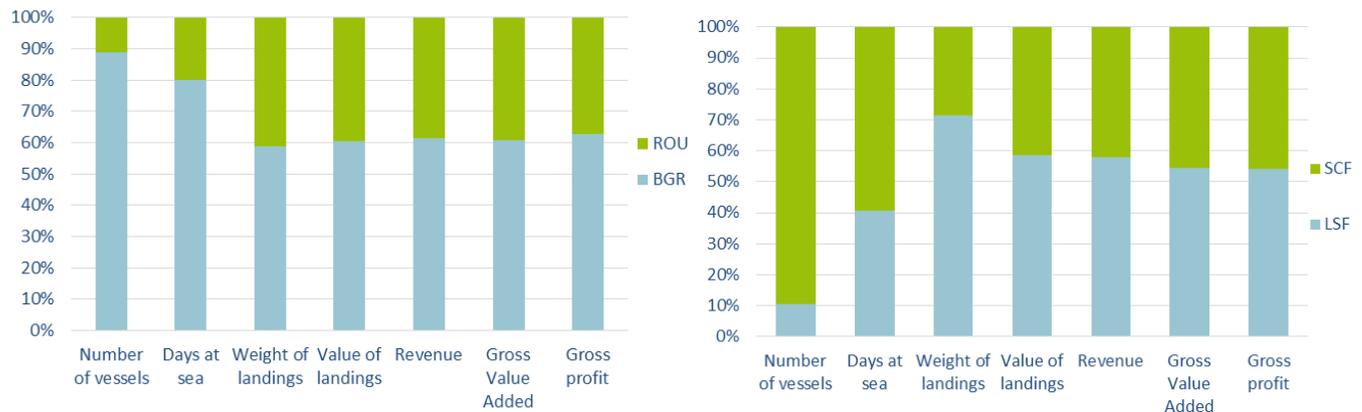
A trend analysis is provided for the period 2008-2019. Tables in the Annex 2 contain a summary of the economic performance of the Black Sea fleet by Member States, fishing activity and fleet segment, respectively.

There are two TAC species in the Black Sea: turbot and sprat. The quota for turbot is divided equally between Bulgaria and Romania. For sprat, Bulgarian and Romanian national quotas are set at 70% and 30% of the total EU quota, respectively.



**Figure 3.80 Importance of the Black Sea for MS fleets in terms of landings in weight and value, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.81 Share of MS and fishing activity in the Black Sea, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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

### Fishing effort and landings

Fishing effort in the Black Sea fleet decreased by 1.7% in 2019, in comparison with 2018. The increase in the number of days-at-sea during the period 2014-2016 corresponds to the gradually growing weight and value of the landings in the same years. While in 2019 landings in weight increased, the value of landings and the DaS decreased. (Figure 3.82).



**Figure 3.82 Trends on effort and landings for MS fleets operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment, wages and labour productivity

In 2019 the average wage per FTE in the SSCF fell by 50%, fluctuating between EUR 2 146 and EUR 1 067.

Wages for the LSF fell 3% in 2019 compared to 2018. The average wage in 2019 was EUR 4 542, -35% lower compared to the highest level seen in 2014. The values of the average wages in 2019 for both LSF and SSCF were the lowest for the whole period 2008-2019 (Figure 3.83).

Labour productivity (GVA/FTE) in the LSF segment was increasing gradually from 2014 to 2016, when it reached its' highest value around EUR 24 000, in 2017 it decreased significantly to EUR 11 600, increased to EUR 20 000 in 2018 and decreased again to EUR 17 700 in 2019. The situation for the SSCF is different from the LSF, labour productivity was stable in the period 2016-2018 fluctuating between EUR 8 000 and EUR 8 500 but decreased by 46% in 2019 reaching the lowest value for the indicator in the period 2008-2019 -EUR 4 400.



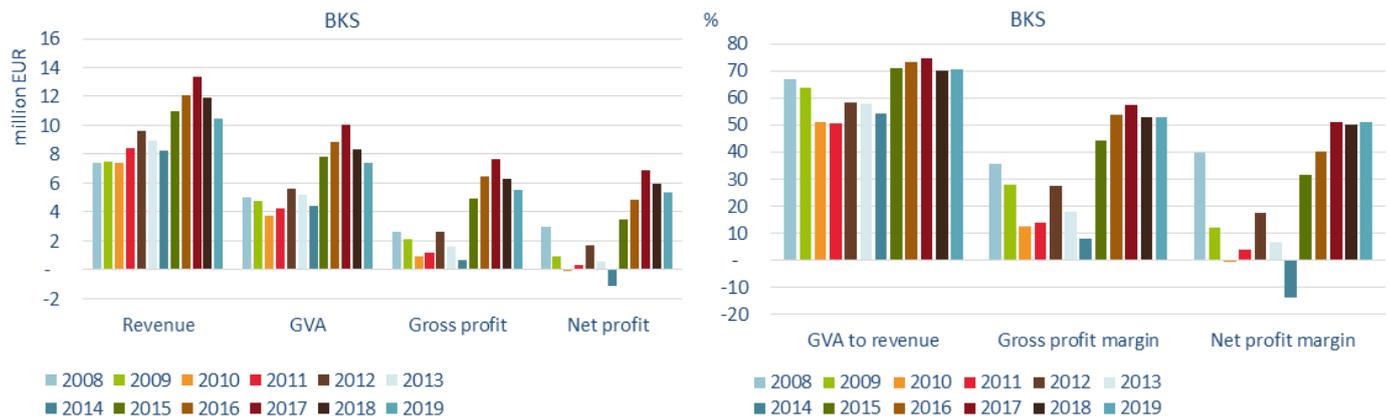
**Figure 3.83 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic performance

Revenue was estimated at EUR 10.5 million, decreasing by 12% compared to 2018 although 9% more than the average 2008-2019 period. GVA produced was EUR 7.4 million, representing an overall decrease of 11% compared to 2018 and 17% higher than the average for the period from 2008 to

2018. Gross profit was estimated to be EUR 5.5 million, a 12% increase compared to 2018 (Figure 3.84).



**Figure 3.84 Trends in revenue and profits for MS fleets operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Total employment in 2019 was estimated at 2 035 jobs, corresponding to 997 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 -0.68, compared to 1.71 in the LSF, due to the seasonal nature of the small-scale fishery and the lower effort. Note that more than 55% of the small vessels have less than 10 DaS for the whole year.

Trend in the number of vessels in the Black Sea has remained relatively stable. The lowest number of vessels was registered in 2008 and the highest in 2017. The 6% decrease in the number of vessels was due to the decrease in the Bulgarian vessels in 2019, while the number of vessels of Romania was almost the same in 2017, 2018 and 2019 – 135, 136 and 138 vessels, respectively. Despite the 6% decrease in the number of vessels in 2019, the days-at-sea for 2019 decreased by 1% only, this is continuation of the trend for increase of the days at sea in the region. (Figure 3.85). The total employment increased by 9% between 2018 and 2019, due to the increase of the number of total employees in the Bulgarian and Romanian SSCF and LSF. The increase in the FTE by 32% was a surprise, because of the decrease in the number of vessels and days-at-sea.



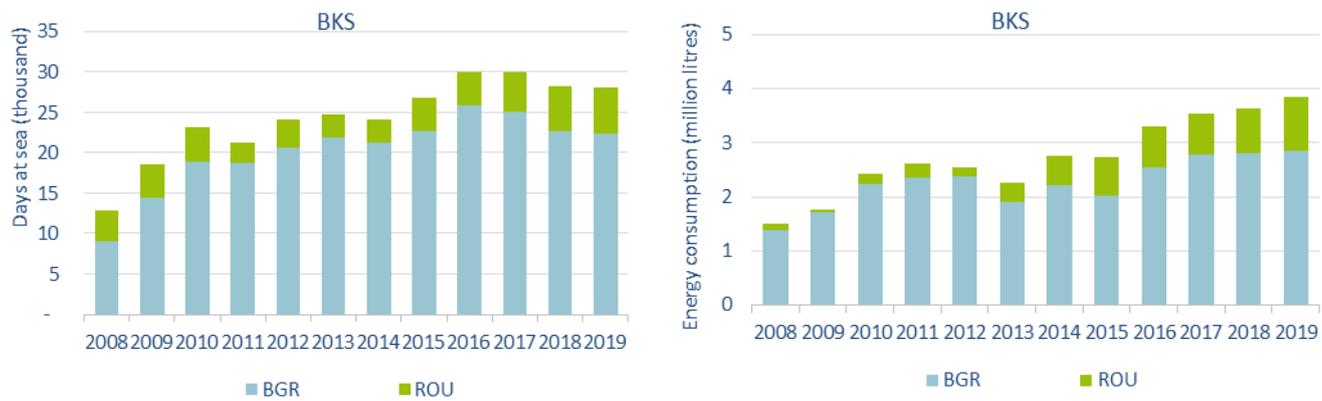
**Figure 3.85 Trends in the number of vessels and employment (in FTE) for the MS fleets operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021))

## Fishing effort

The EU Black Sea fleet spent 28 000 days-at-sea in 2019, which is a 1% decrease compared to 2018 but 14% more than the average for the period 2008-2018. The decrease in both countries is negligible - Bulgarian days decreased by 250 days compared to 2017, the days spent by the Romanian fleet decreased in 30 days. The Bulgarian fleet accounted for 80% of the days, while the Romanian contribution was 20%. (Figure 3.86).

While the number of days-at-sea was stable in the period from 2010 to 2014, there has been a gradual increase in 2015 and 2016. The consistent number of days-at-sea in 2016 and 2017 can be explained by the growing interest in harvesting sea snails. The decrease in 2018 and 2019 was mainly due to the reduction of the number of vessels in Bulgaria.



**Figure 3.86 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 2021 Fleet Economic data call (MARE/A3/AC(2021)).

### Landings and top species

The weight and value of landings generated by the Black Sea EU fleet in 2019 amounted to approximately 17 500 tonnes and EUR 10.18 million, respectively. In terms of landed weight, Bulgaria landed 10 300 tonnes and Romania 7 150 tonnes with the value of landings being EUR 6.16 million and EUR 4 million, respectively. The distribution of both the value and weight of landings, by country, is shown in Figure 3.87.

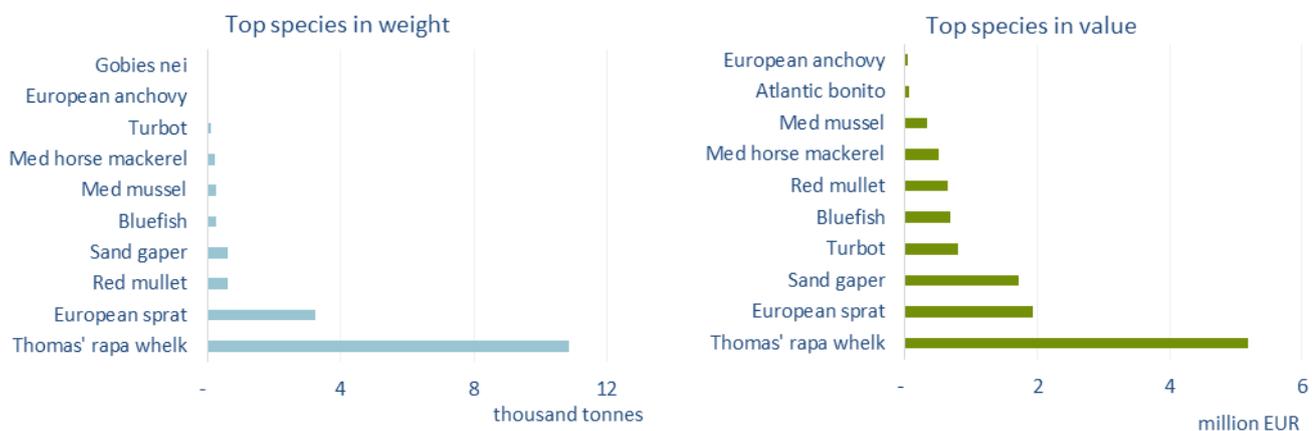
In 2019, LSF accounted for 72% of all landings by weight, equivalent to 59% of the landed value. Although over 59% of the effort was deployed by the SSCF, these vessels landed only 28% by weight and 41% by value. However, the SSCF is more important from a social point of view than the LSF, representing almost 82% of the total employment and 77% of FTEs.



**Figure 3.87 Trends on landings in weight and value by MS fleets operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

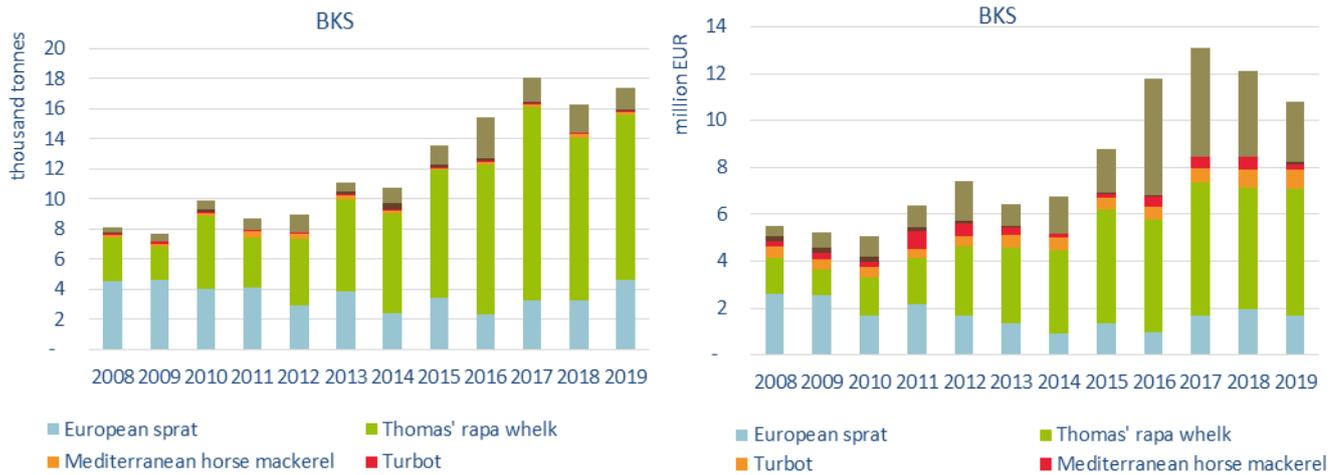
In 2019, the main species (by weight) were sea snails (11 050 tonnes), followed by European sprat (4 600 tonnes), red mullet (560 tonnes) and sand gaper (508 tonnes) (Figure 3.88).



**Figure 3.88 Top 10 species in landed weight and value for MS fleets operating in the BKS, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In value of landings, the most important species were sea snails (EUR 5.5 million), European sprat (EUR 1.7 million), sand gaper (EUR 1.5 million) and turbot (EUR 0.8 million) (Figure 3.89).



**Figure 3.89 Trends in landings of the top species in landed weight and value for MS fleets operating in the BKS**

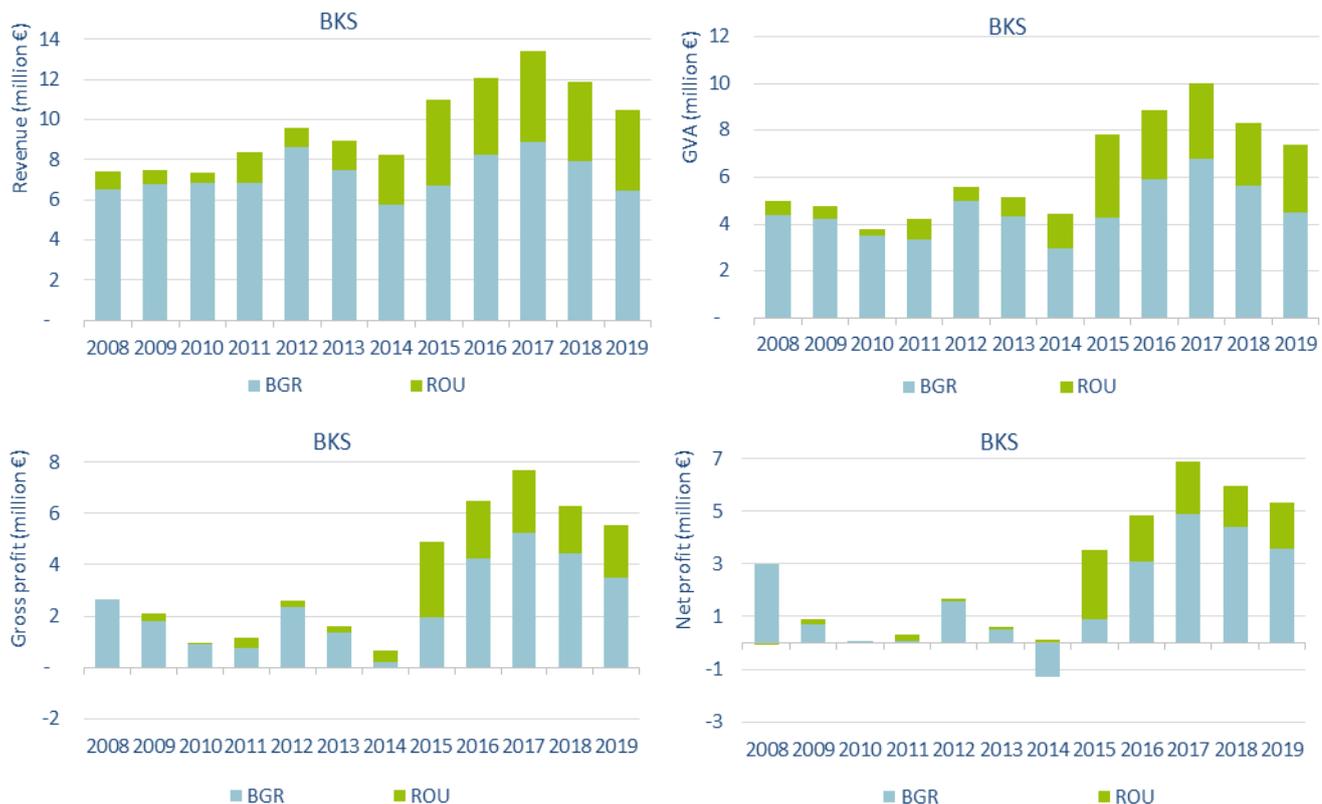
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic performance

The revenue generated in 2019 was EUR 10.8 million, 62% of which was obtained by the Bulgarian fleet (EUR 6.5 million). The amount of GVA was EUR 7.4 million of which EUR 2.9 million were added by Romanian and EUR 4.5 million by the Bulgarian fleet.

Total gross profit for the region was estimated at EUR 5.6 million. The Bulgarian fleet generated the larger gross profit in 2019 amounting to EUR 3.5 million (Figure 3.90).

Three of Bulgaria’s SSCF segments reported gross losses in 2019: vessels under 6 metres using drift and/or fixed nets; vessels under 6 metres; vessels between 6 to 12 metres using polyvalent passive gears only; vessels from 6 to 12 metres using hooks. These three segments represent 337 vessels (27%) from the whole Black sea fleet. The gross losses of these segments were probably due to the low fishing activity of the majority of the vessels in them. These amounted to -EUR 25 700. Overall net profit amounted to EUR 5.3 million in 2019, but this includes four segments that recorded a net loss (-EUR 28 400).



**Figure 3.90 Trends in revenue and profit by MS fleets operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

As in previous years, amongst the operating costs, the two major expenses remain energy costs and crew wages costs, accounting for EUR 1.8 and EUR 1.7 million, respectively. In terms of crew costs, Bulgaria was leading with EUR 0.9 million and Romanian costs were EUR 0.8 million. Regarding the energy costs, the situation was similar EUR 1.4 million for Bulgaria and EUR 0.7 million for Romania.

While the SSCF accounts for 90% of the total fleet by number (1 213 vessels) and accounts for 64% of the effort (17 973 days) it landed only 33% of the total by weight (5 387 tonnes) and 41% by value (EUR 4.8 million).

Overall, the LSF of both Member States were profitable, with gross profit margins estimated at 54.6% for the Romanian LSF and 45.8% for the Bulgarian LSF. For the SSCF the situation was different, while the Romanian SSCF recorded a 46.7% gross profit margin, the Bulgarian SSCF generated a 64.9%.

Net profit margins were estimated at 43.8% for the Romanian SSCF and 67.1% for Bulgarian SSCF while for the LSF the Romanian fleet reported a 44.6% margin and the Bulgarian LSF 46.3%.

## Main factors affecting the performance of the fleet

After the trend for improvement of the fleet's economic performance between 2015 and 2017 with an increase in both gross and net profits, in 2018 both indicators decreased and this trend continue also during 2019 where the level of economic profitability decreased near the level of 2016 but still is not drop down significantly.

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

- Additional increase in the turbot quota for both Bulgaria and Romania in 2019 and 2020 together with management plan and for third countries fishing in the Black Sea;
- The stable average prices for some important species with significant landings as sea snail and maintaining the average prices for the other species;
- The sea snails stock in GSA 29 is fished below  $F_{MSY}$ , which means that fishing vessels and processing plants utilising this species will continue to provide employment in the region;
- Keeping the trend with stable fuel costs at the regional level is directly connected with the energy costs, which remain the major percentage of the expenses.

### Factors that may affect negatively the fleet performance in the region:

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

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

- The Black Sea fishery is highly dependent on very few 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 2019, its stock in the Black Sea is fished around  $F_{MSY}$ . Sprat, which is the second most important fishery in economic terms, is evaluated on the base of precautionary advice as uncertain.
- The GFCM has established a set of emergency measures for stocks in the Black Sea region to align the implementation of management measures by all countries operating in the region.

The decrease in the number of active vessels in the Bulgarian fleet led to a decrease in the days at sea at a regional level, but it did not affect the weight of the landings, because the Romanian vessels are landing higher amount of fish per day than the Bulgarian fleet.

## Regulation and fisheries management in the region

The recommendations adopted by the GFCM in the last 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 2020 the 44th session of GFCM was postponed due to COVID-19 and all recommendations accepted during the 43rd session of GFCM in 2019 are applicable as most recent. One Recommendation was

applicable for the Black Sea: Recommendation GFCM/43/2019/3 amending Recommendation GFCM/41/2017/4 on a multiannual management plan for turbot fisheries in the Black Sea (geographical subarea 29). At the initiative of the EU, the GFCM amended recommendation GFCM/41/2017/4 which provides a multiannual management plan for turbot fisheries in the Black Sea and lays down a list of measures. The specific objectives of the multiannual management plan and transitional measures are to maintain fishing mortality for turbot within agreed precautionary reference points to achieve or maintain fishing mortality at MSY. The recommendation from 2017 established fleet management measures, management of fishing effort and monitoring, control and surveillance (MCS) programme (Note: Recommendation GFCM/41/2017/4 also repeals Recommendation 40/2016/6 see below).

The main amendment and the most important for the fisheries sector in the region was that for the years 2020–2022, the total allowable catch was increased based on scientific advice and considering the socio-economic importance of fisheries exploiting turbot and the need to ensure their sustainability.

### **Status of important stocks**

Commercially important stocks for the Black Sea fisheries in 2019 remained the same as in the past decades - turbot, sea snails, sprat and picked dogfish.

During 2019 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 terms of landing weight and value, the sea snail is the most profitable species and since there was no stock assessment in 2018 and 2019, according to the most recent available stock assessment from 2017, its stock in GSA 29 is fished below FMSY. Sprat, which is the second most important fishery in economic terms, was subject of benchmark session during the 2019 stock assessment and the status was determined as uncertain. Also it was recommended the benchmark session be extended, during which time work would be done towards resolving the identified issues within the context of the BlackSea4Fish project. Both countries are fishing less quantity than their European sprat quotas. In 2019 and 2020 Bulgarian fleet landed 51% and 22%, respectively of the TAC, while Romanian fleet landed less than 1% in both years. For the picked dogfish in the Black Sea, there is an established catch limit agreed between both countries and the European Commission. While for the Romanian fleet it's mainly bycatch, for the Bulgarian fleet it is a target fishery. Both countries, limit their catches to 2015 catch levels and inform the European Commission quarterly of the actions taken to meet this objective.

### **TAC development of main species**

Quotas for turbot and sprat TAC were introduced in 2008 following the accession of Bulgaria and Romania to the EU. The quota for turbot is divided equally between both 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 Working Group on the Black Sea (WGBS) held in September 2019 was adopted Council Regulation (EU) 2019/2236 of 16 December 2019 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Mediterranean and the Black Sea. With the regulation quota for sprat remain the same while turbot quota was increased to 75 tonnes for Bulgaria, 32% compared to 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 the same fishing opportunities were fixed for 2021 in the Black Sea.

## **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.

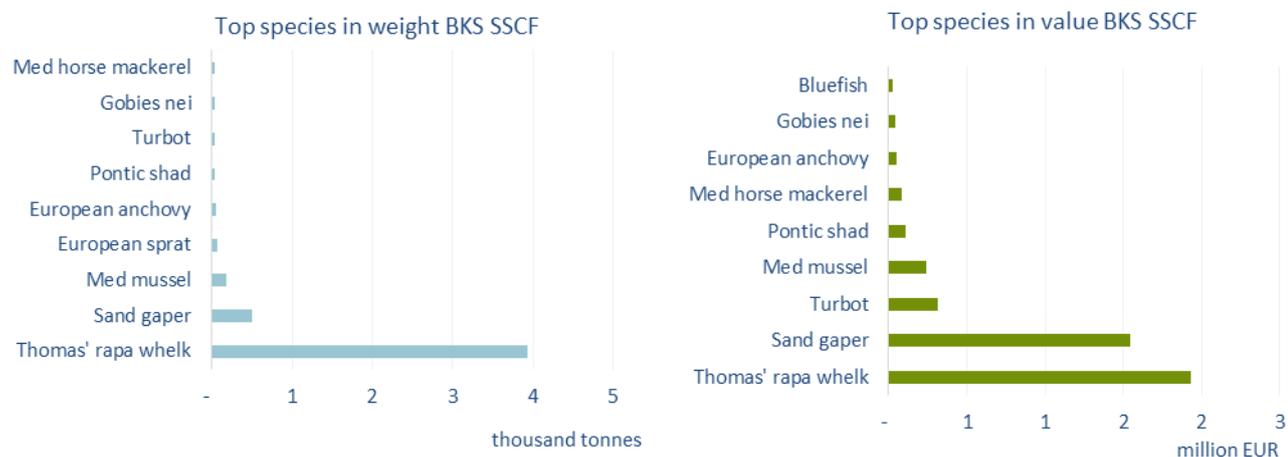
The 1 128 vessels that comprise the SSCF had a combined capacity of 1 872 GT and 22 794 kW. The number of vessels in 2019 decreased by 7% compared to 2018, while GT and kW decreased by 8% and 7%, respectively. These are of vital importance to the region where they make up 89% of the total fleet by number and 82% of the total employment (77% of FTE). In 2019, 1 667 fishers were directly employed, corresponding to 770 FTEs. In the majority of cases, vessels are operated by the owner or a family member.

Landings by the Black Sea SSCF amounted to 28% of the total landed weight in the region and 41% of the total value. The lower value achieved by the SSCF (compared to the LSF) appears to reflect also the use of different marketing channels. The SSCF generally operates through very short supply-chains.

Even though SSCF vessels are small they are locally very important in the Black Sea. Besides generating revenue for the owner, there are vessels with a low activity where the catch is not intended for the market, but it is consumed directly by the owners and their families.

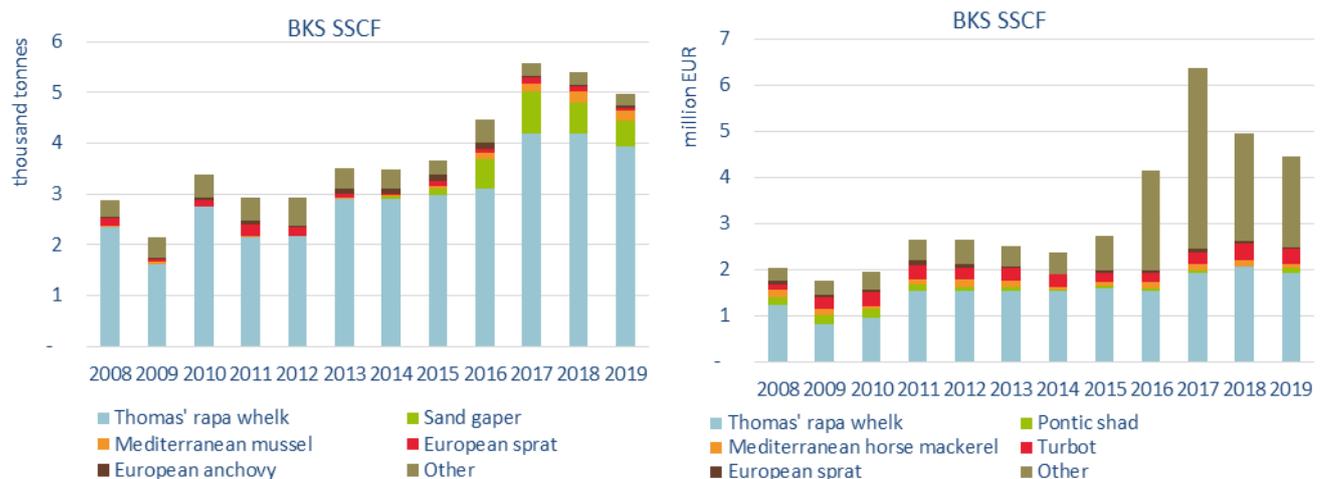
The SSCF accounted for 59% of the total days-at-sea in the region and generated revenues of EUR 4.3 million. GVA was estimated to be EUR 3.4 million, gross profit EUR 2.6 million and net profit EUR 2.6 million. In 2019, labour productivity (GVA per FTE) decreased by 46% compared to 2018 and to the average for 2008 to 2018 and reached EUR 4 400.

The SSCF target several species including sea snails, sand gaper, Mediterranean mussel, European sprat, European anchovy, pontic shad, turbot, gobies and Mediterranean horse mackerel. In terms of value, the most important species for the SSCF were sea snails, followed by sand gaper, turbot, Mediterranean mussel and pontic shad (Figure 3.91).



**Figure 3.91 Top 10 species landed by SSCF operating in the BKS, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.92 Trends in landings of top species landed by the SSCF operating in the BKS**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Large-scale fleet

In 2019, the LSF in the Black Sea consisted on 133 vessels or 11% of the entire fleet. These had a total capacity of 4 365 GT and 21 111 kW. The Bulgarian LSF represents 80% of the EU Black Sea LSF

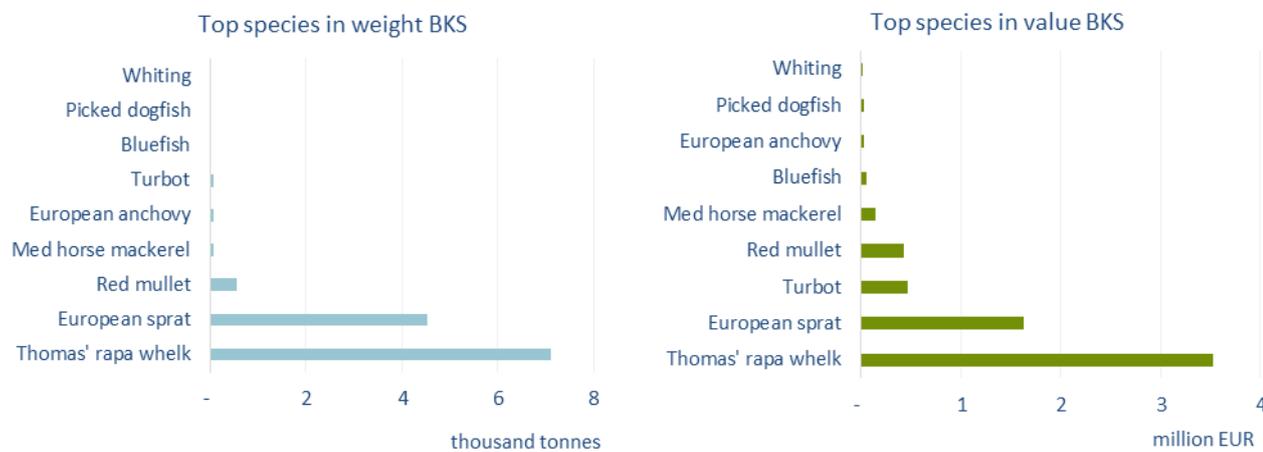
with 105 vessels while the Romanian LSF consists of 27 vessels. The main gears used remained pelagic trawls. There were also vessels using passive and active gears during the year and vessels using beam trawls.

The LSF employed a total of 368 people, corresponding to 228 FTE. Total labour costs in 2019 were EUR 1 million and the labour productivity (GVA per FTE) decreased to EUR 17 700, which is 12% decrease compared to 2018 and increase by 18% compared to the average the 2008 to 2018 period.

Over the period 2011 to 2018, the LSF accounted for 30-37% of the total days-at-sea for the entire Black Sea fleet. However, while the proportion remained relatively constant, the total number of days in 2017 decreased compared to 2016 and 2015, in 2018 and 2019 they increased again to 10 300 and 11 300, respectively.

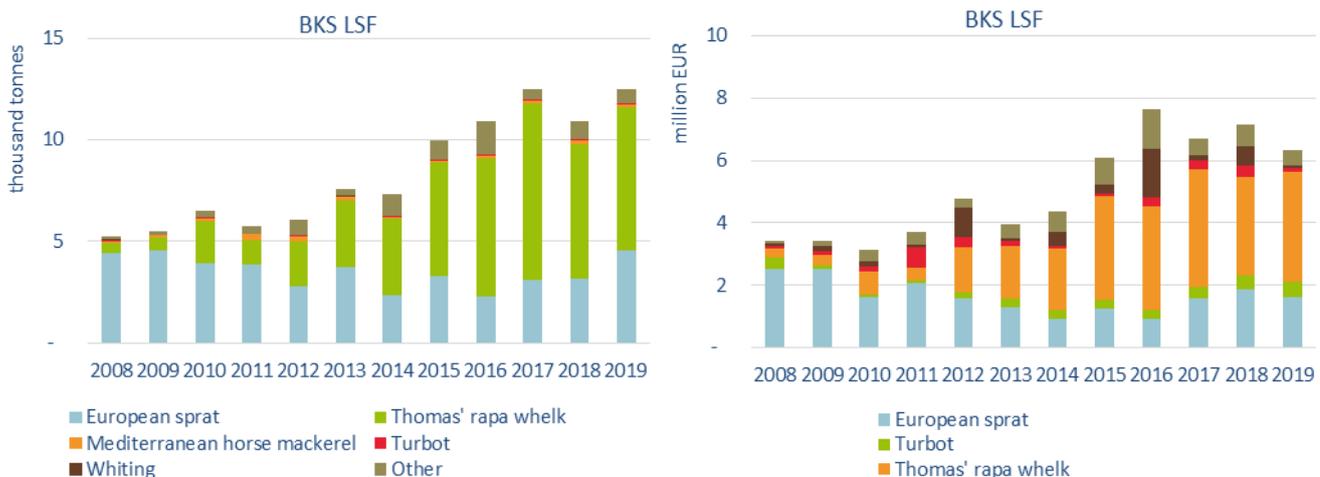
The LSF targets the same species as the SSCF with sea snails making up the highest proportion (by value) for both fleets. Other important species for the LSF are European sprat, red mullet, Mediterranean horse mackerel, European anchovy and turbot (Figure 3.111).

The LSF landed 72% (12 500 tonnes) of the total landed weight in the region in 2019 valued at EUR 6 million or 59% of the total value. This generated EUR 4 million in GVA and a net profit of EUR 2.8 million. None of the LSF segments reported a net loss in 2019. The LSF generally operates through longer supply-chains than the SSCF, but the marketing channels are more developed. In 2017, 2018 and 2019, the highest landings in terms of weight and value were polyvalent vessels with both active and passive gears, followed by the pelagic trawlers. Pelagic trawlers consumed more energy than polyvalent vessels and also consumed more energy per tonne landed.



**Figure 3.93 Top 10 species landed by LSF operating in the BKS, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.94 Trends in landings of top species landed by the LSF operating in the BKS, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Performance by fleet segment

In terms of revenue, live weight and value of landings the top five fleet segments operating in the Black Sea (out of 21 active fleet clustered segments) represented 28% of the total number of vessels; but these five segments (three LSF segments and two SSCF segment) landed 65% of the fish,

corresponding to 67% of the value of landings and revenue. These segments provided work to 719 employees, corresponding to 200 FTEs.

There were four segments (three from the SSCF and one from the LSF) which represent 28% (347 vessels), which spent 11% of the total days-at-sea for the fleet but landed 1% of the fish, corresponding to 2% of the value. These four segments were not so profitable, but they provided work to 438 employees or 124 FTEs.

At a fleet segment level, Romanian 12 to 18 metres polyvalent active and passive gears generated the highest revenue from the Black Sea region in 2019 (EUR 1.9 million), followed by the Romanian vessels using passive gears only for vessels 6 to 12 metres (EUR 1.5 million) and Bulgarian 6 to 12 metres segment with polyvalent active and passive gears (EUR 1.4 million).

## 3.7 Other Fishing Regions (OFR)

### Geographical scope

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.

The EU OMR fleets in the six French, two Portuguese and one Spanish regions, are analysed collectively in a dedicated section (see EU OMR chapter).

In this chapter, fleet performance is analysed by the main RFMOs relevant to EU fishing fleets. In particular, fleets in the long distant fishery (LDF) in ICCAT, IOTC, NAFO<sup>18</sup>, CECAF and NEAFC are assessed.

Overall, around 17% of the EU fleet’s activity in terms of landings in weight and 15% in value came from fishing operations in OFR in 2019, while only 3% of the days at sea were spent in these fishing areas.

While for the majority of the Member States’ fleets fishing activity in OFR is low or null for others, the share of landings from activity in OFR can be substantial. For example, the Lithuanian fleet obtained 69% of its landings (in weight) from activity in OFR in 2019. This figure was greater than 80% in several years (e.g. 2009-2011, 2013).

Other Member States, such as Spain (58% of landings in weight), France (24%) and Portugal (14%) are also relatively dependent on these fishing areas for their fishing activity, while Italy, Germany and the Netherlands are less dependent, with around 3% of their landings in weight coming from the OFR in 2019.

For some Member States (e.g. Estonia and Latvia) it is not possible to assess the dependency of these national fleets on activity in OFR due to the non-submission of data on their high sea fleets under the EU DCF for confidentiality reasons.

### Fleet selection

To analyse the economic performance of the EU 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 2020 AER Annex report for more details on the methodology used).

Due to the particular characteristics of Other Fishing Regions and, in particular, the RFMOs, some adaptations from the standard regional disaggregation methodology are required.

Over the years, the definitions and criteria used to select fleets for the OFR analysis have changed. Analysis of fleets operating in the RFMOs and OMRs has taken on an almost ad-hoc nature, becoming clear that a more common and refined approach is needed. In addition, fishing activity in these areas is essentially assessed in the context of LDF. Thus, refinements proposed for the current methodologies, taking into account the level of granularity of the DCF and EU-MAP data, also contemplate the fact that not all fishing fleets operating in RFMOs are LDF, i.e., vessels over 24m LOA. There are other fleet segments that also have significant activity in certain RFMOs and thus, are considered as well in the analysis to obtain a fuller picture of the extent of the EU fleet’s activity overall.

Table 3.2 outlines the methodologies used last year in the EWG 20-06 by RFMO, the proposed changes and new criteria for fleet selection in this report (EWG 21-08).

**Table 3.2 – 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	
ICCAT	AER 2020	Atlantic Ocean and adjacent seas (Mediterranean and Black Sea) 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 LDF		> 18m LOA for the Atlantic and Mediterranean stocks		>= 20% of a fleet segment's total landed value in 2019	Assess EU LDF high level of dependency on ICCAT
IOTC	AER 2020	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 LDF 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 LDF		> 18m LOA		>= 20% of a fleet segment's total landed value in 2019	Assess EU LDF with high level of dependency on IOTC
NAFO	AER 2020	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 LDF with high dependency on NAFO RA
	NAFO LDF (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 LDF with high level of dependency on NAFO excluding ICCAT activity in the area
CECAF	AER 2020	FAO major fishing area 34	> 24m LOA	All species	>= 40% of a fleet segment's total landed value	Assess EU LDF with high level of dependency on CECAF
	CECAF LDF (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 LDF with high level of dependency on CECAF excluding ICCAT
NEAFC	AER 2020	NEAFC CA: FAO major fishing area 27	> 24m LOA	All species	>= 40% of a fleet segment's total landed value	

	NEAFC LDF (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 LDF with high level of dependency on NEAFC CA and RA excluding ICCAT activity in the area
--	----------------------	---	------------	---	--	---

### 3.8.1 EU Outermost Regions (OMR)

#### 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<sup>19</sup>, 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 basin, the Amazonian forest 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 3.3.

**Table 3.3 – 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	Canary Islands	Spanish outermost region (autonomous community)
GF	French Guiana	French outermost region (overseas department)
GP	Guadeloupe	
MQ	Martinique	
MF	Saint-Martin	French outermost region (since 2009) (overseas community)
RE	Reunion	French outermost region (overseas department)
YT	Mayotte	

Source: EWG 21-08

The main issue with the OMR analysis is related to data availability and completeness, in particular for the French OMR. It should be noted that a comprehensive analysis of the EU OMR fleet continues to not be possible due to incomplete datasets and time-series data for France and Spain. Time-series data (2008-2019) are available only for the Portuguese OMRs.

- Time-series analysis from 2008 is possible only for the Portuguese OMR fleets, although some data (e.g. energy consumption, days at sea, etc.) are missing for several fleet segments in 2015 and 2016.
- For Spain data by OMR are available for the years 2017-2019 only.
- For France data for 2008 and 2009 are not available for all OMR fleets even if the data are produced at national level. No data provided for Saint Martin, all years. Furthermore, despite some recent improvements, data are still incomplete for several of the French OMRs, in particular fleets in Mayotte (YT), where partial data are available from 2015 onwards but not enough to perform economic analyses. Economic data are also missing for Reunion segment under 12 metres and for French Guiana segment 18-24 metres. For fleets in Martinique, economic data are available for 2019 but some inconsistencies were identified. Note that in some cases, incomplete data were skipped from the table or figures.
- Another issue is the overlap of activity with other RFMOs (e.g. ICCAT, IOTC and CECAF). OMR fleet segments with significant activity in the RFMOs can be further assessed in the specific sections. Results show that only one fleet segment - the Portuguese HOK segment between 24 and 40

<sup>19</sup> Since the adoption of the Lisbon Treaty, Mayotte is included in the list of EU Outermost Regions (Article 349 TFEU) as of 01.01.2014. Saint-Barthelemy changed status in 2012 to become part of the Overseas Countries and Territories (OCT) within the meaning of the TFEU.

metres based in the Azores and predominately active in the SWW (PRT NAO HOK 2440 P3), had some minor activity in other region (NWW) in 2019. The Spanish OMR fleet operates exclusively in fishing areas in the SWW.

While possible refinements can be made regarding overlaps if required, the lack or incompleteness of data for the French OMRs will continue to be a limiting factor for a comprehensive analyses of the EU OMR fleet in 2019.

## EU-MAP Fleet selection

All fleet segments identified with an geographical indicator pertaining to one of the OMRs are analysed. According to data submitted for 2019, none of the Member States fleets are highly dependent on their OMRs for their primary fishery production, however, the Portuguese fleet obtained 15% of its production value from the OMR of Madeira and the Azores (Table 3.4).

Landings from the OMR fleets combined amounted to 37 051 tonnes valued at EUR 149.4 million in 2019. The number of active vessels was 2 765 but in some regions significant parts of the fleet were inactive. Total job was 7180 for 3 214 FTEs.

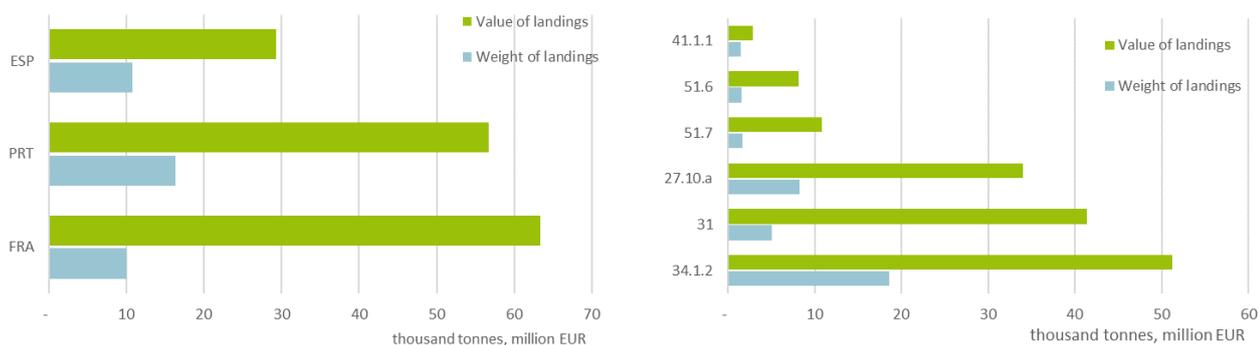
The French OMR fleets accounted for 27% of the landings in weight and 42% of the value, followed by the Portuguese OMR fleets (44% in weight and 38% in value) (Figure 3.95, left). In most cases, landings were sold to local markets but in some regions, a significant part of the landings is exported from the regions (Azores, Reunion for swordfish).

The main fishing zones in terms of landed value and weight are located in the Western and Eastern-Central Atlantic areas 34.1.2 (Canaries and Madeira Insular) and 31 (French Antilles), followed by the Azores Grounds (27.10.a) and then the Western Indian Ocean (Figure 3.95, right).

**Table 3.4 – Summary results for the EU OMR fleet by Member State, 2019**

	Fleet segments	Number of vessels	FTE national	Days at sea (days)	Energy consumption (million litres)	Live weight of landings (tonnes)	Value of landings (million EUR)	Revenue (million EUR)	Gross Value Added (million EUR)	Gross profit (million EUR)	GVA to revenue (%)	Gross profit margin (%)
ESP	6	574	788	40,076	5.0	10,737	28.1	24.0	15.5	1.1	64.7%	4.8%
FRA	21	1,565	909	107,109	9.6	11,665	62.1	47.9	29.1	5.0	60.8%	10.4%
PRT	15	626	1,516	53,424	8.8	16,344	54.6	54.9	40.0	16.3	73.0%	29.8%
<b>EU OMR Fleet</b>	<b>42</b>	<b>2,765</b>	<b>3,214</b>	<b>200,609</b>	<b>23.4</b>	<b>38,746</b>	<b>144.9</b>	<b>126.8</b>	<b>84.7</b>	<b>22.5</b>	<b>66.8%</b>	<b>17.7%</b>
<b>% over EU fleet</b>		5%	3%	3%	1%	1%	2%	2%	3%	2%		

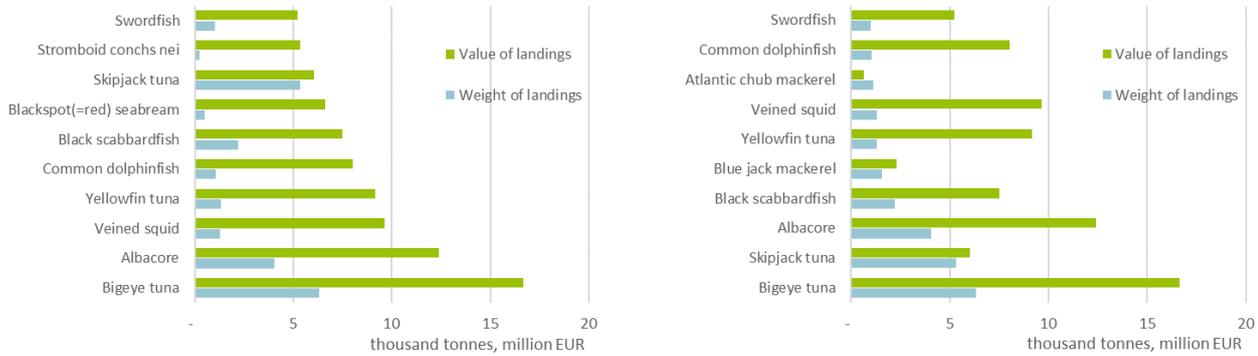
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Based on incomplete data for economic indicators



**Figure 3.95. EU OMR fleet landings (in value and weight) by Member State (left) and FAO fishing areas (right), 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The top species in landed value and weight was bigeye tuna at 6 326 tonnes and valued at EUR 16.7 million. Other top species in value were albacore (EUR 12.4 million), veined squid (EUR 9.7 million), yellowfin tuna (EUR 9.2 million) and dolphinfish (EUR 8.0 million). The other top species in weight were skipjack (5 347 tonnes), albacore (4 046 tonnes) and black scabbardfish (2 223 tonnes) (Figure 3.96).



**Figure 3.96. Top species landed in value (left) and weight (right) by the EU OMR fleet, 2019**

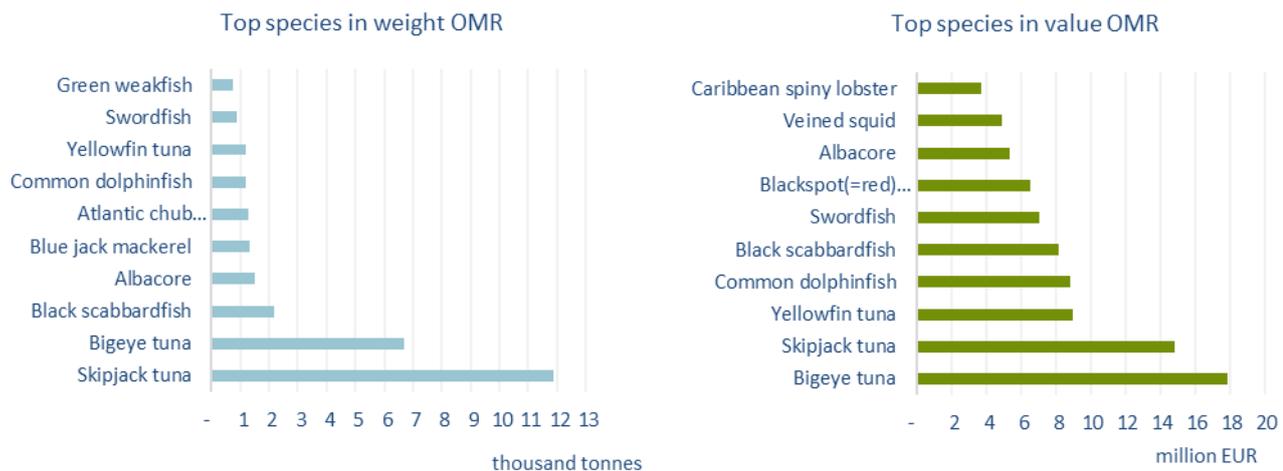
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Overview of the main results for the EU OMR fleet

### Fishing capacity, effort and landings

Combined, the EU OMR (local) fleet numbered 2 826 active vessels in 2018 (and additional 1 349 vessels were reported as inactive in 2018). This corresponds to a decrease of 0.3% in active vessels compared to 2017. About 93% of the active vessels belong to SSCF.

Excluding St Martin (data unavailable), the EU OMR local fleet spent over 208 000 days-at-sea in 2018 (-4% compared to 2017), to land approximately 42 918 tonnes of seafood (+4%) valued at EUR 149 million (-2.8%). Tuna and other large pelagic species represent a significant part of the landings with skipjack, bigeye tuna, yellowfin tuna, and albacore tuna the largest components by weight.



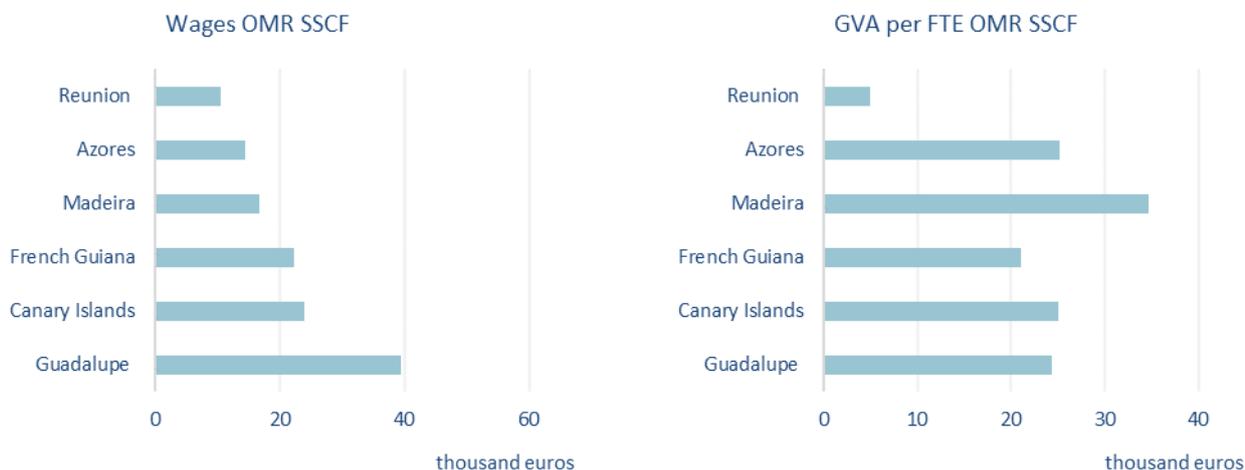
**Figure 3.97. Top 10 species in landed weight and value for EU OMR fleets operating in 2018**

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

The Azores fleet was the most important (by landed weight and value), with total value of landings of EUR 40 million (33% of the total by weight and 26% by value), followed by Canary Islands (EUR 28 million), Reunion (EUR 23 million), Guadelupe (EUR 21 million), Madeira (EUR 15 million), Martinique (EUR 10 million) and French Guiana and Mayotte (EUR 5 million). It should be stressed that for some French OMRs no complete data were available for landings.

### Employment, wages and labour productivity

Like it was mention before time-series analysis is not possible for Canary Islands and French OMRs, so trends for employment, wages and labour productivity will not presented. Mayotte, Martinique and Saint Martin also didn't provided economic data.



**Figure 3.98 Average wage and GVA per FTE for PRT OMR fleets**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2018 wages for Guadelupe were the highest ones (EUR 29 400) followed by Canary Islands (EUR 29 400), French Guiana (EUR 22 300), Madeira (EUR 16 700), Azores (EUR 14 500) and Reunion (EUR 10 640). All French OMRs presents values for labour productivity (GVA per FTE) lower than the wages (Figure 3.98).

### Economic performance

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

GVA was estimated at EUR 77.4 million in 2018, also representing an overall decrease of 28.6% compared to 2017 (EUR 99.5 million).

Overall, the OMR fleet generated a gross profit of EUR 17.6 million, a 18.2% decrease from the EUR 21.5 million in 2017. Net profit was estimated at almost EUR 7.6 million (-23.3%).

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

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

The economic performance of most OMR fleets has improved (even if these vessels do not seem very dependent on fuel prices and recorded relatively low fuel consumption).

### Outlook for 2020 and beyond

Given the lack of OMR data submitted by France it is not possible to provide a comprehensive outlook for the OMR fleets. However, given the current trends in fish prices and fuel costs, it seems that these fleets will continue to be generally profitability in the coming year.

## Results by Member States OMR fleet: Portugal

### Fleet capacity and employment

Combined, the Portuguese OMR (local) fleet numbered 626 active vessels in 2019. About 93% of the active vessels belong to the SSCF. Between 2008 and 2019, the number of active vessels in Madeira and Azores decreased respectively by -24% and -20%.



**Figure 3.99 Trends on the number of vessels and employment in FTE for PRT OMR fleets**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021))

FTE reached the maximum values in 2011-2013 (2 298 FTE and 4 091 engaged people) that can be explained by the 2010 economic crisis where young and unemployed people find jobs in primary sector, this tendency dropped in 2014, 30% in FTE and 26% in the total engaged crew. After 2014 it was observed a relatively stable behaviour in FTE and engaged crew.

### Wages and labour productivity



**Figure 3.100 Trends on average wage and GVA per FTE for PRT OMR fleets**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Crew costs and wages just go in opposite direction of the employment with a positive trend observed from 2014. It also can be explained in order to keep and try to call young people to this activity. Labour productivity shows also a positive trend explained to the increase of income and FTE decrease observed in the last years.

### Madeira (P2)

The Madeiran OMR fleet operates exclusively in the Portuguese Exclusive Economic Zone of CECAF 34.1.2 and is composed of 87 active vessels (same as in 2018), the majority being small-scale. This fleet is dominated by longliners, which represented 89% of the active vessels in 2019. Overall, 69% of the vessels are less than 10m LOA and 87% are less than 18 metres LOA).

Vessels operate in the different following fisheries around Madeira archipelago.

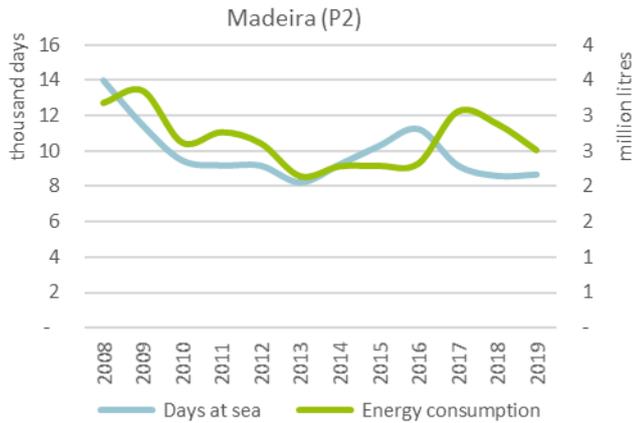
- Slope fishery: vessels mainly targeting demersal species black scabbardfish mainly using set-longlines and small pelagic such as chub mackerel using purse seiner.
- The large pelagic fishery: vessels operate pool and line to target large pelagic species (skipjack tuna, bigeye tuna and albacore).

**Table 3.5 – Fleet structure for the Madeira OMR fleet, 2019**

		Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings	Value of landings	Revenue	Gross Value Added	Gross profit	Net profit	GVA to revenue	Gross profit margin	Net profit margin	GVA per FTE (labour productivity)
						(kg)	(EUR)	(EUR)	(EUR)	(EUR)	(EUR)	(%)	(%)	(%)	(EUR per FTE)
PRT NAO HOK0010 P2 *	SWW	53	72	2 736	283 245	536 988	2 092 523	2 129 460	1 572 821	930 383	796 796	73.9	43.7	37.4	21 845
PRT NAO HOK1218 P2	SWW	16	149	3 259	706 276	2 195 261	6 735 310	6 866 358	5 536 505	2 148 336	1 912 831	80.6	31.3	27.9	37 158
PRT NAO HOK1824 P2	SWW	3	27	721	186 926	424 302	1 104 478	1 131 267	820 026	314 310	243 142	72.5	27.8	21.5	30 371
PRT NAO HOK2440 P2	SWW	5	85	718	1 119 334	1 146 423	2 780 837	2 807 716	1 713 830	467 070	121 676	61.0	16.6	4.3	20 163
PRT NAO MGP0010 P2	SWW	7	7	549	28 709	77 935	379 657	388 601	316 249	113 282	100 107	81.4	29.2	25.8	45 178
PRT NAO MGP1824 P2 *	SWW	3	33	680	181 242	447 652	478 844	484 485	254 881	10 307	- 72 268	52.6	2.1	- 14.9	7 724
<b>OMR Madeira</b>		<b>87</b>	<b>373</b>	<b>8 663</b>	<b>2 505 732</b>	<b>4 828 561</b>	<b>13 571 649</b>	<b>13 807 886</b>	<b>10 214 312</b>	<b>3 983 687</b>	<b>3 102 285</b>	<b>74%</b>	<b>29%</b>	<b>22%</b>	<b>27 384</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

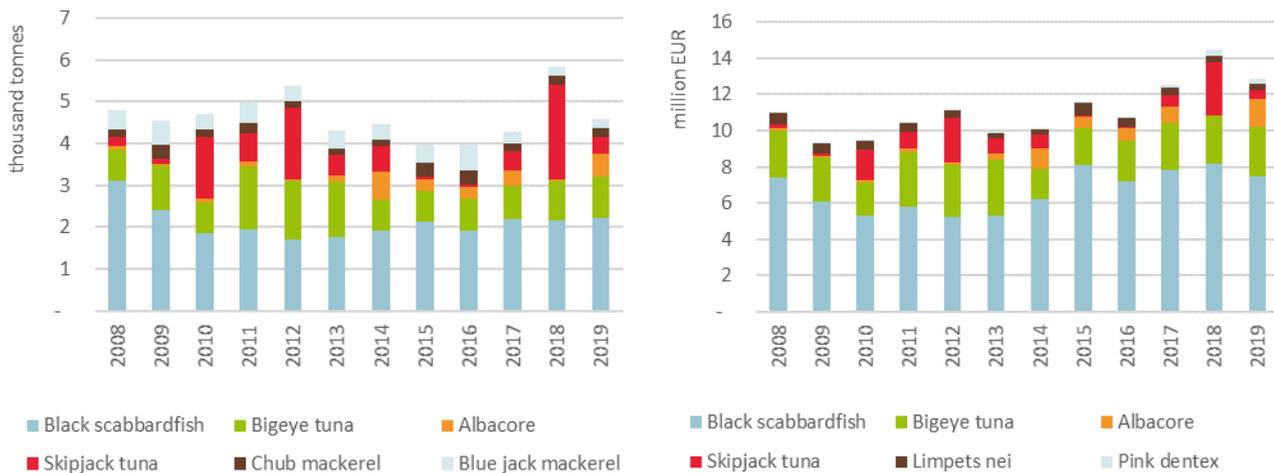
In 2019 effort in days at sea was similar to 2018 where it was observed the lower value for all-time series. Fuel (energy) consumption decrease in 2019 when compared with 2018.



**Figure 3.101 Trends on fishing effort (in days-at-sea) and energy consumption for Madeira OMR fleet**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)).

The most important species are: black scabbardfish (58% of the total landed value), bigeye tuna (21%), albacore (12%) and skipjack tuna (4%). Combined, these three top species represent 95% of the total landings in value.



**Figure 3.102 Trends in landings of the top species in landed weight and value for PRT OMR fleets operating in Madeira**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

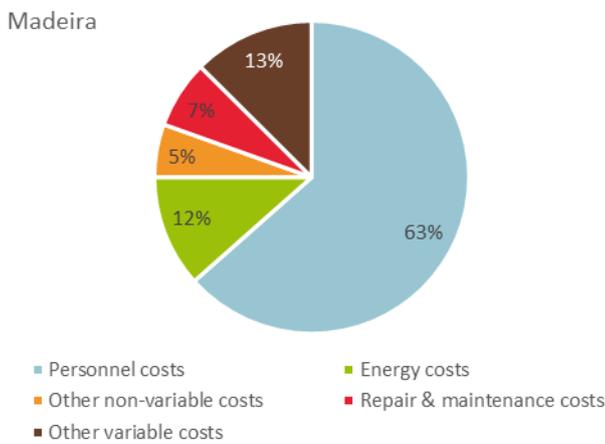
According to the trends in landings it can be observed some stability for landing weight and value for demersal catches over the years (around 2 000 tonnes and EUR 6.5 million for black scabbardfish). In opposite direction instability were observed in the pelagic species specially for skipjack tuna with landing weight range from 100 to 1 700 tonnes. This aspect is related with the migration path of the large pelagic species and the small autonomy of the majority of the vessels who catches these species.

Average crew wages and wages have increased since 2010. This cost, together with other variable costs (13%), related to the activity of longliners (bait, ice, etc.) and fuel costs (12%), correspond to 88% of the total operating cost structure of the Madeira OMR fleet (Figure 3.104).



**Figure 3.103 Trends in engaged crew and FTE for PRT OMR fleets operating in Madeira**

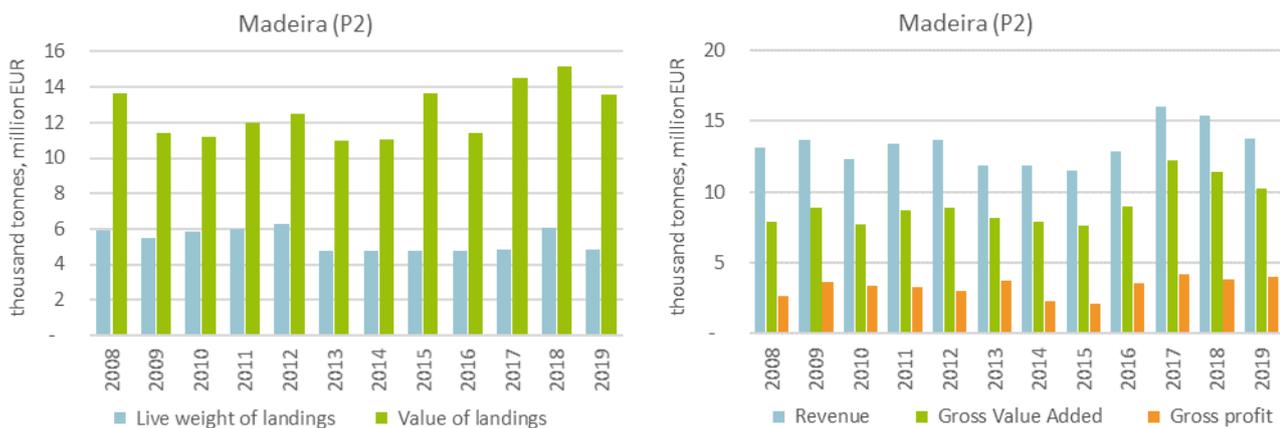
Data source: MS data submissions under the 2020 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.104 Cost structure of the Madeira OMR fleet in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The profitability of the Madeiran OMR fleet has been positive for the whole period 2008-2019. In 2019, the GVA to revenue was 74%, the gross profit margin 29% and the net profit margin 22%.



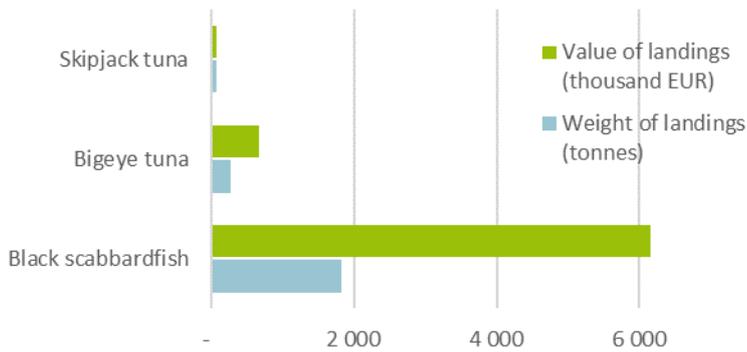
**Figure 3.105 Trends on live weight of landings, value of landings, revenue, profits and profit margins for PRT OMR fleets in Madeira**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**MADEIRA HOOK AND LINE 12-18M SEGMENT (PRT NAO HOK1218 P2)**

This fleet segment generates over 50% of total landings value and around 45% of total weight in Madeira. It's composed by 17 vessels operating mainly in Area 34.3.2.

The fleet targets mainly demersal species (black scabbardfish represents 83% in weight and 88% in value). In 2019, the total value from landings was EUR 6.7 million (18% lower than 2018). The fleet segment employed 149 FTEs. Economic indicators for this fleet reported a gross profit margin of 31%.



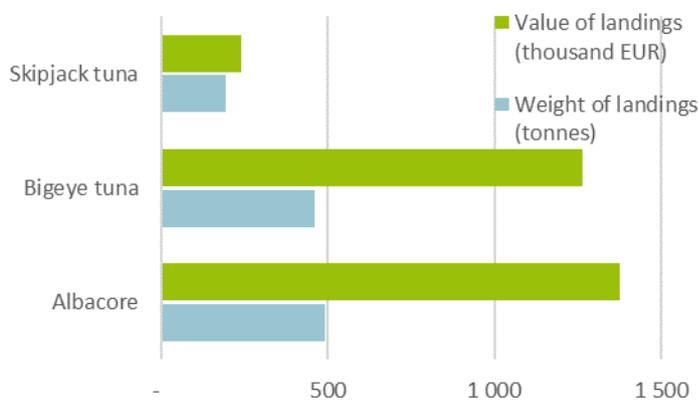
**Figure 3.106 - Top species in landed weight and value for PRT NAO HOK1824 fleet in Madeira, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### MADEIRA HOOK AND LINE 24-40M SEGMENT (PRT NAO HOK2440 P2)

This fleet segment generates over 20% of total landings value and around 44% of total weight in Madeira. It's composed by 5 vessels operating mainly in Area 34.3.2.

The fleet targets mainly large pelagic species (albacore represents 43% in weight and 48% in value). In 2019, the total value from landings was EUR 2.8 million (19% lower than 2018). The fleet segment employed 85 FTEs. Economic indicators for this fleet reported a gross profit margin of 26%.



**Figure 3.107 - Top species in landed weight and value for PRT NAO HOK2440 fleet in Madeira, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

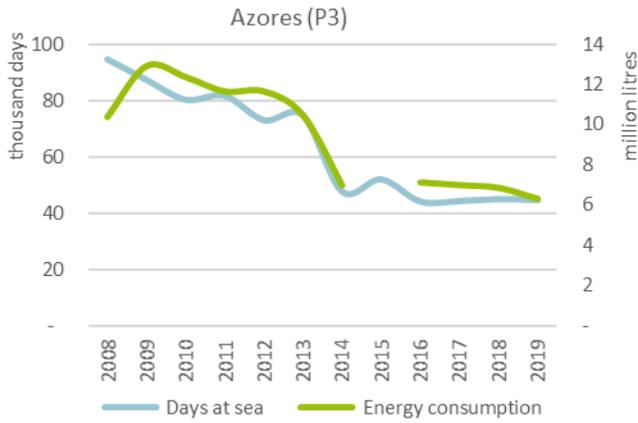
### Azores (P3)

In 2019 the Azorean OMR fleet, was comprised by 539 active vessels (up 1.1% from 533 vessels in 2018). It operates exclusively in the Portuguese Exclusive Economic Zone (EEZ). Most of the fleet belonged to SSCF (86%) and like from the Madeira the fleet was dominated by longliners (HOK), which represented 81% of the active vessels and 95% used only passive gears. The remaining fleet (5%) were purse seiners.

**Table 3.6 – Fleet structure for the Azores OMR fleet, 2019**

		Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings	Value of landings	Revenue	Gross Value Added	Gross profit	Net profit	GVA to revenue	Gross profit margin	Net profit margin	GVA per FTE (labour productivity)
PRT NAO HOK0010 P3	SWW	312	265	19 143	765 166	1 543 557	10 228 141	10 228 055	7 749 467	4 194 549	2 950 705	75.8	41.0	28.8	29 243
PRT NAO HOK1012 P3	SWW	65	353	8 334	1 038 743	1 513 885	8 978 751	8 977 803	6 621 584	2 476 932	1 774 974	73.8	27.6	19.8	18 758
PRT NAO HOK1218 P3	SWW	37	176	4 354	711 991	1 848 776	6 415 963	6 417 304	4 868 445	1 916 951	1 422 258	75.9	29.9	22.2	27 662
PRT NAO DFN0010 P3	SWW	21	12	1 332	34 046	170 015	467 098	467 092	359 084	186 262	141 237	76.9	39.9	30.2	29 924
PRT NAO HOK2440 P3 *	NWW	0	3	42	42 787	79 870	303 549	303 249	250 433	110 247	81 255	82.6	36.4	26.8	87 782
PRT NAO HOK2440 P3 *	SWW	24	209	3 079	3 136 709	4 861 412	11 596 355	11 585 195	7 713 282	2 357 791	232 417	66.6	20.4	2.0	36 880
PRT NAO PGP0010 P3 *	SWW	53	60	4 781	196 244	495 674	1 708 517	1 709 215	1 244 456	652 715	488 979	72.8	38.2	28.6	20 741
PRT NAO PS 0010 P3	SWW	15	26	1 371	81 873	322 225	405 192	405 752	304 593	91 556	53 476	75.1	22.6	13.2	11 715
PRT NAO PS 1012 P3 *	SWW	7	26	1 471	181 663	425 773	597 506	597 118	435 985	200 999	115 184	73.0	33.7	19.3	16 769
PRT NAO PS 1218 P3	SWW	5	13	854	94 791	254 155	359 107	359 217	257 997	161 696	139 266	71.8	45.0	38.8	19 846
<b>OMR Azores</b>		<b>539</b>	<b>1 143</b>	<b>44 761</b>	<b>6 284 013</b>	<b>11 515 342</b>	<b>41 060 179</b>	<b>41 050 000</b>	<b>29 805 325</b>	<b>12 349 698</b>	<b>7 399 752</b>	<b>73%</b>	<b>30%</b>	<b>18%</b>	<b>26 076</b>

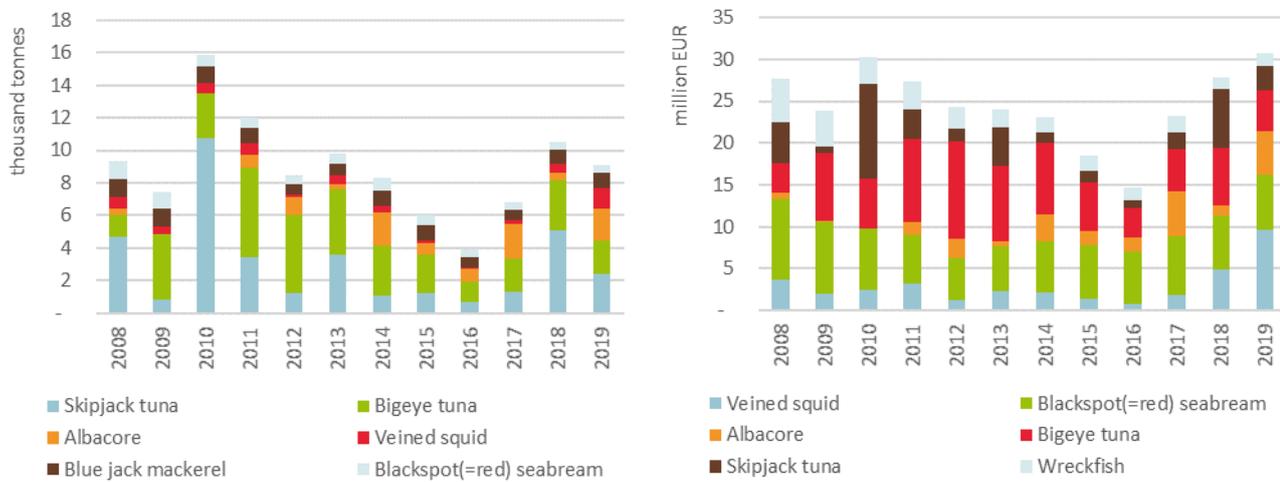
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.108 Trends on fishing effort (in days-at-sea) and energy consumption for Azores OMR fleet**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)).

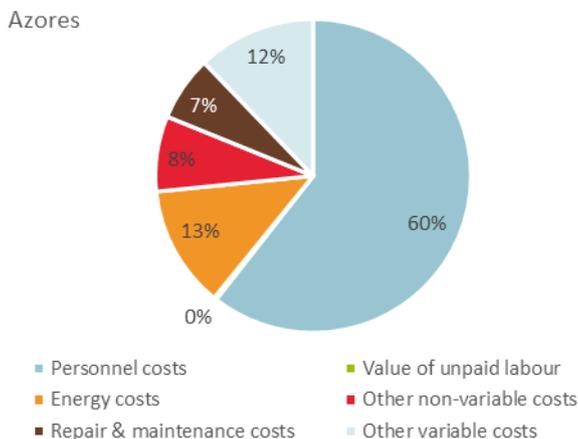
The Azores OMR is very rich in biodiversity and fishing fleets target cephalopods, demersal and large pelagic species. The main species landed, by value, are veined squid (31%), red seabream (21%), albacore (17%), bigeye tuna (16%), skipjack (10%) and wreckfish (5%)



**Figure 3.109 Trends in landings of the top species in landed weight and value for PRT OMR fleets operating in Azores**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

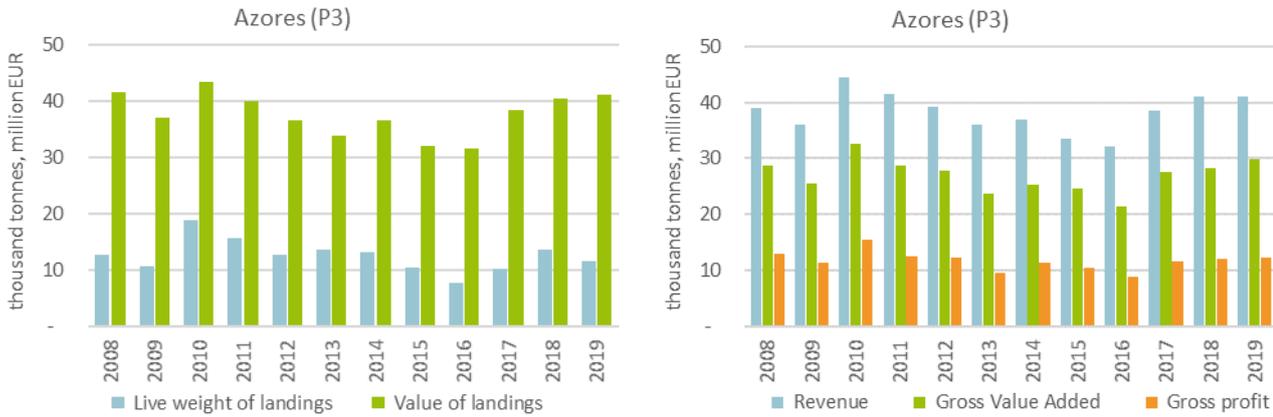
After 2016, where it was observed the lowest values for landing weight and value for all-time series, landings start to improve in a consistent way, specially caused by some recovery of the large pelagic species (skipjack tuna, albacore, and bigeye tuna) catches. In terms of value of landings 2019 it was the highest one in 2008-2019 period, due to the increase of landing value for veined squid which in 2019 represented almost one third of the total catches in value. This majority of captures of this species are doing by SSCF HOK fleet segments.



**Figure 3.110 Cost structure of the Azores OMR fleet in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Amongst other important cost items were energy costs (13%) and other variable costs (12%). The three main cost items for the Azorean fleet make-up 85% of the total operating costs (Figure 3.110). The profitability of the Azorean OMR fleet as a whole has been positive and relatively stable for the whole period 2008-2019. In 2019, the GVA margin was 73%, the gross profit margin 30% and the net profit margin 18%.



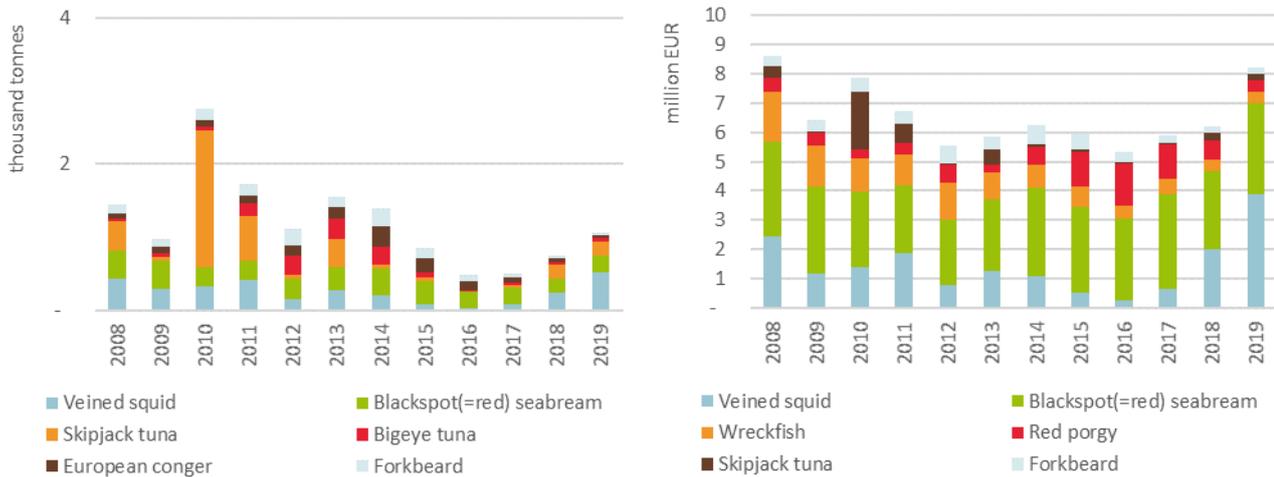
**Figure 3.111 Trends on live weight of landings, value of landings, revenue, profits and profit margins for PRT OMR fleets in Azores**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### AZORES HOOK AND LINES UNDER 10M (PRT NAO HOK0010 P3)

This fleet segment generates over 25% of total landings value and around 13% of total weight in Azores. It's composed by 312 vessels operating in Area 27.X.a.

The fleet main targets are demersal and cephalopods species (veined squid and red seabream). In 2019, the total value from landings was EUR 10.2 million (16% higher than 2018) representing the higher value in the 2009-2019 period due to the increase of veined squid catches which represents 44% of the total landing value. The fleet segment employed 265 FTEs. Economic indicators for this fleet reported a gross profit margin of 41%. In 2010 one can observed a peak in landing weight that was not reflected in landing value. Catches of skipjack are related with the observed peak. The fluctuations of fish prices and also demersal species plays an important role on the stability of the landing value for this fleet segment.



**Figure 3.112 Trends in landings of the top species in landed weight and value for PRT NAO HOK1012 fleet in the Azores**

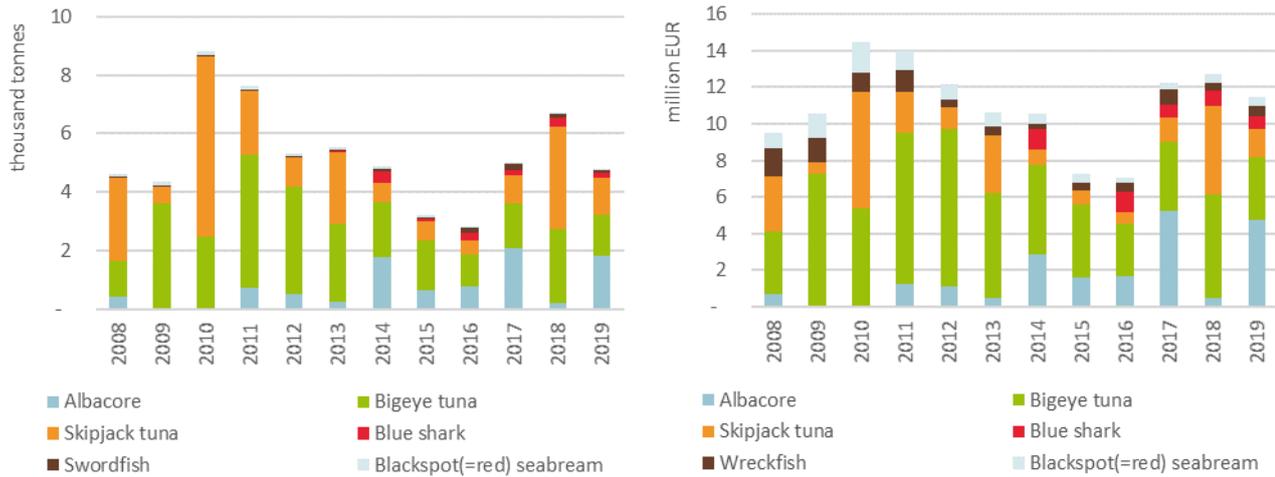
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015)

### AZORES HOOK AND LINES 24-40M (PRT NAO HOK2440 P3)

This fleet segment generates over 28% of total landings value and around 42% of total weight in Azores. It's composed by 24 vessels operating mainly in Area 27.X.a.

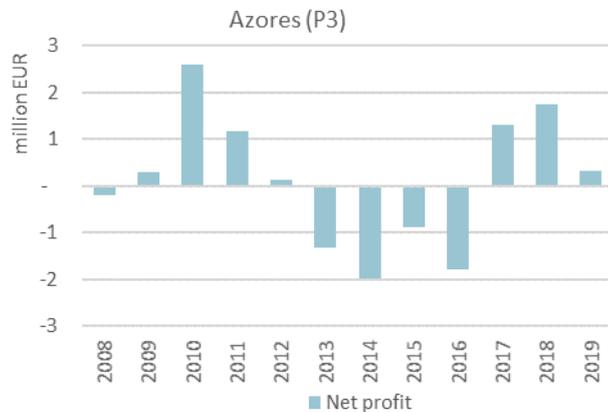
The fleet targets mainly tuna fishes (skipjack, bigeye tuna, blue shark and albacore). In 2019, the total value from landings was EUR 11.6 reveals some stability over the 2017-2019 period which reflects a recovering from the 2013-2016 period with negative profitability, mainly related with the low values for

landing. The fleet segment employed 209 FTEs. Economic indicators for this fleet reported a gross profit of 20%.



**Figure 3.113 Trends in landings of the top species in landed weight and value for PRT NAO HOK2440 fleet in the Azores**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.114 Trends on net profit for PRT NAO HOK2440 fleet in the Azores**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Main factors affecting the performance of the Portuguese OMR fleet

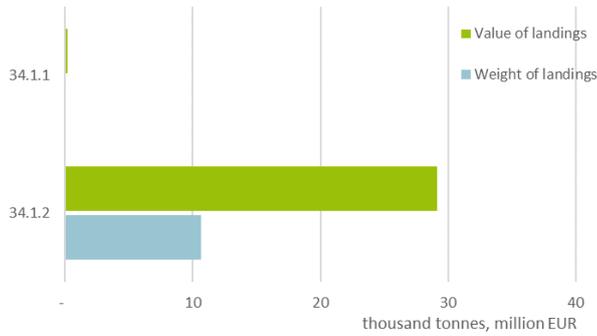
Crew costs which represents the main costs can be affected in order to keep and recrute crew to operate the fleet. Beside the increase of the wages observed since 2014 the value is still low when compared with the mean sallary in the OMR regions.

The observed flutuaction and catch restrictions of the large pelagic species, in particular skipjack tuna, affect the fleet economic performance, specially the HOK2440 and HOK1824 fleet segments.

### Results by Member State OMR fleet: Spain

#### Fleet capacity

In 2019, Canaries fleet was composed by 574 vessels, 2.7% less than in 2018. Fishing activity in the Canary Islands OMR takes place mainly in FAO Area 34.1.2.

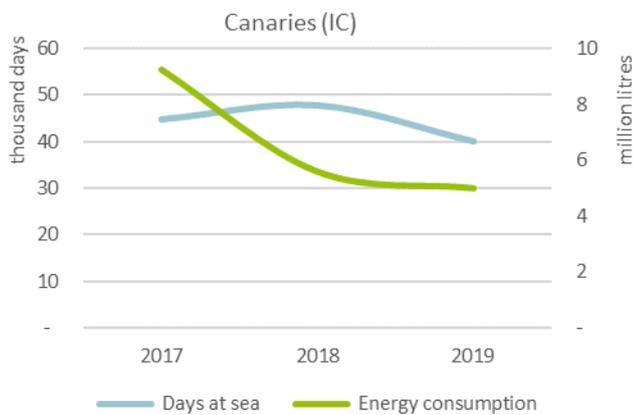


**Figure 3.115 Landings in value and weight by FAO fishing area for Canary Islands OMR fleet**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)).

### Effort and landings

Effort in terms of days at sea decreased 16% compared to 2018, while the decrease in fuel consumption was near 11%. As the number of vessels decreased by 2.7%, effort (days at sea) decreased too (16% compared to 2018) and fuel consumption decreased by almost 11% compared to 2018.



**Figure 3.116 Trends on fishing effort (in days-at-sea) and energy consumption for Canary Islands OMR fleet**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)).

Landings from the OMR fleet based in the Canary Islands amounted to 10 737 tonnes, 9.4% less than 2018, while landing value was EUR 28.1 million, 1% less than 2018. Since 2017, the tendency is a steady decrease in terms of landing weight.



**Figure 3.117 Trends in landings value and weight for Canary Islands OMR fleet, 2017-2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)).

The top species landed in weight are bigeye tuna, albacore and skipjack. In terms of value, the most representative species are bigeye tuna, albacore and Atlantic bluefin tuna.



**Figure 3.118 Top 10 landed species in term of weight (right) and value (left) for the Canary Islands OMR, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Employment

In 2019, the number of FTE national increased by 1.8% in compared to 2018 despite the number of vessel and DaS decreased in the same period.

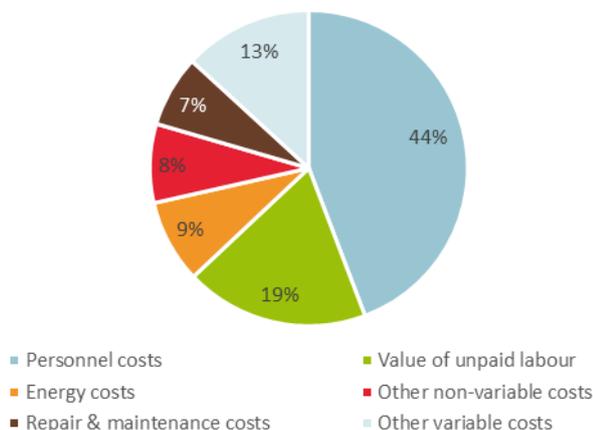


**Figure 3.119 Trends in engaged crew and FTE for the Canary Islands OMR.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2020)); All monetary values have been adjusted for inflation; constant prices (2015).

### Economic data

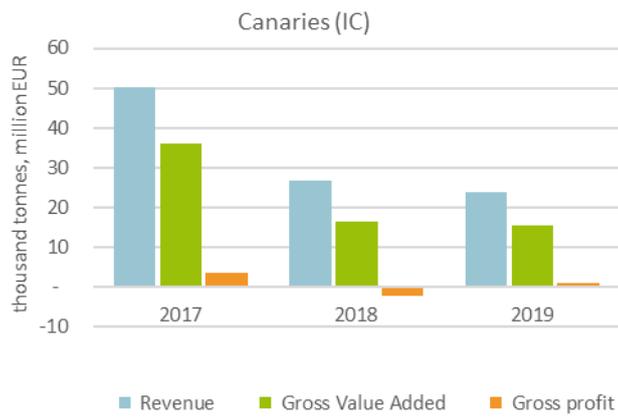
The cost structure of the Canary fleet is dominated by wages and salaries (44%) followed by the value of unpaid labour (19%) and other variable costs (13%).



**Figure 3.120 Cost structure for the Canary Islands OMR fleet, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2019, the GVA and gross profit reached EUR 15.5 and EUR 1.14 million, respectively. The tendency of these indicators shows that economic performance of the Spanish OMR fleet in the Canaries is worsening except for the gross profit due to reducing operating costs in 2019 compared to 2018.



**Figure 3.121 Economic performance for the Canary Islands OMR fleet, 2017-2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Results by Member State OMR fleet: France

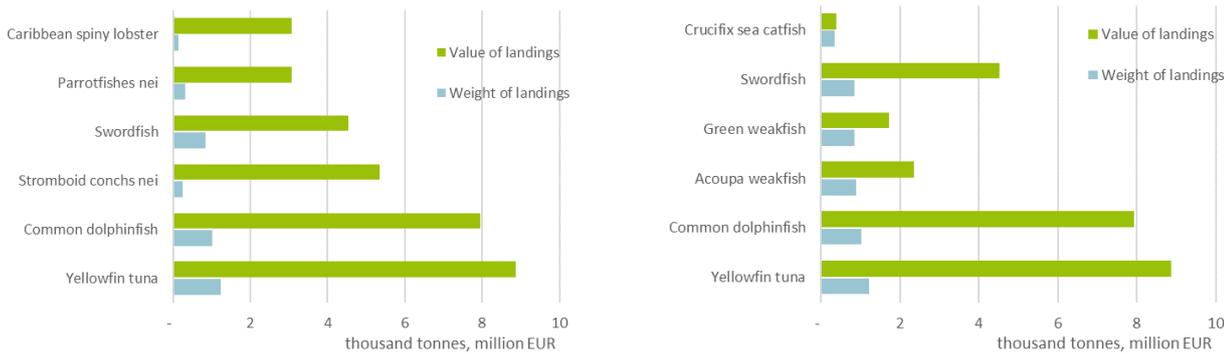
For France, fishing activity is spread out in the Atlantic and Indian oceans around the OMRs. 98% of the active vessels are small scale (under 12 metres LOA). Only the French Guiana, and Reunion fleets have fleet segments between 12 and 24 metres LOA. The main fishing zones in terms of landed value and weight are located 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)

Landings from the OMR fleets combined amounted to 11 665 tonnes valued at EUR 62.1 million in 2019. Guadeloupe is by far the top producer in terms of landed value while French Guiana produced more in weight. The top species landed in value were large pelagic species (yellowfin tuna, common dolphinfish, swordfish) but also coastal species (conchs, parrotfishes, spiny lobster) Fishing capacity, effort and landings



**Figure 3.122 French fleet landings in value and weight by OMR and FAO fishing area, 2019**

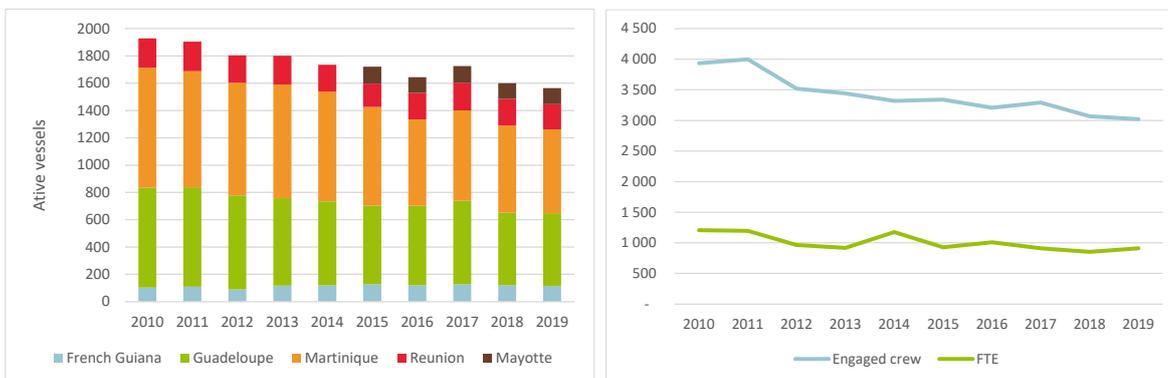
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.123 - Top species landed in value (left) and weight (right) by the French OMR fleet, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of active vessels, total jobs and FTE decreased respectively by -19%, -30% and -25% (Mayotte excluded). The main declines concern Guadeloupe and Martinique and to a less extent The Reunion Island. It is important to note that significant parts of the registered fleet are inactive in these regions.

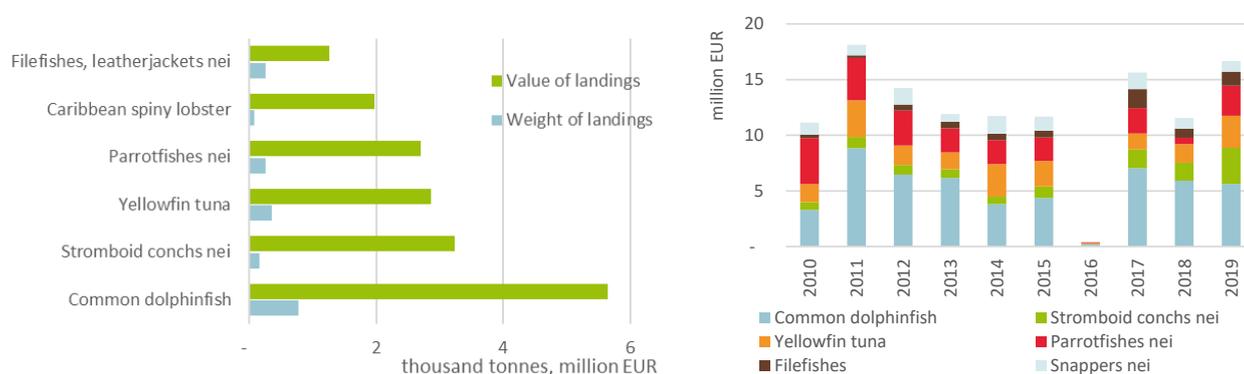


**Figure 3.124 – Active vessels per by OM (left), total engaged crew and FTE (right) for French OMR fleet (Mayotte since 2015)**

The calculation of FTE is based on France mainland standards which may not be appropriate for the small scale segments. Only days at sea are considered for the calculation when most fishers spend a lot of time for preparing their gear-equipment and selling their landings. Underestimation of the working days and FTE is reinforced by the fact that a significant proportion of fishers are not very active in the population, which weighs down the level of activity of active vessels in the fleet.

### GADELOUPE (GP)

In 2019, the Guadeloupe fleet was composed of 532 active vessels (97% under 10 metres LOA) in the fleet. Engaged crew was 970 (315 FTE). Total effort expressed in days at sea was around 43 000 days for total fuel consumption of 3.2 million litres. Total landings in weight and value were respectively 2 700 tonnes for EUR 23.4 million and average price was 8.4 euro/kg. GVA was EUR 15.6 million (66% of the revenue) and gross profit EUR 3.5 million (15.1% margin). The main species in value were common dolphinfish, conchs, yellowfin tuna, parrotfishes, spiny lobster and filefishes. Snappers and groupers 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 fish mongers. It is important to note that the Guadeloupe fleet is highly dependent on species assessed or followed by the ICCAT (yellowfin tuna, blue marlin, dolphinfish) and the WECAFC (conchs, spiny lobster, ...)



**Figure 3.125 – Top species landed in value and weight by the French OMR fleet of Guadeloupe in 2019 and between 2010 and 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Vessels operate in the different following fisheries around Guadeloupe archipelago.

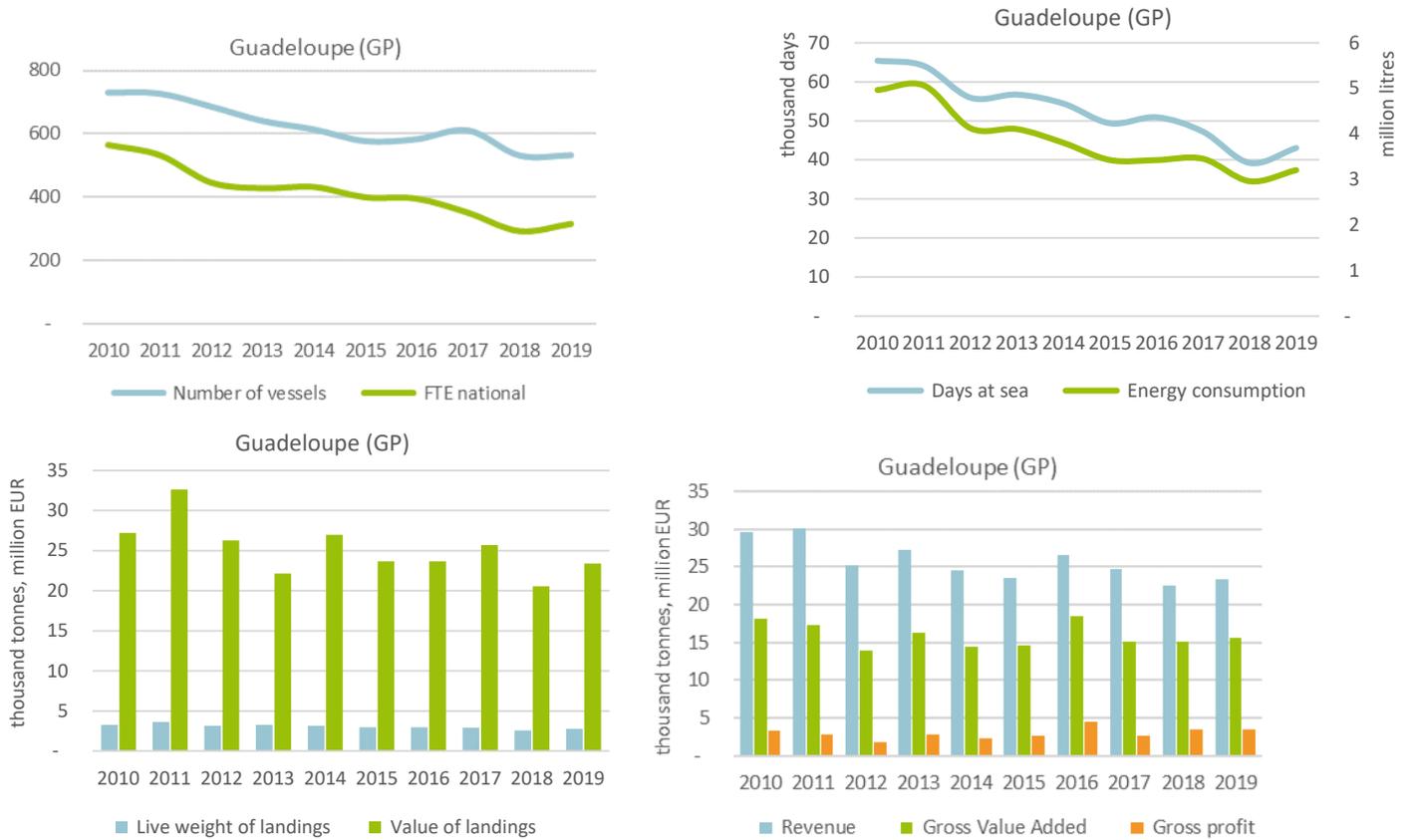
- Coastal insular shelf fisheries: vessels use mainly traps, gillnets, hand line to catch a great diversity of demersal and benthic species, trammel nets to target spiny lobster or stromboid conch, and encircle nets to target small pelagic species and demersal species. Snorkelling is also practiced;
- Slope fishery: vessels mainly targeting snappers mainly using 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 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 combination 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 is mainly composed of non-decked vessels with outboard engines operating on a one-day trip basis. Average crew is 2 members with some exceptions for vessels using encircle nets. Crew members are from Guadeloupe. However, the fleet includes about ten decked vessels operating longer trips on the Saint-Barthelemy and Saint-Martin insular shelf. The level of activity is very variable within the fleet and segments.

Between 2010 and 2019, the active fleet decreased by 27% and FTE by 44%. 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 days at sea and energy consumption was around 35% showing no significant change in fuel consumption per day at sea and thus despite an increase in the average engine power of the vessels remaining in the fleet. The landings in weight and value followed the same trend (-15%) with average price which has remained almost stable over the period. Total GVA also decreased over the period (-15%), but gross profit increased by 4%. If total GVA decreased

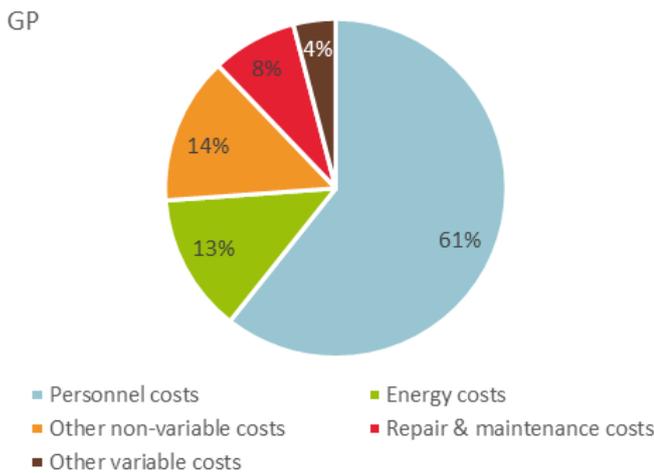
over the period (-15%) following the trend in landings, GVA per vessel and per FTE increased by 17% and 53%, respectively.



**Figure 3.126 – Trends on capacity, effort, landings and profit for the French OMR fleet in Guadeloupe**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2019, the cost of energy represented 13% 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 14% 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 3.127. Cost structure from the Guadeloupe OMR fleet, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Fleet structure and key results

**Table 3.7 - Summary results for the French OMR fleets in 2019: Guadeloupe (GP)**

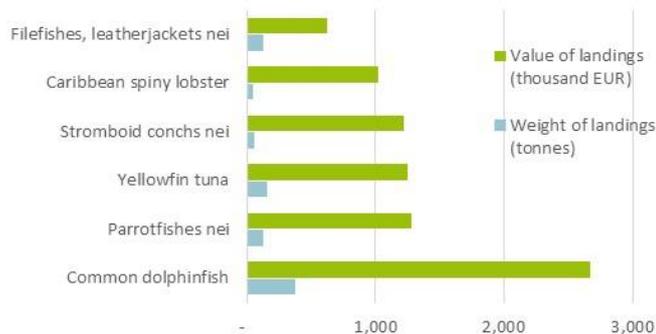
	Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings (tonnes)	Value of landings (M EUR)	Revenue (M EUR)	Gross Value Added (M EUR)	Gross profit (M EUR)	Net profit (M EUR)
FRA OFR DFN0010 GP	77	45	6.3	250	299	3.4	3.2	2.2	0.5	0.1
FRA OFR FPO0010 GP	100	44	6.7	280	256	2.4	2.5	1.5	0.1	0.3
FRA OFR HOK0010 GP	100	43	6.6	996	775	5.6	5.4	4.0	1.3	0.7
FRA OFR PGP0010 GP *	213	137	20.1	1,413	1,221	10.3	10.4	6.7	1.3	0.1
FRA OFR PGP1012 GP *	16	11	1.2	145	72	0.6	0.7	0.3	0.0	0.1
FRA OFR PS 0010 GP	26	36	2.2	120	160	1.1	1.1	0.8	0.3	0.1
<b>GP fleet</b>	<b>532</b>	<b>316</b>	<b>43.1</b>	<b>3,205</b>	<b>2,784</b>	<b>23.4</b>	<b>23.4</b>	<b>15.6</b>	<b>3.5</b>	<b>0.6</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Selected segments

### POLYVALENT GEARS (PGP0010 GP\*)

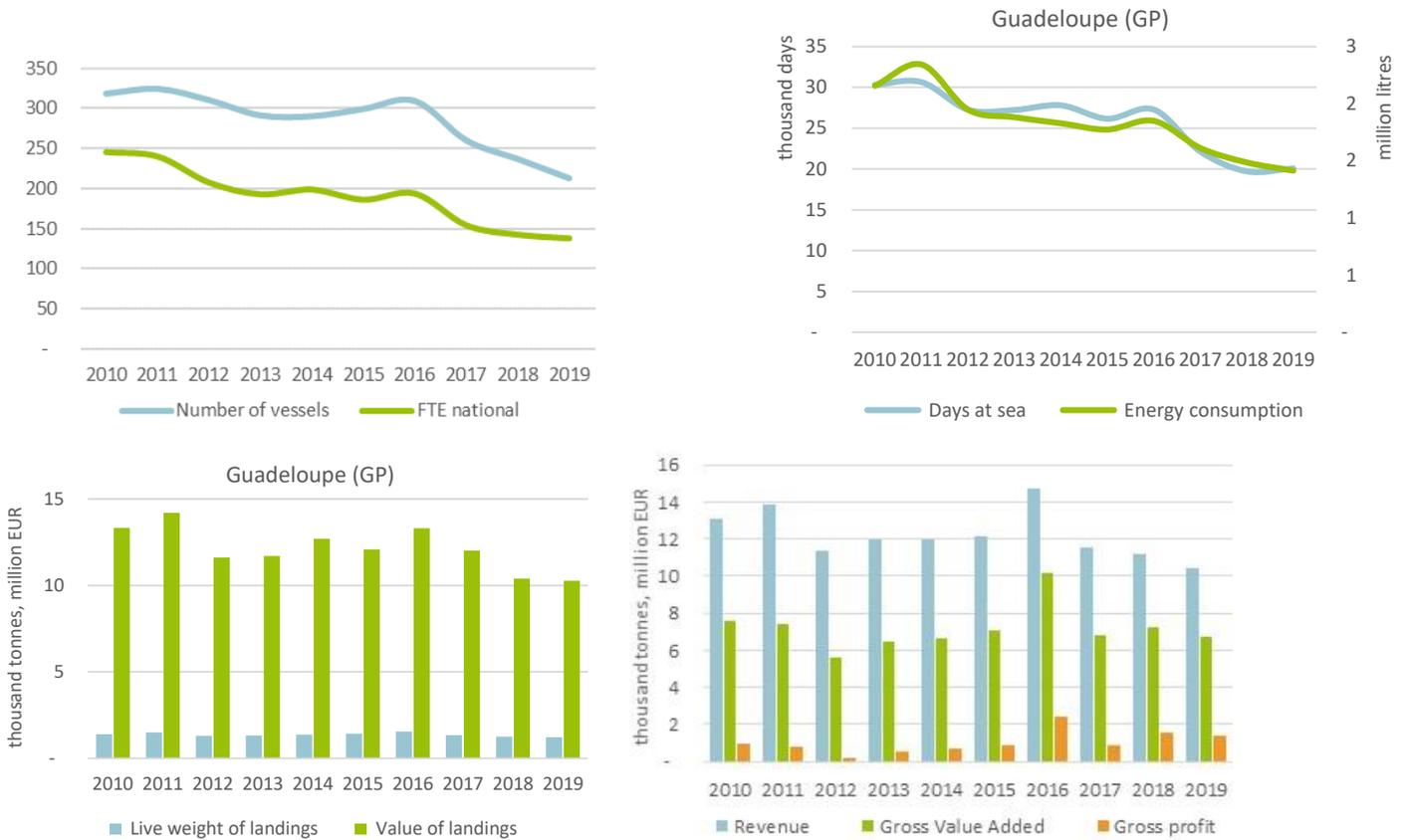
In 2019, this segment was the most important with 213 vessels (40% of the active fleet). Engage crew was 364 (137 FTE). Total effort expressed in days at sea was around 20 100 days for total fuel consumption of 1.4 million litres (70 litres/day at sea). Total landings in weight and value were respectively 1 220 tonnes for EUR 10.4 million and average price was 8.4 euro/kg. GVA was EUR 6.7 million (64.5% of the revenue) and gross profit EUR 1.3 million. Average GVA per FTE and per vessel were EUR 48 900 and GVA EUR 31 600, respectively. In 2019, a large diversity of species structured the landings, common dolphinfish, yellowfin but also parrotfishes and conchs. This may be explained by the heterogeneity of the segment.



**Figure 3.128. Top species landed in value and weight by PGP0010 GP\* in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels and days at sea decreased respectively by -33% and -34%. Landings in weight declined by -12%, average price by -12% and revenue by -21%. As species prices have not really changed over the period, the decrease in average price may be explained by in the composition of landings by species. Total GVA decreased by -11% but GVA per FTE and per vessel increased respectively by 60% and 33% respectively.

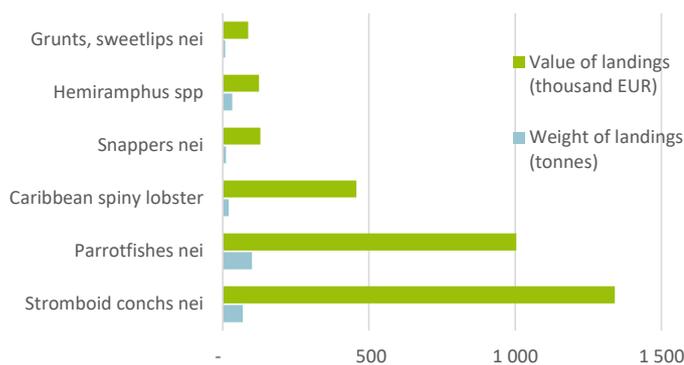


**Figure 3.129. Trends on capacity, effort, landings and GVA and gross profit for FRA OFR PGP0010 GP\*<sup>20</sup>**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### NETTERS (DFN0010 GP)

In 2019, this segment concerned 77 vessels (14% of the active fleet) with 137 crew members engaged (45 FTE). Total effort expressed in days at sea was around 6 260 days for total fuel consumption of 250 000 litres. (40 litres/day at sea). Total landings in weight and value were respectively 300 tonnes for EUR 3.4 million and average price was 11.4 euro/kg. GVA was EUR 2.2 million (69.5% of the revenue) and gross profit EUR 465 000 (14.4% margin). Average GVA per FTE and per vessel were respectively EUR 50 300 and GVA EUR 29 200. In 2019, the main targeted species were conchs, parrotfishes and spiny lobsters.

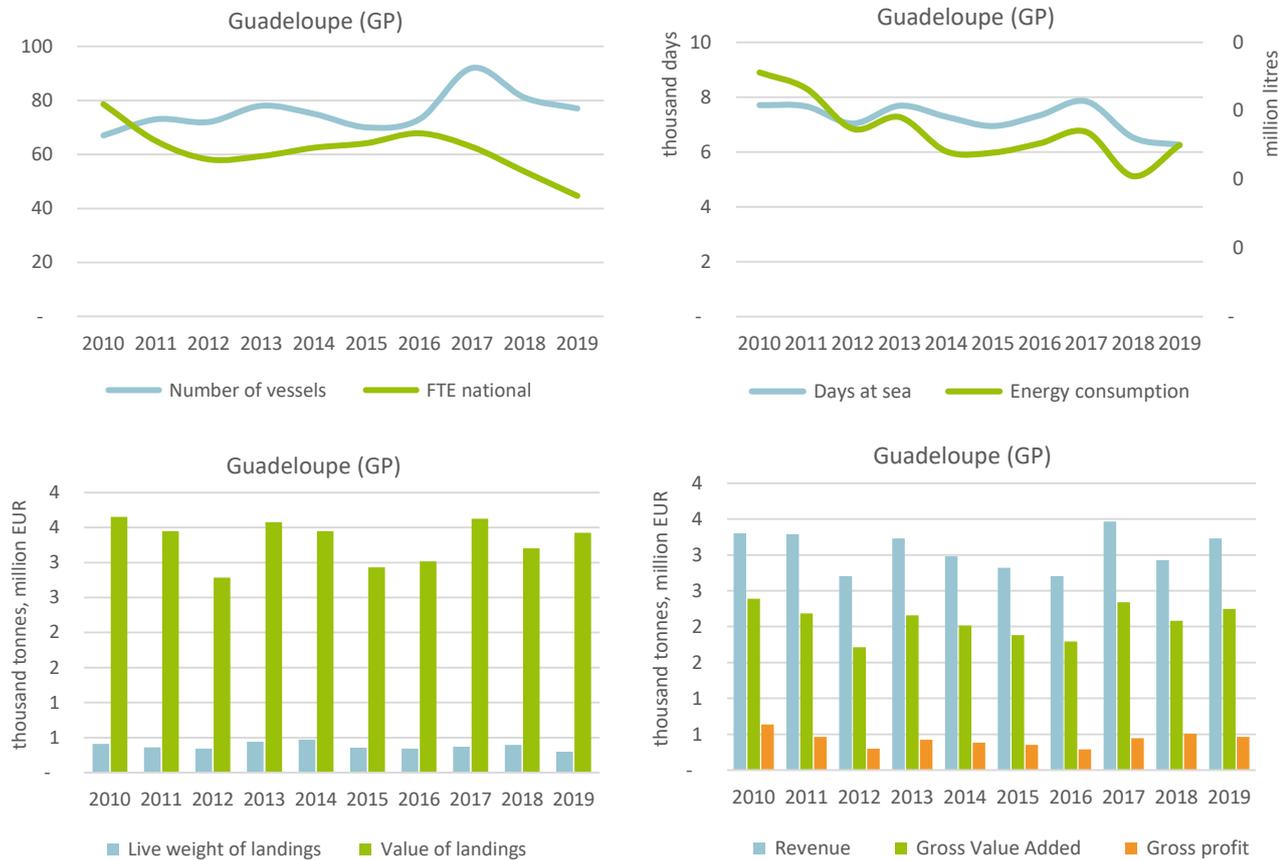


**Figure 3.130. Top species landed in value and weight by DFN0010 GP in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels increased by 13% but days at sea decreased by 23%. Landings in weight declined by 37% and only 2% in revenue. As species prices have not really changed over the period, the increase in average price (+22%) may be explained by in the composition of landings by species. Total GVA decreased by 6% and also GVA per vessel (-22%) but GVA per FTE increased (+40%).

<sup>20</sup> Landings in weight and value updated in 2016

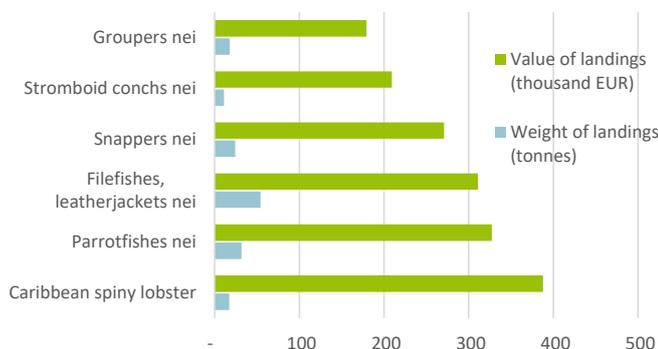


**Figure 3.131. Trends on capacity, effort, landings and GVA and gross profit for DFN0010 GP**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016

### POTERS (FPO0010 GP)

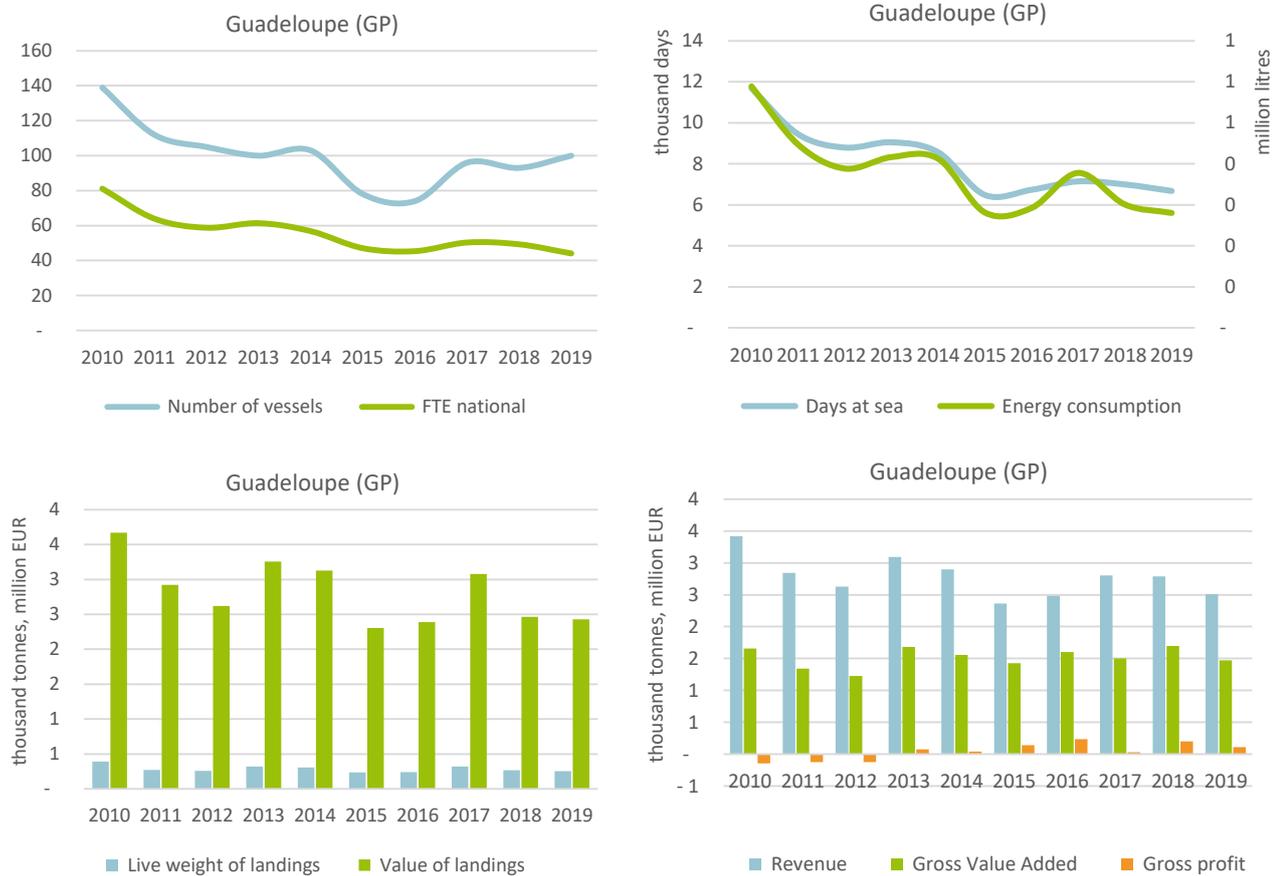
100 vessels (19% of the active fleet) made up this segment in 2019 with 165 crew members engaged (44 FTE). Days at sea were 6 670 and total fuel consumption 280 000 litres (42 litres per day at sea). Total landings in weight and value were respectively 256 tonnes for EUR 2.4 million (9.5 euro/kg average price). GVA was EUR 1.5 million (58.7% of the revenue) and gross profit EUR 111 000 (4.4% margin). Average GVA per FTE and per vessel were respectively EUR 33 500 and GVA EUR 14 700. In 2019, the landings in value was mainly composed of species like spiny lobsters, parrotfishes, filefishes, snappers and groupers. As mentioned earlier, the segment is heterogeneous with vessels using other gears than traps (e.g. nets to target conchs)



**Figure 3.132. Top species landed in value and weight by FPO0010 GP in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels and days at sea decreased by 28% and 43%, respectively. Landings in weight and value declined by 35% and average prices remained stable. Total GVA decreased by 11% but GVA per vessel improved (+23%) as well as GVA per FTE (+23%). Gross profit was negative at the beginning of the period and became positive at the end of the period.

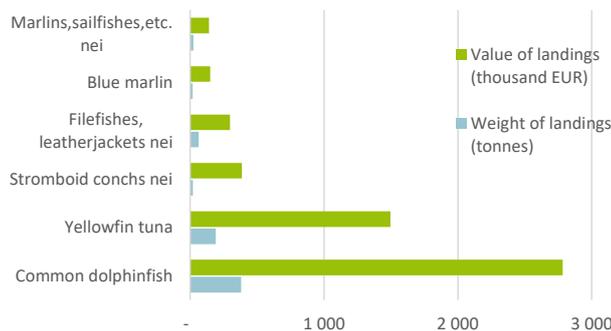


**Figure 3.133. Trends on capacity, effort, landings and GVA and gross profit for FPO0010 GP**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016

### HOOKS AND LINES (HOK0010 GP)

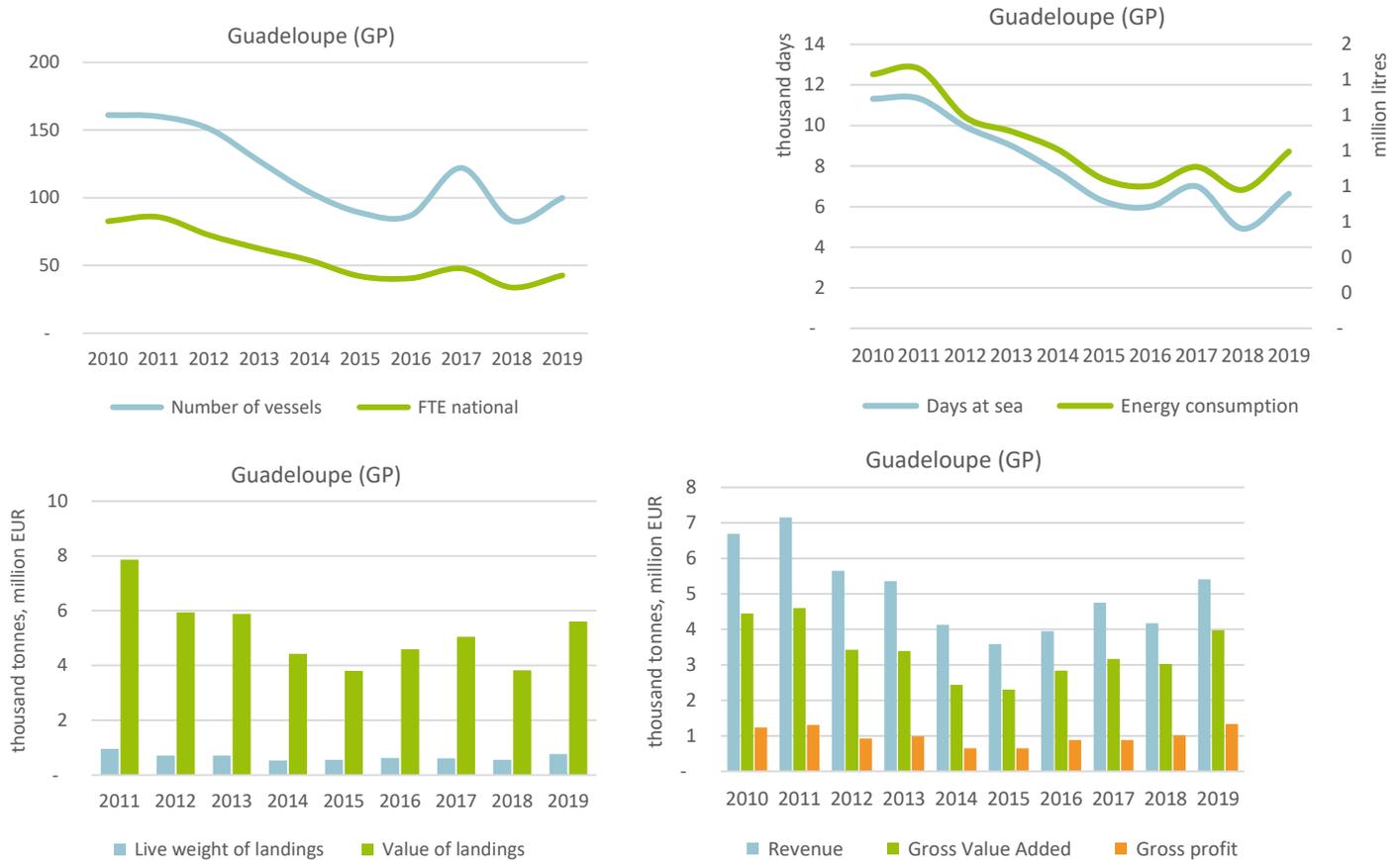
In 2019, this segment concerned 100 vessels (19% of the active fleet) with 163 crew members engaged (43 FTE). Total effort expressed in days at sea was around 6 640 days for total fuel consumption of 996 500 litres (150 litres/DaS). Total landings in weight and value were respectively 775 tonnes for EUR 5.6 million and average price was 7.2 euro/kg. GVA was EUR 3.98 million (73.5% of the revenue) and gross profit EUR 1.3 million (24.7% margin). Average GVA per FTE and per vessel were respectively EUR 92 990 and EUR 39 760. In 2019, the main landings in value of this segment were structured by large pelagic species, common dolphinfish and yellowfin tuna.



**Figure 3.134. Top species landed in value and weight by HOK0010 GP in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

Between 2010 and 2019, the number of vessels and days at sea decreased by 38% and 48%, respectively. Despite this decline, landings in weight and value decreased by only 20% and average price remained quite stable with 2% increase over the period. Total GVA decreased by 14% but GVA per vessel improved (+44%) as well as GVA per FTE (+72%). Gross profit was negative at the beginning of the period and became positive at the end of the period.



**Figure 3.135. Trends on capacity, effort, landings and GVA and gross profit for HOK0010 GP**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

### Main factors affecting the performance of the fleet

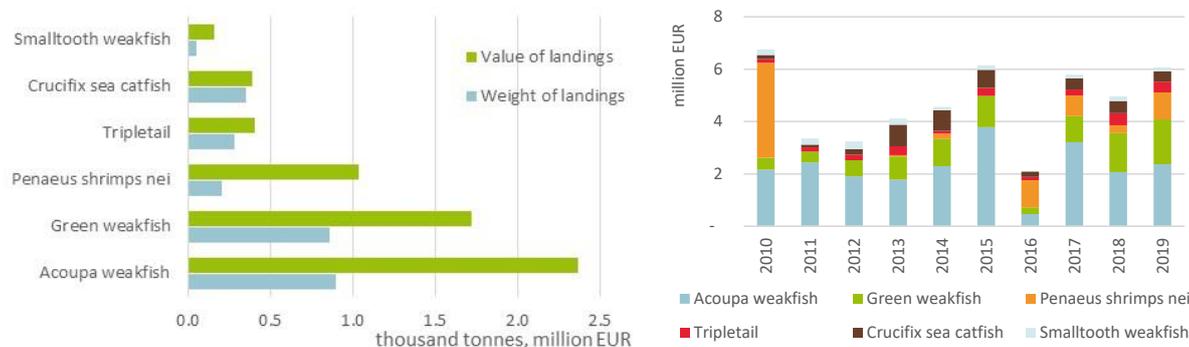
- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet. The conch stocks is subject to worry and the fishery was closed for the 2020-2021 season.
- Guadeloupe like other OMRs is geographically far from sources of supply. These constraints generate, for the local economic operators additional costs compared to mainland. These additional costs 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.
- There has been no increase in the landing prices over the past ten years. One of the reasons given is the importation of seafood from international markets in a context of region's dependence on imports.
- 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. Local illegal fishing and recreational fishers are also serious competitors.
- The sustainability of the sector is also threatened by the quality of habitats environment dependent on coastal development and agriculture. 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.
- The number of landings points is very important in Guadeloupe. The quality of port infrastructure is an important element for maintaining fishing activity and attracting young fishers. Efforts have been made by the competent authorities but the situation could be improved to facilitate the work of fishers

## FRENCH GUIANA (GF)

In 2019, the French Guiana OMR fleet comprised 116 active vessels. Within this fleet, 43 vessels from 00-10m and 60 vessels from 10-12m use drift nets<sup>21</sup>. 13 trawlers from 18-24m target tropical shrimps. Total crew was 372 persons, corresponding to 183 FTE. Total effort expressed in days at sea was around 14 000 days for total fuel consumption of 590 000 litres. Total landings in weight and value were respectively 2 800 tonnes for EUR 6.2 million and average price was 2.2 euro/kg. GVA was EUR 4.2 million (61% of the revenue) and gross profit EUR 1.3 million (20.0% margin). The main species in value and weight were Acoupa weakfish, green weakfish targeted with driftnets and sold locally. Acoupa weakfish swim blades are also highly value and contribute the revenue of fishers. Penaeus shrimps nei are harvested by trawlers and exported. Snappers are also exploited in the French Guiana EEZ but by foreign fleets and thus not reported here<sup>22</sup>. For some species (snappers, shrimps) stock status is followed by the WECAFC.



**Figure 3.136. Top species landed in value in 2019 and between 2010 and 2019 by the French OMR fleet of French Guiana**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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. The driftnet fishery is subject to competition from foreign IUU in French Guiana EZZ. 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

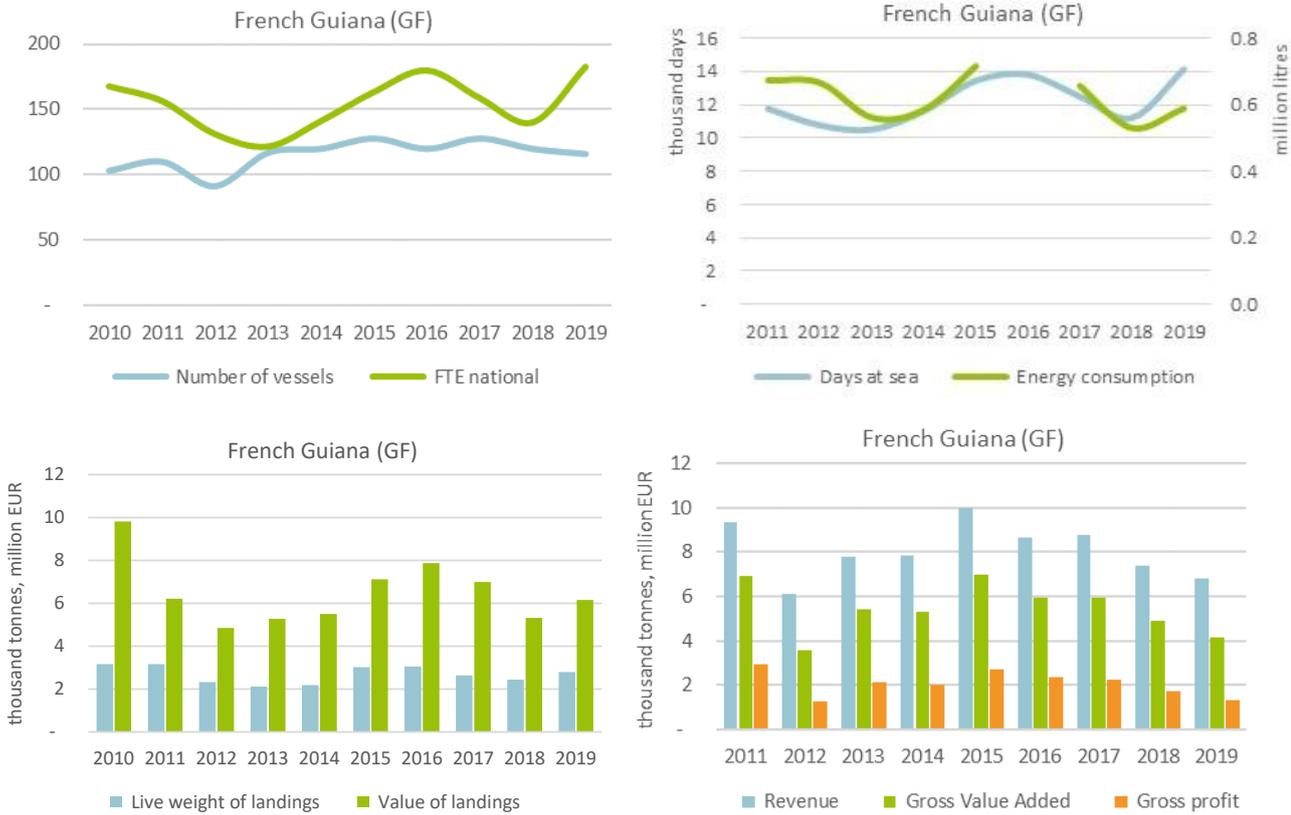
Between 2010 and 2019, the active fleet increased slightly (+13%) and also the FTE (+9%) despite a reduction in the number of active shrimp trawlers. Days at sea followed quite the same trend (+15%) but energy consumption decreased by -12% which may be explained by the change in the structure of the fleet. However, the landings in weight and value decreased by 12% and 37%, respectively. The change in average price (29% lower) is probably explained by the reduction of shrimps landings with higher prices than fishes in total landings. Economic indicators concerns only the small scale fleet<sup>23</sup>.

<sup>21</sup> This segment is mainly composed of non-decked vessels with outboard engines also called locally "pirogue", "canots créole" and "canots creoles améliorés". There are also some decked vessels with inboard engine called "tapouilles". These local names reflect the degree of equipment of the vessels that the vessel size categories do not reflect.

<sup>22</sup> Snappers are exploited by 45 Venezuelan hand lines vessels operating with an European license Their landings were estimated at 1 500 tonnes in 2015, a significant part being landed in French Guiana and exported for a significant part to the French Antilles. Snappers are also targeted by few vessels from Martinique (French outermost region) using traps and contributing to less than 10% of total landings.

<sup>23</sup> Economic indicators were not available for the 18-24m trawlers segment.

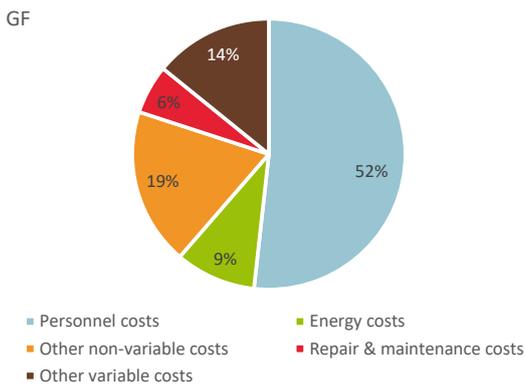
Revenue, GVA and gross profit indicators followed the evolution with an improvement until 2015 and a quite constant decrease until 2019. It is important to note that total revenue is sensitive to the estimation of Acoupa weakfish swim blades revenues.



**Figure 3.137. Trends on capacity, effort, landings and profit for the French OMR fleet in French Guiana** <sup>24</sup>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2019, the cost of energy for the driftnet segment represented 9% of the total costs which quite low compared to other French OMRs segments (see also fuel consumption per day per segment). Other variable costs and non-variable cost are relatively high and represented 19% and 14% of total costs, respectively. Personnel costs include social security costs for which contribution rates are reduced compared to France mainland.



**Figure 3.138. Cost structure from the French Guiana OMR fleet, 2019 (all DFN segments)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

<sup>24</sup> Landings in weight and value updated in 2016

## Fleet structure and key results

**Table 3.8 - Summary results for the French OMR fleets in 2019: French Guiana (GF)**

	Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings (kg)	Value of landings (EUR)	Revenue (EUR)	Gross Value Added (EUR)	Gross profit (EUR)	Net profit (EUR)	GVA to revenue (%)	Gross profit margin (%)	Net profit margin (%)	GVA per FTE (labour productivity) (EUR per FTE)
FRA OFR DFN1012 GF *	60	107	8,055	340,604	1,554,033	3,243,635	4,759,734	3,027,512	992,653	815,223	63.6	20.9	17.1	28,371
FRA OFR DFN0010 GF *	43	53	5,000	249,788	1,017,483	1,811,041	2,052,760	1,145,118	349,049	277,030	55.8	17.0	13.5	21,736
FRA OFR DTS1824 GF	13	24	1,089	1	225,860	1,107,969	1	3	-	-	300.0	-	-	0
<b>French Guiana</b>	<b>116</b>	<b>183</b>	<b>14,144</b>	<b>590,392</b>	<b>2,797,376</b>	<b>6,162,645</b>	<b>6,812,495</b>	<b>4,172,628</b>	<b>1,341,701</b>	<b>1,092,253</b>	<b>61.2</b>	<b>19.7</b>	<b>16.0</b>	<b>35,971</b>

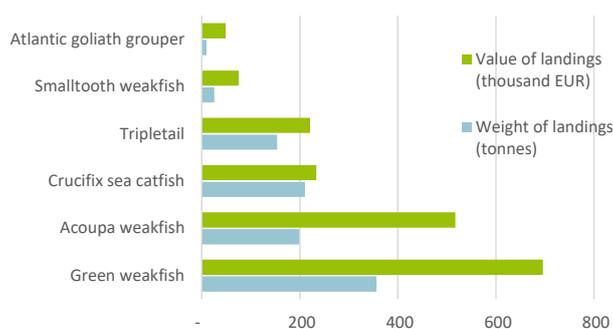
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015)). FTE national may not be adapted to outermost context

## Selected segments

### DRIFNETERS (DFN0010 GF)

43 vessels (42% of the active fleet under 10 metres) made up this segment in 2019 with 108 crew members engaged (53 FTE). Days at sea were 5 000 and total fuel consumption 250 000 litres (50 litres per day at sea). Total landings in weight and value were respectively 1 020 tonnes for EUR 1.8 million (1.8 euro/kg average price). Total revenue was EUR 2.1 million for a GVA of EUR 1.1 million (56% of the revenue) and gross profit EUR 993 000 (17% margin). Average GVA per FTE and per vessel were respectively EUR 21 700 and GVA EUR 26 600.

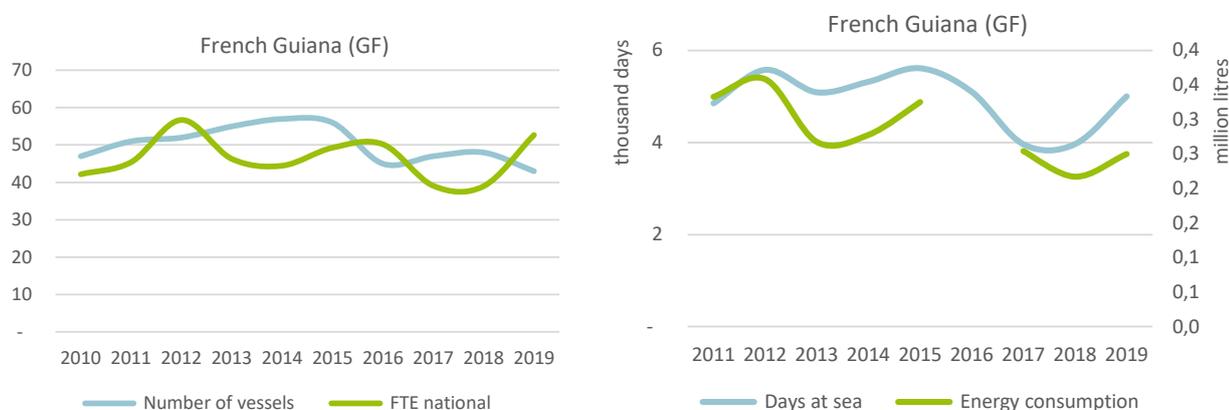
In 2019, the main landings in value were green weakfish, Acoupa weakfish and to a less extent Crucifix sea catfish and Tripletail.

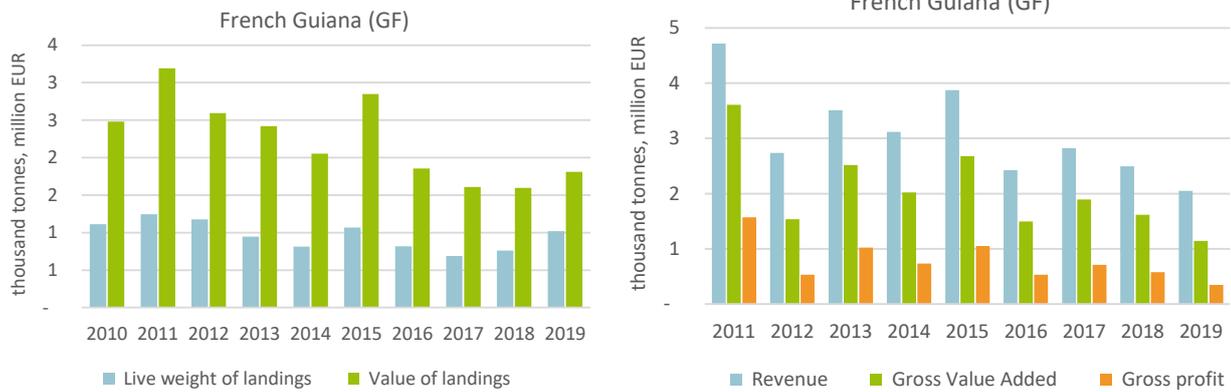


**Figure 3.139. Top species landed in value and weight DFN0010 GF in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels decreased by -9% but peaked up in 2014 (57 vessels). Days at sea remained quite stable (+2%). Landings in weight and value were reduced by 8% and 27%, respectively. Average price declined by 31%. Since 2011, a downward trend can be observed in the average landings value per vessel (-33%). The GVA per vessel followed a similar but amplified evolution which may explain the current socio-economic difficulties of this segment.



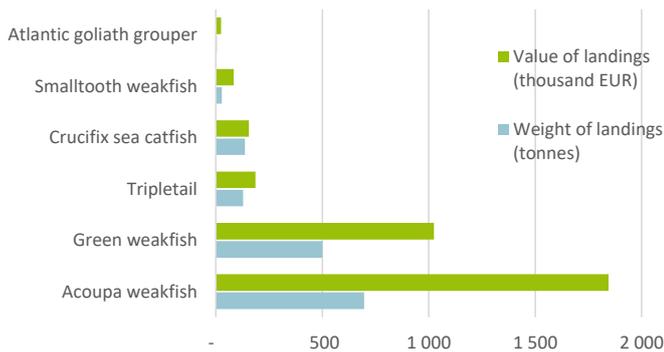


**Figure 3.140. Trends on capacity, effort, landings, GVA and gross profit for DFN0010 GF**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

**DRIFNETERS (DFN1012 GF)**

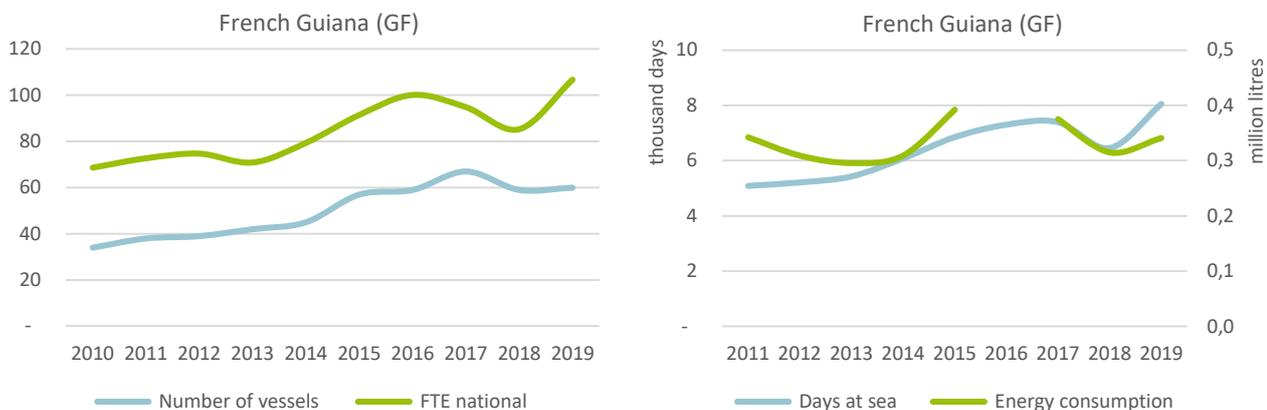
60 vessels (58% of the active fleet under 10 metres) made up this segment in 2019 with 199 crew members engaged (107 FTE). DaS were 8 055 and total fuel consumption 340 600 litres (42 litres per DaS). Total landings in weight and value were respectively 1550 tonnes for EUR 3.2 million (2.1 euro/kg average price). Total revenue was EUR 4.7 million for a GVA of EUR 3.0 million (63.6% of the revenue) and gross profit EUR 993 000 (20.9% margin). Average GVA per FTE and per vessel were EUR 28 400 and EUR 50 100, respectively. In 2019, the main targeted species were in weight and value Acoupa weakfish and green weakfish.

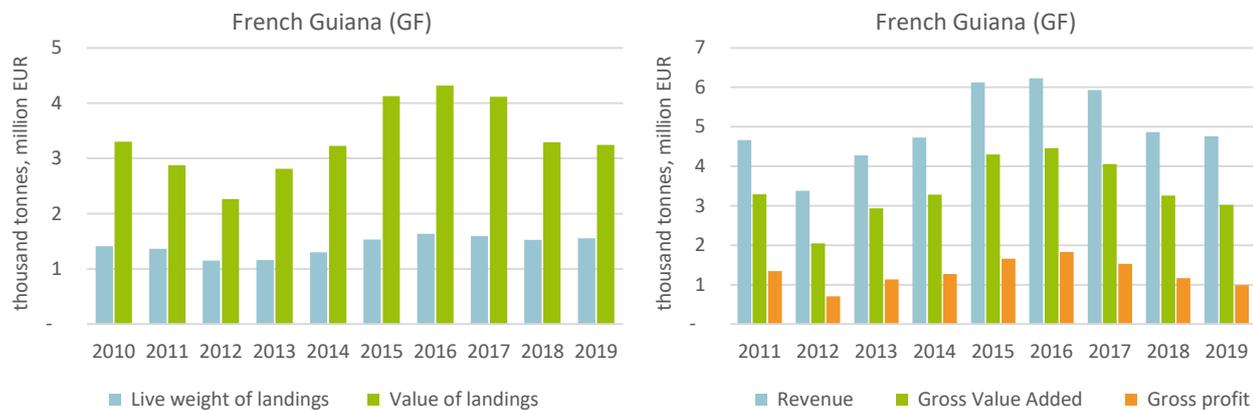


**Figure 3.141. Top species landed in value and weight DFN1012 GF in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels and days at sea increased significantly by +58%. Landings in weight and value was more limited in scope with an increase of +14%. Average landing price was almost stable over the period. Note that landings peaked in 2016 and then decreased in the most recent years. A similar trend is observed for revenue, GVA and gross profit. Compared to 2016, GVA, GVA per FTE and GVA per vessels were reduced by 36% to 32%.





**Figure 3.142. Trends on capacity, effort, landings, GVA and gross for DFN1012 French Guiana**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

## TRAWLERS (DTS1824 GF)

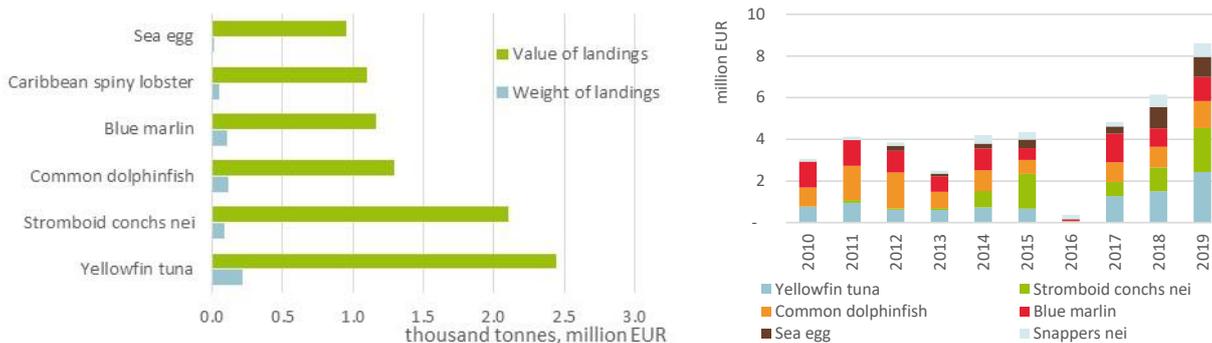
No economic data was available in 2019 and for the previous years.

### Main factors affecting the performance of the fleet

- The recent increase in demand of Asian market for Acoupa weakfish swim blades has significantly transformed the fishing activity in French Guiana, especially for the 00-10m and 10-12m segments using driftnet. This product which was a source of additional income for crew members is now subject to an organized activity to provide Chinese buyers through Brazilian and Surinamese retailers. Acoupa weakfish is now targeted mainly for the value of the swim blade in a context where the landing price of demersal species are low. This product yields additional and significant incomes for the small scale fleet. However, Acoupa species are subject to concerns in terms of fisheries management. Illegal harvesting is reported for these species.
- Additionally, if national illegal fishing is observed on the west side of the coastal shelf, foreign illegal fishing (IUU) is reported within the French Guiana EEZ. IUU was considered to represent vessel number equivalent to French Guiana legal fleet, creating serious issues in terms of conflicts at sea, socio-economic consequences and fisheries management.
- Harbour infrastructures, especially for the 00-10m and 10-12m are limited in number and the quality of equipment is considered to be poor. Landings in some places depend on the 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.
- Most of the crew members in the small scale fleet 00-12m are foreign fishers. The crew turnover is considered high and this has led to crew training and certification issues.
- Shrimp landings from the trawlers operating on the shelf have strongly decreased in the last decade. Various factors could explain this evolution: the degradation of stock status in a context of global environmental changes ; the decrease of shrimp price in international market and competition aquaculture products; the increase of the fuel price and relative high level of fuel consumption by shrimp trawlers. These combined effects of the factors have probably contributed the decline in the economic performance of the segment and the decline in attractiveness of the fishery.
- 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.

## MARTINIQUE (MQ)

In 2019, the Martinique fleet comprised 614 active vessels and most of them (98%) were under 10 metres. Total crew was 1053 persons corresponding to 143 FTE. Total effort expressed in days at sea was around 20 300 days for total estimated fuel consumption of 4.240 million litres (208 litres/day at sea). Total landings in weight and value were respectively 1 053 tonnes for EUR 12.7 million and average price was 12.1 euro/kg. A preliminary estimation of economic indicators was provided in 2019. GVA was estimated to EUR 9.0 million (77% of the revenue) and gross profit EUR 2.0 million (17.0% 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, dolphinfish) and the WECAFC (conchs, spiny lobster, ...)



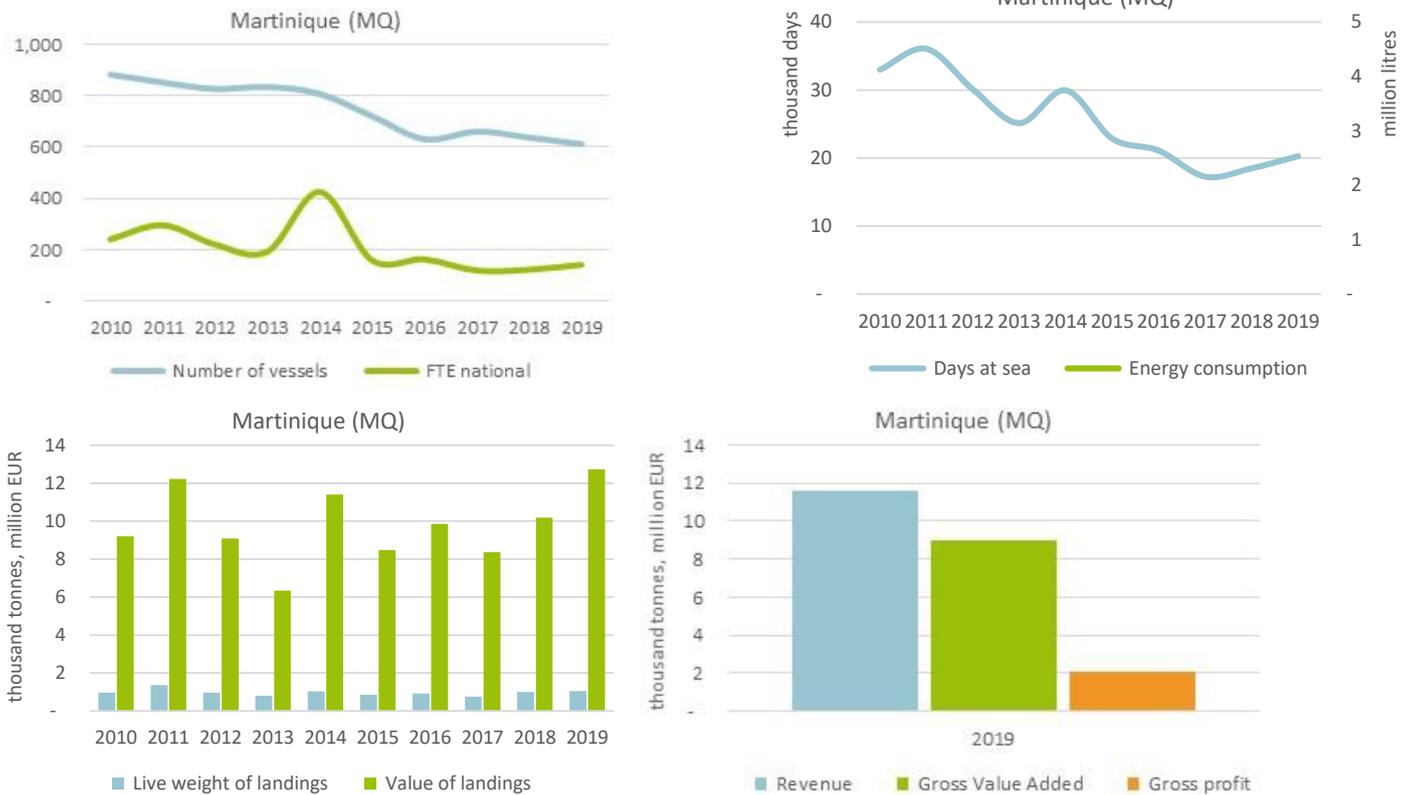
**Figure 3.143. Top species landed in value in 2019 and between 2010 and 2019 by the French OMR fleet of Martinique**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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 stromboid 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 combination 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.

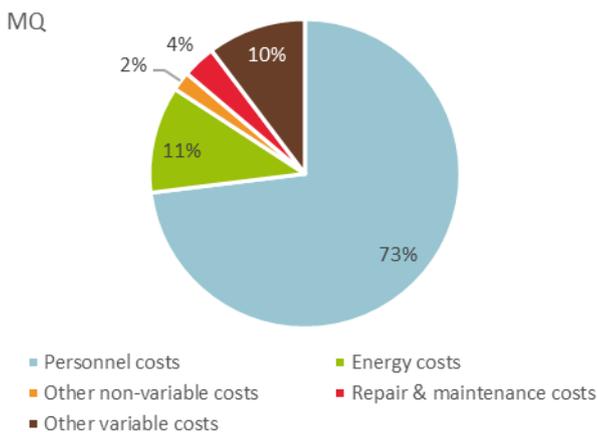
Between 2010 and 2019, the active fleet decreased by 30% and FTE by 41%. The decrease in DsS was around 39%. However, total landings in weight and value increased respectively by 9% and 38% over the period. Average price increased by 27% over the period. As a consequence, average landings per vessel increased in weight and value improved (from 1.1 tonnes to 1.7 tonnes and from EUR 10 000 to EUR 20 000) but average figures are difficult to interpret considering the low level of activity of significant parts of the fleet. Other economic indicators were not available before 2019 making trend analysis impossible.



**Figure 3.144. Trends on capacity, effort, landings, GVA and gross profit for the French OMR fleet in Martinique**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

In 2019, the cost of energy represented 11% 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. Other variable costs were estimated to 10%. Non-variable cost represented on average 2% of the total costs which is considered to be very low compared to similar segments on other regions. 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 3.145. Cost structure for the Martinique OMR fleet, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Fleet structure and key results

**Table 3.9 - Summary results for the French OMR fleets in 2019: Martinique(MQ)**

	Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings (kg)	Value of landings (EUR)	Revenue (EUR)	Gross Value Added (EUR)	Gross profit (EUR)	Net profit (EUR)	GVA to revenue (%)	Gross profit margin (%)	Net profit margin (%)	GVA per FTE (labour productivity) (EUR per FTE)
FRA OFR PGP0010 MQ *	199	73	10,329	1,834,560	476,040	6,149,487	6,079,555	5,048,924	1,694,946	-	83.0	27.9	-	69,025
FRA OFR HOK0010 MQ	147	24	3,828	1,375,920	283,066	3,081,451	3,081,451	2,308,478	326,581	-	74.9	10.6	-	96,256
FRA OFR FP00010 MQ	147	22	3,205	458,640	88,695	1,319,217	1,319,217	775,953	-	46,661	-	58.8	3.5	36,042
FRA OFR DFN0010 MQ	61	10	1,461	570,960	67,854	1,098,959	1,098,959	877,306	76,925	-	79.8	7.0	-	88,154
FRA OFR HOK1012 MQ *	14	9	605	-	82,837	704,489	-	-	-	-	-	-	-	-
FRA OFR PGO0010 MQ	46	5	848	1	54,614	384,730	1	3	-	-	300	-	-	1
<b>Martinique</b>	<b>614</b>	<b>143</b>	<b>20,276</b>	<b>4,240,081</b>	<b>1,053,106</b>	<b>12,738,333</b>	<b>11,579,183</b>	<b>9,010,657</b>	<b>2,051,791</b>	<b>-</b>	<b>77.8</b>	<b>17.7</b>	<b>-</b>	<b>14,675</b>

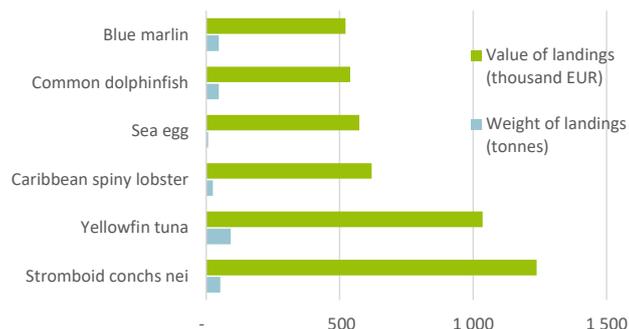
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). *N.B. FTE national may not be adapted to outermost context*

## Selected segments

### POLYVALENT GEARS (PGP0010 MQ\*)

In 2019, this segment was the most important with 199 vessels (32% of the active fleet). Engage crew was 352 (73 FTE). Total effort expressed in days at sea was around 10 300 days for total fuel consumption estimated to 1.8 million litres (177 litres/day at sea which is very high compared to other similar segments). Total landings in weight and value were respectively 480 tonnes for EUR 6.1. million and average price was 12.9 euro/kg. GVA was estimated to EUR 5.0 million (83% of the revenue) and gross profit EUR 1.7 million. Average GVA per FTE and per vessel were respectively EUR 69 000 and GVA EUR 8 500.

The main landed species in value were a mix of coastal species (conchs, spiny lobster, urchin eggs) and large pelagic species such as yellowfin tuna, common dolphin and blue marlin.

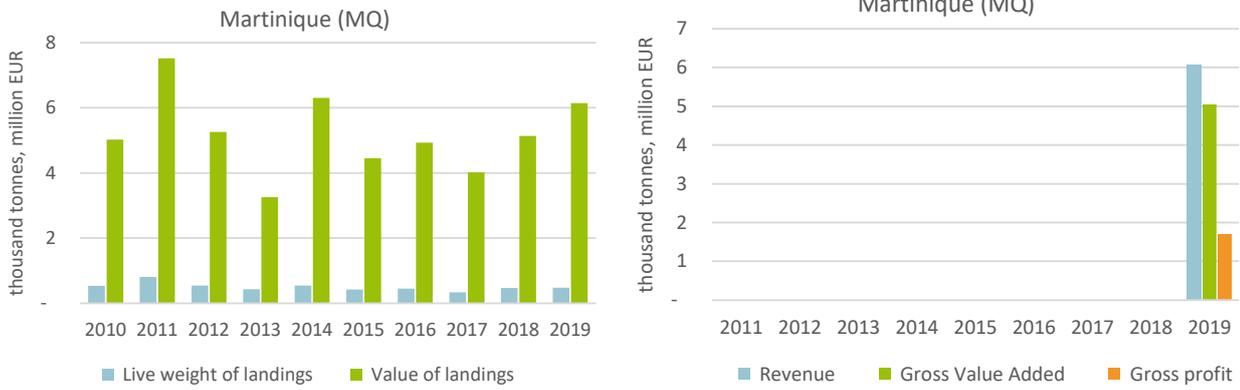


**Figure 3.146. Top species landed in value by PGP0010 MQ\* in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels and days at sea decreased by 41% and 43%, respectively. Landings in weight declined by 10% but increased in value (+22%) due to positive average price evolution (+37%). Other economic indicators were not available before 2019 making trend analysis impossible.



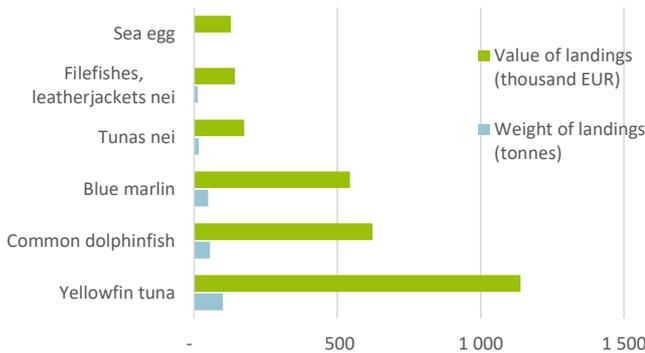


**Figure 3.147. Trends on capacity, effort, landings and profit for PGP0010 MQ**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016

**HOOKS AND LINE (HOK0010 MQ\*)**

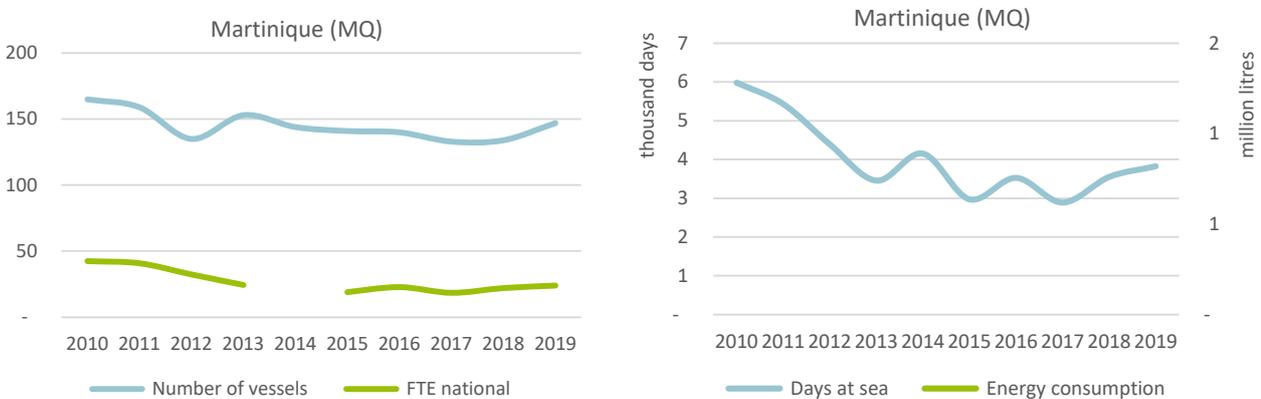
In 2019, this segment concerned 147 vessels (24% of the active fleet) with 230 crew members engaged (24 FTE). Total effort expressed in days at sea was around 3 800 days for a total fuel consumption of 1.376 million (360 litres per day at sea). Total landings in weight and value were respectively 283 tonnes for EUR 3.1 million and average price was 10.9 euro/kg. GVA was estimated to EUR 2.3 million (75% of the revenue) and gross profit EUR 231 000 (11% margin). Average GVA per FTE and per vessel were EUR 96 300 and EUR 15 700, respectively. The main landed in value species were large pelagic species such as yellowfin tuna, common dolphin, blue marlin and other tunas.

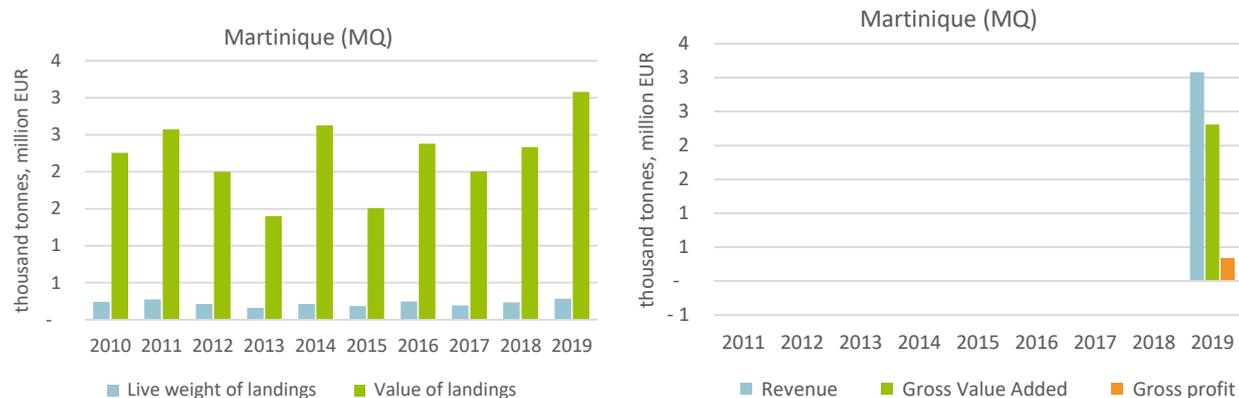


**Figure 3.148. Top species landed in value by HOK0010 MQ\* in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2019, the number of vessels and days at sea decreased by 11% and 36%, respectively. Despite this decline, landings in weight and value increased by 17% and 37%, respectively. Average price increase by 17%. Other economic indicators were not available before 2019 making trend analysis impossible.





**Figure 3.149. Trends on capacity, effort, landings and profit for HOK0010 MQ\***

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016

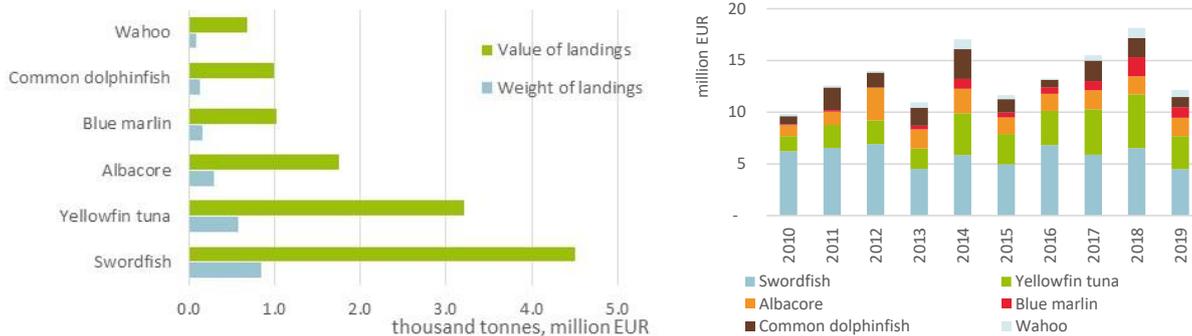
### Main factors affecting the performance of the fleet

- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet.
- Martinique 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 European Maritime and Fisheries Fund (EMFF) but the returns for local fishers are limited in scope.
- Even if average landing prices increased over the last decade, the supply from the sector seems to be subject to the competition from imports from international markets and from foreign vessel 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 for the entry permit to the fleet, there are few licence 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 the habitat environment dependent on coastal development 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 for 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.
- Landings are distributed over a large number of landing points. The quality of port infrastructure and services is also an important element for maintaining fishing activity and attracting young fishers.

### REUNION (RE)

In 2019, the Reunion fleet was composed of 184 active vessels. Within this fleet, 164 vessels (90%) were 00-12m, 15 vessels were 12-18m (8%) and five vessels (3%) were 18-24m. Total crew was 345 persons, corresponding to 150 FTE. Total effort expressed in DaS was around 17 400 days. Total fuel consumption was 1.56 million litres but related to the segments over 12 metres only (3 500 DaS). Total landings in weight and value were respectively 4 200 tonnes for EUR 16.0 million and average

price was 3.8 euro/kg. Due to lack of data for the 00-10m fleet, total GVA and other economic indicators were not available for the whole fleet. The main species in value and weight were mainly large pelagic species, swordfish, yellowfin tuna, blue marlin, 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.



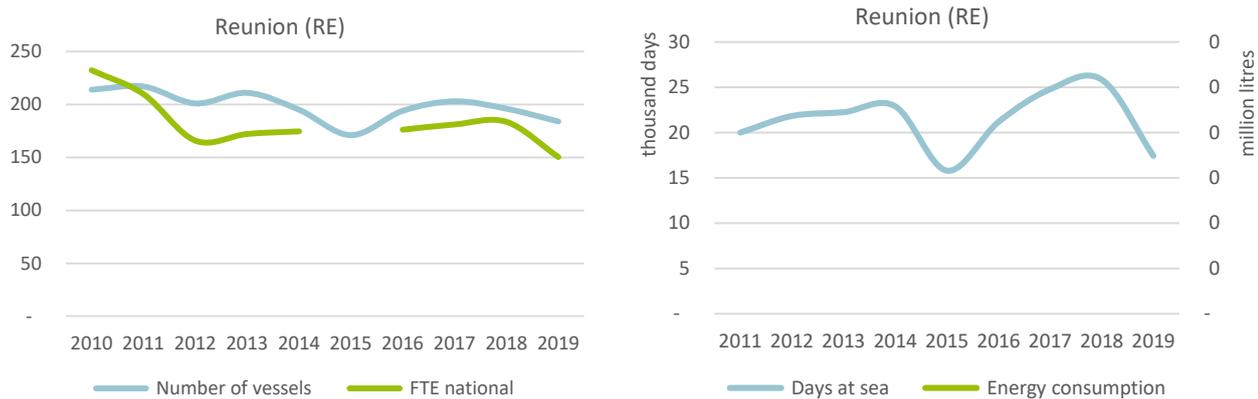
**Figure 3.150. Top species landed in value in 2019 and between 2010 and 2019 by the French OMR fleet of Reunion**

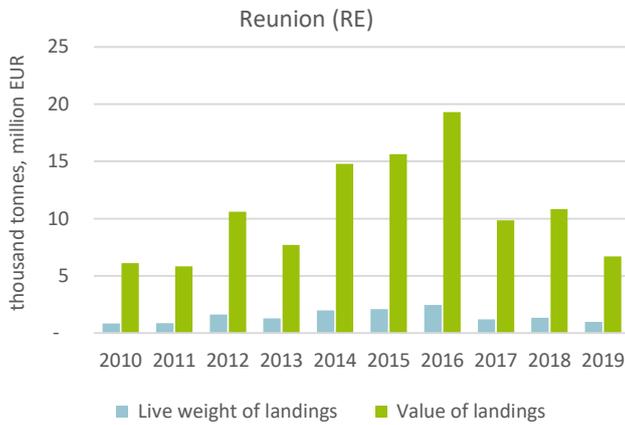
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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 2010 and 2019, the active fleet decreased by 14%, FTE by 35% but there was no significant trend in DaS. Landings in weight and value decreased by 12% and 37%, respectively. Energy consumption evolution is difficult to interpret. Average price ranged from 3.7 euro/kg to 7.8 euro/kg with no significant trend over the period. Trends in economic indicators concerned only the vessels over 12m (see Table 3.10).





**Figure 3.151. Trends on capacity, effort, landings for the French OMR fleet in Reunion**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

## Fleet structure and key results

**Table 3.10 - Summary results for the French OMR fleets in 2019: Reunion (RE)**

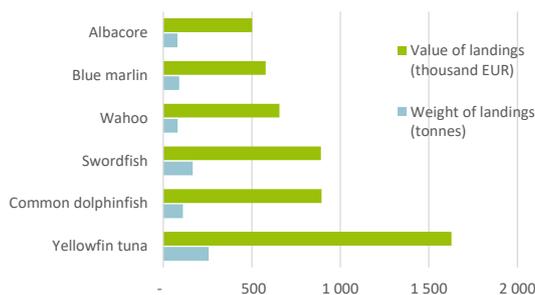
	Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings (kg)	Value of landings (EUR)	Revenue (EUR)	Gross Value Added (EUR)	Gross profit (EUR)	Net profit (EUR)	GVA to revenue (%)	Gross profit margin (%)	Net profit margin (%)	GVA per FTE (labour productivity) (EUR per FTE)
FRA OFR HOK0010 RE *	152	63	13,153	-	987,700	6,702,857	-	-	-	-	-	-	-	-
FRA OFR HOK1218 RE	15	54	2,604	1,186,397	1,071,666	5,421,151	4,939,997	329,919	-1,569,230	-1,992,256	6.7	31.8	-	40.3
FRA OFR HOK1824 RE *	5	26	849	374,769	2,057,998	3,508,920	1,247,959	71,565	-366,513	-541,490	5.7	29.4	-	43.4
FRA OFR PGP0010 RE *	12	6	831	-	61,732	373,021	-	-	-	-	-	-	-	-
<b>Reunion</b>	<b>184</b>	<b>150</b>	<b>17,437</b>	<b>1,561,166</b>	<b>4,179,096</b>	<b>16,005,949</b>	<b>6,187,956</b>	<b>401,484</b>	<b>-1,935,743</b>	<b>-2,533,747</b>	<b>6.5</b>	<b>31.3</b>	<b>-</b>	<b>40.9</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). *FTE national may not be adapted to outermost context.*

## Selected segments

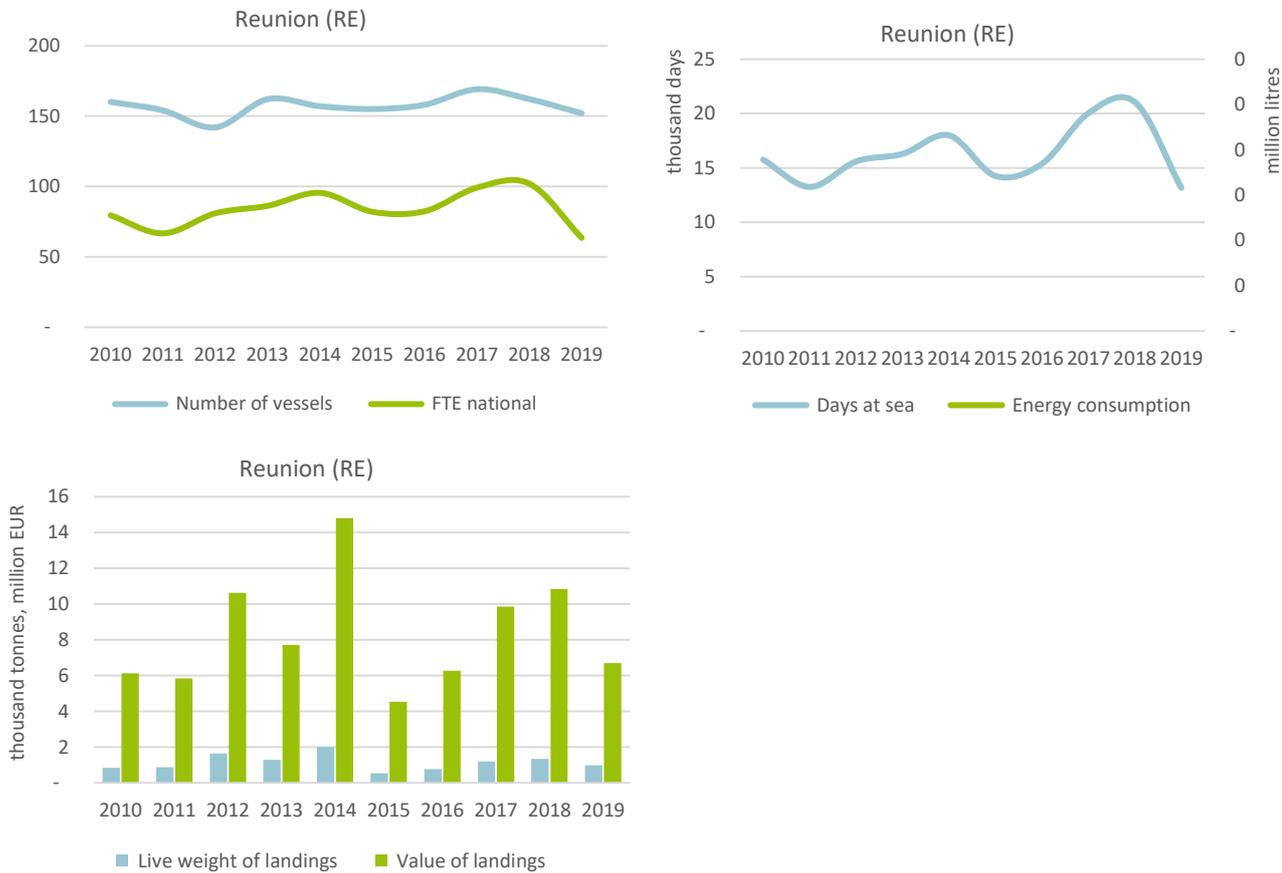
### HOOKS AND LINES (HOK0010 RE\*)

In 2019, this segment concerned 152 vessels (83% of the active fleet) with 206 crew members engaged (63 FTE). Total effort expressed in days at sea was around 13 200 days. Fuel consumption was not available. Total landings in weight and value were respectively 990 tonnes for EUR 6.7 million and average price was 6.8 euro/kg. No economic indicator was available for this segment. The main landed in value species 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.



**Figure 3.152. Top species landed in value by HOK0010 RE\* in 2019**

Between 2010 and 2019, the number of active vessels was quite stable. The evolution of days at sea ranged from 13 300 days in 2011 to a maximum of 21 000 days in 2018 and then declined to only 13 000 days in 2019. Landings in weight and value fluctuated over the period respectively from 600 to 2000 tonnes and from EUR 4.5 million to EUR 15 million. Average price were higher in the second part of the decade than in the first part. Other economic indicators were not available before 2019 making trend analysis impossible.

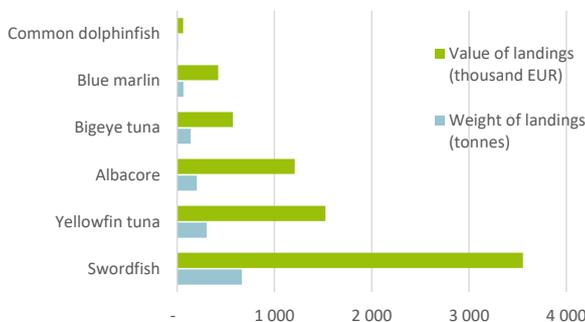


**Figure 3.153. Trends on capacity, effort, landings for the HOK0010 RE\***

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

**LONGLINERS (HOK1218 AND HOK1824 RE)**

The two segments were merged. 20 vessels (13% of the active fleet) made up this segment in 2019 with 117 crew members engaged (80 FTE). Total effort expressed in days at sea was around 3 450 days for total fuel consumption of 1.5 million litres (450 litres/DaS). Total landings in weight and value were respectively 3 200 tonnes for EUR 8.9 million and average price was 2.8 euro/kg. However, there was a significant gap in the data between landings value and segment total income (EUR 6.2 million). The segment benefited from EU EMMF aids for the exportation of the landings and contributed significantly to fleet total income. The following figures present the revenue and total income of the segment, GVA and gross profit including not subsidies considering direct subsidies. GVA including subsidies was around EUR 2.5 million (34% of the revenue) and gross profit EUR 0.15 million. Average GVA per FTE and per vessel were respectively EUR 30 800 and GVA EUR 124 000. In 2019, the main species in value were swordfish, yellowfin tuna and albacore.



**Figure 3.154. Top species landed in value by HOK1218 and HOK1824 RE in 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Between 2010 and 2012-2013, the number of active vessel decreased by one third to stay around 20 vessels afterwards. The reported landings increased the last three years compared the period 2010-2016. As mentioned previously, important differences remains in the landings value and revenue of the

segment. These gaps would need to be examined. GVA indicator which was already low decreased over the recent years and gross profit became negative without subsidies.



**Figure 3.155. Trends on capacity, effort, landings and profit for the HOK0010 and HOK1824 RE (\* including direct subsidies)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015). Landings in weight and value updated in 2016.

### Main factors affecting the performance of the fleet

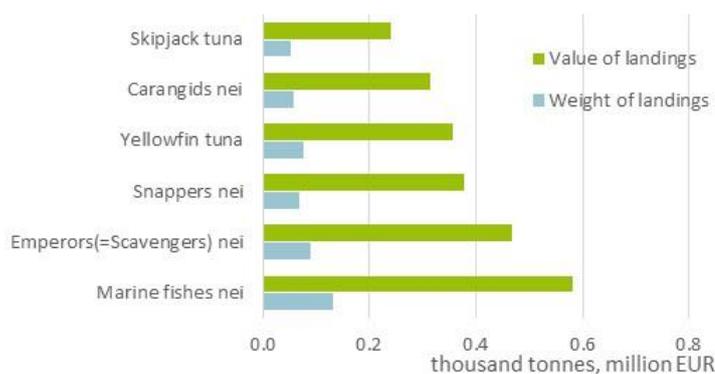
- Fuel price and large pelagic species availability are one of the main factors affecting the performance of the fleet.
- Competition with recreational fishing is particularly high for the small scale segment. It encompasses different practices, both fishing by vessel or on-foot. There is no recent study 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 include 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.
- 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 EMFF.

## MAYOTTE (YT)

In 2019, the registered fleet from Mayotte was composed of 119 active vessels all of which under 10 metres. Engaged crew was 280 (117 FTE). Total effort expressed in days at sea was around 12 000 days but fuel consumption was not available. Total landings in weight and value were respectively 850 tonnes for EUR 3.8 million and average price was 4.5 euro/kg. The main species in value and weight were emperors and snappers, yellowfin tuna, carangids and skipjack. However, marine fishes were reported as the main landing value. Large pelagic species are followed and/or assessed by the IOTC. Most of the species are sold locally.



**Figure 3.156. Top species landed in value by the French OMR fleet of Mayotte, 2019**

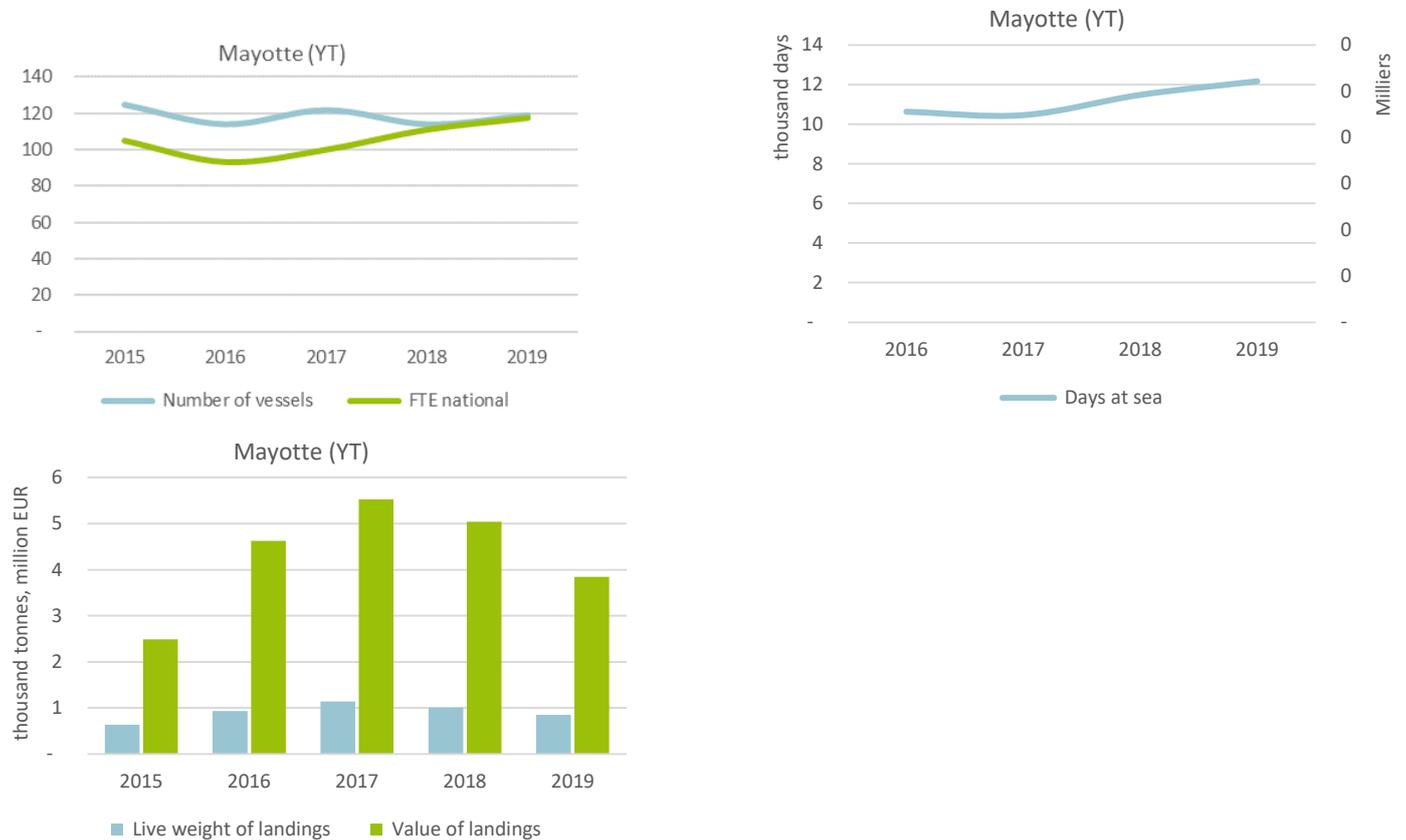
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

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) within the 20 nautical miles around the barrier reef.

The trips are usually daily but can reach 4 to 5 days for the fleets operating on the outer reefs.

Between 2015 and 2019, the active fleet was quite stable but the FTE increase by 12%. Days at sea were stable between 2015-2018 with a slight increase in the most recent years. Landings and value increase from 2015 to 2017 then decreased. Average price ranged from 4 euro/kg to 5 euro/kg over the period. The absence of economic data does not allow the identification of trends in GVA and gross profit.



**Figure 3.157. Trends on capacity, effort, landings for the French OMR fleet in Mayotte**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Fleet structure

**Table 3.11 - Summary results for the French OMR fleets in 2019: Mayotte (YT)**

	Number of vessels	FTE national	Days at sea	Energy consumption	Live weight of landings (kg)	Value of landings (EUR)	Revenue (EUR)	Gross Value Added (EUR)	Gross profit (EUR)	Net profit (EUR)	GVA to revenue (%)	Gross profit margin (%)	Net profit margin (%)	GVA per FTE (labour productivity) (EUR per FTE)
FRA OFR HOK0010 YT *	109	97	10,560	-	673,747	3,196,251	-	-	-	-	-	-	-	-
FRA OFR DFN0010 YT *	10	20	1,608	-	177,199	651,206	-	-	-	-	-	-	-	-
<b>Mayotte</b>	<b>119</b>	<b>117</b>	<b>12,168</b>	<b>-</b>	<b>850,946</b>	<b>3,847,457</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

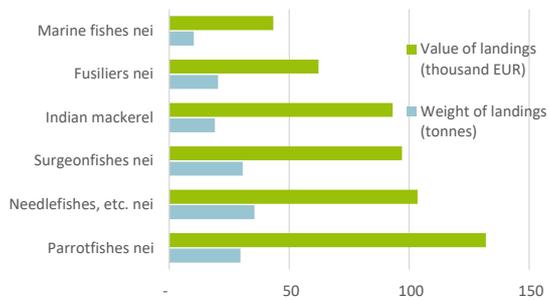
## Selected segments

### HOOKS AND LINE (HOK0010 YT\*)

109 vessels (92% of the active fleet) made up this segment in 2019 with 249 crew members engaged (97 FTE). Days at sea were 10 560. Fuel consumption was not available. Total landings in weight and value were respectively 673 tonnes for EUR 3.2 million (4.7 euro/kg average price). Economic indicators were not available. Due to the size of the segment, the landings composition and trends in the fleet are very similar to the whole fleet. The figures are not presented hereafter.

### NETTERS (DFN 0010)

In 2019, this segment concerned 10 vessels (8% of the active fleet) with 31 crew members engaged (20 FTE). Fuel consumption was not available. Total effort expressed in days at sea was around 1 600. Total landings in weight and value were 180 tonnes for EUR 600 000 (3.6 euro/kg average price). Economic indicators were not available. The main species in the landings differed from the HOK segment, the main species in value being parrotfishes, needlefishes, surgeonfishes but also Indian mackerel and fusiliers.



**Figure 3.158. Landings for the French OMR fleet in Mayotte (NETTERS 00-10)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Main factors affecting the performance of the fleet

The registered fishing fleets coexist with a subsistence fishing fleet, non-commercial fishing boats composed of around 350 similar undecked boats targeting the same resources with hand lines and nets, and around 700 pirogues, exploiting inner lagoon and barrier reef demersal resources, and also a recreational fleet. The registered fleet is also in competition for local markets with illegal resellers and recreational fishers. Despite the lack of historical data on fisheries, it appears that demersal resources on coastal reefs and barrier reefs have drastically dropped over the last 20 years according to Today, most of the fishers turned to pelagic resources, sometimes around Moored fishing aggregating devices (MFADs) or demersal stocks of outer reefs, which are also told to be declining. In order to try to address the demersal resources decline problem, local authorities and marine Natural Park covering the entire EEZ encouraged fishers to exploit pelagic species, by settling a new park of MFADs around the island.

Mayotte EEZ is also exploited by French, Spanish and Seychelles purse-seiners targeting tropical tunas. Those fleets have a very common use of drifting fishing aggregating devices (DFADs) in their whole fishing area. The intensive use of DFAD is told by local fishers to disrupt tuna school's migration paths. the competition for skipjack and tuna resources by oceanic purse seiners

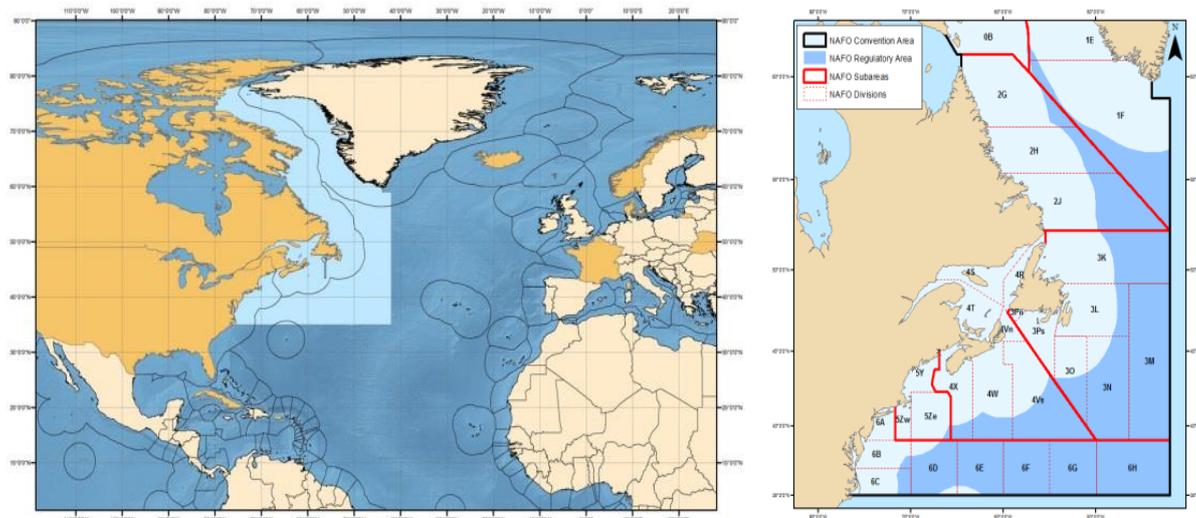
## 3.8.2 Long Distant Fisheries (LDF)

### NAFO - Northwest Atlantic Fisheries Organization

#### Background

Fisheries in the Northwest Atlantic are performed in the exclusive economic zones of the coastal states and on the high seas where fishery is regulated by the Northwest Atlantic Fisheries Organization (NAFO). NAFO was founded to manage most fishery resources in the EEZs of Contracting Parties (straddling stocks) and outside the national jurisdiction in the NAFO Regulatory Area. Currently NAFO has 12 Contracting Parties with the entry of UK in 2020<sup>25</sup>.

The NAFO Regulatory Area is defined in the NAFO Convention as that part of the Convention Area, which lies beyond the areas in which Coastal States exercise fisheries jurisdiction (outside of the Exclusive Economic Zones) (Figure 3.159).



**Figure 3.159. 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](http://www.marineplan.es/ES/fichas_kml/rfbs.html)

The three main fisheries regulated in the NAFO area are cod, Greenland halibut, and pelagic 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 Divisions 3LMNO within the *Fishing Footprint* and is conducted using mainly bottom trawls. The moratorium on the 3M shrimp was lifted in 2020 allowing a days-at-sea system (effort regime).

#### Fleet selection and data limitations

In previous editions of the AER (reports 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

To refine results to the activity of the RFMO and reduce the overlap with the ICCAT analysis, the EWG 21-08 proposed an updated definition including the following criteria:

- The exclusion of the ICCAT major species<sup>26</sup>
- Consideration of all fleet segments over 18 metres as LDF
- High dependency, set at 20% of value of landings from the CA

<sup>25</sup> Canada, Cuba, Denmark (in respect of Faroe Islands and Greenland), EU, France (in respect of St. Pierre et Miquelon), Iceland, Japan, Norway, Republic of Korea, Russian Federation, Ukraine, United Kingdom and the United States of America.

<sup>26</sup> Further refinement can be made by including only the list of species covered by NAFO

In 2019, eight fleet segments, comprising an estimated 26 vessels, showed some activity in NAFO. All eight fleet segments were over 18 metres LOA, i.e., part of the LDF as defined in this report but only two showed high dependency; the demersal trawler segments over 40 metres from Spain (six vessels) and Portugal (eight vessels).

It is worthwhile to note that Spain had 10 trawlers with reported days at sea in NAFO RA (6 over 100 days and 4 more over 45 days). The methodology, however, based on the value of landings, estimates only six vessels as highly dependent.

Combined, the fleet segments with low dependencies made up 8% of the landings weight and 9% of the value from EU fleet activity in the NAFO (excluding ICCAT species). One Spanish fleet segment showed a high dependency in terms of effort (25% of the days at sea), however, the corresponding landings are mainly composed of ICCAT species – i.e., less than 1% of the landings in value were from non-ICCAT species in NAFO (Table 28).

According to the reported EU-MAP data, activity of the **EU NAFO fleet** produced 34 272 tonnes valued at EUR 86.3 million in 2019. However, these landings relate to the French, German, Spanish and Portuguese fleets only. Landings from Denmark and Estonia in 2019 were not reported under the EU-MAP. If the catch reported by NAFO for these two Member States' fleets are included, then the EU-MAP landings amount to 42 550 tonnes.

Based on the proposed criteria described above, the two industrial demersal trawler segments from Spain and Portugal identified for the **EU NAFO LDF** (high dependency on NAFO excluding ICCAT major species) landed 31 577 tonnes valued at EUR 75.5 million in 2019 (Table 3.12).

**Table 3.12 – Member State fleet segments with activity in NAFO (excluding ICCAT species), 2019**

MS	Fleet segments	% days at sea NAFO	% landed value NAFO (no ICCAT)	% landed value NAFO (all)	Estimated number of vessels	Landed weight (no ICCAT)	Landed value (no ICCAT)
ESP	ESP NAO DTS40XX NGI	47%	51%	51%	6	15,403,841	32,690,653
PRT	PRT NAO DTS40XX IWE	83%	88%	88%	8	16,172,995	42,806,703
DEU	DEU NAO DTS40XX NGI	10%	11%	11%	1	1,912,491	5,594,728
ESP	ESP NAO HOK2440 LLD*	25%	<1%	26%	9	23,169	49,384
ESP	ESP OFR DTS40XX NGI	1%	1%	1%	<1	736,171	1,715,133
ESP	ESP OFR HOK2440 LLD*	1%	<1%	<1%	1	293	1,064
FRA	FRA NAO DTS1824 NGI*	<1%	<1%	<1%	1	22,297	78,788
PRT	PRT NAO HOK2440 NGI	6%	<1%	5%	1	519	1,068
<b>EU NAFO Fleet</b>					<b>26</b>	<b>34,271,776</b>	<b>82,937,522</b>

According to NAFO, 44 vessels from nine EU Member States were granted fishing permits in 2019. The largest fleet was Spain with 12 vessels, followed by Portugal with 11 vessels. Latvia was permitted 7 vessels and Estonia and Germany 5 vessels (Table 3.13). A comparison with the estimated number of vessels estimated from EU-Map data cannot be deduced based on this information.

The total catch by the EU fleet reported by NAFO (STATLANT) amounted to 51 076 tonnes in 2019. The main EU fishing nations were Portugal and Spain, which combined represented 80% of the total EU catch in 2019. The remaining EU catch was taken by Estonia (11%), Denmark (5%) and Germany (4%). No catch was reported by Latvia, Lithuania and Poland in 2019 (Table 3.14).

**Table 3.13 – Number of vessels by Member State notified to fish in NAFO in 2019<sup>27</sup>**

MS	No. vessels
DEU	5
DNK	1
ESP	12
EST	5
FRA	1
LTU	1
LVA	7
POL	1
PRT	11
<b>Total</b>	<b>44</b>

Although reports of catch from longliners (mainly great blue shark) are reported to NAFO STATLANT, their target species fall within the remit of ICCAT and therefore are not included in the analysis in this section. When excluding ICCAT major species from the NAFO data (STATLANT), the catch by the EU fleet amounted 48 596 tonnes in 2019. Hence, catch of ICCAT species by the EU fleet in the NAFO RA in 2019 amounted to 2 480 tonnes; most of which (83%) was taken by Spain (Table 3.15).

**Table 3.14 - Catches (tonnes) by MS fleets operating in NAFO area**

NAFO / MS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% over EU total	% over NAFO total
DNK	3,409	267	173	3,391	3,409	1,686	2,921	2,511	-	2,777	5.4%	0.5%
EST	3,654	4,593	3,444	4,529	3,307	3,149	3,284	4,740	5,556	5,501	10.8%	1.0%
DEU	1,820	2,126	1,855	2,416	2,150	1,884	1,899	1,875	1,892	1,912	3.7%	0.3%
LVA	995	587	137	-	-	-	-	-	-	-	0.0%	0.0%
LTU	1,542	1,000	753	-	7	-	-	-	-	-	0.0%	0.0%
POL	-	-	-	-	414	-	-	-	-	-	0.0%	0.0%
PRT	15,488	16,680	16,230	18,073	19,167	16,901	18,221	19,448	18,345	22,735	44.5%	4.1%
ESP	26,585	28,230	35,392	35,422	26,396	14,491	19,623	21,207	17,563	18,151	35.5%	3.3%
<b>EU total</b>	<b>53,493</b>	<b>53,483</b>	<b>57,984</b>	<b>63,831</b>	<b>54,850</b>	<b>38,111</b>	<b>45,948</b>	<b>49,781</b>	<b>43,356</b>	<b>51,076</b>		<b>9.2%</b>
<b>NAFO total</b>	<b>1,783,432</b>	<b>1,929,886</b>	<b>1,783,219</b>	<b>1,900,229</b>	<b>1,768,631</b>	<b>1,639,726</b>	<b>1,922,582</b>	<b>1,966,607</b>	<b>2,019,401</b>	<b>553,576</b>		

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

**Table 3.15 - Catches (tonnes) by MS fleets operating in NAFO area (excluding ICCAT species)**

NAFO / MS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% over EU total	% over NAFO total
DNK	3,409	267	173	3,391	3,409	1,686	2,921	2,511	-	2,777	5.7%	0.5%
EST	3,654	4,593	3,444	4,529	3,307	3,149	3,284	4,740	5,556	5,501	11.3%	1.0%
DEU	1,820	2,126	1,855	2,416	2,150	1,884	1,899	1,875	1,892	1,912	3.9%	0.3%
LVA	995	587	137	-	-	-	-	-	-	-	0.0%	0.0%
LTU	1,542	1,000	753	-	7	-	-	-	-	-	0.0%	0.0%
POL	-	-	-	-	414	-	-	-	-	-	0.0%	0.0%
PRT	15,488	16,620	15,962	17,966	19,149	16,901	18,221	19,448	18,120	22,310	45.9%	4.0%
ESP	17,783	17,729	17,223	15,170	14,448	14,491	13,272	14,108	12,969	16,096	33.1%	2.9%
<b>EU total</b>	<b>44,691</b>	<b>42,922</b>	<b>39,547</b>	<b>43,472</b>	<b>42,884</b>	<b>38,111</b>	<b>39,597</b>	<b>42,682</b>	<b>38,537</b>	<b>48,596</b>		<b>8.8%</b>
<b>NAFO total</b>	<b>1,774,451</b>	<b>1,914,458</b>	<b>1,759,508</b>	<b>1,875,167</b>	<b>1,752,452</b>	<b>1,637,135</b>	<b>1,913,974</b>	<b>1,957,374</b>	<b>2,012,832</b>	<b>551,096</b>		

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

A cross-check between the two official data sources reveals a mismatch in the data reported for 2018 and 2019 for Estonia, Spain (in 2018) and Portugal. For Portugal, it appears that only 67% of the landings have been reported under EU-MAP in 2018 and 72% in 2019. These differences should be investigated in future reports by the EWG although a reason seems to be that Portugal reports landings expressed in total landed weight to NAFO STATLANT; while it declares landings in live weight to EU-MAP. These results indicate that the analysis for Portugal is under estimated. No mismatch was found for Germany, as data reported by NAFO equates to the data reported under EU-MAP.

<sup>27</sup> in accordance with Article 25 of the NAFO Conservation and Enforcement Measures (as agreed at the 2019 NAFO Annual Meeting (COM Doc. 19-34))

Overall, coverage of the EU-MAP data is estimated at 72% in 2019, however, when excluding the Danish and Estonian catch, coverage increases to 84% in 2018 and 85% in 2019 (Table 3.16). These discrepancies need to be further investigated in future reports to ensure data consistency between both sources.

**Table 3.16 - Comparison between catch and landings data reported by NAFO and EU-MAP, excluding ICCAT major species, 2018-2019**

MS	NAFO (Statland)		EU-MAP NAFO no iccat		Coverage over NAFO data (%)	
	2018	2019	2018	2019	2018	2019
DEU	1,892	1,912	1,892	1,912	100%	100%
ESP	12,969	16,096	13,737	16,163	106%	100%
EST	5,556	5,501	-	-	-	-
PRT	18,120	22,310	12,225	16,173	67%	72%
<b>EU NAFO fleet</b>	<b>38,537</b>	<b>48,596</b>	<b>27,855</b>	<b>34,272</b>	<b>72%</b>	<b>71%</b>

### Brief description of the EU NAFO Fleet

In 2019, eight fleet segments from four Member States showed some activity in NAFO (excluding ICCAT major species). Combined, these fleets comprised an estimated 28 vessels and landed 34 272 tonnes, valued at EUR 86.3 million. The number of vessels (and employment) followed a decreasing trend from 2012 to 2018, when seven Spanish vessels enter; reflecting also increases in fishing effort (Figure 3.160).

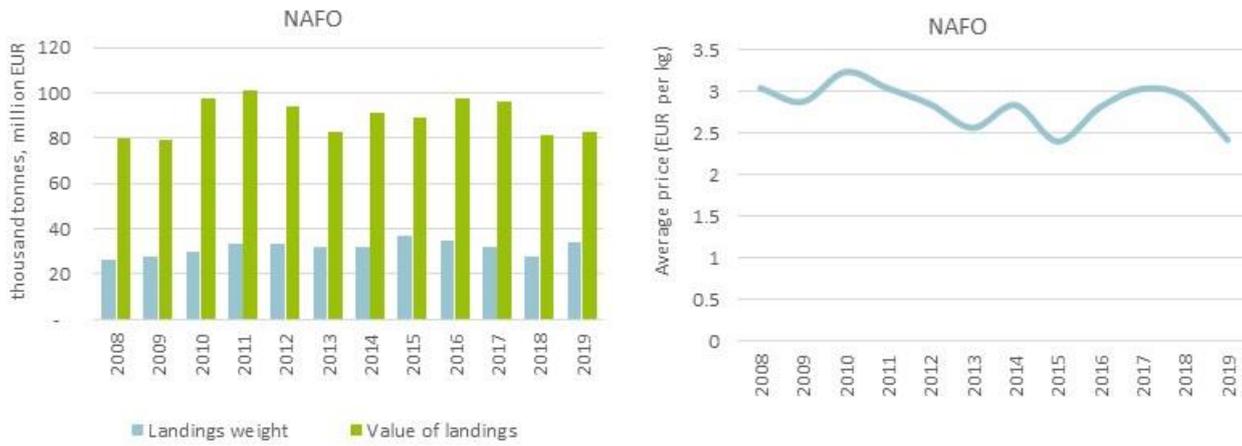
The main fishing nations are Portugal and Spain. Estonia did not report data of activity to EU-MAP for 2019, while the German fleet consisted of one vessel fishing only seasonally. France, in respect of St. Pierre et Miquelon and Denmark, in respect of Faroe Islands and Greenland, are not included (no data provided by these under EU-MAP) in the analysis as they are to this effect independent contracting parties.

None of the national fleets are heavily dependent on the region, although Portugal obtains around 12% of its total landings in value from activity in NAFO. The other Member States' fleets have less than 5% dependency on this area.



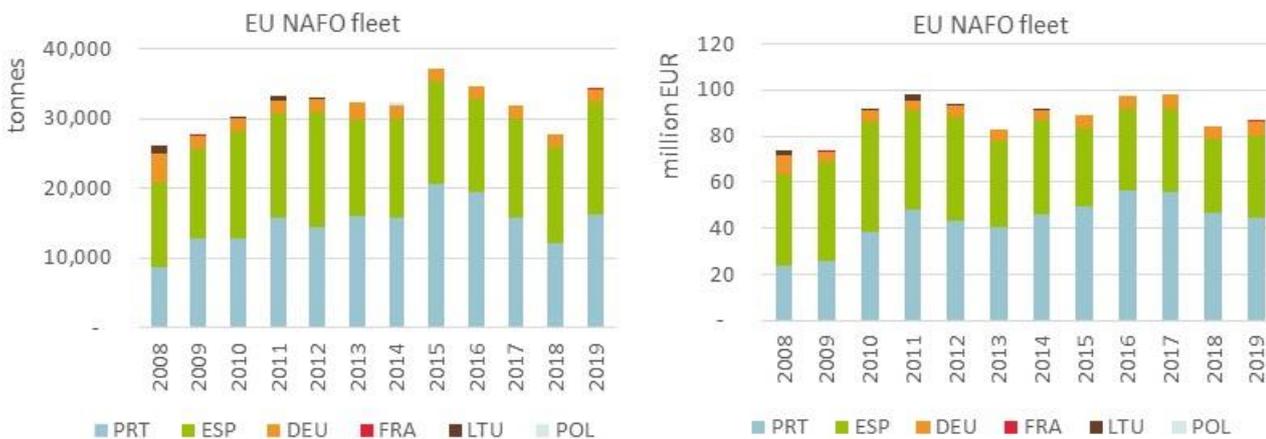
**Figure 3.160. Trends on capacity, employment and fishing effort by the EU fleet operating in NAFO targeting non ICCAT major species**

Landings in weight (excluding ICCAT species) have remained generally stable since 2010 between 30 000 and 34 000 tonnes, reaching a peak of 37 000 tonnes in 2015. The value of landings has fluctuated between EUR 83 million and EUR 98 million from 2010 to 2018, reaching EUR 86.3 million in 2019. Overall, the average price has fallen, reaching 2.4 euro/kg in 2019, down from 3.0 euro/kg in 2018 (Figure 3.161).



**Figure 3.161. Trends on landings and average price for fleets operating in NAFO (excluding ICCAT major species), 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.162. Trends on landings in value and weight by EU fleet operating in NAFO targeting non ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The main species landed from NAFO in 2019 were Atlantic redfish (12 614 tonnes, EUR 28.7 million), Greenland halibut (8 404 tonnes, EUR 29.5 million) and Atlantic cod (7 703 tonnes, EUR 20.4 million). Rays had also a significant volume of landings, around 3 163 tonnes valued at EUR 3.5 million.

In terms of catch ratio, the Portuguese fleet caught near 8 220 tonnes of Atlantic redfish in 2019, representing 65% of the total EU for this species and 5 260 tonnes of Atlantic cod, 68% of the landings in 2019. Spain took most of the Greenland halibut with 4 473 tonnes (53%), and the almost entire EU landings of rays (99%). Germany caught Greenland halibut almost exclusively, with 1 880 tonnes representing 22% of the total EU landings for this species (Figure 42). The Portuguese fleet obtained the most in terms of value (EUR 42.8 million), followed by the Spanish fleet with EUR 34.5 million and then German vessels with EUR 5.6 million.

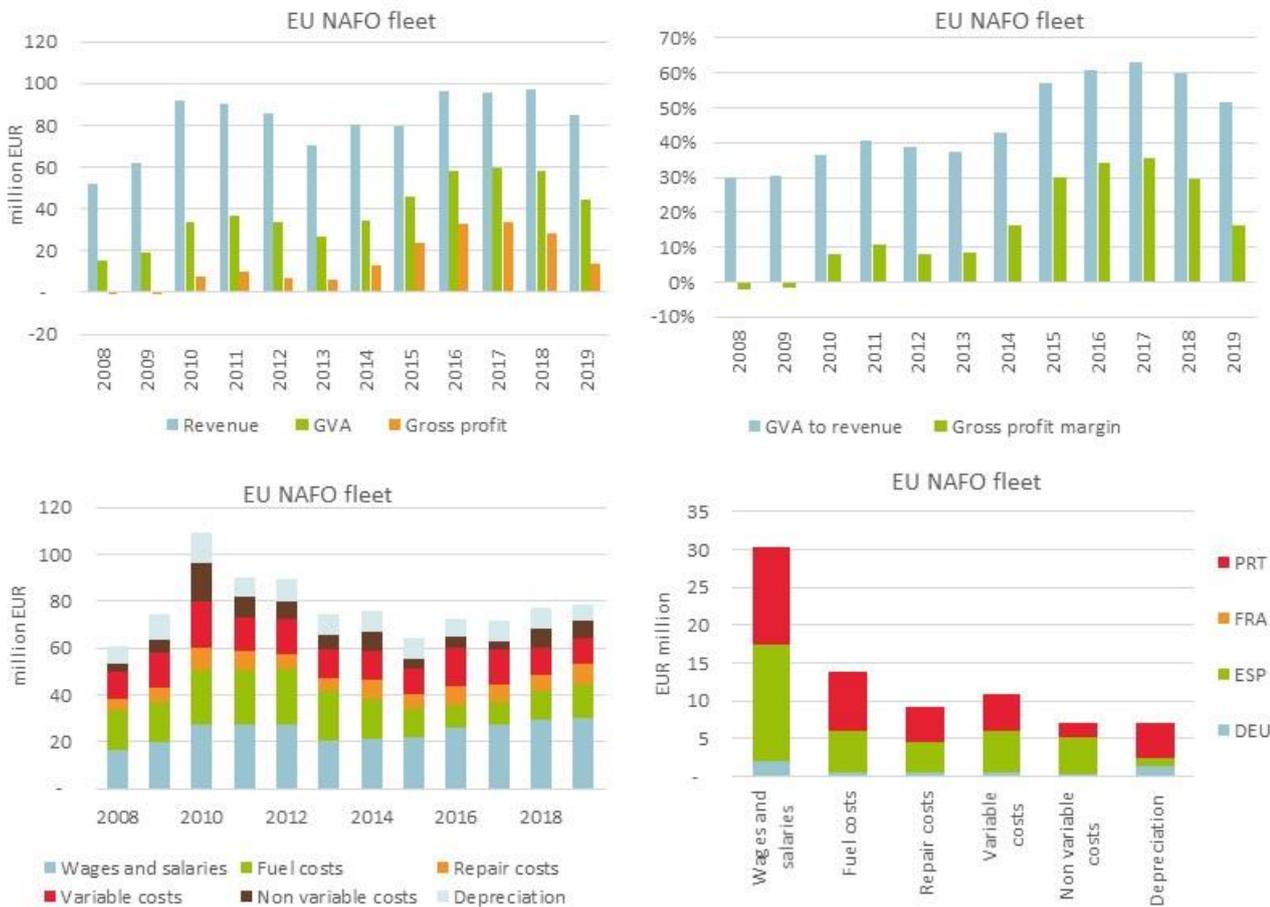


**Figure 3.163. Top species landed in value and share by EU fleets operating in NAFO (excluding ICCAT major species), 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Economic performance results for 2019 shows an overall decrease in revenue, GVA and gross profit for the fleet operating in the area. This could be partially explained for higher operational costs.

The total revenue was EUR 85 million, similar to 2013 and 2014, and considerably lower than values in the previous 3 years, all over EUR 100 million. The Portuguese (52%) and Spanish (39%) demersal trawlers fleet combined represented more than 90% of the total revenue. In 2019, GVA was near EUR 44 million, and gross profit decreased to EUR 13.7 million. Similarly, the net profit shows the lowest value of the last 4 years, with EUR 6.6 million.



**Figure 3.164. Trends on revenue, profits and costs for the fleets operating in the NAFO (left) and cost structure by MS fleet in 2019 (right)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

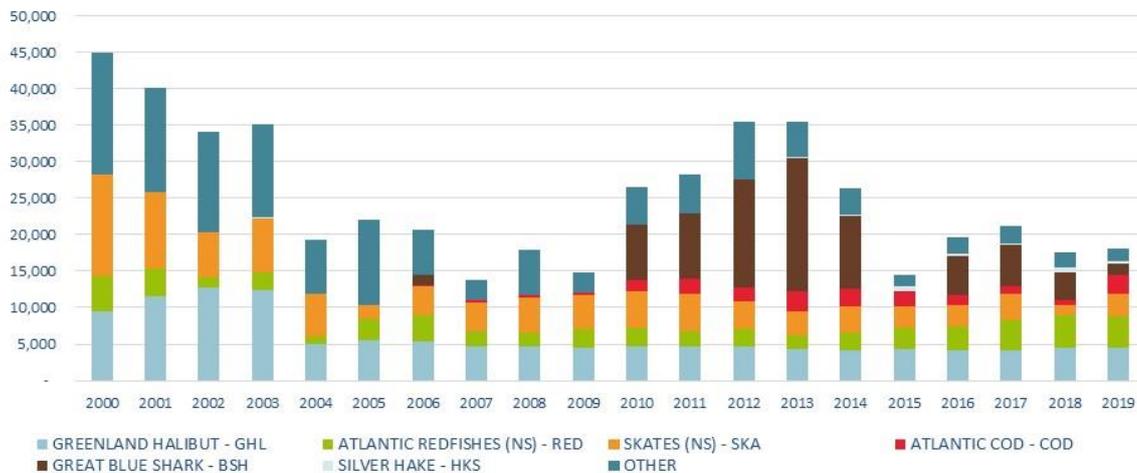
At the fleet segment level, the economic performance of demersal trawlers from Portugal and Spain is quite different. While a similar level of landings is observed (15 404 tonnes for the Spanish fleet vs 16 173 tonnes for the Portuguese fleet), the value of the landings differs considerably in favour of Portugal (EUR 43 million) when compared to Spain (EUR 33 million). This can be partially attributable to the higher average first sale price of commercial species targeted by the Portuguese fleet, Atlantic redfish, cod and halibut, for consumption of their internal market vis a vis the Spanish catch which is mainly oriented to exports at lower value. Furthermore, a significant part of the Spanish fleet landings is made up of rays and skates, with lower value in terms of average first sale prices.

Gross profit generated by the two fleet segments differs more extensively, at EUR 12.8 million for the Portuguese trawlers versus EUR 2.9 million for their Spanish counterparts. While the Portuguese trawlers spend more on fuel, the Spanish trawlers spend more on wages, variable and fixed costs. In fact, the six Spanish demersal trawlers over 40 metres employed 191 FTEs, averaging 32 FTE per vessel while for the Portuguese demersal trawlers average FTE per vessel in 2019 was estimated at 22. This is also reflected in labour productivity, with the Portuguese trawlers obtaining a higher GVA per FTE in 2019 (EUR 143 190 per FTE) than the Spanish trawlers (EUR 93 652 per FTE).

## Results by Member State fleet

### SPAIN

The Spanish demersal fleet operating in NAFO is composed mainly of freezer trawlers targeting halibut, Atlantic redfish, skates and cod. These vessels generally operate between NAFO and NEAFC. The Spanish fleet also has longliners operating in the region, targeting mainly blue shark and swordfish.



**Figure 3.165. Historical catches of top species (in tonnes) by Spanish fleets operating in the NAFO area**

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

### SPANISH DEMERSAL TRAWLERS OVER 40 M LOA (ESP NAO DTS VL40XX)

In 2019, the demersal trawler >40m segment spent 47% of its fishing effort (days-at-sea) in NAFO and 27% in NEAFC, obtaining 51% of its landed value from NAFO (43% in weight) and 36% from NEAFC (42% in weight) (Table 3.17). The fleet’s dependency on activity in NAFO has increased steadily since 2017, while a decrease in terms of the share of landed value is seen in 2019 compared to 2018 (Figure 3.166).

**Table 3.17 - Summary findings for the Spanish fleet segment with high dependency on NAFO CA, 2019**

Fleet segments 2019	RFMO	Share of seadays	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Estimated vessels (FTE)	FTE	GVA (million EUR)	Gross profit (million EUR)
ESP NAO DTS40XX	NAFO	47%	51%	15,404	32.7	6	191	17.8	2.9
	NEAFC	27%	36%	15,152	22,875	4	110	14.3	3.9



**Figure 3.166. Trends on the dependency (left) and activity by main fishing area (right) in NAFO for the Spanish demersal trawler fleet**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In NAFO, this fleet mainly targets Greenland halibut, Atlantic redfish, cod and rays in the Flemish Cap (3M) and Grand Bank (3LNO) areas.

Landings (excluding ICCAT species) amounted to 16 163 tonnes, valued at EUR 35.9 million in 2019. According to the ICCAT estimates, catch for Spain in 2019 was 16 096 tonnes (EU-MAP coverage is equal to 100%).

Landings of the top species amounted to 4 473 tonnes for Greenland halibut value at EUR 18 million, closely followed by Atlantic redfish (4 397 tonnes) although with a considerably lower value in relative terms (EUR 6.1 million), which is a reflection of first sale prices. Rays with 3 130 tonnes landed with an estimated value of EUR 3.4 million, has an average price of just over EUR 1.0 per kg. Atlantic cod, at 2 442 tonnes and a value of EUR 5.9 million, shows a better value/weight ratio than redfish (Figure 3.168).



**Figure 3.167. Trends on landings (left) and average price (right) for the Spanish demersal trawler fleet operating in NAFO**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

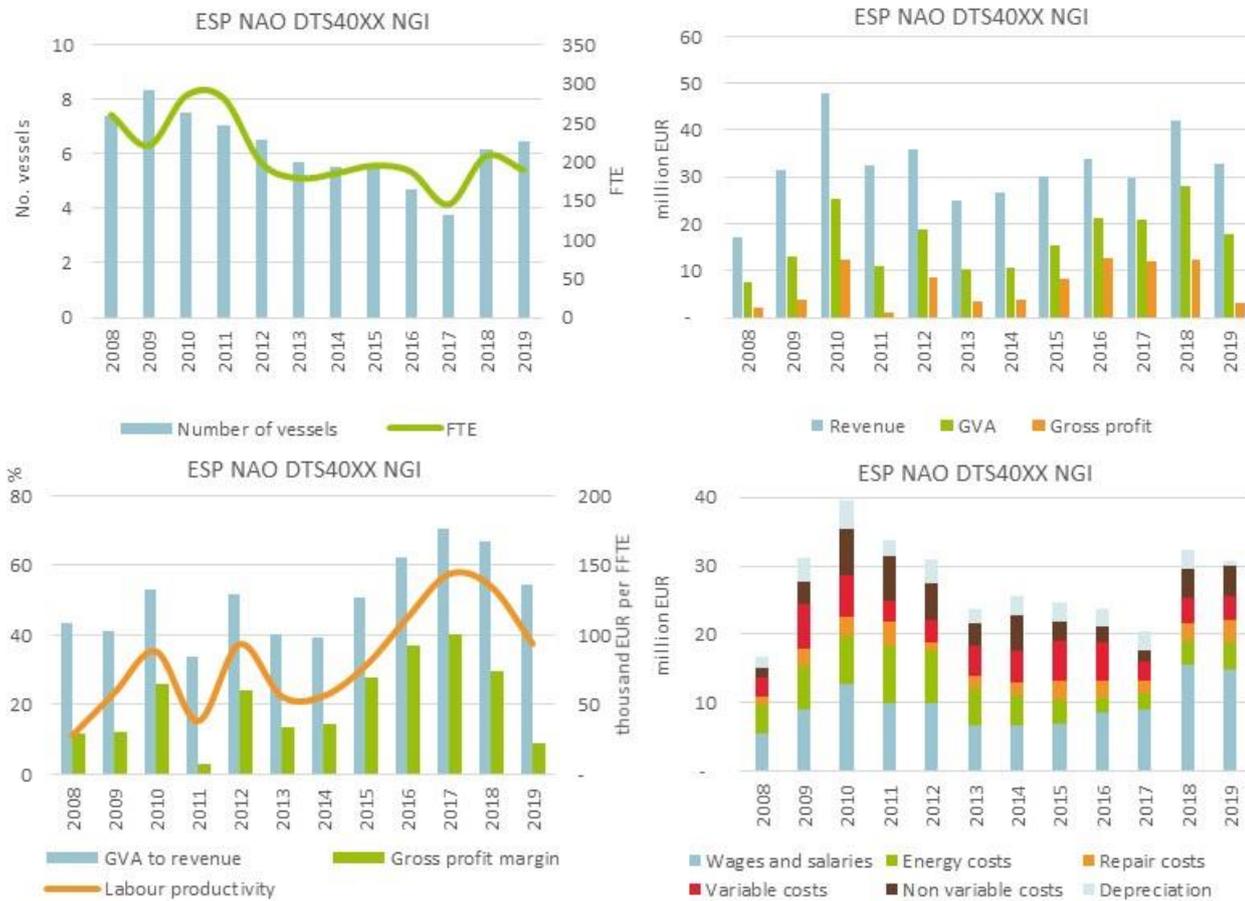


**Figure 3.168. Trends on top species landed in value by the Spanish demersal trawler fleet operating in NAFO (left) and for 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

With the exception of 2010, which was an extraordinary year in terms of high revenues, GVA and gross profit, the trends of the last 10 years show fluctuations on revenue between EUR 20-40 million, but with remarkable differences between years. This is also reflected in the GVA and the gross profits.

In 2019, this segment was profitable. However, while landings (in weight and value) increased in overall terms compared to 2018, both GVA and gross profit worsened, showing a decrease from EUR 28 million to EUR 18 million (GVA); and from EUR 12 million to EUR 3 million (gross profit), respectively. This could be partially explained by the increase in operational costs. The fleet's GVA to revenue and gross profit margin increased steadily from 2014 to 2017 as operational costs decreased, then decreasing in 2018 and 2019 as costs increased, in particular wages and salaries and non-variable costs. It is also worthwhile to mention that employment (in FTE) has also decreased slightly from over 200 to 191 (Figure 3.169).

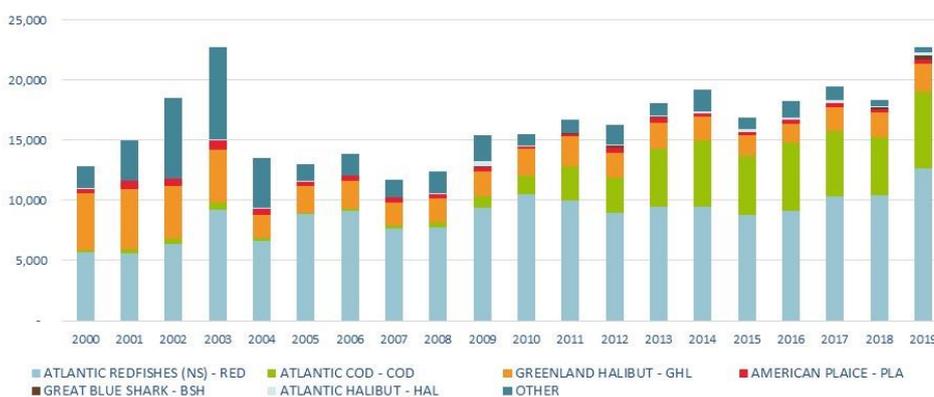


**Figure 3.169. Trends on key indicators for the activity of the Spanish demersal trawler fleet operating in NAFO**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### PORTUGAL

The Portuguese fleet operating in NAFO is mainly composed of the demersal trawlers over 40 metres targeting Atlantic redfish, cod, halibut and plaice. These vessels operate exclusively in international waters between fishing regions in NAFO and NEAFC. There are also some longline vessels operating in the region, targeting mainly blue shark and swordfish.



**Figure 3.170. Historical catches of top species (in tonnes) by Portuguese fleets operating in the NAFO**

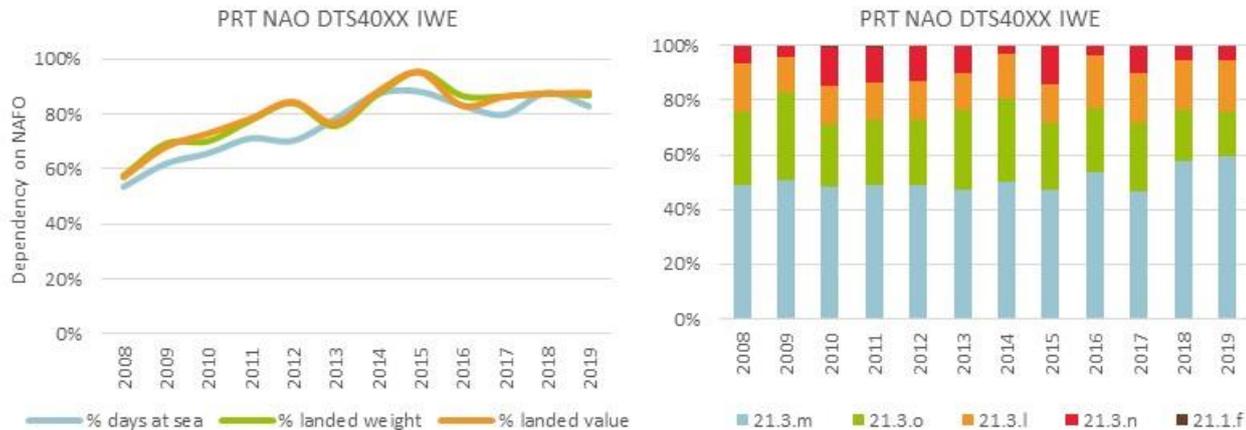
Source: <https://www.nafo.int/Data/STATLANT>

### PORTUGUESE DEMERSAL TRAWLERS OVER 40 M (PRT NAO DTS40XX IWE)

The only Portuguese fleet segment with high dependency on activity in NAFO was composed of eight vessels operating in 2019. In terms of landings, NAFO area represents 87% of landings in weight and 88% in value. Total landings (excluding ICCAT species) amounted to 16 173 tonnes, valued at EUR 42.8 million in 2019 (Table 3.18). The fleet’s dependency on activity in NAFO has generally increased since 2008, stabilising from 2016 onwards. The fleet operates mainly in NAFO Divisions 3LMNO, targeting Atlantic redfish (51% of landing value), cod (33%) and Greenland halibut (13%) (Figure 3.170).

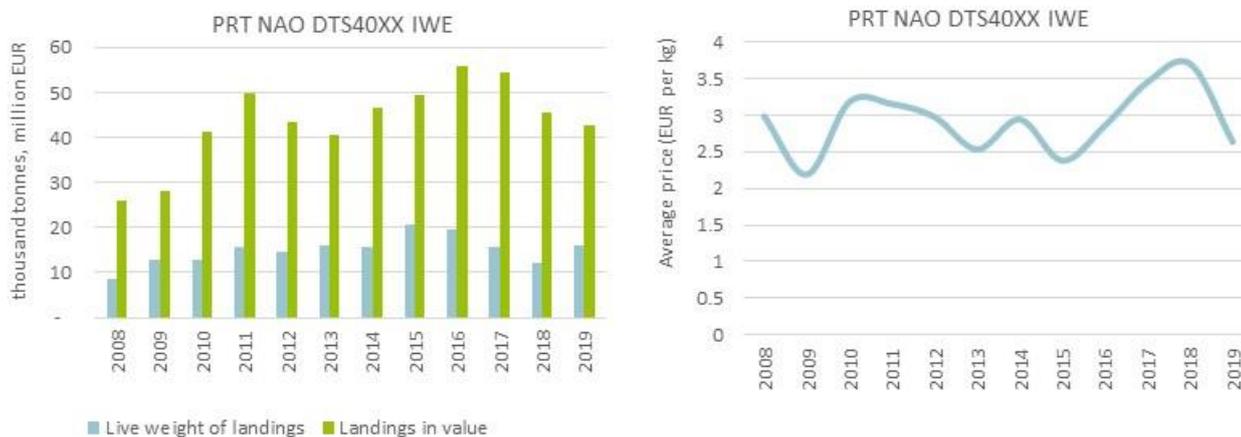
**Table 3.18 - Summary findings for the Portuguese fleet segment with high dependency on NAFO RA, 2019**

Fleet segments 2019	RFMO	Share of seadays	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Estimated vessels (FTE)	FTE	GVA (million EUR)	Gross profit (million EUR)
PRT NAO DTS40XX IWE	NAFO	83%	88%	16,173	42.8	8	179	25.6	12.8
	NEAFC	13%	12%	2.5	5.9	1	28	3.1	1.4

**Figure 3.171. Trends on the dependency (left) and activity by main fishing area (right) in NAFO for the Portuguese demersal trawler fleet**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

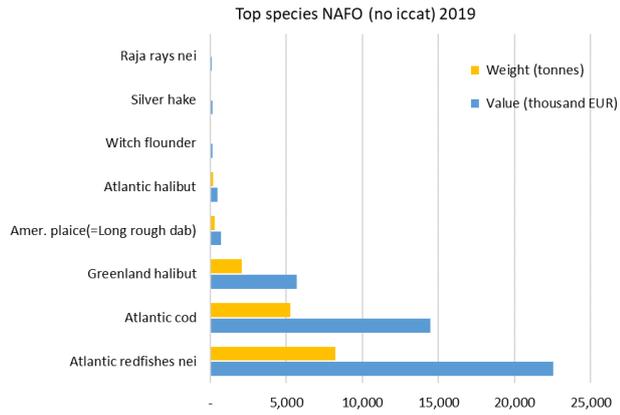
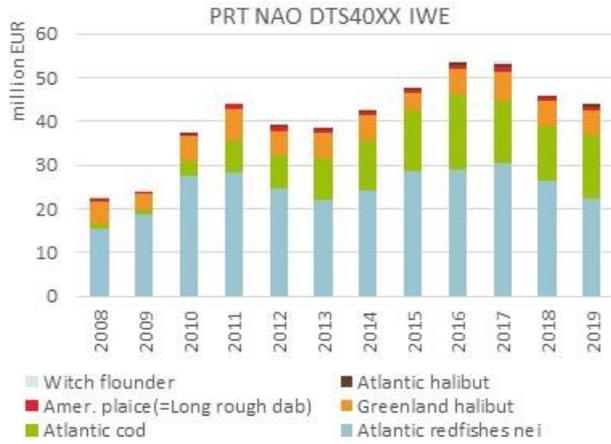
The Portuguese trawlers reported the highest value of landings in the region in 2019. However, this is a decrease from previous years (EUR 45.6 million in 2018 and EUR 54.7 million in 2017). Landings (excluding ICCAT species) amounted to 16 173 tonnes, valued at EUR 42.9 million in 2019 (Figure 3.172). According to the NAFO data, catch for Portugal in 2019 was 22 310 tonnes (EU-MAP coverage 2019 is equal to 72%).

**Figure 3.172. Trends on landings (left) and average price (right) for the Portuguese demersal trawler fleet operating in NAFO**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The fleet segment was profitable in 2019 and similar to the Spanish fleet segment, landings in weight increased compared to 2018, but the value decreased. This is also reflected in a decreased GVA and gross profit (Figure 3.174).

In terms of economic performance, this fleet segment was profitable in 2019 and similar to the Spanish demersal trawlers, landings in weight increased compared to 2018. Despite the increase of landing weight observed in 2019, landing values and revenue decreased in 2019 (-6.1%) compared with 2018, and GVA and gross profit followed the same trend.



**Figure 3.173. Trends on the top species landed in value by the Portuguese demersal trawler fleet operating in NAFO (left) and for 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

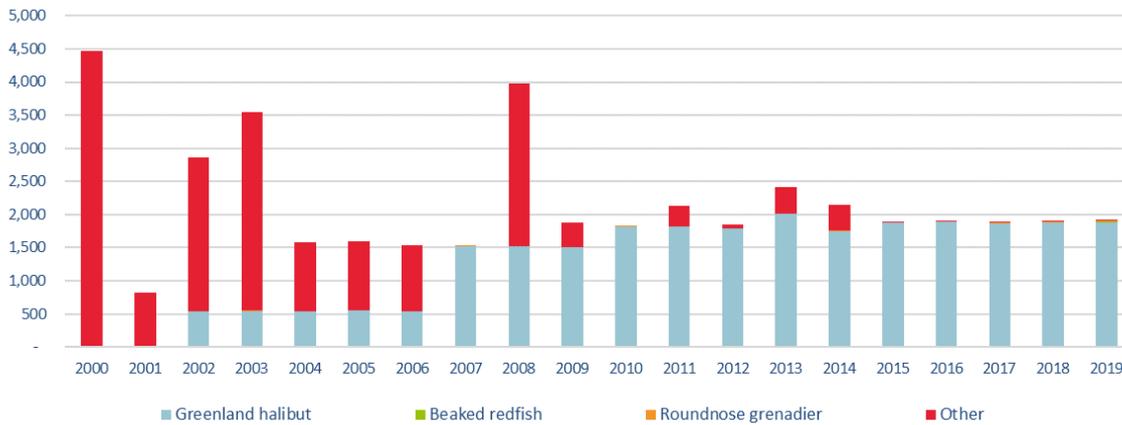


**Figure 3.174. Trends on key indicators for the Portuguese demersal trawlers operating in NAFO**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**GERMANY**

The German fleet segment with presence in NAFO did not show high dependency, with only 11% of the value of landings reported coming from the area (Table 3.19). The fleet segment mainly targets Greenland halibut (1 881 tonnes) and less quantities of roundnose grenadier (12.3 tonnes), beaked redfish (11.9 tonnes) and northern wolffish (5.4 tonnes) in the NAFO CA.



**Figure 3.175. Historical catches of top species (in tonnes) by German fleets operating in the NAFO area**

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

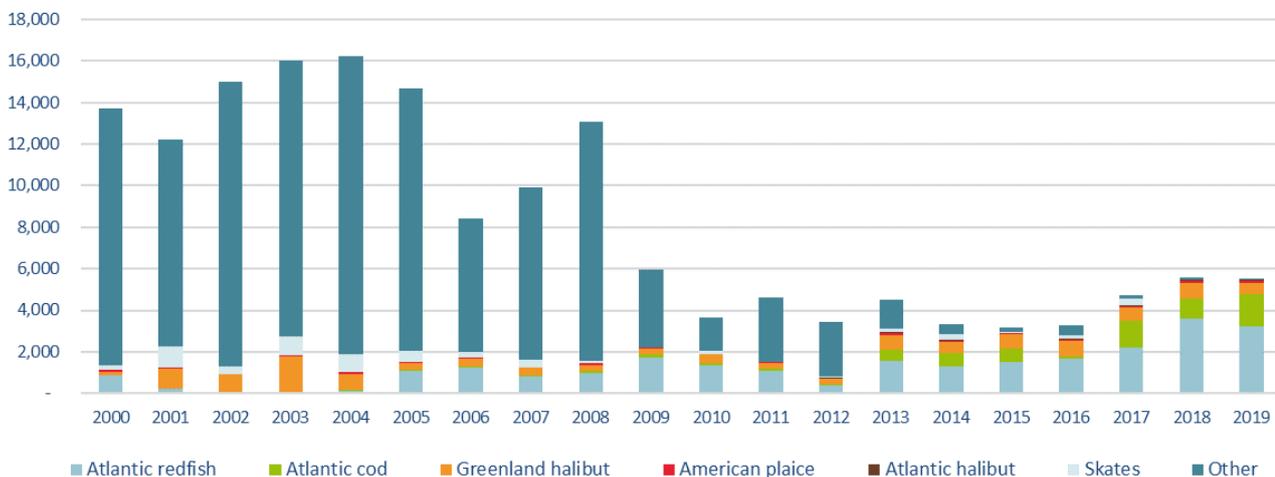
Most of the activity of this fleet segment is in NEAFC, corresponding to 64% of the DaS and 70% of the value of landings in 2019.

**Table 3.19 - Summary findings for the German fleet segment with activity in NAFO CA, 2019**

Fleet segments 2019	Share of seadays	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
DEU NAO DTS40XX NGI*	10%	11%	1,912	5.6	1	11	3.9	1.9

## Estonia

Estonia has low activity in NAFO, which brings confidentiality issues that prevent the publication of activity and economic data. Despite a stable level of catches around 5 500 tonnes are shown at the catch estimates provided by NAFO (STATLANT), catches of this fleet have not been reported to the EU this year. Their main target species are Atlantic redfish, Atlantic cod and Greenland halibut. These discrepancies in data reporting need to be further explored by the EWG in future reports.



**Figure 3.176. Historical catches of top species (in tonnes) by Estonian fleets operating in the NAFO area**

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

## France

Data on the French St. Pierre et Miquelon fleet are not reported under the DCF. The latter, according to NAFO official statistics, caught 729 tonnes in 2019, a 38% decrease with respect to 2018 (1 168 tonnes).

## Main drivers and factors affecting the performance of the fleet

- All the EU fleets presented a good economic performance from 2014 to 2017 due to a high value in the key commercial species landed and energy efficiency. However, in 2018 they showed the lowest

value of landings of all the time series (EUR 93.2 million). In 2019, landings seem to have recovered both in weight and value.

- Despite the increase in landings in weight and value in 2019, this has not been translated into higher profitability of the fleets, due to higher non-variable and variable costs. It makes that the gross profit margin in 2019 is considerably lower than previous years (i.e., decrease of 30%).
- Capacity, effort, and landings in weight have decreased in general since 2013. This seems to be consistent with the adaptive fishing strategies and business plans of the concerned fleets. In recent years, demersal fishing trawlers targeting cod and redfish have increased their annual level of catch in other 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.
- There is a slight but steady decline in employment (in FTE), although this might be partially linked to the modernisation of boats and mechanisation of processing activities at sea, together with a rotation system of the employed full-time staff on several fishing trips.
- The annual wages have increased since 2014 for the case of Portugal, Spain. Germany remained stable at high levels although in 2019 they have decreased.
- The increase in fuel prices and the lower average market prices have contributed negatively to the overall performance.
- The witch flounder 3NO stock was reopened in 2015, following many years with no directed fishery. This may positively affect the Spanish and Portuguese vessels that have traditionally targeted the 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.

## Outlook for 2020 and beyond

- 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 latest version of the document incorporates amendments which were adopted at the most recent NAFO Annual Meetings held in September 2020.
  - The applicable CEM measures for the period analysed in this report (2019): <https://www.nafo.int/Portals/0/PDFs/COM/2019/comdoc19-01.pdf>
  - Also, more information on the historical archive of management measures and quota tables can be consulted at NAFO website: <https://www.nafo.int/Fisheries/Conservation>
- NAFO Scientific Advice is generated through a joint effort by NAFO members (9 CPCs in 2019 and 10 in 2020 with the incorporation of UK) 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.
- A Management Strategy Evaluation (MSE) for Greenland halibut was adopted at NAFO Annual Meeting in September 2017 with a starting TAC of 17 500 tonnes. This management plan contains a harvest control rule (HCR) which has proven to be robust to date (2021) and contributed to provide economic stability and predictability in the level of catches in the region of 16 000 tonnes to 17 000 tonnes for the coming years.

- A protocol for exceptional circumstances for Greenland halibut MSE was subsequently developed in 2018 to guarantee that the full process is respected. This protocol has not been used yet as exceptional circumstances have not occurred to date.
- Due to the poor biological situation of the 3M Atlantic Cod stock, a drastic reduction of 82% of TAC was adopted in September 2020 with date of effect 1 January 2021. The Annual Meeting of 2020 set a TAC of 1 500 tonnes. This is a dramatic decrease with respect to the previous 2 years, coming down from 17 500 tonnes in 2018 and from 8 500 tonnes in 2018. On top of this TAC setting, the following three flanking measures were agreed as additional conservation and control measures to protect spawning aggregations and juvenile fish in the Flemish Cap area on the basis of recommendations made by the NAFO Scientific Council (measures 1 and 2) and STACTIC (measure 3), respectively:
  - Time area closure of the directed fishery for the 3M cod stock for January-March 2021.
  - Compulsory use of sorting grids for all trawlers with a directed fishery on cod.
  - 100% Control of landings for vessels engaging in directed fishery on 3M cod stock.
- The economic impact of the time area closure of the directed fishery for cod in 3M is likely to be detrimental for Portuguese and Spanish trawlers, as they will be forced to change their fishing strategies in the North Atlantic and look for alternative fishing grounds, at least during the time of the closure. Displacement of fishing effort might occur as well as loss of income for those operators more reliant or with higher dependency on this fishery (in particular, Portuguese demersal trawlers). Also, there might be a switch in the target species towards other demersal species such as redfish or hake in the short term.
- The benchmark review of the cod (3M Subdivision) initiated in 2018 to develop a HCR is now in stand-by. Work will resume soon trying to provide more stability in the long term to the fleets and avoid big fluctuations in TACs between years. However, this task will be extremely challenging given the dire state of the stock and the poor level of recruitments. The HCR has not yet been developed due to scientific issues with the modelling, but further work is ongoing at the Scientific Council.
- The Commission adopted in 2014 an MSE approach for redfish in Division 3LN ([FC Doc. 14/29](#)). This approach uses a HCR designed to reach 18 100 tonnes of annual catch by 2019 to 2020 through a stepwise biannual catch increase, with the same amount of increase every two years. At the 2020 annual meeting, it was decided to continue using the HCR and extend the 18 100 tonnes annual TAC for the period 2021 to 2022. The MSE is currently subject to review.
- The 3M shrimp fishery had a high importance and commercial and socioeconomic value for many EU fishing vessels in the past, but it was under a moratorium from 2011 to 2019. The EU is by far the largest NAFO CPC in terms of quota share for this stock, which was the most valuable one in terms of landings during the period 1995-2010. Within the EU, Estonia is the largest fishing nation of 3M shrimp followed by Lithuania, then Latvia and, to a lesser extent, Denmark, Poland, Spain and Portugal. During the 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 in 3M, with an effort scheme based on allocation by CPCs, corresponding to the EU 823 out of the total 2 640 fishing days.
- In 2020 there has been a low utilisation of these days at sea due to late start of the fishing season due to current CEM by-catch "move on" provisions coupled with logistic issues caused by the COVID-19 situation. As a result, only one Estonian vessel entered the fishery late in 2020. However, there is a potential for future years that this could generate significant incomes for the specialised demersal trawl fleet from Estonia and Latvia. NAFO is also planning intersessional work to review the current management approach for shrimp in Division 3M in 2021 to agree on modalities for transition from an effort to a TAC and quota system, provided that there is 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 about new closures or expansion of existing ones (e.g., seamounts, sponges and gorgonians, sea pens concentrations, black corals, bryozoos, etc.). In 2020, a rollover of the current VME closures in the NAFO RA was agreed for an additional year, pending a more comprehensive review in 2021.

- A study on the impact of bottom fisheries in the NAFO area will be conducted in 2021. However, a preliminary evaluation that assessed eight fisheries in areas where there are VMEs found that while the Greenland halibut fishery does overlap with polygons containing VMEs, the longline cod and the shrimp fisheries do not. Other fisheries analysed showed an intermediate level of overlap. The NAFO Scientific Committee recommended that this first analysis be augmented with more detailed data including VMS and haul data. The outcomes of this study could influence the dynamics of specific EU fleet segments through closures/displacement and/or reduced effort and/or concentration of catches in other areas.
- Apart from proposals to potentially close certain fishing areas, the NAFO regulatory area will also likely be affected by other human economic activities that impact the seabed; these include oil and gas drilling and deep-sea mineral mining in the continental platform of Canada. Indeed, any licence to prospect or commercially extract known deposits in the seabed might have an adverse effect on the fishing activities of EU fleets operating in the area.
- A scientifically validated protocol to develop an industry-science partnership to test separator panels and "Norwegian" grid to improve gear selectivity for cod trawlers operating in Subdivision 3M, could contribute to reduce catches of small and juvenile cod, helping to protect incoming class years and recruitments, while allowing for more efficient fishing seasons.
- An EU funded project developing a method for a multispecies assessment in 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 dependent on one commercial species and create unexpected changes in their fishing patterns. A roadmap is being developed to include reporting on progress in multi-species models and simulations to evaluate the reliability of decision rules for species aggregated catch levels (total catch indicator indexes). A workshop to identify ecosystem level objectives will be held in advance of the 2021 Annual Meeting.
- The COVID-19 outbreak with the restrictive measures adopted in March and April 2020 in the EU and extending thorough the year 2020 and first half of 2021 had significant economic impacts on the behaviour of the DWF, either refraining for starting their fishing season (as it was the case of 3M shrimp for the Estonian fleet) or deciding to extend their fishing trip as they had already started it (e.g. cod and redfish trawlers) to comply with health and safety rules and overcome travel restrictions related to crew rotation or changeover. This might result in significant changes of fishing days or days at sea reported in the area for 2020 and 2021, depending on the specific circumstances of each fleet.

## Landing obligation

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

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

In all such cases, the priority of the international standard was recognised, and it was made clear that NAFO CEM rules should continue to apply, by specific derogation from the 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](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/Commission\\_reply\\_to\\_consultation\\_on\\_external\\_dimension\\_landing\\_obligation.pdf](http://ldac.eu/images/documents/publications/Commission_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.

## ICCAT - International Commission for the Conservation of Atlantic Tunas

### Background

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.

ICCAT's area of competence covers all waters of the Atlantic Ocean, including adjacent seas (FAO areas 21, 27, 31, 34, 37, 41, 47 and 48). 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 sp.) - 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 sp.) - Atlantic and Mediterranean swordfish (SWO), blue marlin (BUM), Atlantic white marlin (WHM), Atlantic sailfish (SAI)
- Sharks (major sp.) - 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)

**Table 3.20 – List of major species or stocks covered by ICCAT**

Tuna (major sp.)		Tuna (small t)		Sharks (major sp)	
<b>Albacore</b>	ALB	Atlantic bonito	BON	Blue shark	BSH
<b>Atlantic bluefin tuna</b>	BFT	Atlantic Spanish mackerel	SSM	Porbeagle	POR
<b>Atlantic sailfish</b>	SAI	Blackfin tuna	BLF	Shortfin mako	SMA
<b>Atlantic white marlin</b>	WHM	Bullet tuna	BLT		
<b>Bigeye tuna</b>	BET	Cero	CER		
<b>Blue marlin</b>	BUM	Common dolphinfish	DOL		
<b>Longbill spearfish</b>	SPF	Frigate tuna	FRI		
<b>Skipjack tuna</b>	SKJ	King mackerel	KGM		
<b>Southern bluefin tuna</b>	SBF	Little tunny(=Atl.black skipj)	LTA		
<b>Swordfish</b>	SWO	Plain bonito	BOP		
<b>Yellowfin tuna</b>	YFT	Seerfishes nei	KGX		
		Serra Spanish mackerel	BRS		
		Slender tuna	SLT		
		Wahoo	WAH		
		West African Spanish mackerel	MAW		

Source: EWG-21-08.

**Table 3.21 – Summary of the latest ICCAT stock assessments and recommendations**

Stock	Assessment	Status	Probability (Kobe plot)	Recommendations
<b>TUNA</b>				
Yellowfin tuna YFT	2019	Overfishing: No Overfished: No	Green 54% Red 22% Orange 21% Yellow 2%	A constant catch of 120,000 t will maintain more than 50% probability of being in green quadrant through 2033.
Bigeye tuna BET	2018	Overfishing: Yes Overfished: Yes	Red 99% (since 1996-97)	Maintaining catches at 2016-2018 levels (around 77,000 t and about 20% greater than the 65,000 TAC), will reduce the probability of achieving B>BMSY, F<FMSY by 2033, to around 1%.
Skipjack tuna SKJ	2018	Eastern stock Overfishing: Not likely Overfished: Not likely		Catch and effort levels for the eastern stock do not exceed the level of
		Western stock Overfishing: No Overfished: No	Green high probability	
Albacore ALB	2016	North Atlantic stock Overfishing: No Overfished: No	Green 96.8% Yellow 3.2% Red 0%	TAC of 33,600 t for 2018-2020
		South Atlantic stock Overfishing: No Overfished: No	Green 66% Yellow 31% Red 3%	New TAC of 24,000 t for 2017-2020 set in 2016. Further reductions in TAC would increase the probability of being in the green zone in those timeframes. Catches above 26,000 t will not permit maintaining the stock in the green area with at least 60% probability by 2020.
	2017	Mediterranean stock Overfishing: Not likely Overfished: Not likely	Green 48% Red 36% Yellow 16%	No increase in catch and fishing effort is allowed until more accurate scientific advice can be provided. Recent fishing mortality levels appear to be below FMSY, and current biomass is approximately at BMSY level. However, there is considerable uncertainty about current stock status. Catch levels beyond 5,900 t are unsustainable.
Bluefin tuna BFT	2017	East Atlantic stock Overfishing: No Overfished: ?	Biomass reference points not estimated due to uncertainty in recruitment potential	Recommended TAC of 2,350 t for 2018-2020. Projections indicate that these catches would be unlikely to lead to overfishing for this three-year time period.
		West Atlantic stock Overfishing: No Overfished: ?		
Southern bluefin tuna SBF			TRO 20% of initial biomass, below MSY	Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
<b>BILLFISH</b>				
Blue marlin BUM	2018	Overfishing: Yes Overfished: Yes	Red 54% Yellow 42% Green 4%	High uncertainty with regard to data and the productivity of the stock. Catches should not be allowed to exceed established TACs. Because the stock has not rebuilt catches need to be lower than the current TAC. Catches of 1,750 t or less are expected to provide at least a 50% chance of rebuilding by 2028.
White marlin WHM	2019	Overfishing: Yes Overfished: No	Yellow 99% Red 1% Green <1%	Landing limit of 400 t in 2016 - 2019
Sailfish SAI	2016	East Atlantic stock Overfishing: Yes Overfished: Likely		Limit Atlantic sailfish catches of either stock to the level of 67% of MSY.
		West Atlantic stock Overfishing: Not likely Overfished: Not likely		Not likely overfished and not likely undergoing overfishing
Swordfish	2017	North Atlantic	Green 61%	The current TAC of 13,700 t has a 36% probability of

SWO		stock Overfished: No Overfishing: No	Yellow 33% Red 5%	maintaining the North Atlantic swordfish stock in the green quadrant of the Kobe plot by 2028, whereas a TAC of 13,200 t would have a 50% probability, and would also result in the biomass being above BMSY with a probability greater than 50%
		South Atlantic stock Overfished: Yes Overfishing: No	Green 2% Yellow 51% Red 47%	TAC (2018-2021): 14,000 t The current TAC of 15,000 t has a 26% probability of rebuilding the stock to within MSY reference levels by 2028, whereas a TAC of 14,000 t would have a 50% probability of rebuilding the stock.
	2016	Mediterranean stock Overfished: Yes Overfishing: Yes	Red 100%	TAC 10,500 t in 2017 (Rec. 16-05), corresponding to 10,185 t in 2018 (3% annual reduction). Driftnet ban; three-month fishery closure, gear specifications (number and size of hooks and length of gear), minimum catching size, regulations, list of authorized vessels, fishing capacity restrictions
SHARKS				
Blue shark BSH	2015	North Atlantic stock Overfishing: Not likely Overfished: Not likely		Uncertain
		South Atlantic stock Overfishing: undetermined Overfished: undetermined		high uncertainty, stock could be overfished and overfishing could be occurring
Shortfin Mako SMA	2017	North Atlantic stock Overfishing: Yes Overfished: Yes	Red 90% Yellow 10% Green 0.5%	a zero TAC will allow the stock to be rebuilt and without overfishing (in the green quadrant of the Kobe plot) by 2045 with a 53% probability; precautionary approach
		South Atlantic stock Overfishing: possibly Overfished: possibly	Green 38% Yellow 34% Red 28%	highly uncertain, precautionary approach
Porbeagle POR	2009	Northwest stock Overfishing: Yes Overfished: No		New targeted porbeagle fisheries should be prevented, porbeagles retrieved alive should be released following best handling practices to increase survivorship, and all catches should be reported
		Northeast stock Overfishing: Yes Overfished: No		
		Southwest stock Overfishing: Yes Overfished: undetermined		

Source: ICCAT Report for biennial period, 2018-19 PART II (2019) - Vol. 3 Annual Reports, 2020

## Fleet selection and data limitations

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 40 metres. 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 3.21) in the ICCAT RA

(Atlantic and/or Mediterranean Sea) in 2019. 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 2019 from one or more of the major species or stocks in the ICCAT RA are selected. This method differs to that used in previous 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 AER 2020 (and 60% used in the AER 2019).

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 underestimated.

Additional analysis includes, where relevant or possible, highlighting fleet segments with a high dependency on stocks that are overfished and/or where overfishing is occurring, according to the latest available stock assessments provided by ICCAT.

## EU ICCAT Fleet

According to ICCAT, the EU fleet numbered 3 289 commercial vessels and total reported EU catches for the main species regulated by ICCAT in the Atlantic Ocean and Mediterranean Sea amounted to 251 802 tonnes in 2018; of which 234 303 tonnes, or 94% of the EU total landings, came from the Atlantic and 15 654 tonnes from the Mediterranean Sea. Nearly 55% of these catches correspond to tropical tunas (yellowfin, bigeye and skipjack), 20% to sharks, and 11% to albacore.

These figures largely match with the results from the DCF data for the EU ICCAT fleet. Overall, it was estimated that these vessels landed 251 775 tonnes valued at EUR 621.5 million<sup>28</sup> in 2018. Hence, 99.8% of the landings reported by ICCAT are covered by the ICCAT fleet in 2018. Landings from Atlantic stocks amounted to 229 569 tonnes (or 91% of total landings) and 22 205 tonnes (9% of landings) from Mediterranean stocks. In 2019, the share of landings from the Mediterranean increased compared to 2018, with 11% of the weight and 33% of the value (up from 29% in 2018).

In 2019, landings decreased to 244 798 tonnes while the value increased to EUR 642.6 million, giving an average price of 2.6 euro/kg (overall average price in 2018 was 2.5 euro/kg). The average price varies by main region, with an average of 1.9 euro/kg for Atlantic stocks and 8.0 euro/kg for Mediterranean stocks in 2018-2019. Landings of Atlantic stocks amounted to 218 075 tonnes valued at EUR 433.4 million in 2019 and landings of Mediterranean stocks amounted to 26 722 tonnes, valued at EUR 209.2 million.

When matched with the economic data<sup>29</sup>, the number of vessels is estimated at 3 290 in 2019 with a landings weight of 244 800 tonnes and a value of EUR 616.8 million in 2019 (Table 3.22). As stated previously, the number of vessels is estimated based on the share of value of landings by fleet segment.

<sup>28</sup> Nominal

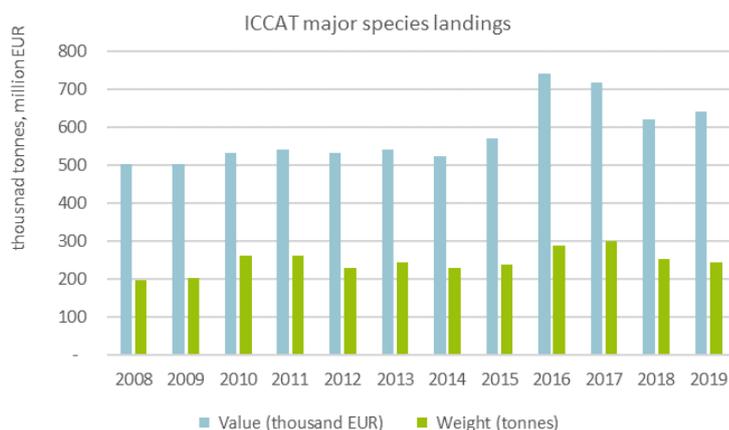
<sup>29</sup> Some data may be lost due to incomplete data sets. For example, only landings data are provided for the German pelagic trawler fleet segments. Without effort and economic data, it is not possible to disaggregate and assess the economic performance of these vessels.

**Table 3.22 – Summary findings for the EU ICCAT fleet based on EU-MAP data for 2018-2019**

MS	Estimated number of vessels		Landings in weight		Landings in value	
	2018	2019	2018	2019	2018	2019
BGR	153	29	22,906	3,650	48,057	8,309
CYP	41	35	819,476	839,892	2,440,699	2,687,996
DNK			18	747	577	4,839
ESP	596	673	147,360,251	147,626,444	286,287,154	301,933,224
FRA	541	582	65,338,589	59,556,840	170,577,193	153,648,564
GBR			6,429	3,420	5,629	3,161
GRC	418	525	1,550,170	2,642,997	10,973,248	19,359,672
HRV	232	231	162,254	188,908	1,018,079	1,233,634
IRL	5	6	3,132,074	3,222,809	7,878,086	6,819,488
ITA	573	789	8,661,952	10,612,098	61,974,823	76,800,810
LTU			685,764	461,311	595,326	371,527
MLT	260	282	1,183,046	1,258,185	7,788,248	7,196,086
NLD			272,992	103,119	230,680	62,043
PRT	151	137	22,546,979	18,273,605	51,608,091	46,703,096
ROU			102	233	612	1,448
SVN	1	1	899	765	5,088	4,682
SWE			-	450	-	7,511
<b>EU ICCAT fleet</b>	<b>2,972</b>	<b>3,290</b>	<b>251,743,902</b>	<b>244,795,471</b>	<b>601,431,589</b>	<b>616,846,090</b>

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The main species landed in 2019 were skipjack (67 899 tonnes, 28% of the total landings), blue shark (42 380 tonnes), yellowfin tuna (38 881 tonnes), albacore (32 563 tonnes) and bigeye tuna (17 296 tonnes). In 2018, 57% of the major species and stocks landed consisted of tropical tuna, 19% of sharks and 11% to albacore; figures that match well with the reported data from ICCAT.

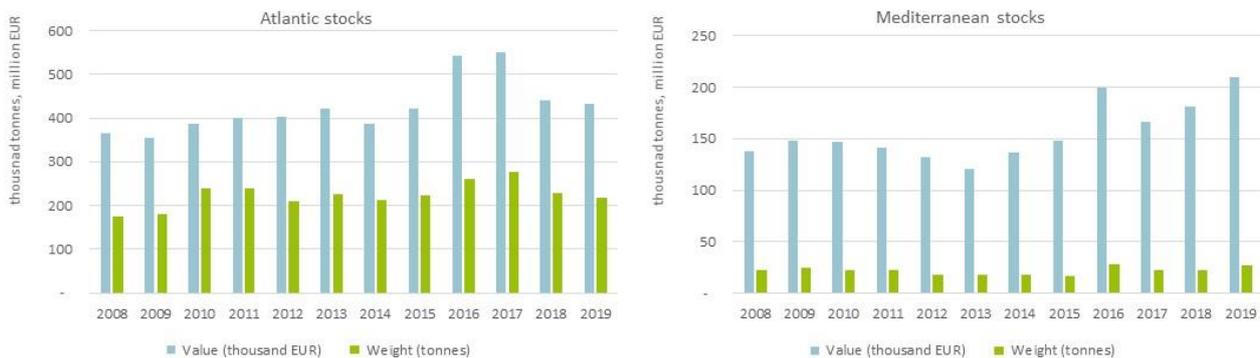
**Figure 3.177. Trends on landings in value and weight by the EU fleet of ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

As the Atlantic stocks comprise over 90% of the total landings, the top species were the same and landings in 2019 amounted to: skipjack (67 744 tonnes, 28% of the total landings), blue shark (42 325 tonnes), yellowfin tuna (38 880 tonnes), albacore (30 175 tonnes) and bigeye tuna (17 296 tonnes).

In the Mediterranean Sea, bluefin tuna accounted for 47% of the total ICCAT landings, followed by swordfish (19%), albacore (9%), bonito (9%) and little tunny (8%).

Landings of bluefin tuna amounted to 13 853 tonnes in 2019, 14% more than in 2018 or 101% more than the average landings over the period 2008-2018. Around 91% of bluefin tuna landings are from the Mediterranean region.



**Figure 3.178. Trends on landings in value and weight by the EU fleet of ICCAT major Atlantic (left) and Mediterranean (right) stocks**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

According to the latest assessments:

- Swordfish stocks in the Mediterranean Sea are considered to be overfished and undergoing overfishing. This is not the case for the northern Atlantic stocks while the southern Atlantic stocks are considered overfished. Fleet segments with high landings of Mediterranean swordfish in 2019 were:
  - ESP MBS HOK1824 LLD\* - 15.9% of MBS swordfish landing (816 tonnes)
  - ITA MBS HOK1218 NGI – 14.3% of MBS swordfish landing (735 tonnes)
  - ESP MBS HOK1218 LLD\* - 12.2% of MBS swordfish landing (627 tonnes)
  - ITA MBS PGP1218 NGI – 11.1% of MBS swordfish landing (569 tonnes)
  - GRC MBS HOK1218 NGI – 10.9% of MBS swordfish landing (561 tonnes)
- Bigeye tuna stocks are considered to be overfished and overfishing is occurring.
- The status of bluefin tuna is somewhat uncertain; while overfishing is not occurring for most stocks it is uncertain whether the stocks are overfished or to what extent.

## EU ICCAT LDF

Based on the proposed criteria described above, a total of 31 DCF fleet segments are identified for the **ICCAT LDF** analysis in 2019: 20 Atlantic and 11 Mediterranean fleets. The EU ICCAT LDF covers around 85% of the ICCAT fleet's landings in weight and 74-76% of the landings value (Table 3.23).

**Table 3.23 – Coverage of the EU-MAP data for the EU ICCAT fleet and EU ICCAT LDF fleets in 2018, 2019**

	Fleet segments	Number of vessels	Live weight of landings (tonnes)	Gross value of landings (million EUR)	Revenue (million EUR)	Gross profit (million EUR)
ICCAT reported data (2018)		3,289	251,802			
EU ICCAT fleet 2018	258	2,971	251,737	601.4	630.2	131.8
Coverage ICCAT official data		90%	99.9%			
EU ICCAT fleet 2019	259	3,290	244,792	616.8	639.1	115.2
EU ICCAT LDF	31	462	207,047	457.8	468.5	82.2
Coverage LDF	12%	14%	85%			

Tables 3.24 and 3.25 provide on the fleet segments (over 18 metres with a  $\geq 20\%$  landings value dependency on ICCAT major species) selected by main fishing region and Member State in 2019, along with the fleet segments that were selected in last year's exercise for comparison.

In the Mediterranean, fleet segments are distributed by Member State as follows: one Cypriot, two Spanish, one French, four Italian and three Maltese. In the Atlantic, the LDF fleet segments are distributed as follows: nine Spanish, three French, one Irish and seven Portuguese.

**Table 3.24 - Selected Mediterranean LDF fleets**

MS		2020 AER	2021 AER	% landed value ICCAT	Landed weight	Landed value
CYP	1	Cypriot purse seiners 24-40m (CYP MBS PS2440)	CYP MBS PS 2440 NGI	100%	84,996	652,777
ESP	2	Spanish longliners 18-24m (ESP MBS HOK1824 LLD)	ESP MBS HOK1824 LLD*	100%	1,140,326	6,698,879
	3	Spanish purse seiners 24-40m (ESP MBS PS2440)	ESP MBS PS 2440 NGI*	73%	2,490,998	21,913,296
FRA	4	French purse seiners 24-40m (FRA MBS PS2440)	FRA MBS PS 2440 NGI*	100%	4,374,331	47,932,168
ITA	5	Italian purse seiners over 40m (ITA MBS PS40XX)	ITA MBS PS 40XX NGI	99%	2,602,706	26,710,796
	6		ITA MBS PGP1824 NGI*	94%	518,304	4,831,553
	7	Italian hook and line vessels 18-24m (ITA MBS HOK1824)	ITA MBS HOK1824 NGI*	88%	1,287,894	6,949,667
	8		ITA MBS PS 2440 NGI	35%	1,589,689	8,637,647
MLT	9	Maltese active gear 18-24m (MLT MBS MGO1824)	MLT MBS MGO1824 NGI*	86%	92,272	343,458
	10	Maltese purse seiners 18-24m (MLT MBS PS1824)	MLT MBS PS 1824 NGI*	86%	256,823	1,796,371
	11	Maltese hook and line vessels 18-24m (MLT MBS HOK1824)	MLT MBS HOK1824 NGI	78%	288,987	1,963,491

**Table 3.25 - Selected Atlantic LDF fleets**

MS		2020 AER	2021 AER	Dependency ICCAT	Landed weight	Landed value
ESP	1	Spanish surface (drifting) longliners 24-40m (ESP NAO HOK2440 LLD)	ESP NAO HOK2440 LLD*	99%	12,835,077	25,098,122
	2	Spanish hook, pole and line vessels 24-40m (ESP NAO HOK2440 IC)	ESP NAO HOK2440 IC *	96%	2,959,292	7,967,386
	3		ESP NAO HOK2440 NGI	64%	4,039,899	14,688,031
	4	Spanish surface (drifting) longliners 24-40m (ESP OFR HOK2440 LLD)	ESP OFR HOK2440 LLD*	60%	30,685,812	50,062,211
	5		ESP NAO HOK1824 NGI	51%	1,391,642	5,134,545
	6	Spanish hook, pole and line vessels 24-40m (ESP NAO HOK2440 NGI)	ESP OFR HOK2440 NGI*	46%	9,755,695	11,853,210
	7	Spanish purse seiners 24-40m (ESP NAO PS 2440 NGI)	ESP NAO PS 2440 NGI	36%	6,808,739	24,312,291
	8		ESP NAO DFN1824 NGI*	32%	888,701	3,186,315
	9		ESP OFR PS 40XX NGI	25%	59,641,506	89,906,752
FRA	10		FRA OFR HOK1824 RE *	50%	1,695,111	1,745,581
	11	French purse seiners over 40m (FRA OFR PS 40XX IWE)	FRA OFR PS 40XX IWE	38%	42,477,208	55,366,675
	12		FRA NAO TM 1824 NGI*	38%	2,366,474	7,114,729
IRL	13		IRL NAO TM 2440	23%	1,913,838	4,087,746
PRT	14	Madeiran (Portuguese) pole and line 24-40m (OFR HOK 2440 P2)	PRT NAO HOK2440 P2	100%	1,146,423	2,780,837
	15	Portuguese hook, pole and line vessels 24-40m (PRT NAO HOK2440 NGI)	PRT NAO HOK2440 NGI	90%	2,612,043	7,981,135
	16	Azorean (Portuguese) pole and line vessels 24-40m (PRT NAO HOK2440 P3)	PRT NAO HOK2440 P3 *	88%	4,771,693	10,422,340
	17		PRT NAO HOK1824 NGI	64%	1,562,737	7,562,951
	18	Portuguese pole and line and surface longliners over 40m	PRT OFR HOK40XX IWE*	60%	1,290,421	3,120,690

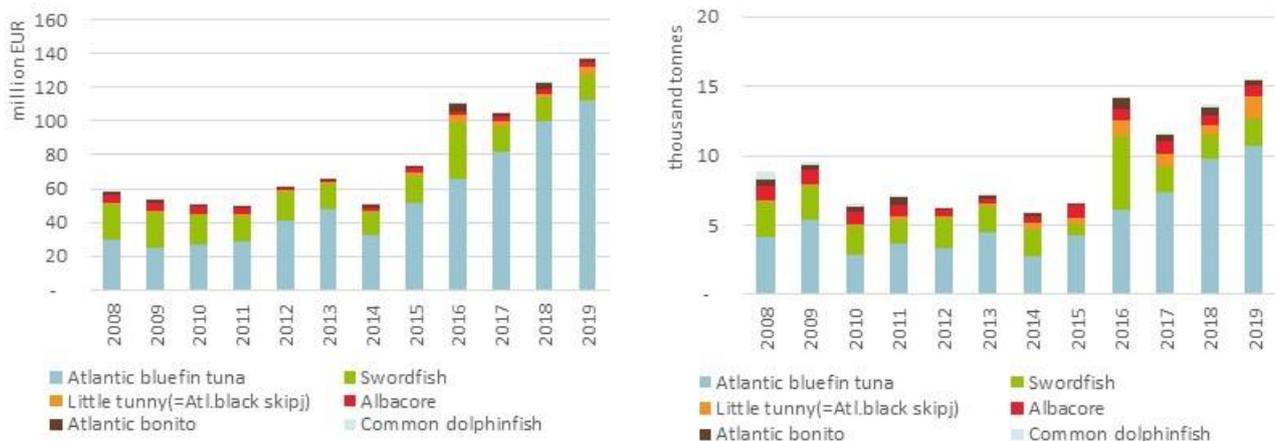
	(PRT OFR HOK40XX IWE)				
19	Portuguese pole and line and surface longliners 24-40m (PRT OFR HOK2440 IWE)	PRT OFR HOK2440 IWE*	46%	3,245,387	7,234,508
20		PRT NAO HOK1824 P2	44%	232,286	481,175

### Mediterranean LDF

Activity of the LDF in the Mediterranean is largely directed towards bluefin tuna by purse seiners and towards swordfish by longliners. Landings of bluefin have increased over the last few years reaching around 10 500 tonnes in 2019 (Figure 3.179).

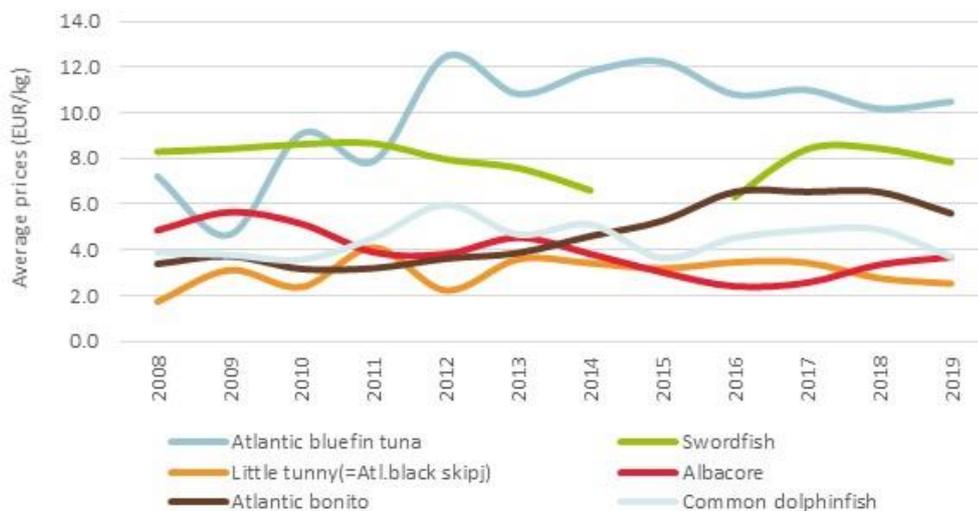
The current 2018-2020 recovery plan (Recommendation 2017-07) provides an increase of the annual TAC for bluefin tuna stock; the EU quota was set at 17 536 tonnes in 2019 (+121% compared to 2014 EU quota). While the landings of bluefin tuna have increased, the average price has remained at around 10-11 euro/kg. In fact, most of the target species saw a slight decrease in average price in 2019 compared to 2018, except for bluefin tuna and albacore (Figure 3.179).

Apart from an increase in 2016, swordfish landings have remained relatively constant at around 2 000 tonnes a year (or 6 600 tonnes per year by all fleets) (Figure 3.179).



**Figure 3.179. Trends on the top six species landed (in value) by the ICCAT Mediterranean LDF combined**

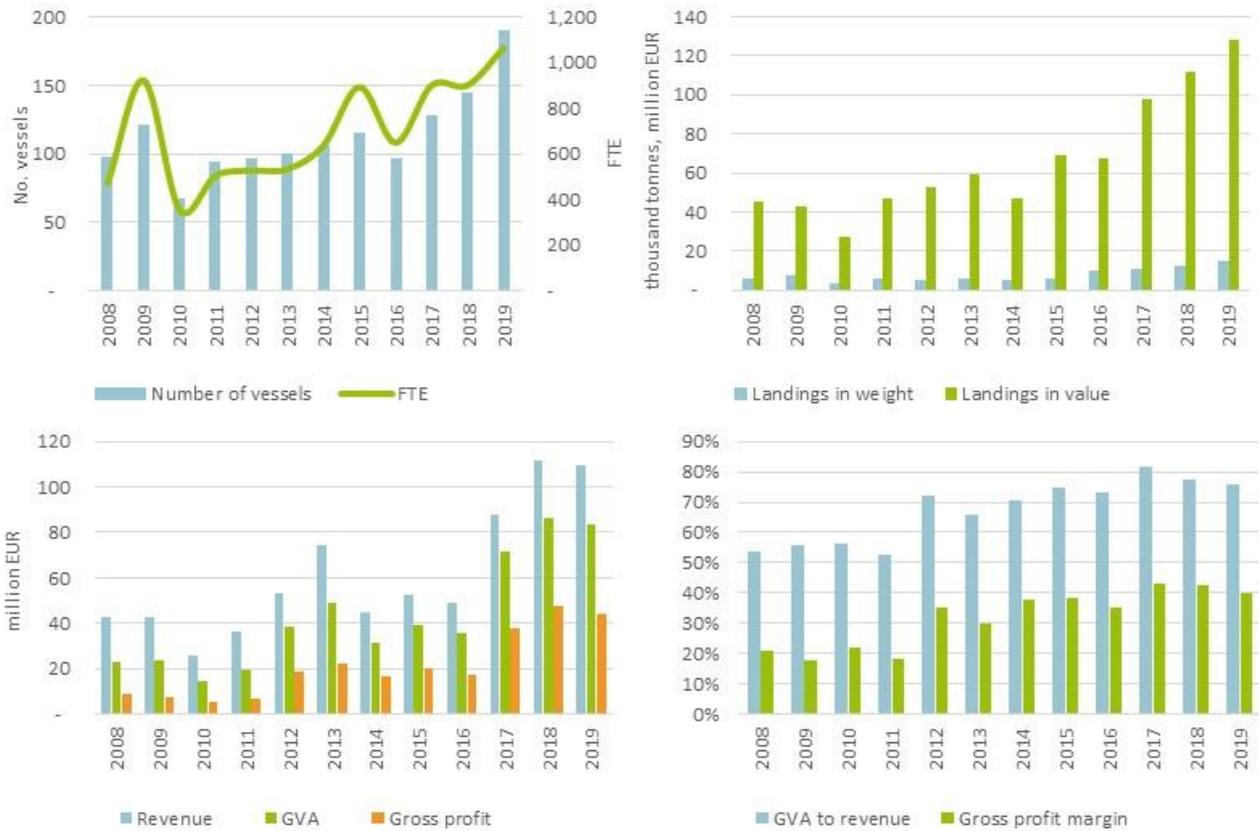
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.180. Trends on the average price of the top species landed by the EU Mediterranean ICCAT LDF combined**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Overall, the number of vessels and FTE employed in the fishery has increased since 2016, as well as landings, in particular landed value. The fleet segments targeting bluefin tuna were positively affected by the increase in annual TAC. Profit margins have sustained at around 75-80% for GVA and 40% for gross profit (Figure 3.181).

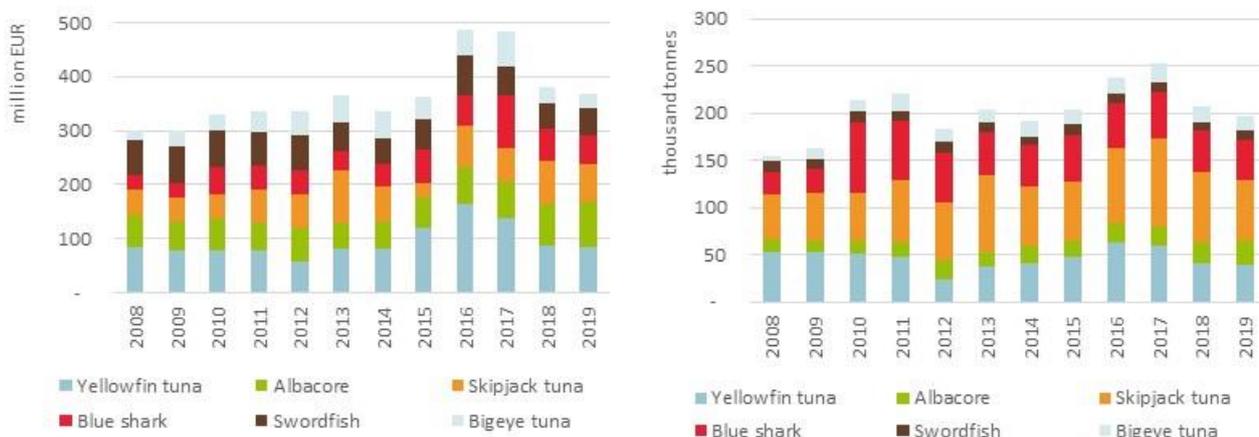


**Figure 3.181. Trends on key indicators for the EU Mediterranean ICCAT LDF combined**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### LDF Atlantic fleet

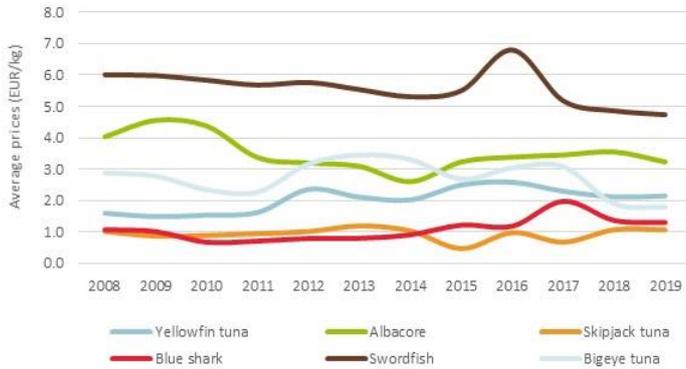
Contrary to the situation in the Mediterranean, the LDF in the Atlantic has seen landings, in weight and value, decrease since 2016. The main target species is yellowfin tuna, the landings of which has steadily decreased since 2016, reaching around 39 200 tonnes (EUR 84 million) in 2019; down from 63 700 tonnes in 2016 (EUR 164.7 million) (Figure 3.182).



**Figure 3.182. Trends on the top six species landed (in value) by the EU Atlantic ICCAT LDF combined**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The average price of the main target species in 2019 either remained stable or decreased slightly compared to 2018 (Figure 3.183). This is reflected in the declining revenue and profit generated by the fleet but not in the structure (number of active vessels and FTE) of the fleet. While overall the fleet was profitable, profit margins have declined steadily since 2017 (Figure 3.184).



**Figure 3.183. Trends on the average price of the top species landed by the ICCAT Atlantic LDF combined**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.184. Trends on key indicators for the EU Atlantic ICCAT LDF combined**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

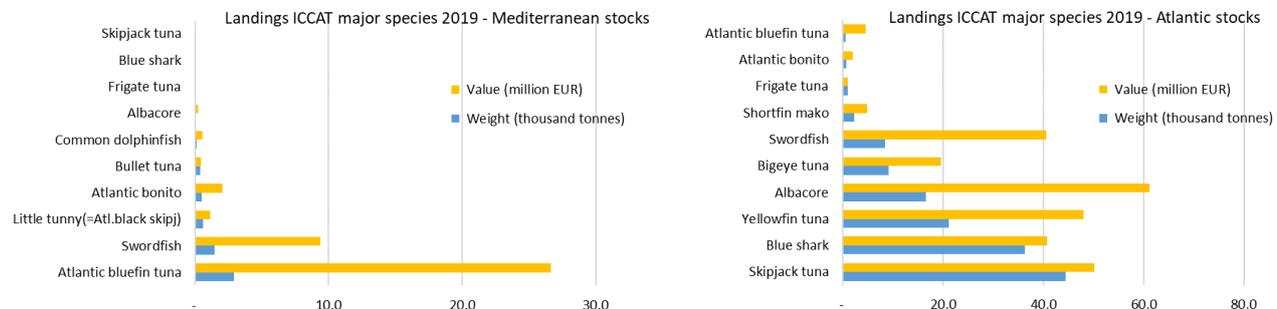
## Results by Member State fleet

### SPAIN

The Spanish ICCAT fleet is composed mainly of purse seiners and drifting longliners and target Atlantic and Mediterranean stocks. Combined, there were 21 fleet segments with high dependency on ICCAT stocks numbering around 513 vessels in 2019.

The fleet mainly targets tropical tuna (skipjack, yellowfin tuna and bigeye tuna), blue shark, albacore, swordfish and bluefin tuna (Figure 3.185).

Landings of the main tuna and tuna-like species by the Spanish fleets fishing in the Atlantic Ocean and Mediterranean Sea amounted to 147 360 tonnes in 2018 and 147 626 tonnes in 2019. These figures match well with the ICCAT catch estimates (142 308 tonnes) for Spain in 2018.



**Figure 3.185. Top species landed in value by the Spanish fleet targeting ICCAT Mediterranean (left) and Atlantic (right) stocks, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In the Mediterranean Sea, most of the bluefin tuna landings come from GSA 5 (around the Balearic Islands), and then from northern Spain (GSA 6) and the south Alboran Sea (GSA 3). In the Atlantic Ocean, most of the bluefin tuna landings are from the Strait of Gibraltar, around the Canary Islands and then the Bay of Biscay. Most of the skipjack landings come from the Southern Coastal area (34.3.1 and 34.3.2), around Cape Verde and then from the Sahara Coastal subarea.

#### Spanish Mediterranean Fleet

Table 3.26 shows fishing activity and economic performance statistics for the fleet segments with a dependency on ICCAT landings (in value) greater than 20% operating in the Mediterranean Sea. Six fleet segments showed high dependency in 2019, of which two are over 18 metres (LDF), together comprising 39 vessels.

A brief description and results on the economic performance of the main LDF fleet segments are provided below.

**Table 3.26 - Summary findings for the Spanish fleet segments with high dependency on ICCAT Mediterranean major stocks, 2019**

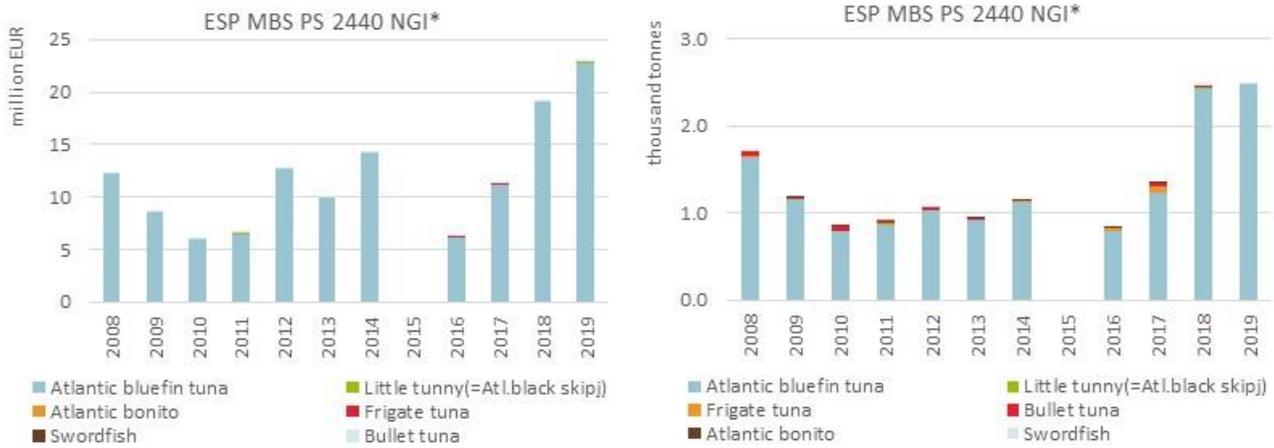
Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
ESP MBS PS 2440 NGI*	73%	2,491	21.9	18	154	17.0	8.0
ESP MBS HOK1824 LLD*	100%	1,140	6.7	21	113	3.9	0.1
ESP MBS HOK1218 LLD*	99%	814	4.7	32	108	4.5	2.3
ESP MBS HOK1218 NGI*	77%	240	2.1	16	47	4.5	3.0
ESP MBS PMP1218 NGI	25%	24	0.2	3	5	0.2	0.0
ESP MBS HOK0612 NGI*	24%	54	0.3	10	8	0.0	-0.2
<b>ESP Mediterranean fleets</b>		<b>4,763</b>	<b>36</b>	<b>100</b>	<b>435</b>	<b>30</b>	<b>13</b>
<b>ESP Mediterranean ICCAT LDF</b>		<b>3,631</b>	<b>29</b>	<b>39</b>	<b>267</b>	<b>21</b>	<b>8</b>
Coverage MED LDF		76%	80%	39%	61%	69%	61%

#### SPANISH LARGE PURSE SEINERS (24-40 METRES)

The Spanish LDF in the Mediterranean region is dominated (in terms of landings), by the large purse seiner segment, comprising 18 vessels in 2019. These vessels essentially target bluefin tuna, landings of which have increased steadily to 2 473 tonnes in 2019, after reaching a low of 790 tonnes in 2016. The fleet obtained 73% of its landed value but only 36% of the landed weight from ICCAT stocks in 2019.

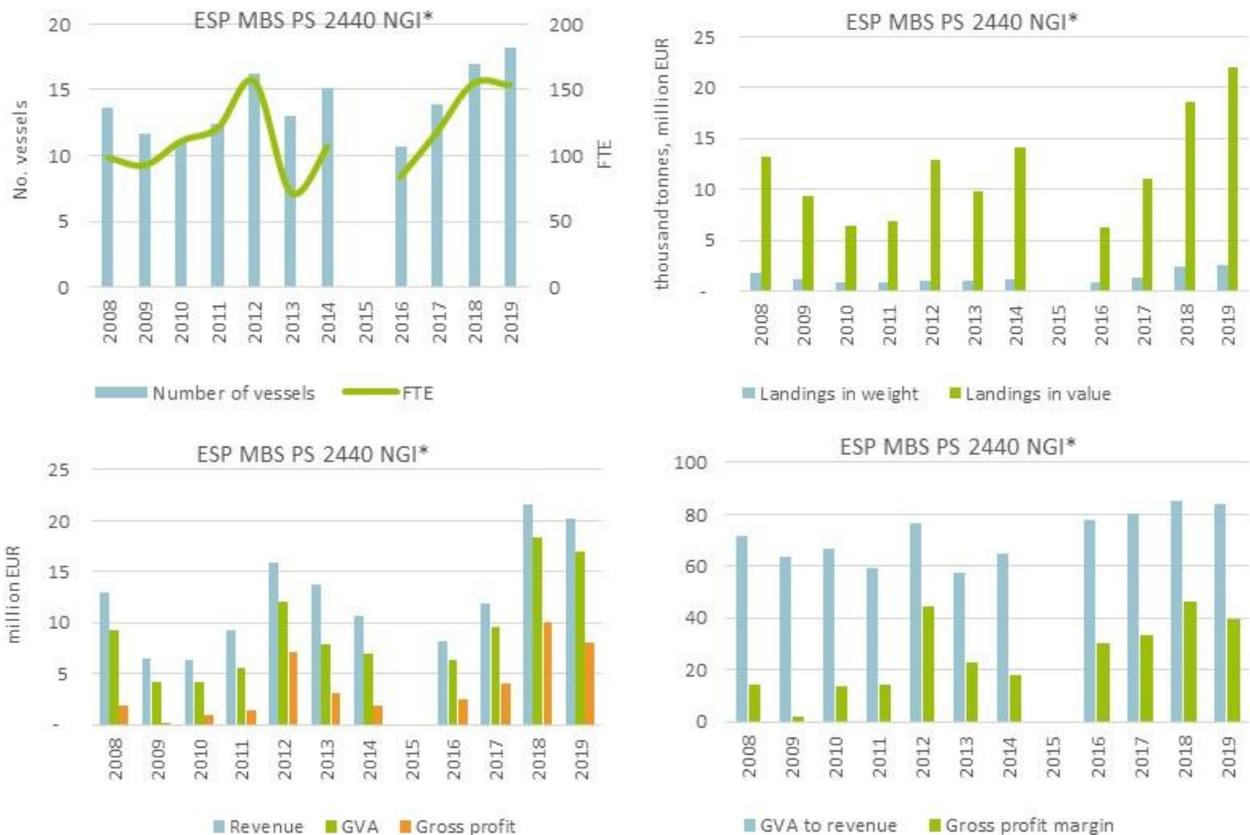
The fleet has been profitable over the period analysed, with revenues and profits improving over the last few years, largely in line with the increased landings although a drop in

profitability is seen in 2019. The segment is estimated to have obtained a gross profit margin of 40% in 2019, down from 46% in 2018. This is largely due to a decrease in revenue (from EUR 21.5 million in 2018 to EUR 20.3 million in 2019).



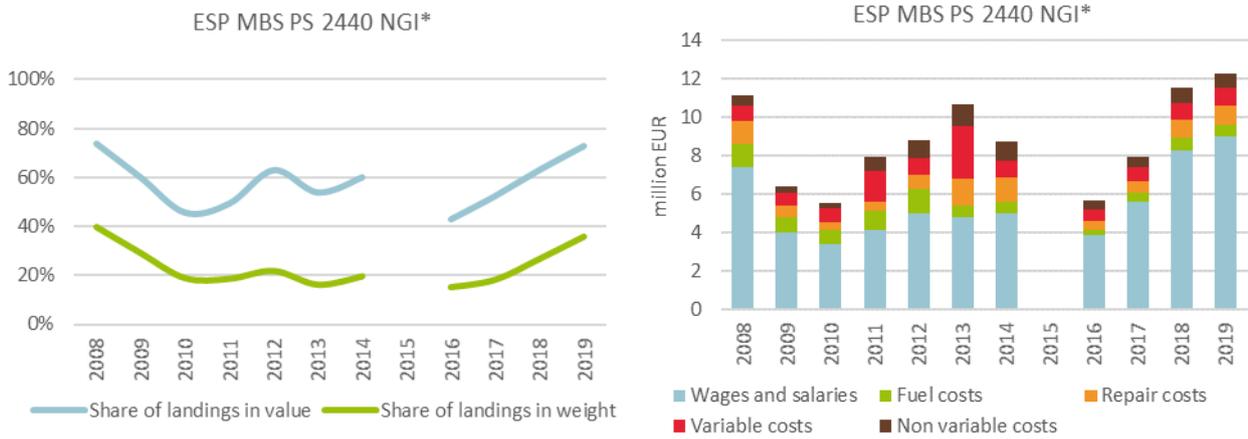
**Figure 3.186. Trends on landings of the top species in value (left) and weight (right) by the Spanish large purse seiners in the Mediterranean.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.187. Trends on key indicators for the Spanish large purse seiner (24-40m) segment with high dependency on ICCAT major Mediterranean stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

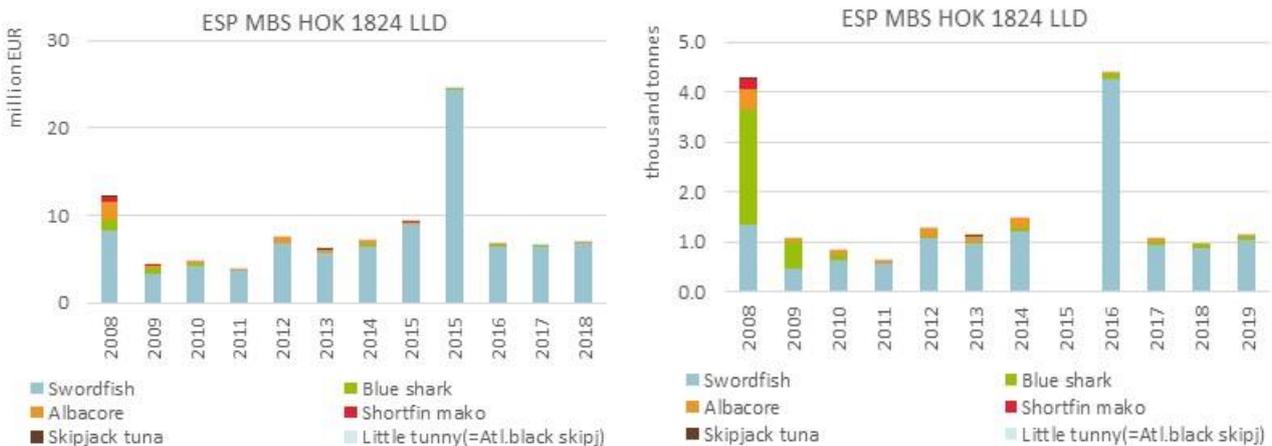


**Figure 3.188. Trends on the dependency (left) and cost structure (right) for the Spanish MBS purse seiner 24-40m segment in ICCAT**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

*SPANISH DRIFTING LONGLINER FLEET(18-24 METRES)<sup>30</sup>*

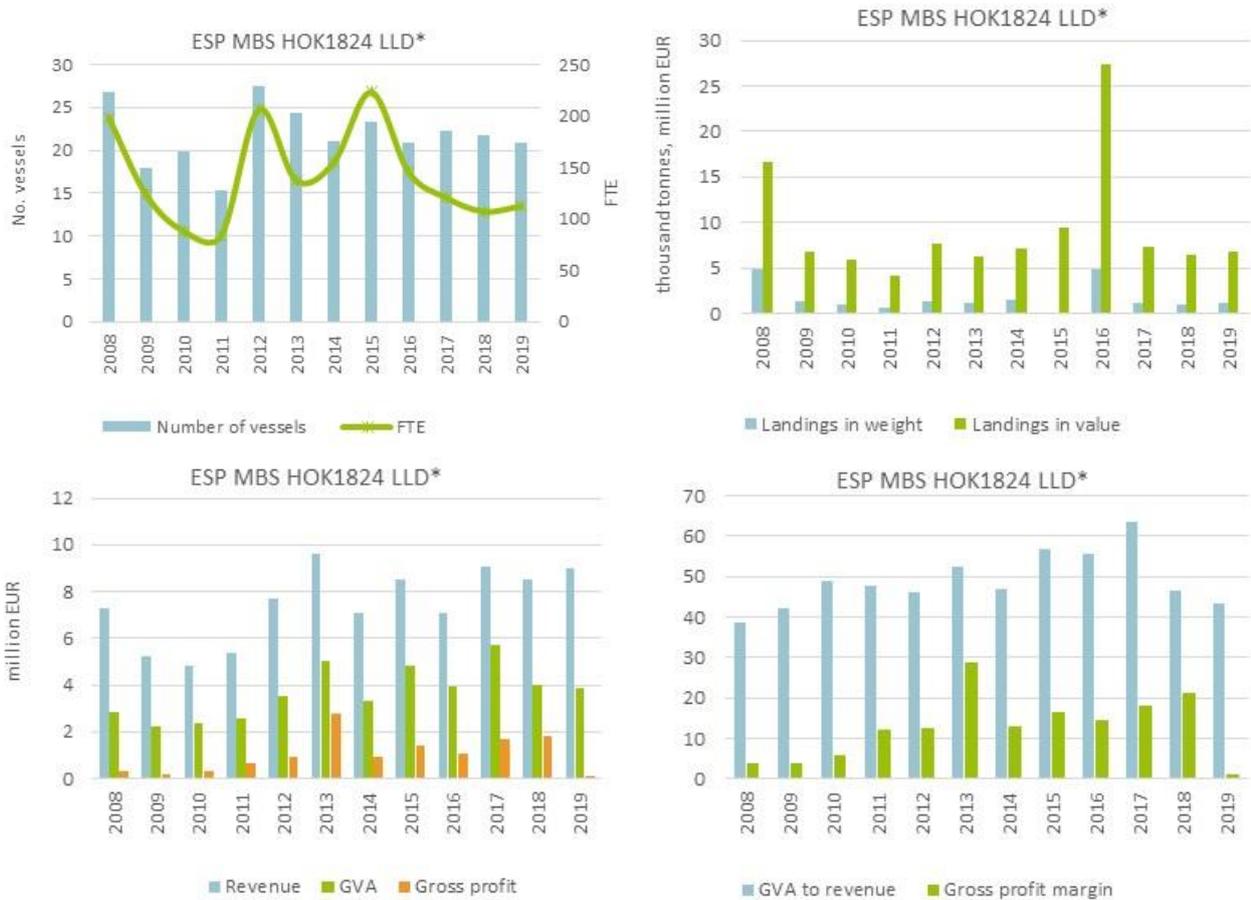
The Spanish longline segment 18-24 metres, composed of around 21 vessels in 2019, targets swordfish in the Mediterranean region. Swordfish stocks in the Mediterranean are assessed as overfished and undergoing overfishing. In 2019, swordfish made up 72% of the fleet segments total landings of ICCAT species. The fleet has been profitable over the period analysed, although a drop in gross profit is observed in 2019. The segment is estimated to have obtained a gross profit margin of 1% in 2019, down from 21% in 2018.



**Figure 3.189. Trends on landings of the top species in value (left) and weight (right) by the Spanish large longliner segment in the Mediterranean.**

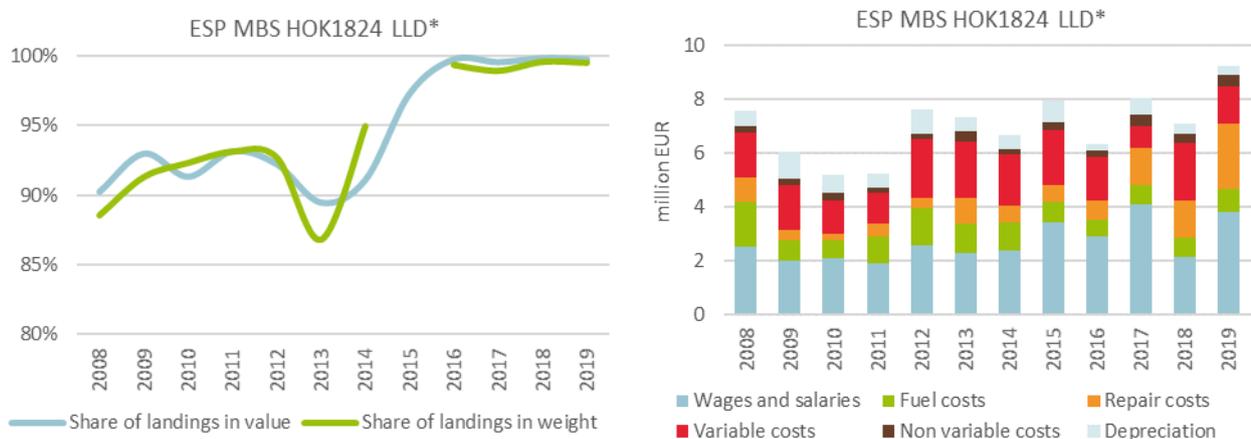
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

<sup>30</sup> several fleet segments of MBS HOK 18-24 have been combined over the years for time series



**Figure 3.190. Trends on key indicators for the Spanish large longliner (18-24m) segment with high dependency on ICCAT major Mediterranean stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.191. Trends on the dependency (left) and cost structure (right) for the Spanish MBS longliner 18-24m segment in ICCAT**

*Spanish Atlantic Fleet*

Table 3.27 shows fishing activity and economic performance statistics for the fleet segments with a dependency on ICCAT landings (in value) greater than 20% operating in the Atlantic. Nine fleets over 18 metres (LDF) showed high dependency in 2019. A brief description and results on the economic performance of the main LDF fleet segments are provided below.

**Table 3.27 – Summary findings for the Spanish fleet segments with high dependency on ICCAT major Atlantic stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
---------------------	----------------	--------------------	-------------------	---------	-----	-----	--------------

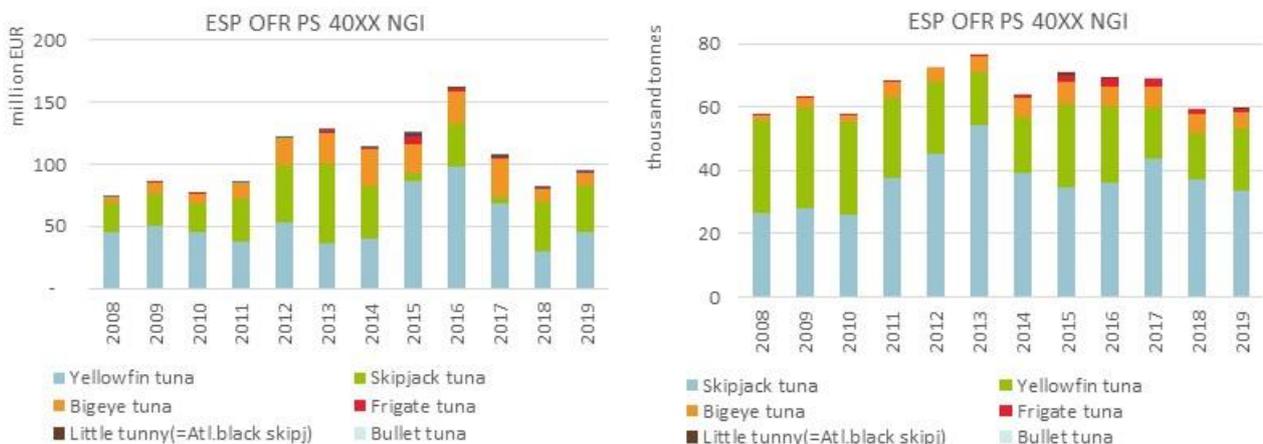
ESP OFR PS 40XX NGI	25%	59,642	89.9	7	404	29.9	12.2
ESP OFR HOK2440 LLD*	60%	30,686	50.1	40	875	13.3	0.9
ESP NAO HOK2440 LLD*	99%	12,835	25.1	35	626	12.8	3.7
ESP OFR HOK2440 NGI*	46%	9,756	11.9	8	188	8.2	3.6
ESP NAO PS 2440 NGI	36%	6,809	24.3	27	379	20.1	7.9
ESP NAO HOK2440 NGI	64%	4,040	14.7	21	281	13.2	6.0
ESP NAO HOK2440 IC *	96%	2,959	8.0	22	210	3.9	-0.8
ESP NAO HOK1824 NGI	51%	1,392	5.1	15	89	3.6	0.7
ESP NAO DFN1824 NGI*	32%	889	3.2	9	119	2.1	0.4
ESP NAO HOK1218 IC	87%	1,611	3.6	30	30	1.3	0.8
ESP NAO PMP0010 IC *	27%	1,428	2.8	125	102	1.9	0.3
ESP NAO HOK1012 IC *	84%	1,253	2.4	37	77	1.0	-0.4
ESP NAO HOK1218 NGI	29%	714	2.5	20	73	1.5	0.3
ESP NAO HOK1218 MA *	40%	42	0.4	7	9	0.3	0.1
ESP NAO PMP1218 NGI	27%	214	0.8	9	34	0.9	0.3
<b>ESP Atlantic ICCAT Fleet</b>		<b>134,270</b>	<b>245</b>	<b>412</b>	<b>3,496</b>	<b>114</b>	<b>36</b>
<b>ESP Atlantic ICCAT LDF</b>		<b>129,008</b>	<b>232</b>	<b>184</b>	<b>3,171</b>	<b>107</b>	<b>35</b>
Coverage ICCAT ATL LDF		96%	95%	45%	91%	94%	96%

### SPANISH INDUSTRIAL PURSE SEINE FLEET (>40 METRES)

The Spanish ICCAT LDF in the Atlantic region is dominated, in terms of landings, by the industrial purse seiner segment predominately active in OFR, composed of seven vessels in 2019. These vessels target tropical tuna species (yellowfin, skipjack and bigeye tuna).

The fleet showed a 25% dependency on ICCAT Atlantic stocks in 2019. Most of its activity was in IOTC (69% of its landed value came from activity in IOTC).

The fleet was profitable in 2019 although continuing on the decreasing trend observed in 2018. The segment is estimated to have obtained a gross profit margin of 13% in 2019, down from 23% in 2018, while revenue remained roughly the same (EUR 90.6 million). This could be partially due to several factors such as increases in fuel prices and availability of more supply vessels with high running costs used to support activity of purse seiners fishing with FADs (however, this should be also be reflected in an augmentation in catch).

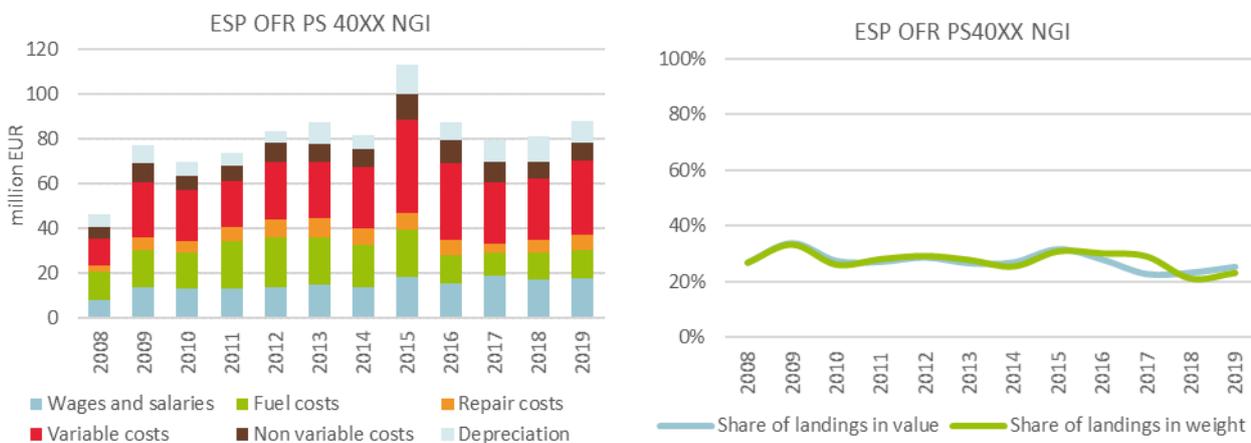


**Figure 3.192. Trends on landings of the top species in value (left) and weight (right) by the Spanish industrial purse seiner (>40m) segment in the Atlantic**



**Figure 3.193. Trends on key indicators for the Spanish industrial purse seiner (>40m) segment with high dependency on ICCAT major Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



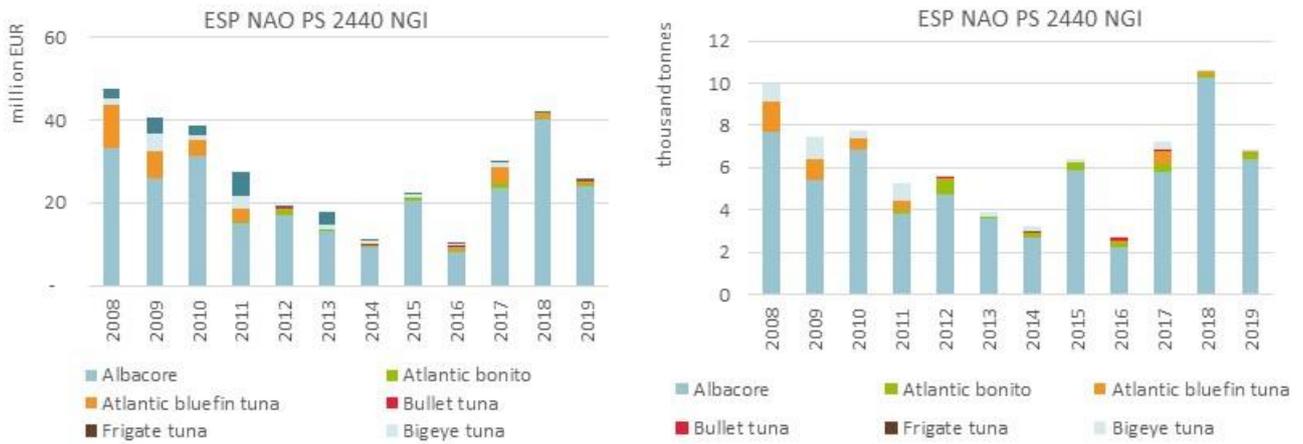
**Figure 3.194. Trends on the dependency (left) and cost structure (right) for the Spanish OFR purse seine over 40m segment in ICCAT**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**SPANISH LARGE PURSE SEINERS (24-40 METRES)**

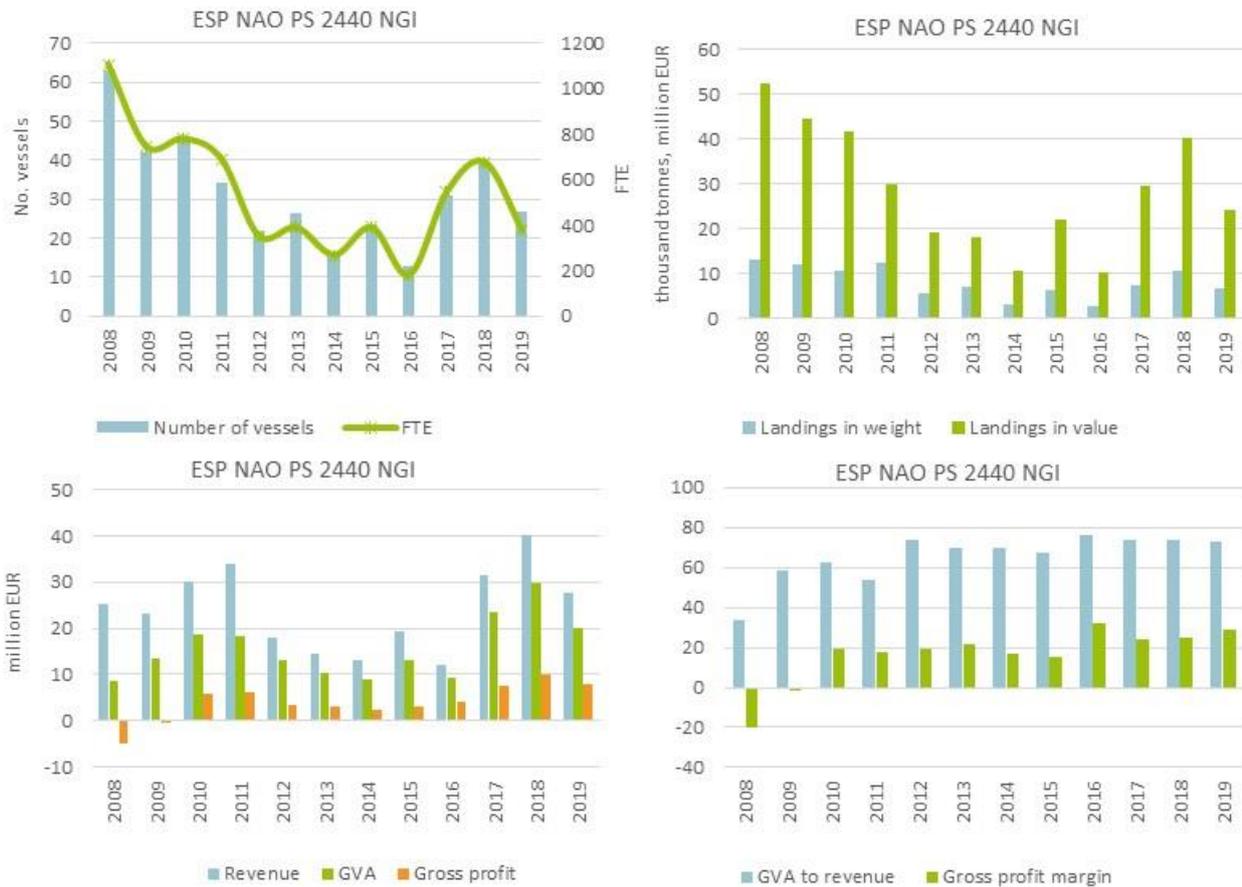
The Spanish large purse seiner segment, composed of around 27 vessels in 2019, targets mainly albacore. These large purse seiners obtained 36% of its landed value from ICCAT Atlantic stocks in 2019. The fleet showed no other dependency on any of the other RFMOs assessed.

Landings of the main species has oscillated over the period analysed, in line with the number of vessels. The fleet saw a decrease in revenue and profits in 2019, while profit margins remained stable compared to 2018.



**Figure 3.195. Trends on landings of the top species in value (left) and weight (right) by the Spanish large purse seiners in the Atlantic**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



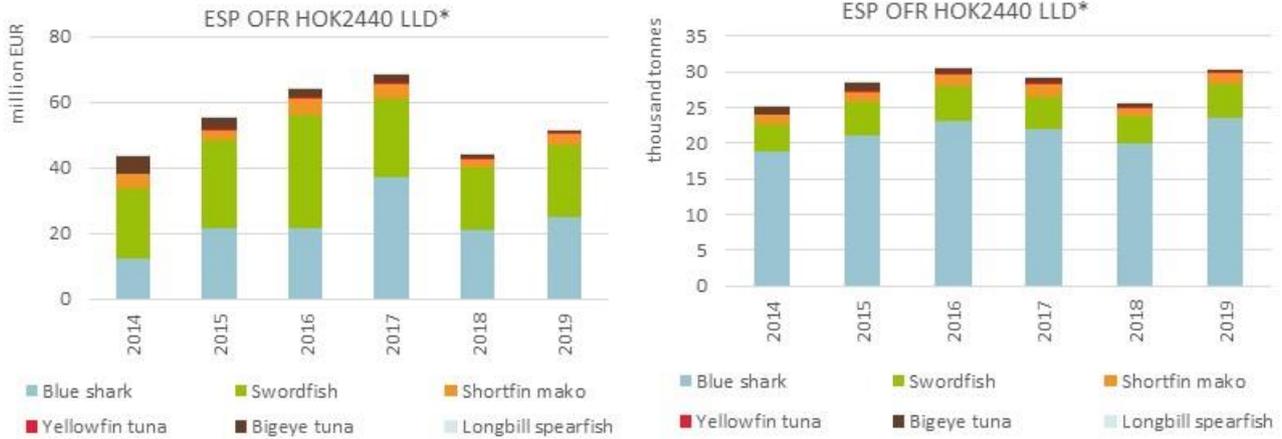
**Figure 3.196. Trends on key indicators for the Spanish large purse seiner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**SPANISH LONGLINER 24-40 METRE SEGMENT FISHING PREDOMINATELY IN OFR**

The Spanish large longline fleet 24-40 metres predominately active in OFR showed a 60% dependency on ICCAT Atlantic stocks in 2019. The fleet also operated in IOTC, with 14% of its

landed value coming from activity in IOTC. These longliners target blue shark and swordfish. Low profit margins are reported for 2018 and 2019.



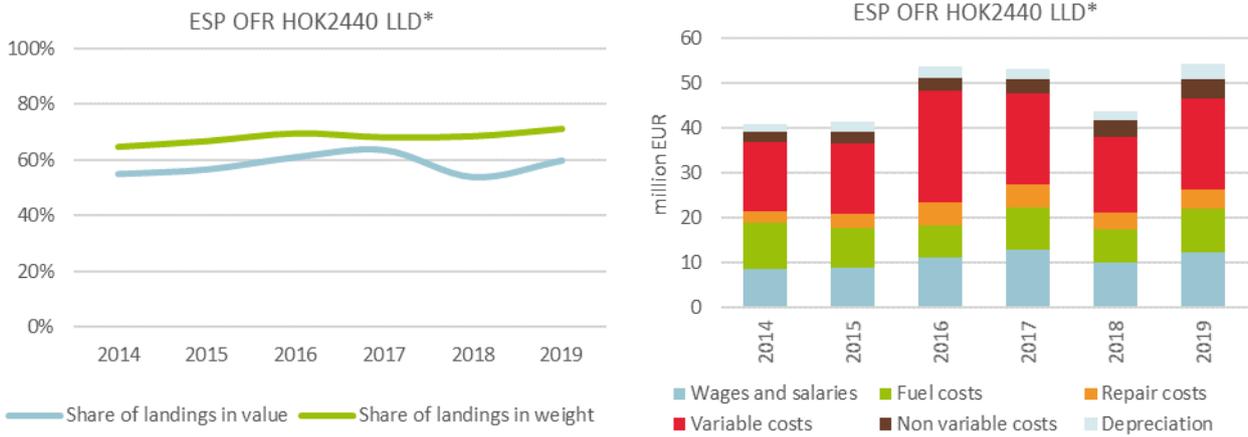
**Figure 3.197. Trends on landings of the top species in value (left) and weight (right) by the Spanish large longliners predominately active in OFR.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.198. Trends on key indicators for the Spanish large longliner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

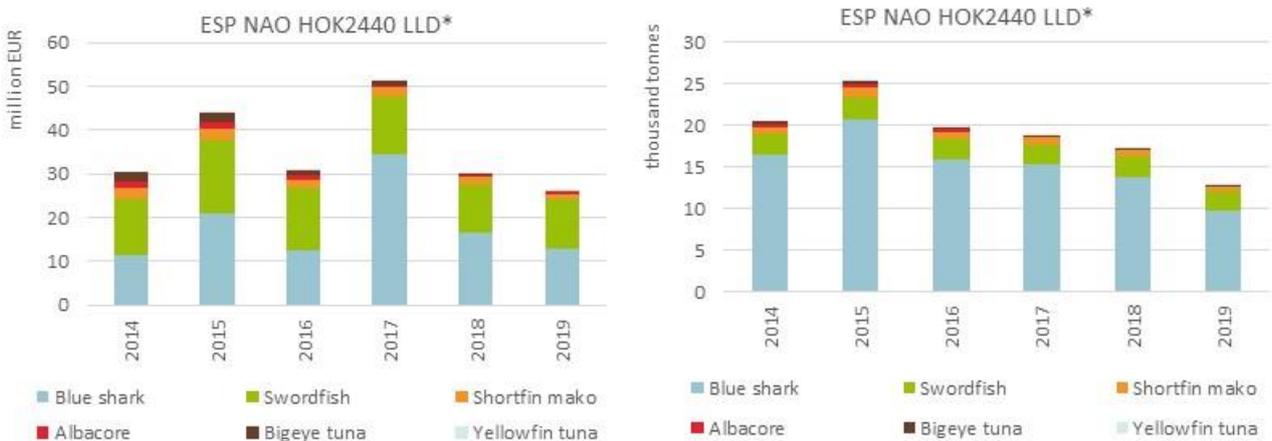


**Figure 3.199. Trends on the dependency (left) and cost structure (right) for the Spanish OFR longliner 24-40m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

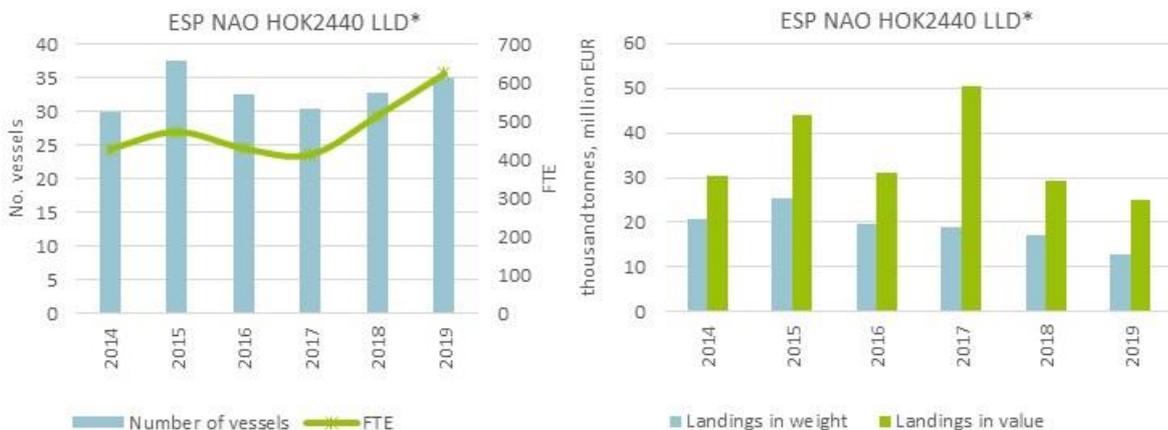
**SPANISH LONGLINERS 24-40 METRE SEGMENT FISHING PREDOMINATELY IN NAO**

The Spanish large longline fleet 24-40 metres predominately active in NAO showed a 99% dependency on ICCAT Atlantic stocks in 2019. These longliners also target blue shark and swordfish. While the fleet is profitable with a 13% profit margin in 2019, revenue and profits show a declining trend in 2018-2019 margins in 2018 and 2019, in line with landings.



**Figure 3.200. Trends on landings of the top species in value (left) and weight (right) by the Spanish large longliners in the Atlantic.**

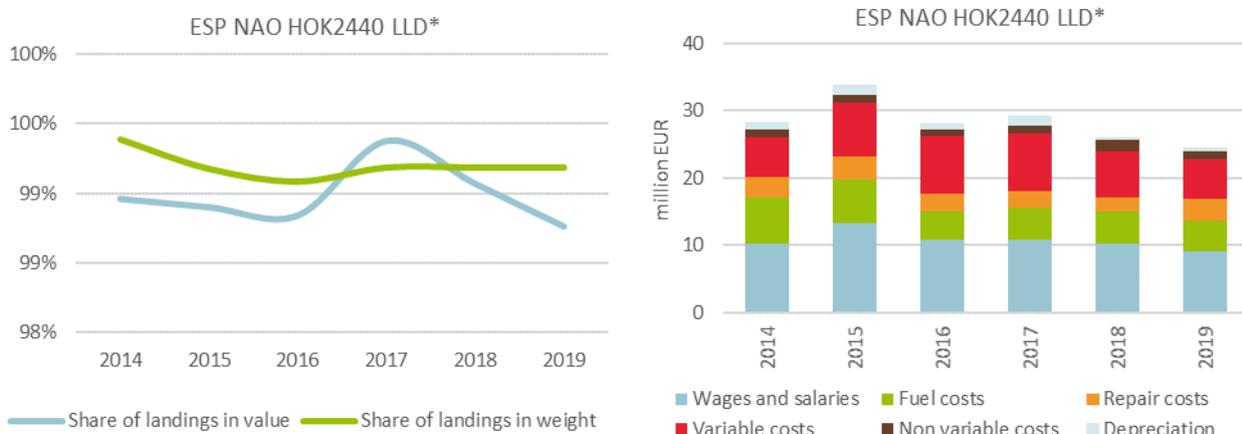
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).





**Figure 3.201. Trends on key indicators for the Spanish large longliner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.202. Trends on the dependency (left) and cost structure (right) for the Spanish NAO longliner 24-40m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

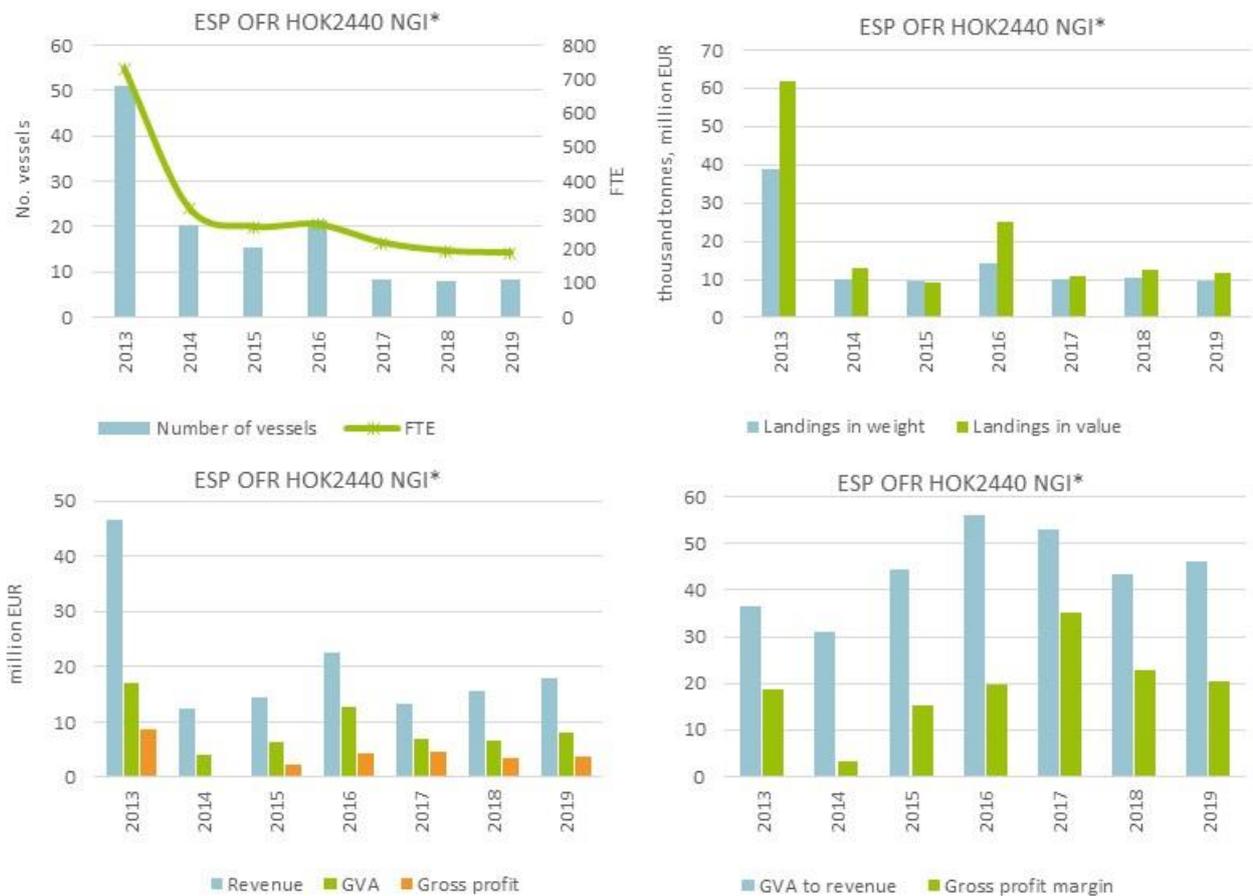
**SPANISH HOOK AND LINE 24-40 METRE SEGMENT**

The Spanish large hook and line segment 24-40 metres predominately active in OFR showed a 46% dependency on ICCAT Atlantic stocks in 2019. Part of the fleet was also active in CECAF, with 40% of its combined landed value coming from activity on demersal stocks in CECAF, such as Atlantic pomfret, alfonsino, imperial blackfish and Senegalese hake. In ICCAT, these vessels target skipjack and yellowfin tuna. The fleet was profitable in 2019, showing some improvement in revenue and profits compared to 2018 but overall, the gross profit margin decreased.

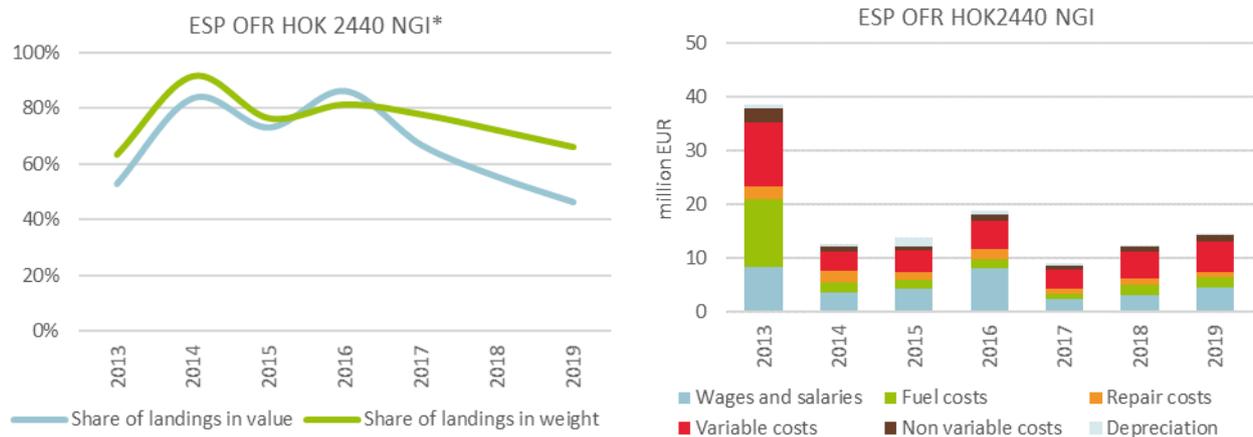


**Figure 3.203. Trends on landings of the top species in value (left) and weight (right) by the Spanish large hook and line segment operating predominately in OFR.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.204. Trends on key indicators for the Spanish large longliner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.**



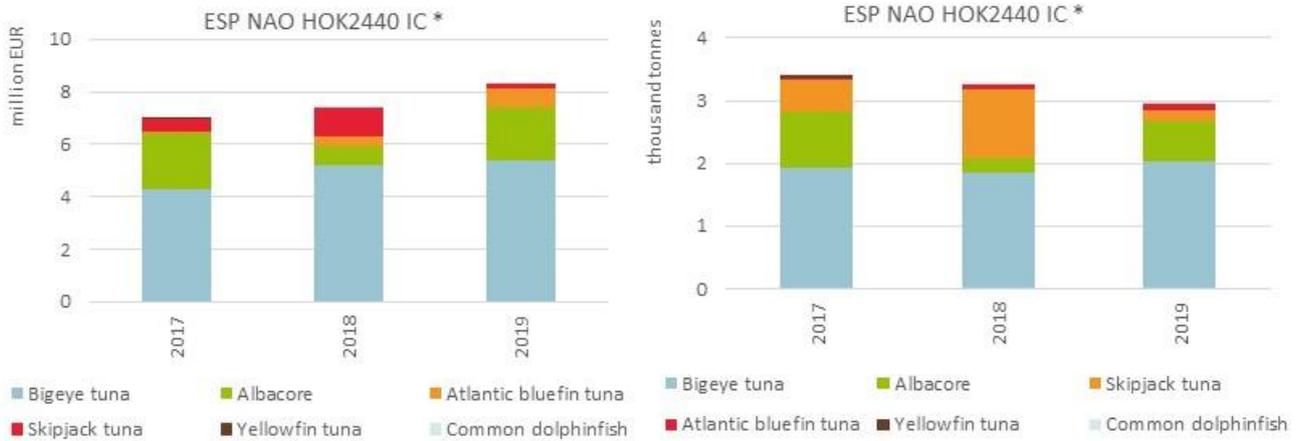
**Figure 3.205. Trends on the dependency (left) and cost structure (right) for the Spanish OFR hook and line 24-40m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**SPANISH CANARY ISLAND HOOK AND LINE 24-40 METRE SEGMENT**

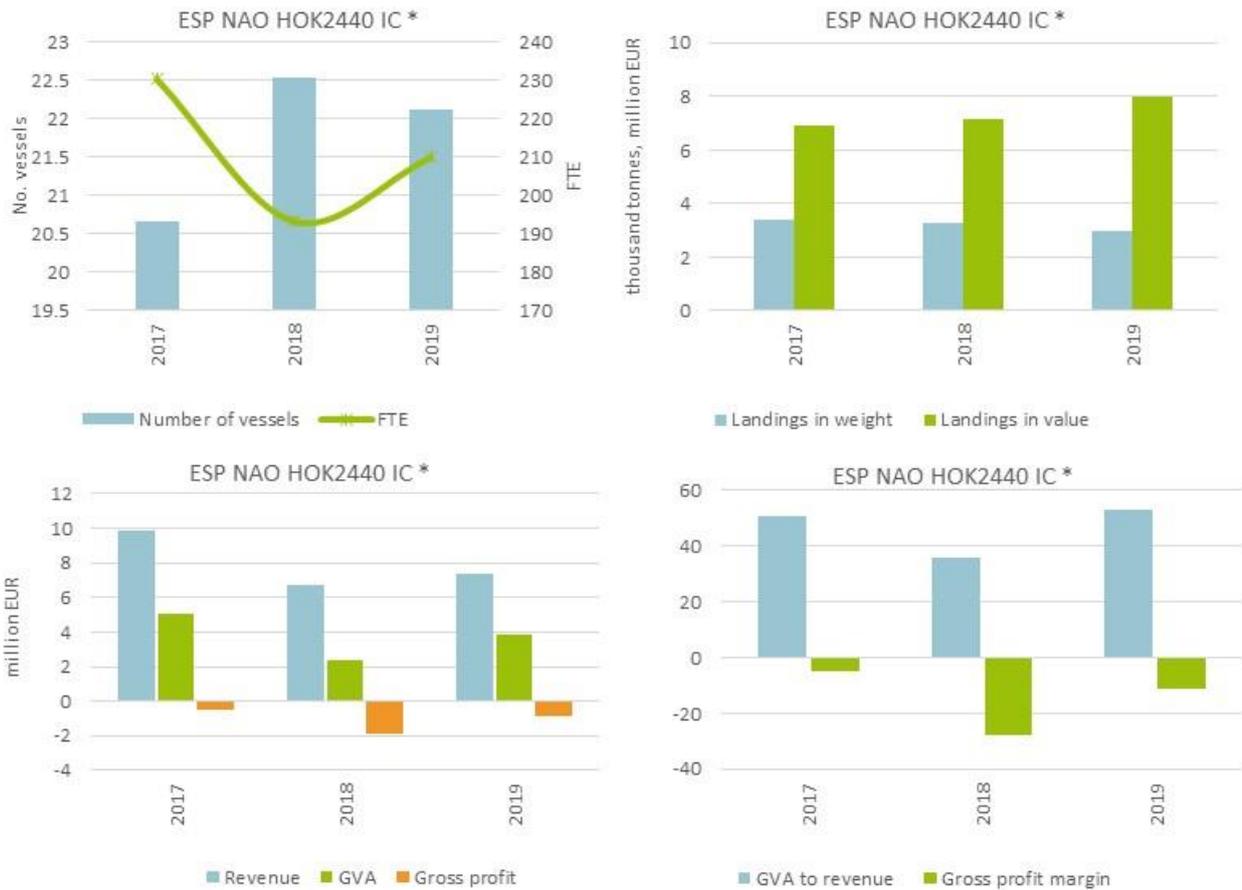
The large hook and line segment 24-40 metres based in the Canary Island showed a 96% dependency on ICCAT Atlantic stocks in 2019. Around 4% of the fleet’s landed value was from demersal stocks in CECAF.

These vessels mainly target bigeye and albacore. While revenue increased in 2019, the fleet has suffered gross losses since 2017 (at least).



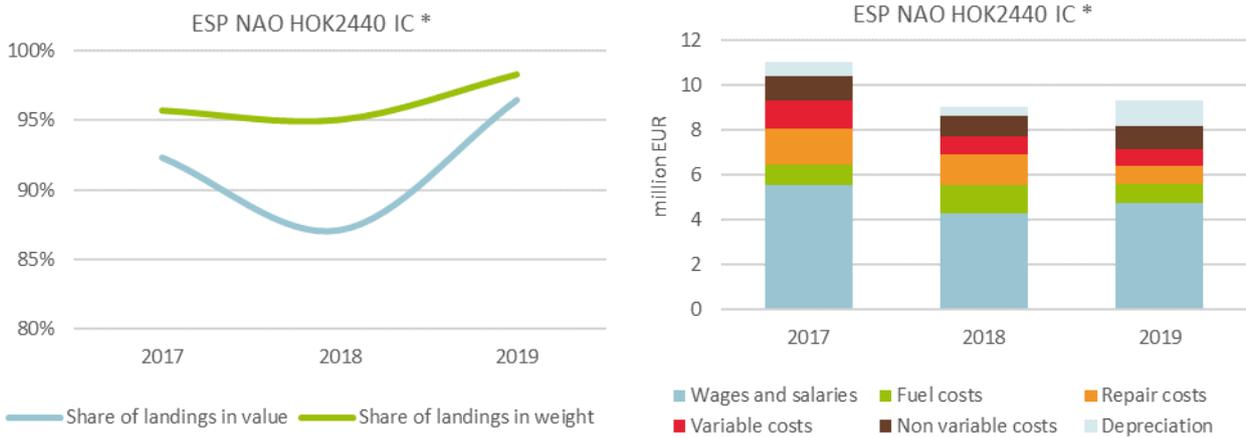
**Figure 3.206. Trends on landings of the top species in value (left) and weight (right) by the Spanish large hook and line segment operating predominately in OFR.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.207. Trends on key indicators for the Spanish Hook and line (24-40m) segment from the Canaries OMR with high dependency on ICCAT major Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.208. Trends on the dependency (left) and cost structure (right) for the Spanish Canary Island hook and line 24-40m segment in ICCAT.**

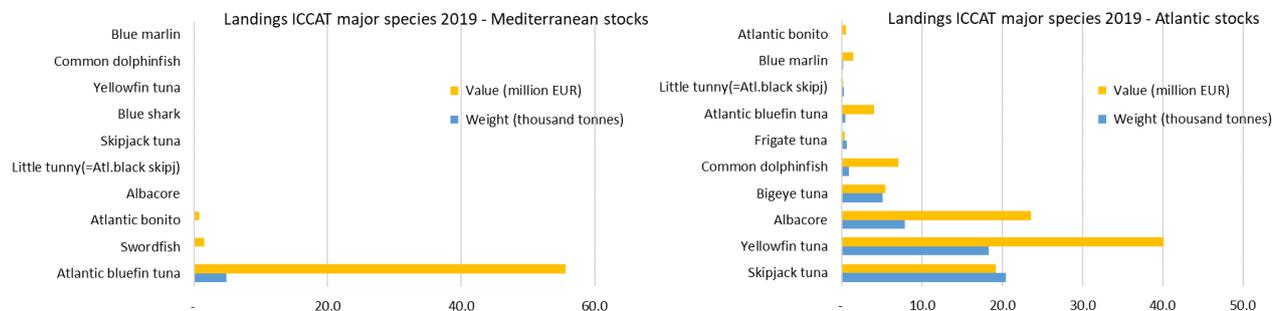
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### FRANCE

French fleets target both Atlantic and Mediterranean ICCAT stocks, such as Eastern Atlantic and Mediterranean bluefin tuna, Northern Atlantic albacore, Mediterranean and Northern Atlantic swordfish, and tropical tunas (skipjack, yellowfin tuna, and bigeye tuna) in West Africa and in the Gulf of Guinea (Figure 3.209). The French fleet uses a wide range of gears: purse seine, longline, pole-and-line, hand-line, trawls, nets, and sport or recreational fishing gears.

According to ICCAT official data, the French nominal catches reported for the main species regulated by ICCAT in the Atlantic Ocean and Mediterranean Sea amounted to 64 590 tonnes<sup>31</sup> in 2018. This value matches well with the data reported under the EU-MAP.

In 2018, ICCAT major species landings amounted to 65 339 tonnes, valued at EUR 170.6 million. In 2019, landings decreased slightly to 59 557 tonnes, valued at EUR 153.6 million.



**Figure 3.209. Top species landed by the French fleet targeting ICCAT Mediterranean (left) and Atlantic (right) stocks, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

<sup>31</sup> This figure includes landed catches, as well as live and dead discards

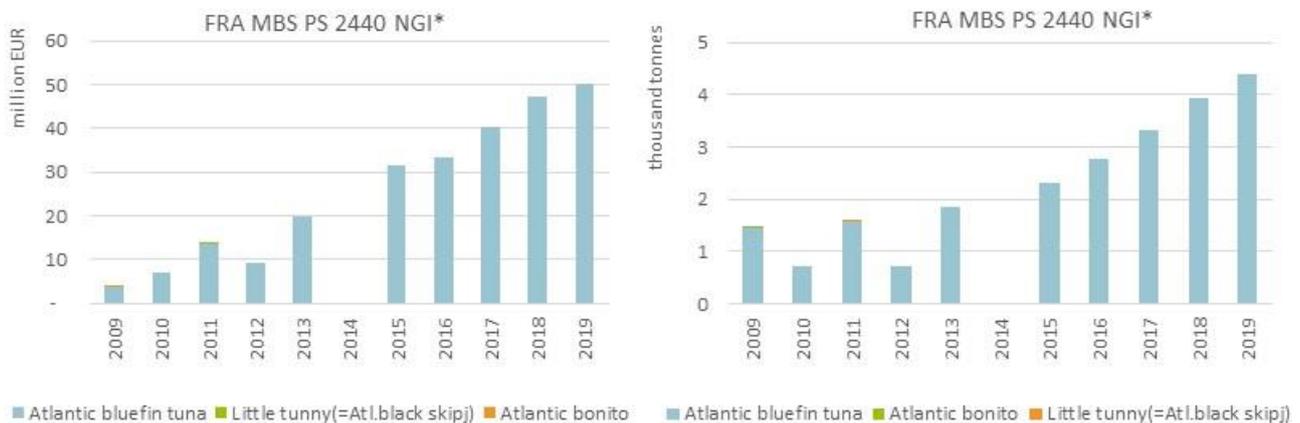
### French Mediterranean Fleet

For the fleet segments with high dependency on Mediterranean stocks, landings amounted to 4 842 tonnes, valued at EUR 52.7 million in 2019; corresponding to 9% of the landings in weight and 40% of the value of all the fleet segments with high dependency (Table 3.28). Only one fleet segment can be considered part of the LDF and is briefly described below.

**Table 3.28 - Summary findings for the French fleet segments with high dependency on ICCAT major Mediterranean stocks, 2019**

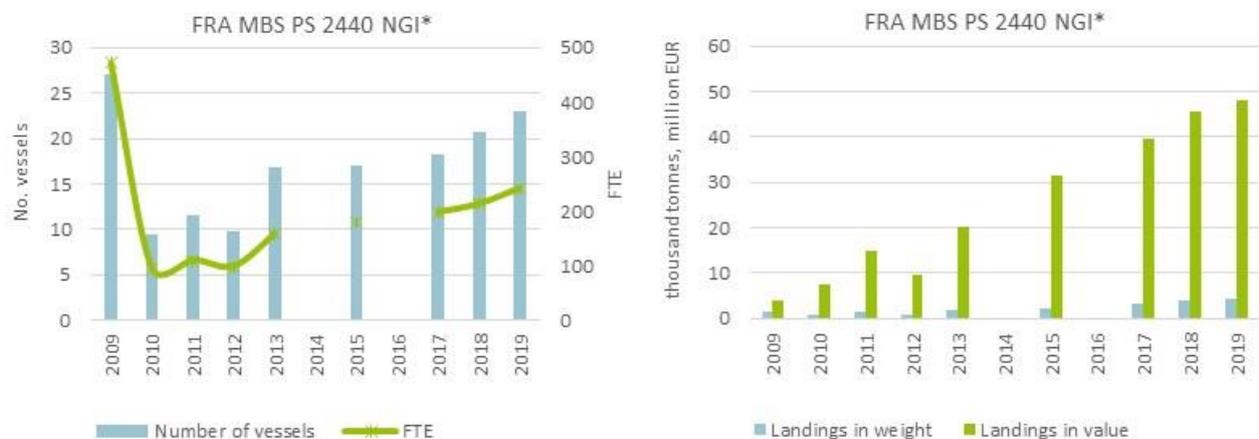
Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
FRA MBS PS 2440 NGI*	100%	4,374	47.9	23	242	19.6	7.7
FRA MBS DFN1218 NGI*	82%	239	2.6	15	8	4.2	1.0
FRA MBS HOK0612 NGI	53%	146	1.6	33	17	3.9	0.9
FRA MBS PS 0612 NGI*	37%	61	0.4	5	4	0.4	0.1
FRA MBS PMP0612 NGI*	24%	22	0.2	4	2	0.1	0.0
<b>FRA Mediterranean ICCAT Fleet</b>		<b>4,842</b>	<b>52.7</b>	<b>80</b>	<b>274</b>	<b>28.2</b>	<b>9.7</b>
<b>FRA MED ICCAT LDF</b>		<b>4,374</b>	<b>47.9</b>	<b>23</b>	<b>242</b>	<b>19.6</b>	<b>7.7</b>
Coverage LDF	90%	91%	29%	89%	70%	79%	

### FRENCH MEDITERRANEAN LARGE PURSE SEINE SEGMENT



**Figure 3.210. Trends on landings of the top species in value (left) and weight (right) by the French large purse seiners targeting Mediterranean stocks.**

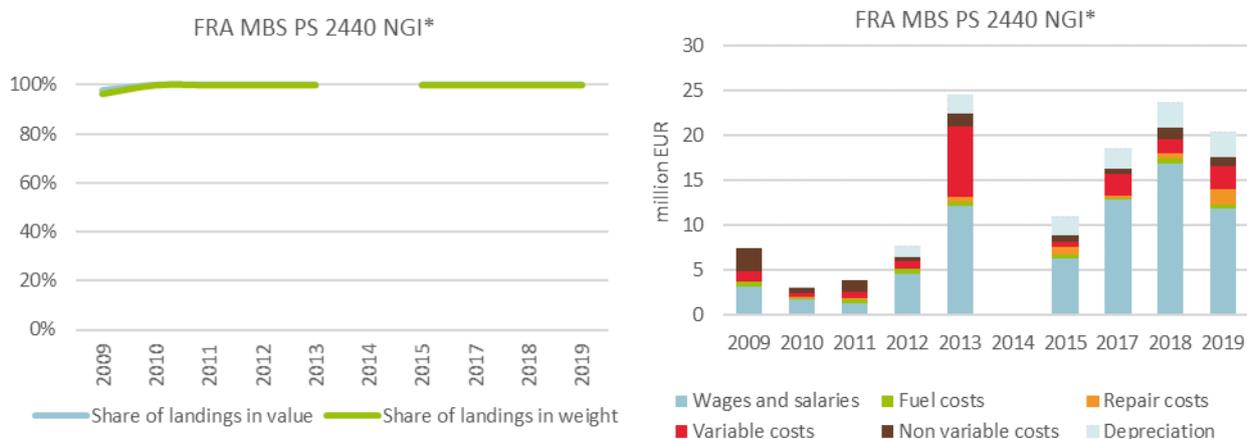
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).





**Figure 3.211. Trends on key indicators for the French large purse seine segment with high dependency on ICCAT Mediterranean stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.212. Trends on the dependency (left) and cost structure (right) for the French MBS purse seine 24-40m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### French Atlantic Fleet

For the fleet segments with high dependency targeting Atlantic stocks (excluding OMR fleets), landings amounted to 45 431 tonnes, valued at EUR 64.4 million in 2019; corresponding to 85% of the landings in weight and 49% of the value of all the fleet segments with high dependency (Table 3.29). Two of these fleets can be considered part of the LDF.

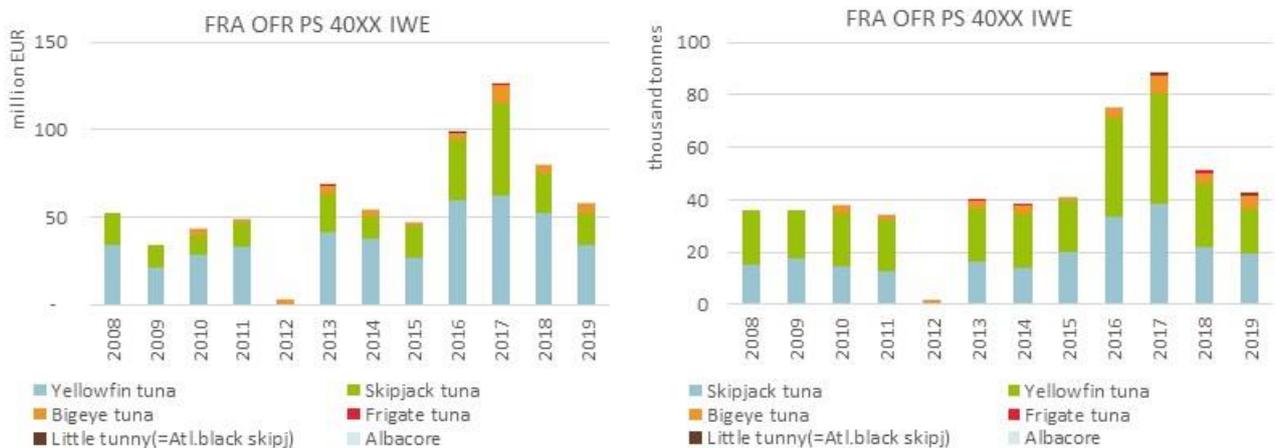
**Table 3.29 - Summary findings for the French fleet segments with high dependency on ICCAT major Atlantic stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
FRA OFR PS 40XX IWE	38%	42,477	55.4	9	213	18.3	-2.0
FRA NAO TM 1824 NGI*	38%	2,366	7.1	7	37	3.0	0.5
FRA NAO TM 1218 NGI	29%	588	1.9	2	11	0.9	0.1
<b>FRA Atlantic ICCAT Fleet</b>		<b>45,431</b>	<b>64.4</b>	<b>18</b>	<b>261</b>	<b>22.2</b>	<b>-1.4</b>
<b>FRA ATL ICCAT LDF</b>		<b>44,843</b>	<b>62.5</b>	<b>16</b>	<b>250</b>	<b>21.3</b>	<b>-1.5</b>
Coverage LDF		99%	97%	89%	96%	96%	107%

### FRENCH LARGE PURSE SEINERS (>40 METRES) – ATLANTIC STOCKS

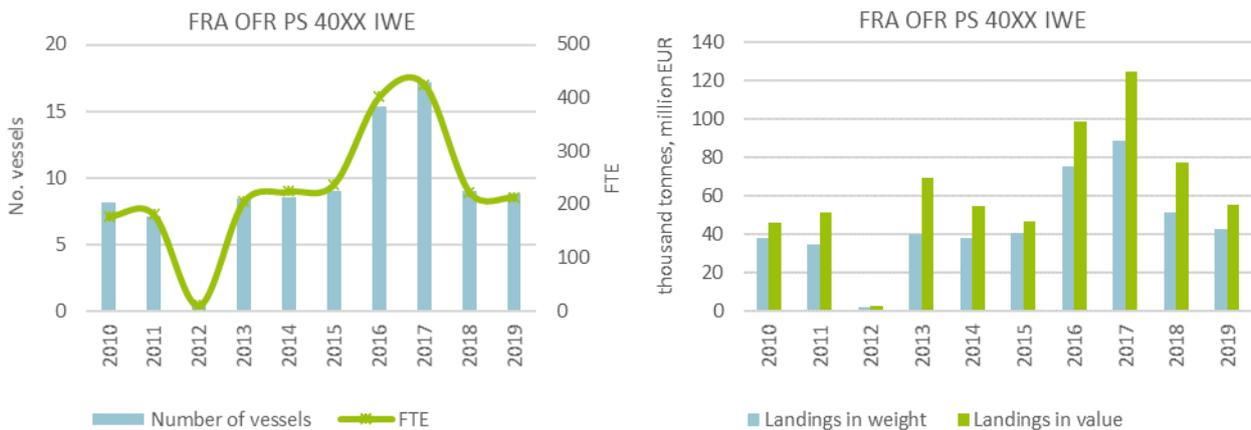
The fleet of French tropical purse seiners (22 vessels) concerns only three companies, which operate the vessels concerned. The fishing strategies deployed by these companies are distinguished in particular by the geographical zones practiced by the vessels: in the Atlantic (ICCAT zone) or in the Indian Ocean (IOTC zone). It is thus possible to find a company that owns vessels working in the two oceans. In addition, and given that economic data collection for those vessels is done at an aggregated level, it is more complicated to analyse the profitability observed between the two fishing zones practiced (see IOTC section).

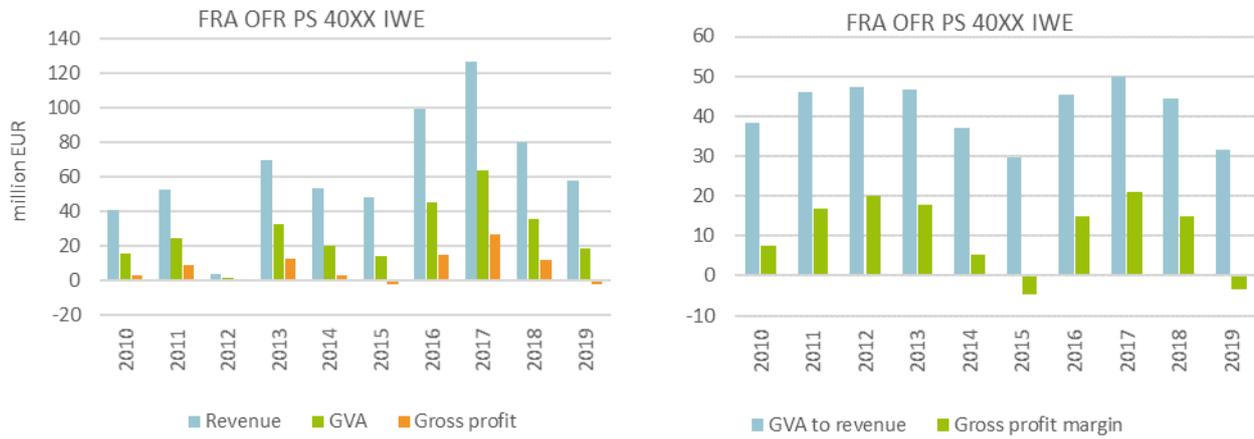
However, when looking at catch data disaggregated by sub region, it is obvious that reported landings have been cut by half both in weight (from over 80 to 42.5 thousand tonnes) and in value (from over EUR million 120 to 55) of the target tropical tuna species target have gone down considerably to almost half from 2017 to 2019. The decrease in fishing activity in the area is also reflected in the sharp decrease in number of vessels (from 17 to 9) and the employment (from over 400 to 213 FTEs) from 2017 to 2019, coming back to similar levels than the period 2013-2015. This could be partially explained due to a displacement of effort from this fleet segment to other fishing grounds (including the Indian Ocean) due to regulatory reasons such as time spatial closures, limitation in the number of dFADs and reductions in quota.



**Figure 3.213. Trends on landings of the top species in value (left) and weight (right) by the French large purse seiners targeting Atlantic stocks.**

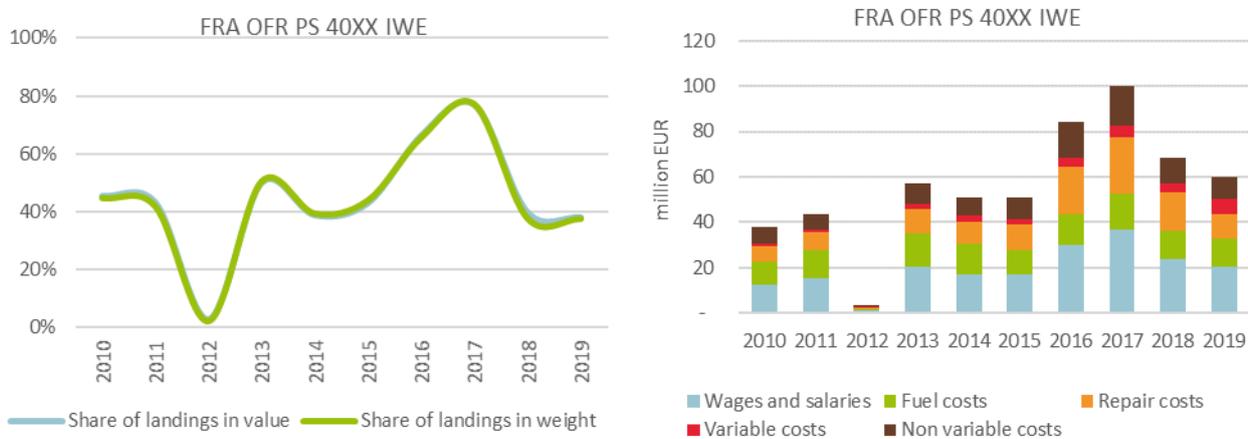
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).





**Figure 3.214. Trends on key indicators for the French large purse seiner segment (>40 metres) with high dependency on ICCAT Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.215. Trends on the dependency (left) and cost structure (right) for the French IWE purse seiners over 40m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### French OMR Fleet

For the OMR fleet segments with high dependency targeting Atlantic stocks, landings amounted to 3 329 tonnes, valued at EUR 14.9 million in 2019; corresponding to 6% of the landings in weight and 11% of the value of all the fleet segments with high dependency.

Fishing for large pelagics has traditionally been undertaken in Martinique and Guadeloupe using trailing lines around driftwood, and more recently using anchored FADs. The main species are dolphinfish, Atlantic blue marlin and yellowfin tuna. These three species account for more than 70% of the landings of these fisheries.

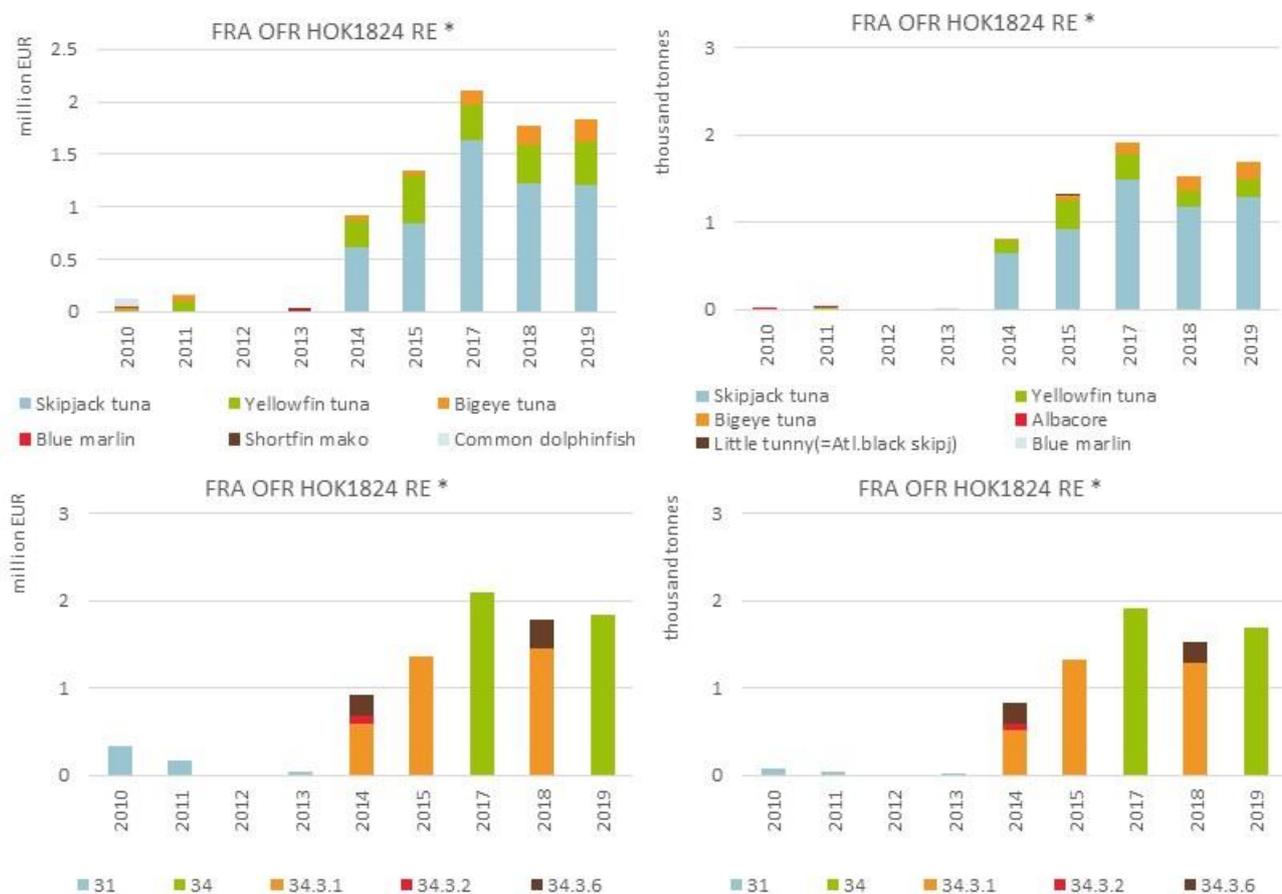
All the OMR fleet segments with high dependency, with the exception of the HOK 18-24m segment from Reunion, are all under 12 metres and hence covered in the OMR or small-scale sections of the report.

**Table 3.30 - Summary findings for the French OMR fleet segments with high dependency on ICCAT major Atlantic stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
FRA OFR HOK1824 RE *	50%	1,695	1.7	3	14	0.0	-0.2
FRA OFR HOK0010 GP	77%	605	4.3	81	35	3.2	1.1
FRA OFR PGP0010 GP *	39%	566	4.0	86	56	2.7	0.5
FRA OFR HOK0010 MQ	75%	219	2.3	116	19	1.8	0.3
FRA OFR PGP0010 MQ *	35%	200	2.1	72	27	1.8	0.6
FRA OFR HOK1012 MQ *	36%	25	0.3	5	3	0.0	0.0
FRA OFR PGP1012 GP *	24%	19	0.1	4	3	0.1	0.0
<b>FRA OMR ICCAT Fleet</b>		<b>3,329</b>	<b>14.8</b>	<b>367</b>	<b>157</b>	<b>9.6</b>	<b>2.3</b>
<b>OMR ICCAT LDF</b>		<b>1,695</b>	<b>2</b>	<b>3</b>	<b>14</b>	<b>0.0</b>	<b>-0.2</b>
Coverage OMR ICCAT LDF		51%	11%	1%	9%		

### FRENCH REUNION HOOK AND LINE 18-24 METRE SEGMENT

According to the EU-MAP data, the Reunion fleet appears to have almost 50-50% activity in ICCAT and IOTC.



**Figure 3.216. Trends on landings of the top species in value (left) and weight (right) by the French Reunion fleet targeting Atlantic stocks.**

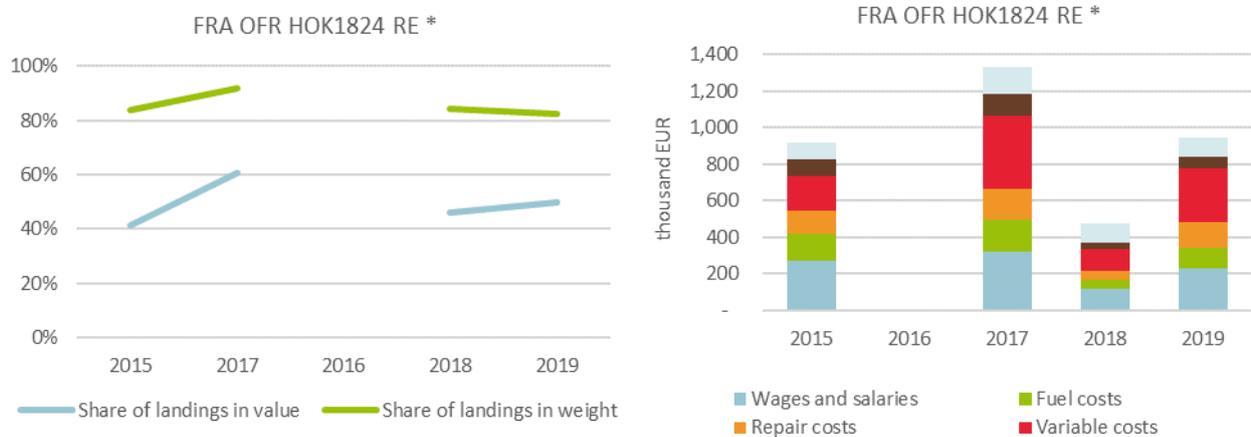
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

Only partial data submitted for the years 2010 to 2013. Economic data are available from 2015 only. For 2016 data are incomplete due to problems of data transmission.



**Figure 3.217. Trends on key indicators for the French Reunion fleet segment with high dependency on ICCAT major Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.218. Trends on the dependency (left) and cost structure (right) for the French Reunion HOK 18-24m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

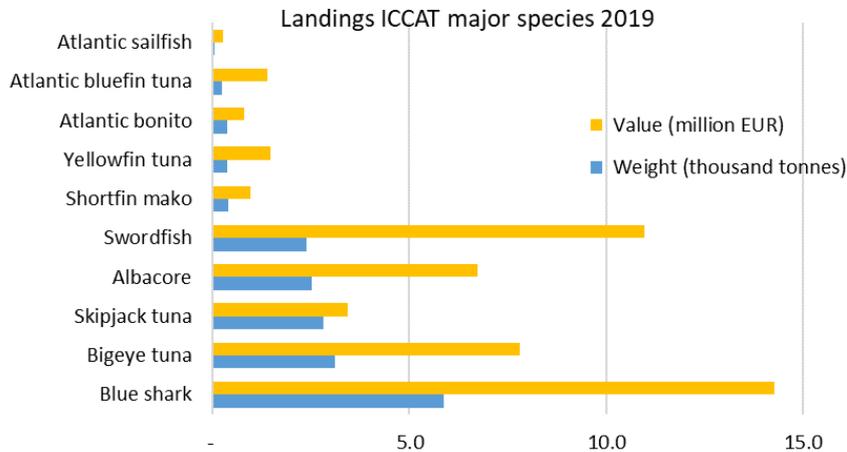
**PORTUGAL**

The Portuguese fleet mainly targets eastern bluefin tuna, skipjack, yellowfin tuna, bigeye, albacore, swordfish, marlins and blue shark, using surface longliners in the mainland and pole and line vessels in the Azores and Madeira. Surface longliners focus mainly on swordfish and blue shark while the pole and line vessels target mainly tropical tuna (bigeye and skipjack) and albacore (Figure 3.219).

Overall, 48 fleet segments had activity in ICCAT in 2019, of which nine segments showed high dependency on the value of landings.

Landings of ICCAT major species amounted to 22 547 tonnes, valued at EUR 51.6 million in 2018. In 2019, landings reported were 18 274 tonnes, valued at EUR 46.7 million. For the fleet segments with high dependency on ICCAT, landings amounted to 16 390 tonnes, valued at EUR 42.6 million in 2019.

All of the fleet segments that show high dependency are LDF except for two – one based in the Azores and one small-scale fleet in Madeira.



**Figure 3.219. Top species landed in value by the Portuguese fleet targeting ICCAT major stocks, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.31 - Summary findings for the Portuguese fleet segments with high dependency on ICCAT major Atlantic stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
PRT NAO HOK2440 P3 *	88%	4,772	10.4	22	193	7.2	2.2
PRT OFR HOK2440 IWE*	46%	3,245	7.2	6	88	3.0	1.7
PRT NAO HOK2440 NGI	90%	2,612	8.0	16	169	1.5	-1.6
PRT NAO HOK1824 NGI	64%	1,563	7.6	12	120	5.2	2.0
PRT OFR HOK40XX IWE*	60%	1,290	3.1	3	52	0.7	-0.2
PRT NAO HOK2440 P2	100%	1,146	2.8	5	88	1.8	0.5
PRT NAO HOK1824 P2	44%	232	0.5	1	12	0.4	0.1
PRT NAO HOK1218 P3	35%	1,291	2	13	64	1.8	0.7
PRT NAO HOK0010 P2 *	39%	238	0.8	22	29	0.6	0.4
<b>PRT ICCAT Fleet</b>		<b>16,390</b>	<b>42.6</b>	<b>100</b>	<b>815</b>	<b>22.2</b>	<b>5.8</b>
<b>PRT ICCAT LDF</b>		<b>14,861</b>	<b>39.6</b>	<b>65</b>	<b>722</b>	<b>19.8</b>	<b>4.7</b>
<b>Coverage LDF</b>		<b>91%</b>	<b>93%</b>	<b>65%</b>	<b>89%</b>	<b>89%</b>	<b>82%</b>

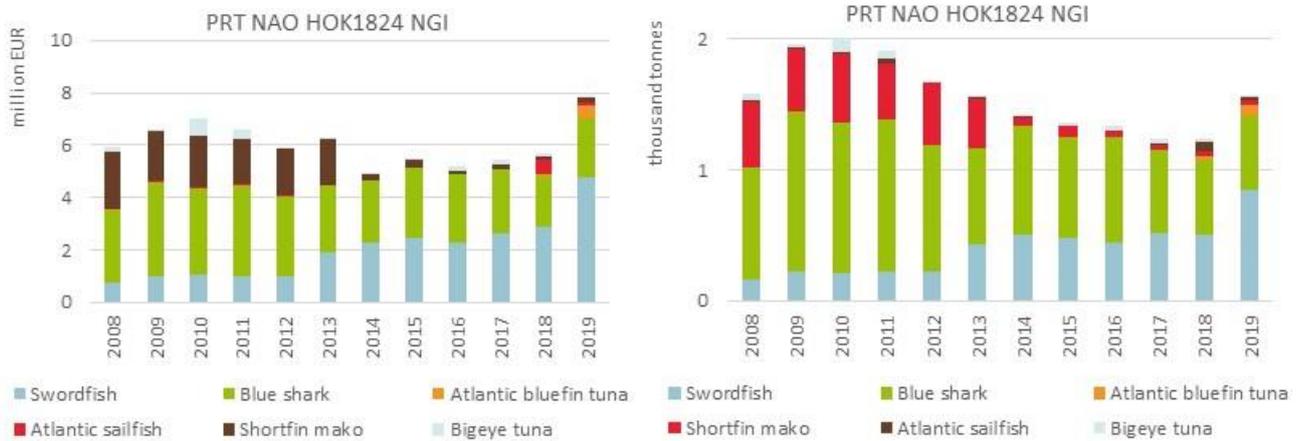
### Portugal mainland ICCAT fleet

The ICCAT fleet based on the Portuguese mainland is composed by two HOK fleet segments with 28 surface longliners.

#### PORTUGUESE MAINLAND HOOK AND LINE 18-24M SEGMENT (PRT NAO HOK1824 NGI)

This fleet segment generates over 17.9% of total landings value and around 9.5% of total weight of ICCAT major species. It's composed by 12 vessels mainly operating in coastal in areas (81% in landing weight in areas FAO 27.9.a and FAO 27.9.b) landing fresh fish with higher fish prices and also in FAO 27.10 (16%). The remain activity was in FAO 34.1 area.

In 2019 the fleet targets mainly swordfish and blue shark and the total value from landings was EUR 7.6 million. The fleet segment employed 120 FTEs. Economic indicators are relative stable over the all period with a gross profit margin in a range of 20% to 30% In 2019 the fleet segment reported a gross profit of EUR 2.0 million.



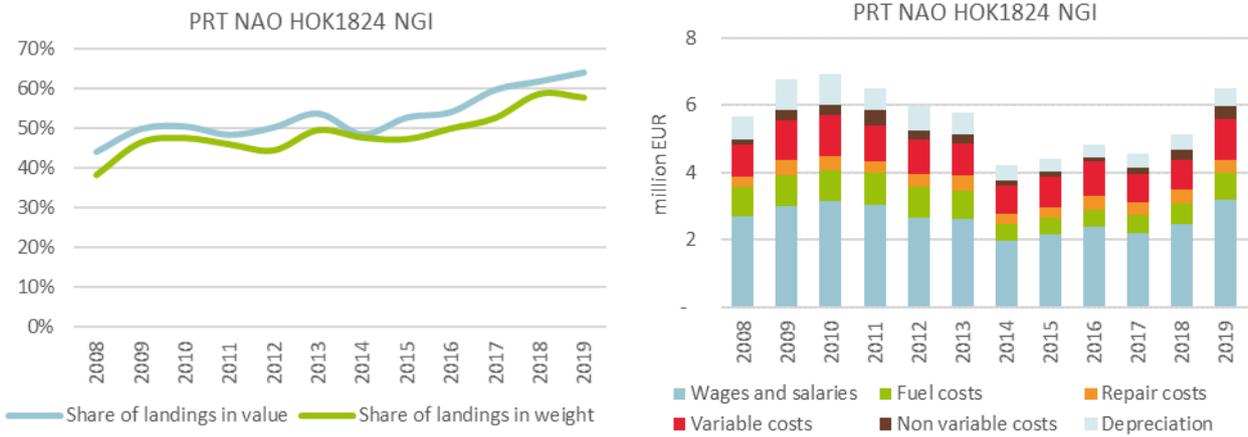
**Figure 3.220. Trends on landings of the top species in value (left) and weight (right) by the Portuguese HOK 18-24m segment in the Atlantic.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.221. Trends on key indicators for the Portuguese HOK 18-24m fleet segment with high dependency on ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



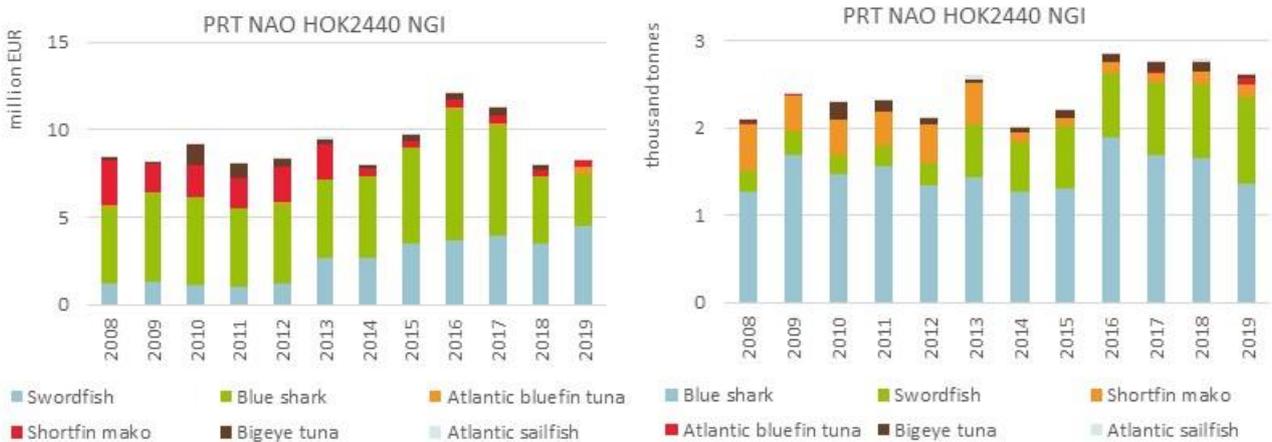
**Figure 3.222. Trends on the dependency (left) and cost structure (right) for the Portuguese HOK 18-24m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

*PORTUGUESE MAINLAND HOOK AND LINE 24-40M SEGMENT (PRT NAO HOK2440 NGI)*

This fleet segment generates over 18.9% of total landings value and around 15.9% of total weight of ICCAT major species. It's composed by 16 vessels operating in area FAO 27.9 (40% in landing weight), FAO 27.10 (35.3%), FAO 34.1 (16.0%) and FAO 21.

In 2019 the fleet targets mainly swordfish and blue shark and the total value from landings was EUR 8.0 million. The fleet segment employed 169 FTEs. Economic indicators in the last two years reveals negative indicators for the gross profit margin explained with the decrease of the value of landings of the ICCAT major species and also from the increase of energy costs. In 2019 the fleet segment reported a negative gross profit of -EUR 1.6 million.



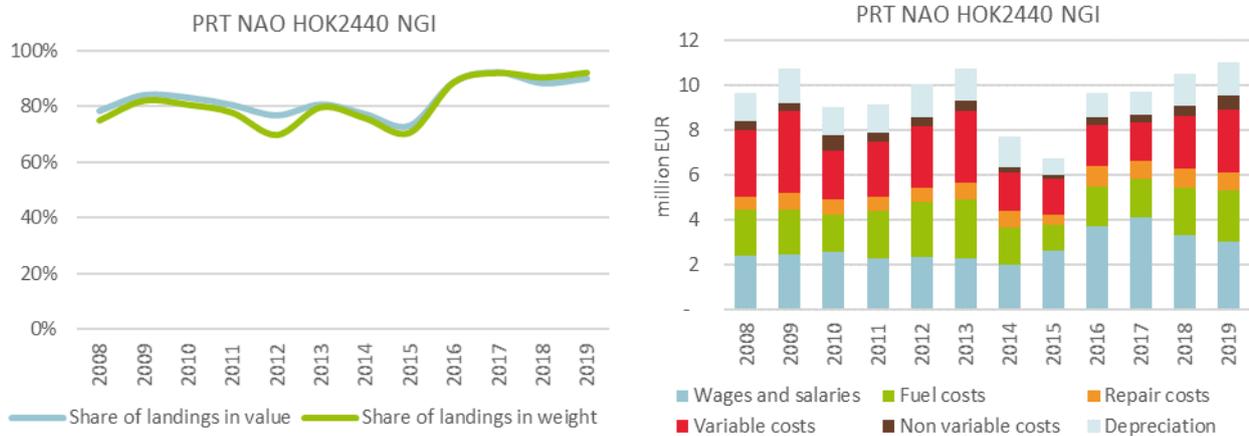
**Figure 3.223. Trends on landings of the top species in value (left) and weight (right) by the Portuguese HOK 24-40 segment in the Atlantic.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.224. Trends on key indicators for the Portuguese HOK 24-40m segment with high dependency on ICCAT major species.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.225. Trends on the dependency (left) and cost structure (right) for the Portuguese HOK 18-24m segment in ICCAT.**

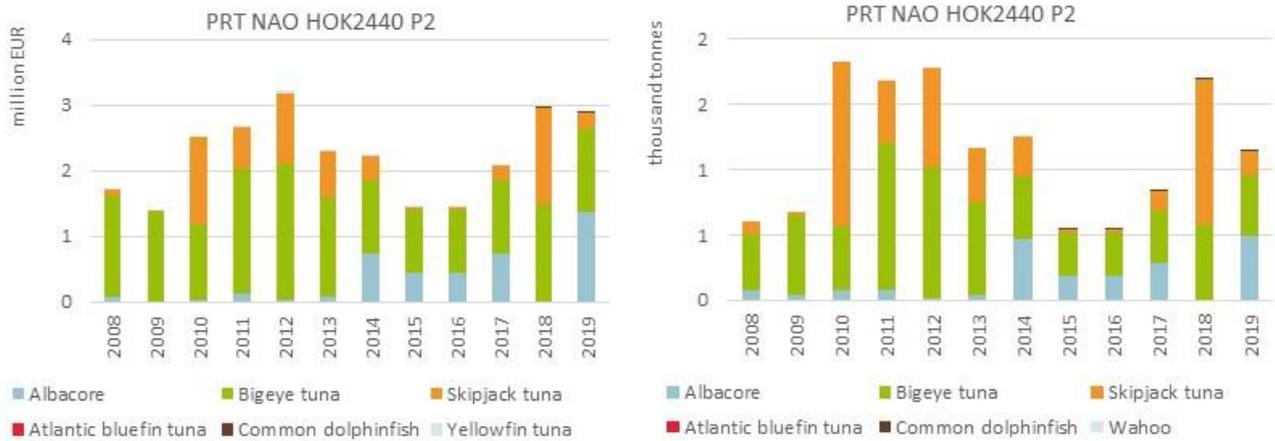
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### PORTUGAL OMR ICCAT FLEET

#### MADEIRA HOOK AND LINE 24-40M SEGMENT (PRT NAO HOK2440 P2)

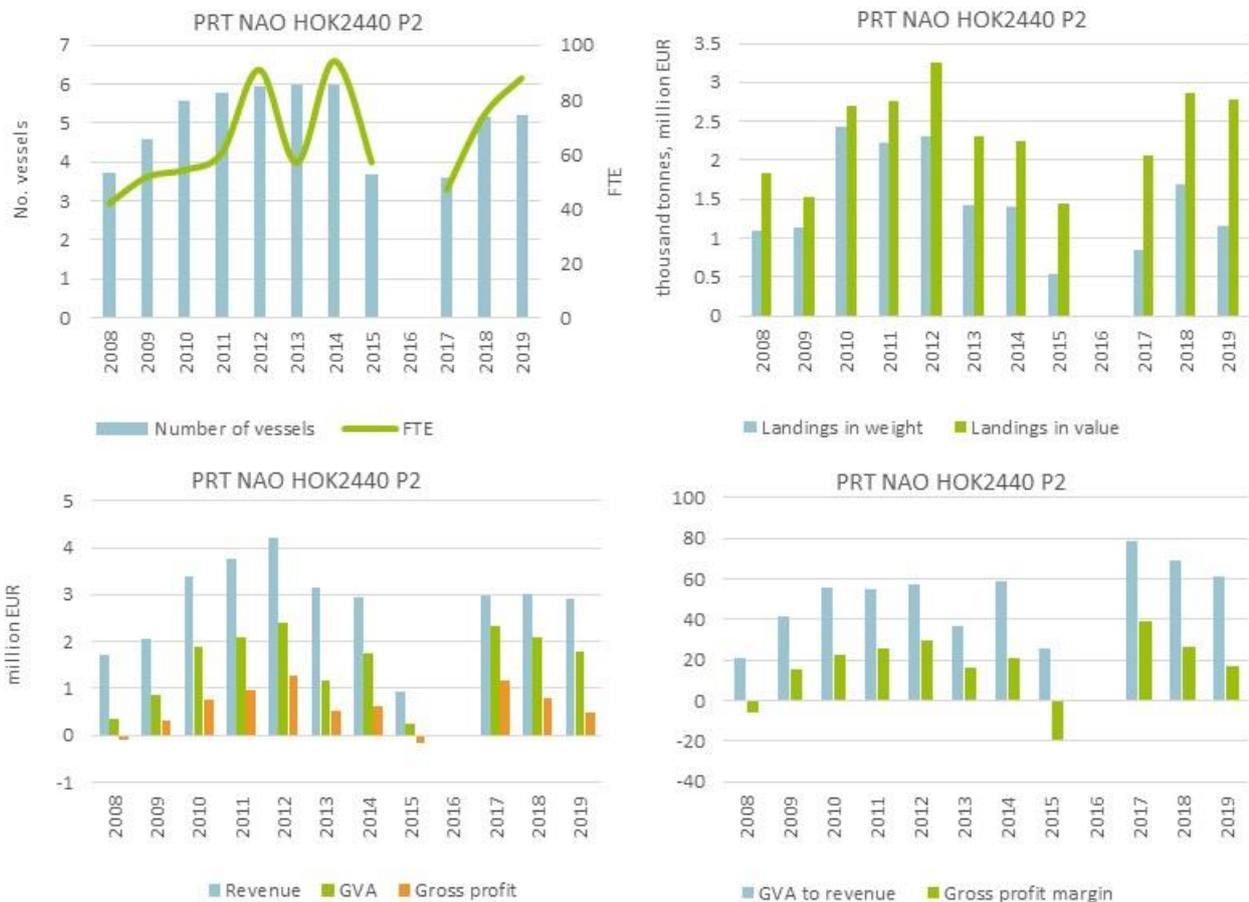
This fleet segment generates over 7.1% of total landings value and around 7.4% of total weight of ICCAT major species. It's composed by five vessels operating in area FAO 34.1.2 (97% in landing weight) and FAO 27.X.a (3%). These fleet operate using pole and line fishing technic.

In 2019 the fleet targets mainly blue shark and swordfish, the total value from landings was EUR 2.8 million. The fleet segment employed 88 FTEs. In 2019 the fleet segment reported a negative gross profit of EUR 0.5 million.



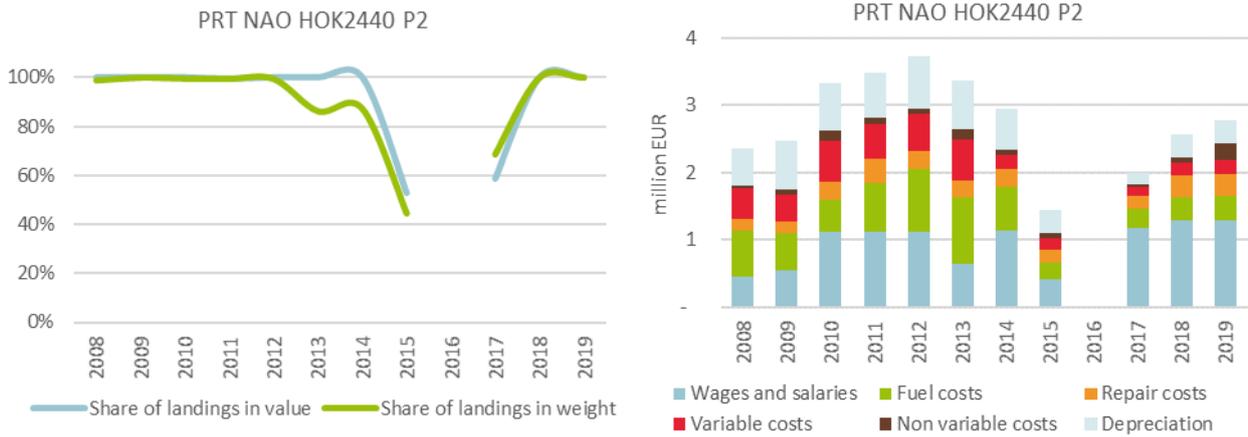
**Figure 3.226. Trends on landings of the top species in value (left) and weight (right) by the Portuguese Madeira HOK 24-40 segment.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.227. Trends on key indicators for the Madeira HOK 24-40m segment with high dependency on ICCAT major species.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



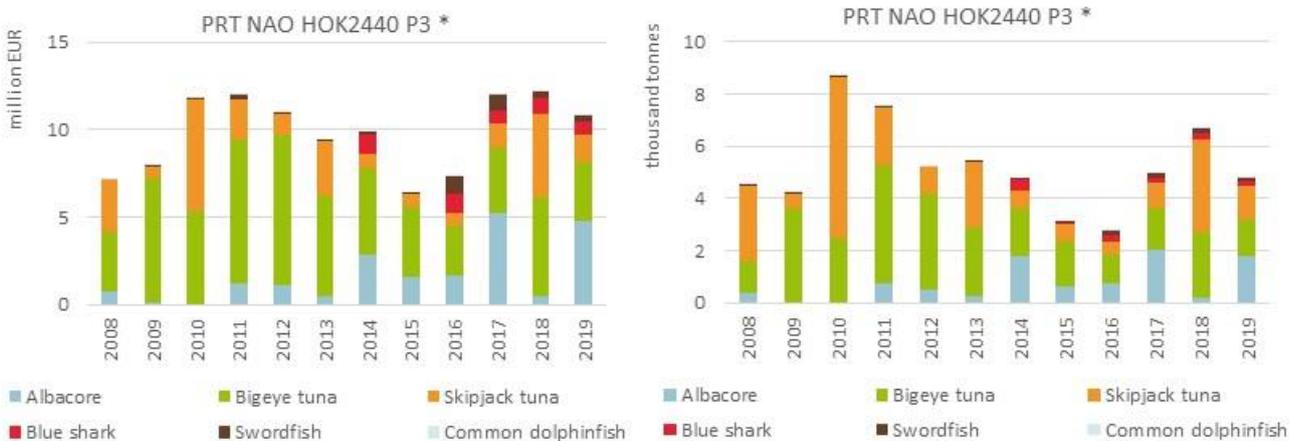
**Figure 3.228. Trends on the dependency (left) and cost structure (right) for the Portuguese Madeira HOK 24-40m segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**AZORES HOOK AND LINE 24-40M SEGMENT (PRT NAO HOK2440 P3\*)**

This fleet segment generates over 28% of total landings value and around 42% of total weight in Azores. It's composed by 22 vessels operating mainly in Area 27.X.a (67% in landing weight) and FAO 34.1.2 (28% in landing weight). Like the Madeiran Island the fleet operates using pole and line fishing technic.

The fleet targets mainly tuna fishes (albacore, bigeye tuna and skipjack). In 2019, the total value from landings was EUR 11.6 reveals some stability over the 2017-2019 period which reflects a recovering from the 2015-2016 period with negative profitability, mainly related with the low values for landing. The fleet segment employed 193 FTEs. Economic indicators for this fleet reported a gross profit of EUR 2.2 million.



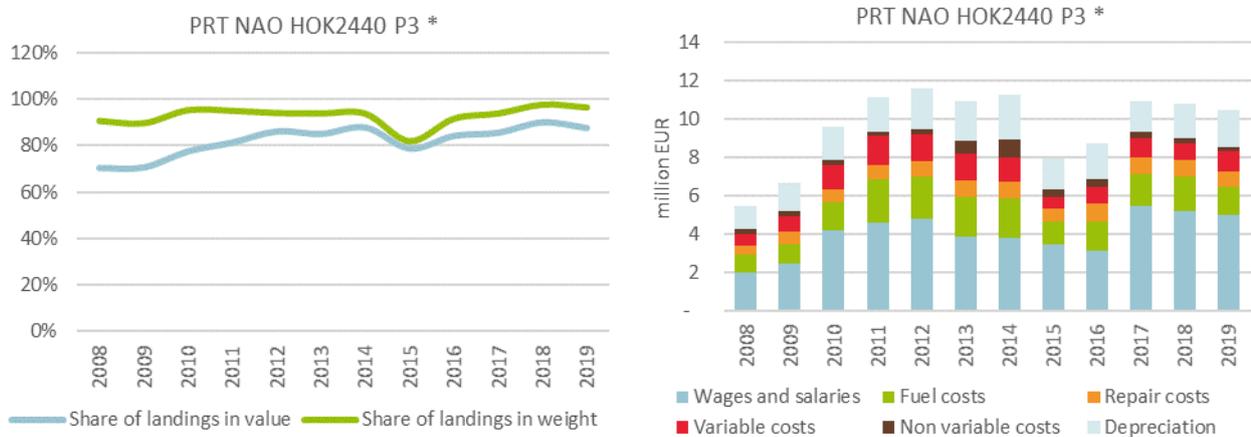
**Figure 3.229. Trends on landings of the top species in value (left) and weight (right) by the Portuguese Azorean pole and line (24-40m) segment in the Atlantic.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.230. Trends on key indicators for the Azorean pole and line (24-40m) segment with high dependency on ICCAT major species.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.231. Trends on the dependency (left) and cost structure (right) for the Portuguese Azorean pole and line 24-40m segment in ICCAT.**

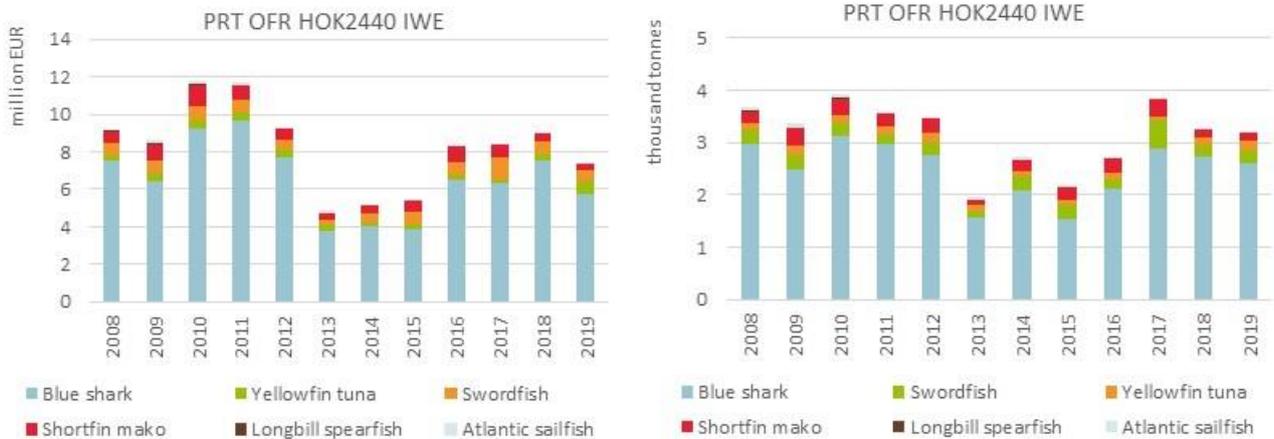
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**PORTUGAL HIGH SEA FLEET FISHING EXCLUSIVELY IN INTERNATIONAL WATERS**

Almost all the ICCAT fleet operated exclusively in international waters are based on the Portuguese mainland and it is composed by two HOK fleet segments with nine surface longliners (HOK2440 and HOK40XX).

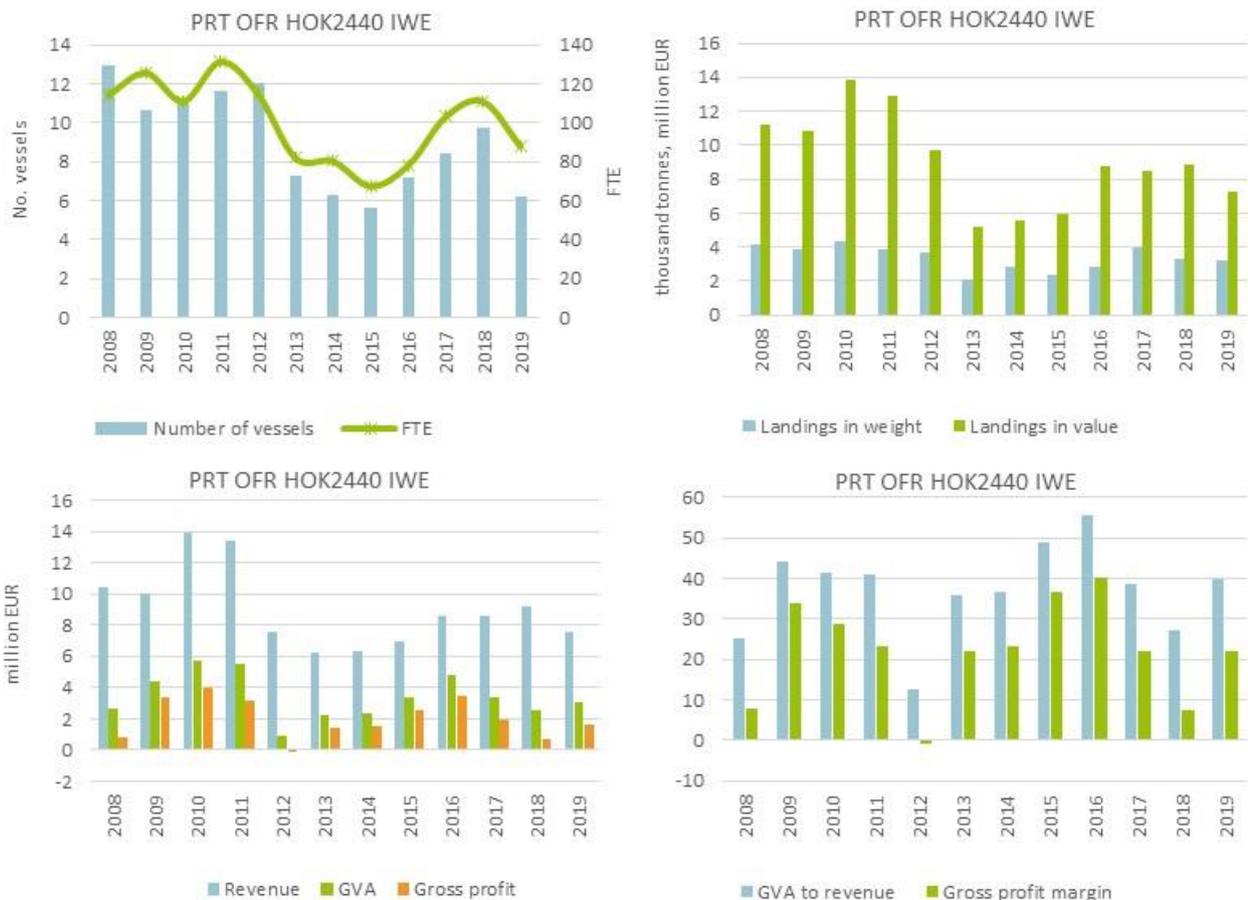
### MAINLAND HOOK AND LINE 24-40M SEGMENT (PRT IWE HOK2440 NGI) FISHING IN INTERNATIONAL WATERS

This fleet segment generates over 46% of total landings value and around 59% of total weight of ICCAT major species. It's composed by six vessels operating in areas FAO 41 (45.4% in landing weight), FAO 34 (31.3% in landing weight) and FAO 47 (23.0%).



**Figure 3.232. Trends on landings of the top species in value (left) and weight (right) landed by the Portuguese large longline fleet fishing exclusively in international waters segment in the Atlantic.**

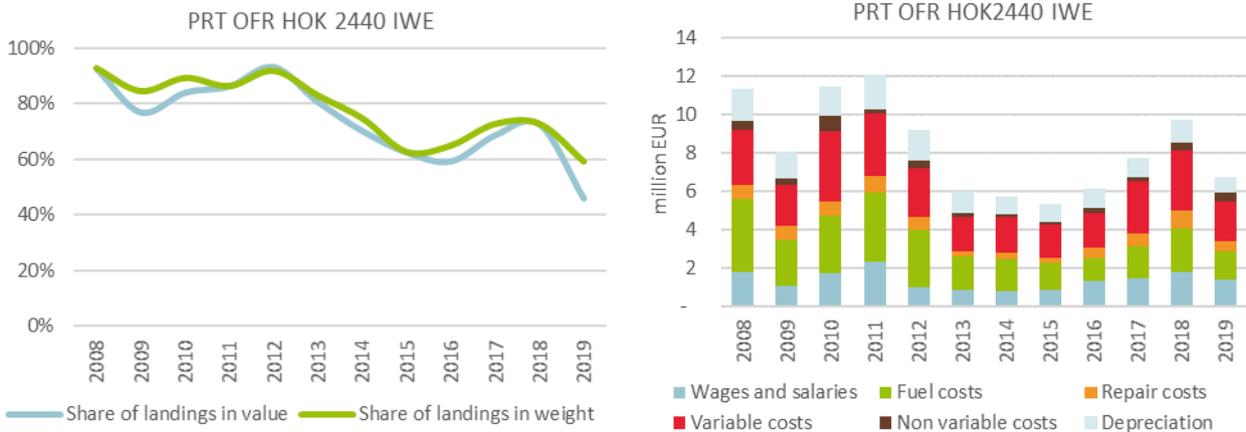
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.233. Trends on key indicators for the Portuguese large longline fleet fishing exclusively in international waters (OFR HOK 2440 IWE) with high dependency on ICCAT major species.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2019 the fleet targets mainly blue shark and swordfish, the total value from landings was EUR 7.2 million. The fleet segment employed 88 FTEs. In 2019 the fleet segment reported a gross profit of EUR 1.7 million.

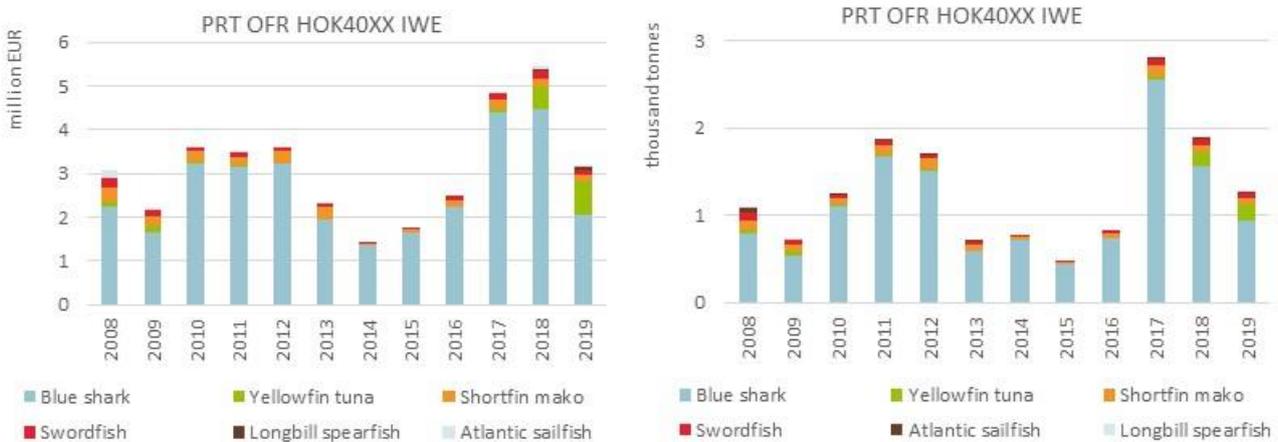


**Figure 3.234. Trends on the dependency (left) and cost structure (right) for the Portuguese OFR HOK 24-40m segment in ICCAT**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**PORTUGUESE MAINLAND HOOK AND LINE OVER 40M SEGMENT (PRT OFR HOK40XX IWE) FISHING IN INTERNATIONAL WATERS**

This fleet segment generates over 60% of total landings value and around 70% of total weight from ICCAT major species. The fleet targets mainly blue shark and yellowfin tuna. In 2019 the fleet segment reported the first negative value for gross profit (-EUR 0.2 million) due to the significant drop in the blue shark catches.



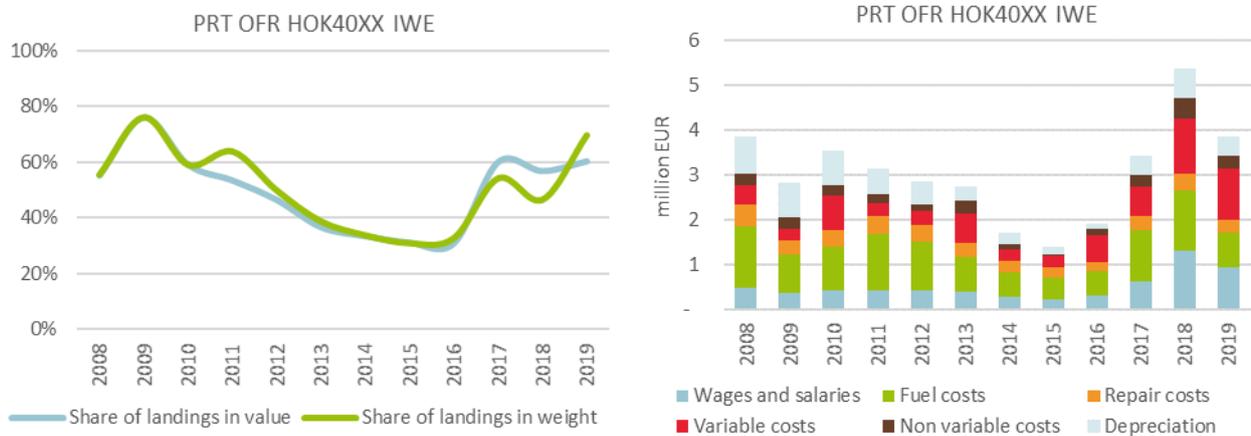
**Figure 3.235. Trends on landings of the top species in value (left) and weight (right) by the Portuguese industrial longline fleet fishing exclusively in international waters.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.236. Trends on key indicators for the Portuguese industrial longliner fleet fishing exclusively in international waters with high dependency on ICCAT major species.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



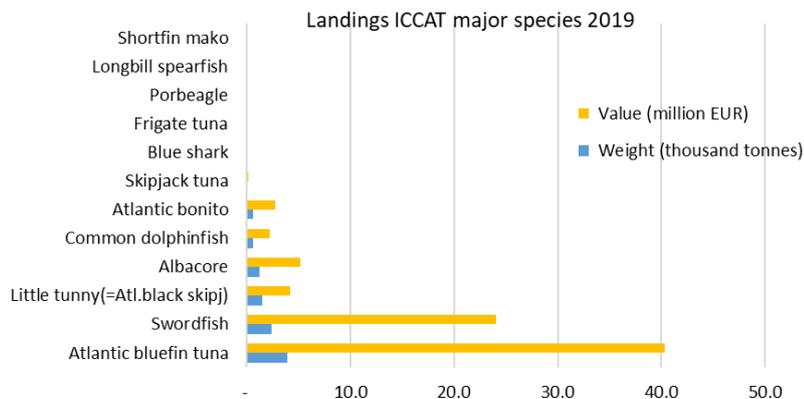
**Figure 3.237. Trends on the dependency (left) and cost structure (right) for the Portuguese OFR HOK 40XXm segment in ICCAT.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## ITALY

The Italian ICCAT fleet targets mainly bluefin tuna and swordfish in the Mediterranean Sea. Overall, landings of ICCAT major stocks by the Italian fleet amounted to 10 612 tonnes in 2019, valued at EUR 76.8 million. Bluefin tuna comprised 37% of this landed weight and 51% of the value (3 913 tonnes and EUR 40.3 million) (Figure 3.238).

Six fleet segments, with an estimated 357 vessels, showed high dependency on ICCAT stocks in 2019. Of these, four segments were over 18 metres (LDF), comprising around 100 vessels. Landings by the LDF amounted to almost 6 000 tonnes in 2019, valued at EUR 47.1 million.



**Figure 3.238. Top species landed in value by the Italian fleet targeting ICCAT major stocks, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

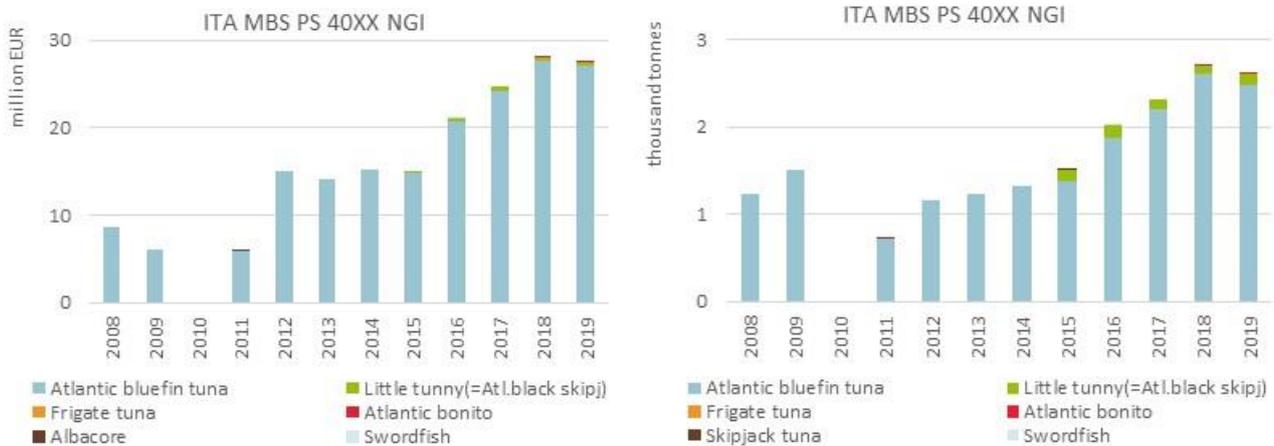
**Table 3.32 - Summary findings for the Italian fleet segments with high dependency on ICCAT major Mediterranean stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
ITA MBS PS 40XX NGI	99%	2,603	26.7	8	39	25.8	18.5
ITA MBS PS 2440 NGI	35%	1,590	8.6	18	182	6.4	3.8
ITA MBS HOK1824 NGI*	88%	1,288	6.9	48	195	4.0	1.9
ITA MBS PGP1824 NGI*	94%	518	4.8	29	38	2.7	1.2
ITA MBS HOK1218 NGI	62%	1,408	9.6	143	420	5.5	2.9
ITA MBS PGP1218 NGI	34%	863	8.3	111	206	6.4	3.6
<b>ITA ICCAT Fleet</b>		<b>8,270</b>	<b>65.0</b>	<b>357</b>	<b>1,080</b>	<b>50.7</b>	<b>31.9</b>
<b>ITA ICCAT LDF</b>		<b>5,999</b>	<b>47.1</b>	<b>103</b>	<b>454</b>	<b>38.8</b>	<b>25.5</b>
Coverage LDF		73%	72%	29%	42%	77%	80%

### ITALIAN LARGE PURSE SEINERS (OVER 40 METRES)

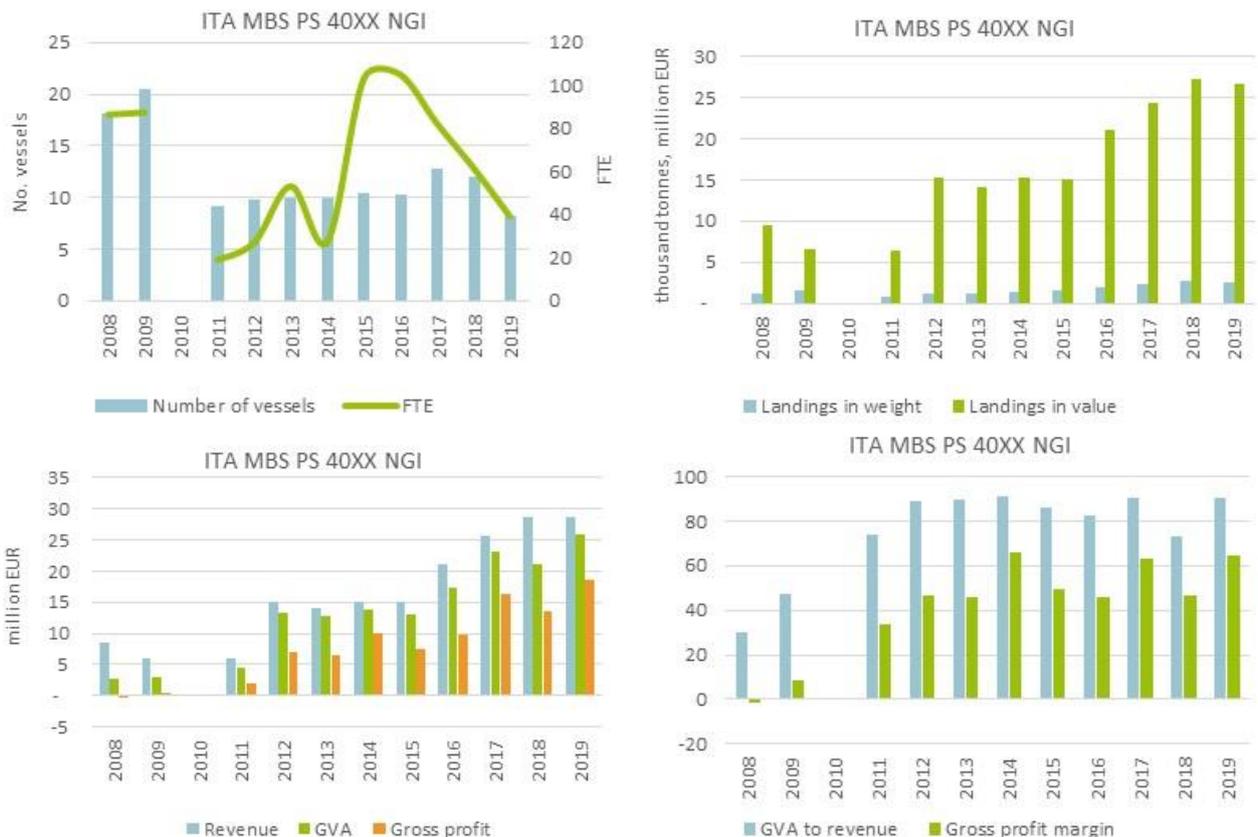
The LDF in the region is dominated by the large purse seiner segment, composed of eight vessels in 2019. These vessels essentially target bluefin tuna, landings of which have increased steadily since 2013 reaching 2 617 tonnes in 2018 and 2 474 tonnes in 2019. The fleet has been profitable since 2009, with revenues and profits improving over the last few years, largely in line with the increased landings of bluefin tuna. The segment is estimated to have obtained a healthy gross profit margin of 65% in 2019.

In 2010, tuna purse seiners stopped their activity as a consequence of the introduction of restrictive measures implemented to adjust the fishing effort to lower TACs as foreseen by ICCAT tuna recovery plan for 2007-2022 (Recommendation 06-05). The number of vessels was drastically cut (from 49 active vessels in 2009 to 9 vessels in 2011). During this transitional period, national administration imposed a temporary closure for all the tuna purse seiners in 2010 (Fishing Effort Adjustment Plans for tuna purse seiners, 2010).



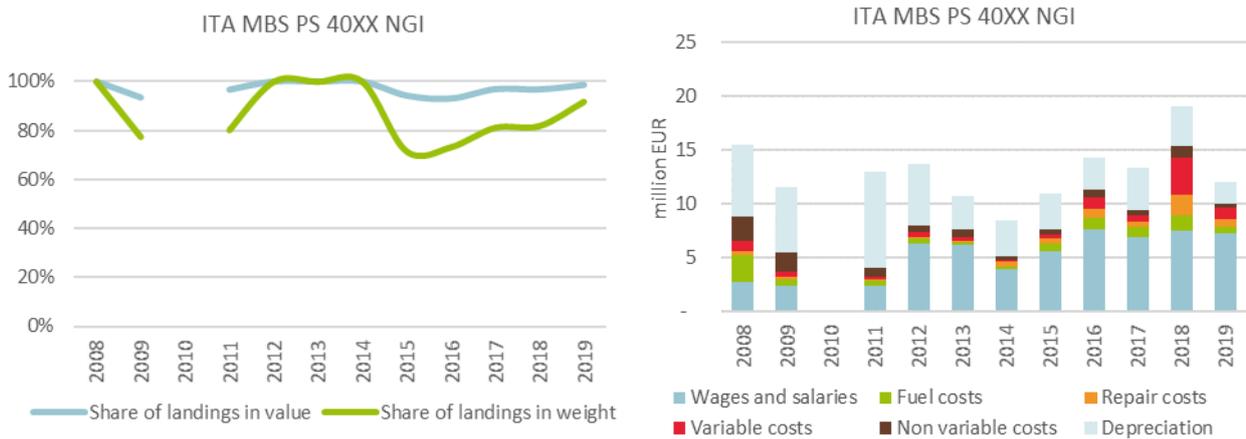
**Figure 3.239. Trends on landings of the top species in value (left) and weight (right) by the Italian large purse seiners targeting Mediterranean stocks**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.240. Trends on key indicators for the Italian large purse seiner segment with high dependency on ICCAT Mediterranean stocks**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.241. Trends on the dependency (left) and cost structure (right) for the Italian purse seine 40XXm segment in ICCAT**

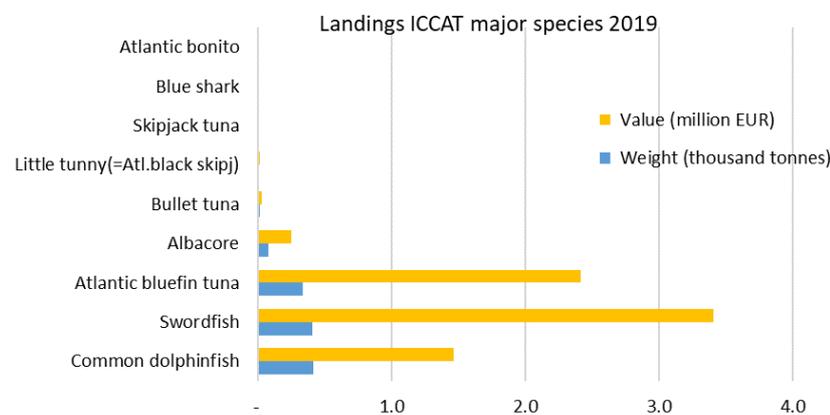
**MALTA**

The Maltese fleet targeting ICCAT main species operates exclusively in the Mediterranean Sea, predominately around the island (comprising 67% of the landings weight), followed by the southern Ionian Sea (7%), South of Sicily (6%) and Balearica Islands (5%).

Total landings of the main ICCAT species amounted to 1 258 tonnes, valued at EUR 7.6 million in 2019. The top species landed were dolphinfish (414 tonnes), swordfish (407 tonnes), bluefin tuna (336 tonnes) and albacore (77 tonnes) (Figure 3.242).

There was a significant increase in albacore landings in 2018; from 3.5 tonnes in 2017 to 106 tonnes in 2018 (these value match well with the ICCAT reported catches - 3.54 t in 2017 to 103.60 tonnes in 2018).

Eight fleet segments with a dependency greater than 20% on ICCAT main species in landings value were detected in 2019, including a wide range of fishing gears such as purse seiners, longliners, troll and other mobile and passive gears. The main fleet segment saw a significant increase in gross profits between 2018 and 2019 (Table 3.33).



**Figure 3.242. Top species landed in value by the Maltese fleet targeting ICCAT major stocks, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.33 - Summary findings for the Maltese fleet segments with high dependency on ICCAT major stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
MLT MBS HOK1824 NGI	78%	289	2.0	15	58	1.8	0.9
MLT MBS PS 1824 NGI*	86%	257	1.8	4	21	1.8	1.7
MLT MBS MGO1824 NGI*	86%	92	0.3	5	21	0.2	0.1
MLT MBS HOK1218 NGI	69%	107	0.7	9	31	0.4	0.2
MLT MBS MGO0612 NGI	88%	91	0.3	15	43	0.1	-0.1
MLT MBS PMP0612 NGI	65%	172	0.7	87	65	0.3	-0.2
MLT MBS PGP0612 NGI*	57%	226	1.3	93	63	0.6	0.0
MLT MBS PMP0006 NGI	29%	4	0.0	8	4	0.0	0.0
<b>MLT ICCAT Fleet</b>		<b>1,238</b>	<b>7.1</b>	<b>235</b>	<b>306</b>	<b>5.2</b>	<b>2.7</b>
<b>MLT ICCAT LDF</b>		<b>638</b>	<b>4.1</b>	<b>24</b>	<b>100</b>	<b>3.8</b>	<b>2.7</b>
Coverage LDF		52%	58%	10%	33%	73%	100%

## MALTESE HOOK AND LINE 18-24 METRE SEGMENT

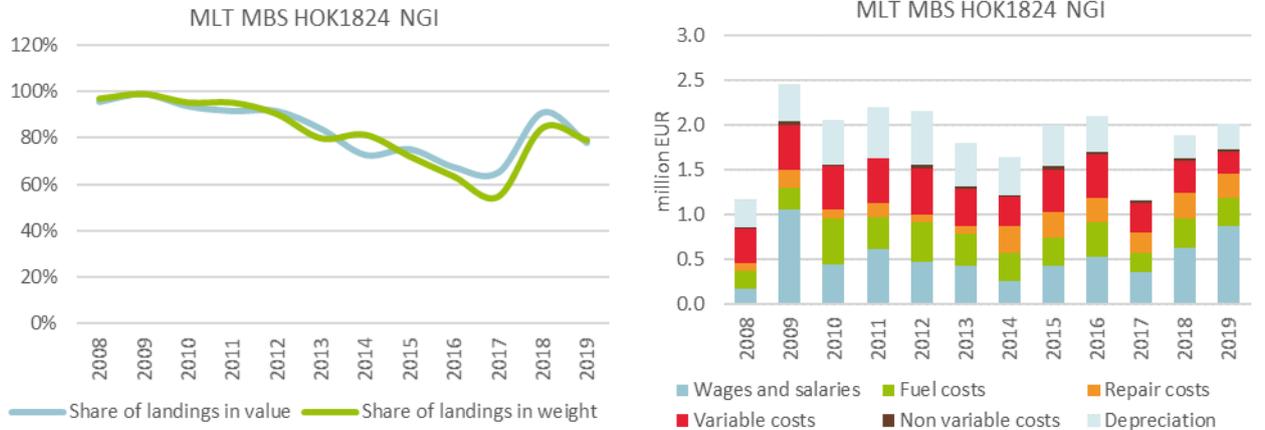
**Figure 3.243. Trends on landings of the top species in value (left) and weight (right) by the Maltese HOK18-24 segment targeting Mediterranean stocks**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.244. Trends on key indicators for the Maltese HOK 18-24m segment with high dependency on ICCAT major Mediterranean stocks.**

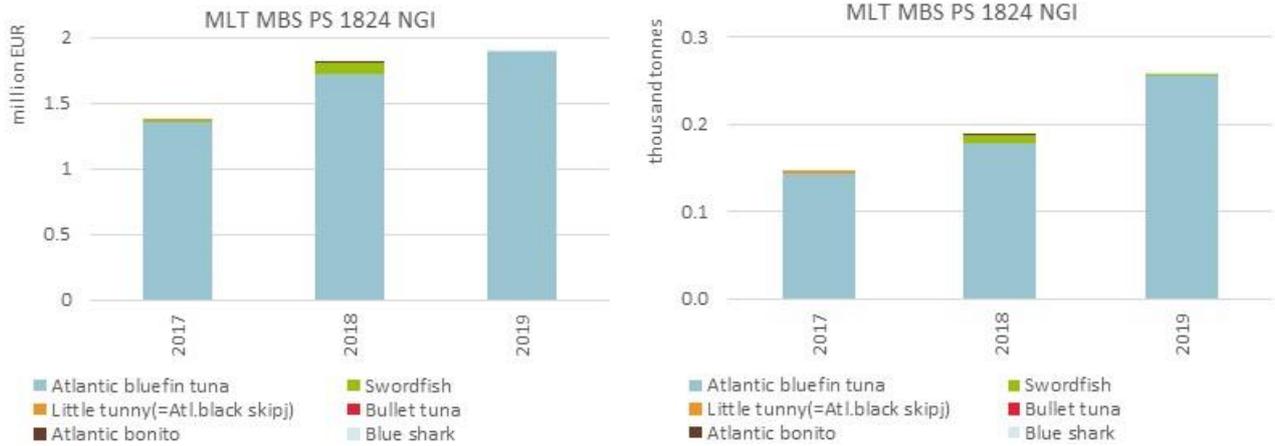
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.245. Trends on the dependency (left) and cost structure (right) for the Maltese HOK 1824m segment in ICCAT.**

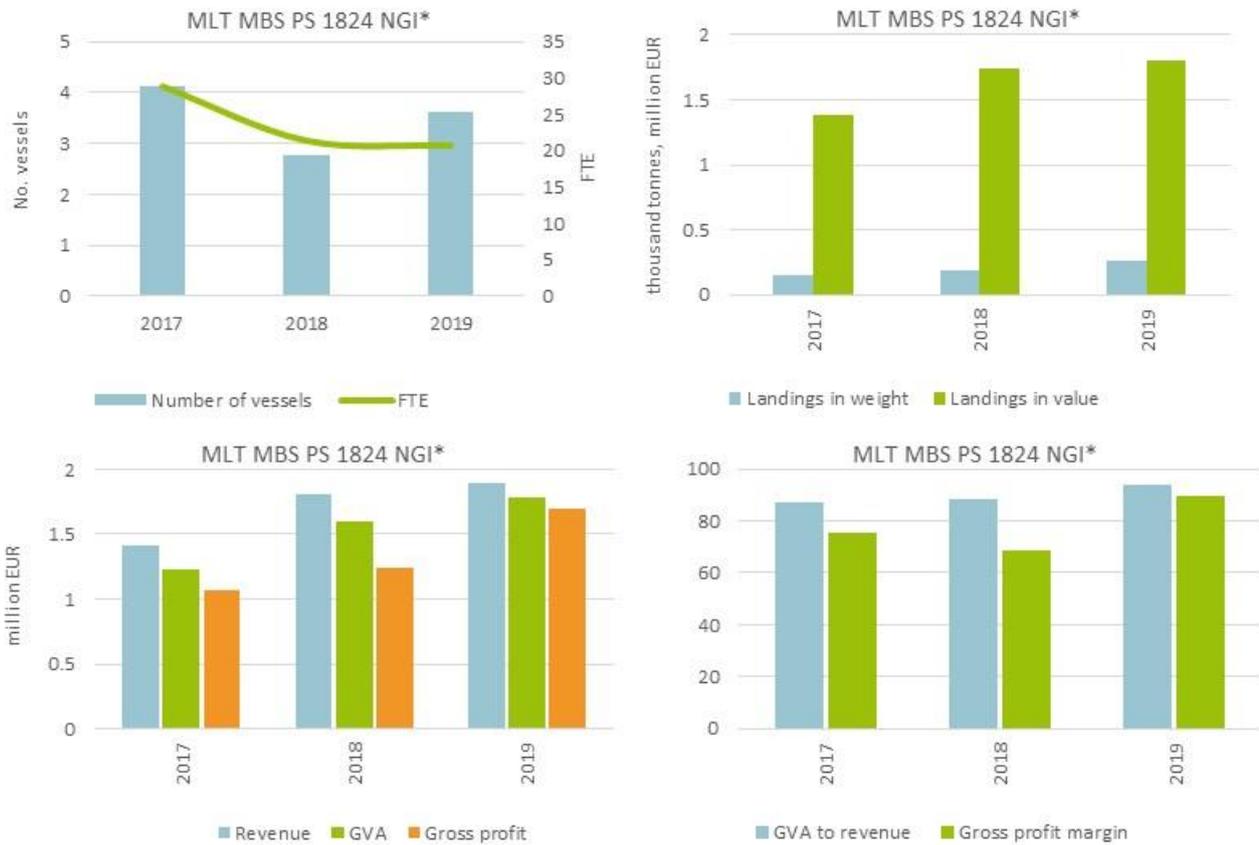
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### MALTESE PURSE SEINE 18-24 METRE SEGMENT



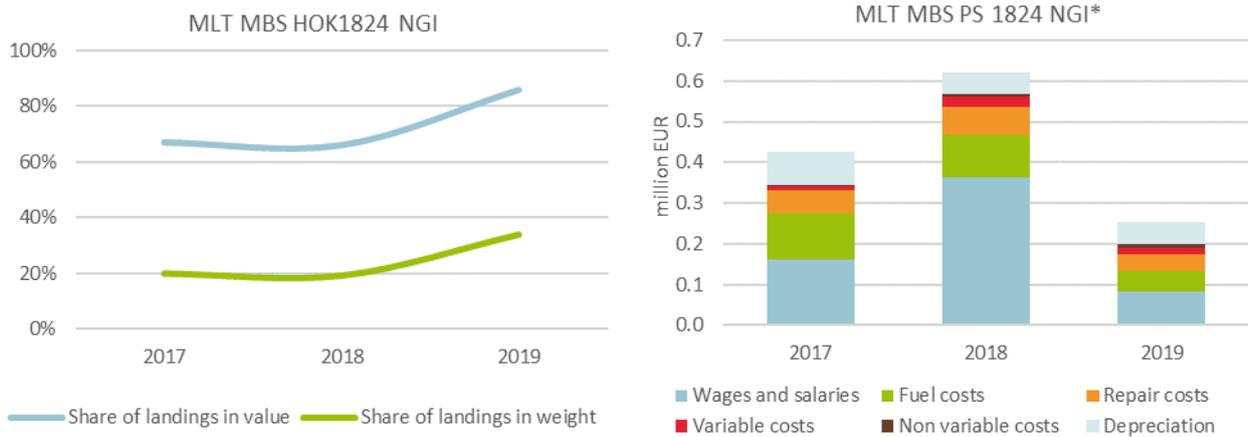
**Figure 3.246. Trends on landings of the top species in value (left) and weight (right) by the Maltese purse seiners in the Mediterranean.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.247. Trends on key indicators for the Maltese purse seine segment with high dependency on ICCAT major Mediterranean stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.248. Trends on the dependency (left) and cost structure (right) for the Maltese purse seine 1824m segment in ICCAT.**

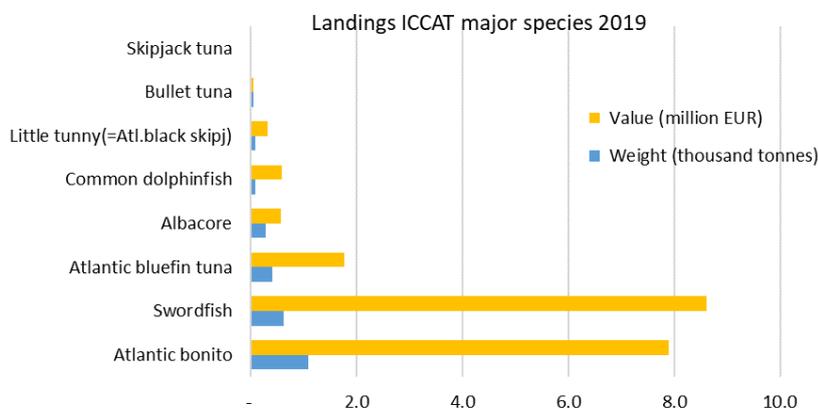
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**GREECE**

The Greek fishing fleets operate exclusively in the Mediterranean, predominately in the Aegean Sea (comprising 61% of the landings in weight in 2019), the eastern Ionian Sea (32%) and around the Crete Island (7%).

Total landings of the main ICCAT species amounted to 2 643 tonnes, valued at EUR 19.8 million in 2019. The main species landed were bonito (1 092 tonnes), swordfish (629 tonnes), bluefin tuna (409 tonnes) and albacore (280 tonnes) (Figure 3.249).

Only one fleet segment with a dependency greater than 20% on ICCAT main species in landings value was detected in 2019 (Table 3.34).



**Figure 3.249. Top species landed in value by the Greek fleet targeting ICCAT major stocks, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

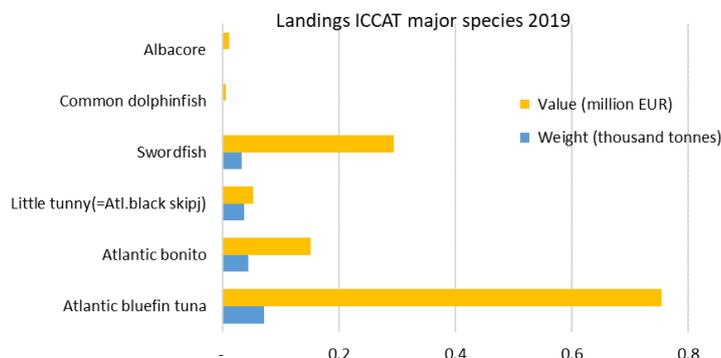
**Table 3.34 - Summary findings for the Greek fleet segment with high dependency on ICCAT major stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
GRC MBS HOK1218 NGI*	77%	1,167	9.1	70	278	3.8	1.2

## CROATIA

The Croatian fleet targeting ICCAT main species operates exclusively in the northern Adriatic. Total landings of the main ICCAT species amounted to 189 tonnes, valued at EUR 1.3 million in 2019. The main species landed were bluefin tuna (72 tonnes), bonito (44 tonnes), little tunny (37 tonnes) and swordfish (33 tonnes) (Figure 3.250).

Only one fleet segment with a dependency greater than 20% on ICCAT main species in landings value was detected in 2019 (Table 3.35).



**Figure 3.250. Top species landed in value by the Croatian fleet targeting ICCAT major stocks, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

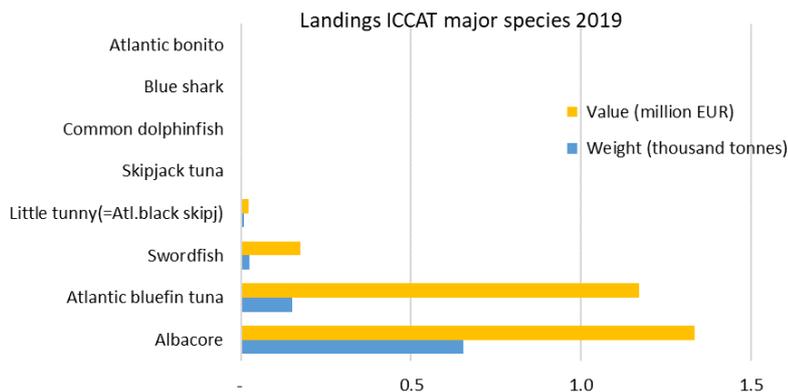
**Table 3.35 - Summary findings for the Croatian fleet segment with high dependency on ICCAT major stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
HRV MBS HOK0612 NGI*	44%	105	1.0	115	59	1.4	0.7

## CYPRUS

The Cypriot fleet operates exclusively in the Mediterranean Sea, predominately around the island (81% of the landings weight), the western Ionian Sea (10%) and Aegean Sea (8%). The fleet targets three main ICCAT species: albacore (655 tonnes in 2019), bluefin tuna (151 tonnes) and swordfish (24 tonnes) (Figure 3.251). The total landings of the main ICCAT species amounted to 840 tonnes, valued at EUR 2.7 million in 2019.

According to the ICCAT reported data, only one purse seine vessel was active in 2017 and 2018. This single vessel spent 5 DaS in 2018 and landed 74.9 tonnes valued at EUR 476 393; an average price of 6.4 euro/kg. In 2017, the vessel spent 54 days at sea but landed 19% less in weight (60.9 tonnes) and valued at 3% more (EUR 490 132); averaging 8 euro/kg (Table 3.36). Due to confidentiality issues, economic data are not available for this vessel.

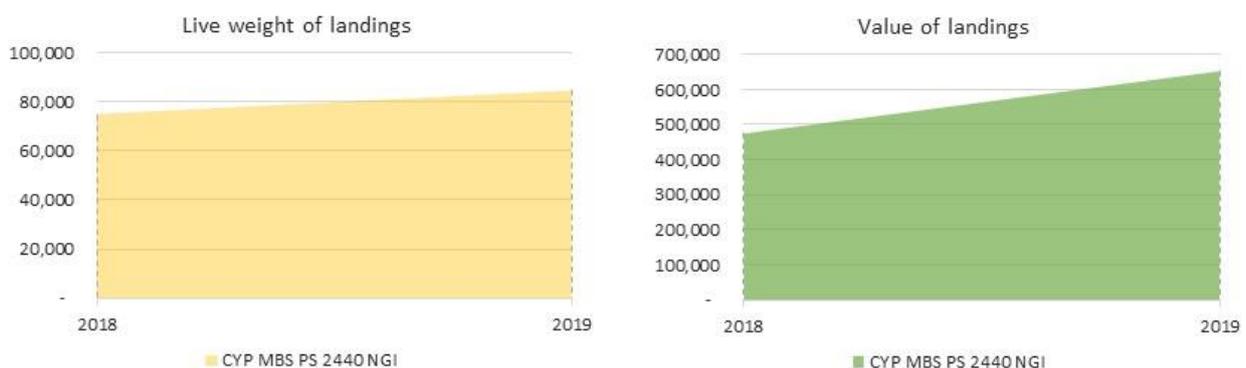


**Figure 3.251. Top species landed in value by the Cypriot fleet targeting ICCAT major stocks, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.36 - Summary findings for the Cypriot fleet segments with high dependency on ICCAT major stocks, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
CYP MBS PS 2440 NGI	100%	85	0.7	1	-		
CYP MBS PGP1218 NGI	86%	696	1.9	30	109	0.7	0.05

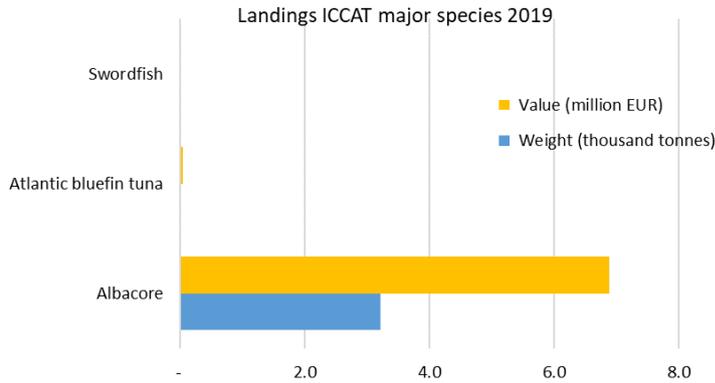


**Figure 3.252. Trends on some key indicators for the Cypriot LDF with high dependency on ICCAT major Mediterranean stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## IRELAND

One fleet segment showed high dependency (over 20% of landings in value) on ICCAT stocks in 2019: the Irish pelagic trawlers between 24 and 40 metres. Its only target species is albacore. They are three vessels with 19 FTE and near 2 000 tonnes in weight and EUR 4 million in value.



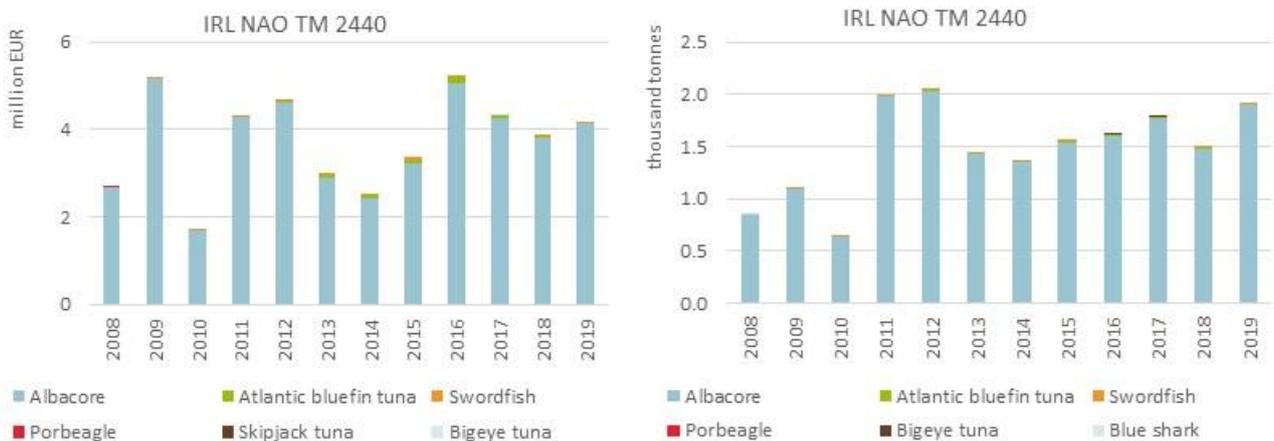
**Figure 3.253. Top species landed in value by the Irish fleet targeting ICCAT major stocks, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.37 - Summary findings for the Irish fleet segments with high dependency on ICCAT major Atlantic stocks, 2019**

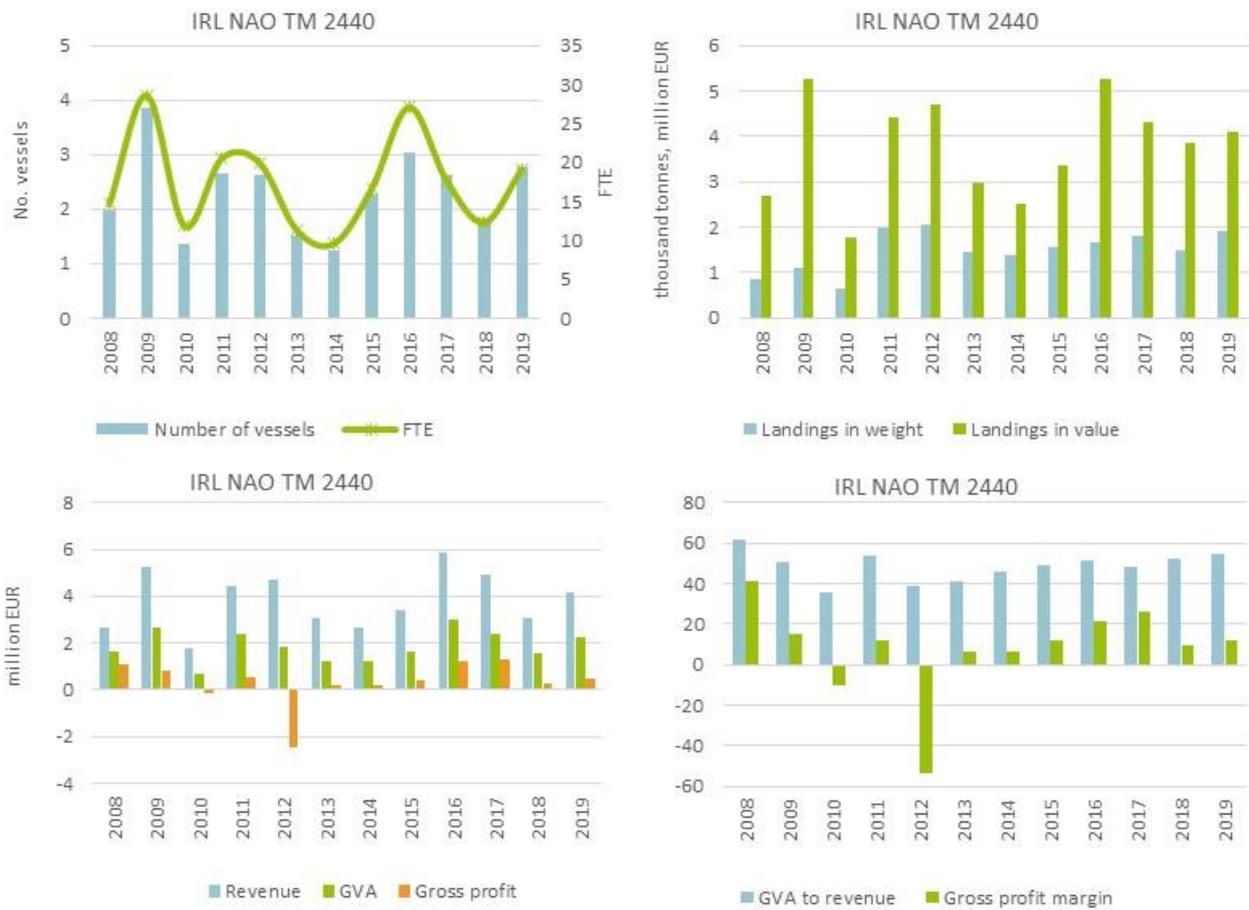
Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE
IRL NAO TM 2440	23%	1,914	4.1	3	19

## IRISH PELAGIC TRAWLER 24-40 METRE SEGMENT



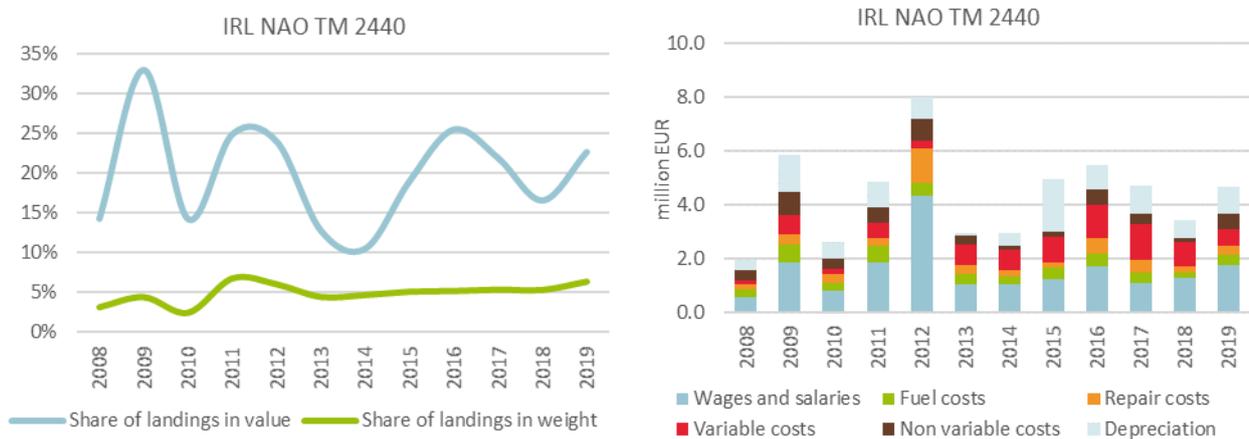
**Figure 3.254. Trends on landings of the top species in value (left) and weight (right) by the Irish large pelagic trawler segment targeting Atlantic stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.255. Trends on key indicators for the Irish large pelagic trawler segment with some dependency on ICCAT major Atlantic species.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.256. Trends on the dependency (left) and cost structure (right) for the Irish pelagic trawlers 24-40m segment in ICCAT**

**OTHER EU FLEETS**

Several Bulgarian, Dutch, German, Lithuanian, Romanian, Slovenian and Swedish fleet segments reported landings of ICCAT major species but none showed high dependency in 2019.

- The Bulgarian fleet operates exclusively in the Black Sea and landed 3.6 tonnes of bonito, valued at EUR 8 724 in 2019.

- The Dutch fleet landed 103 tonnes valued at EUR 65 629 in 2019, composed mainly of bonito (90.5 tonnes) and frigate tuna (12.6 tonnes) from activity in areas 27.4.c (72%) and 34.1.3 (26%). Landings decreased from 273 tonnes in 2018 to 103 tonnes in 2019.
- The German fleet landed 2.2 tonnes of bonito, valued at EUR 4 326 from area 34.1.3 in 2019.
- The Lithuanian fleet landed bonito (385 tonnes) and bullet tuna (76 tonnes), valued at EUR 406 710 from areas 34.1.3.2, 34.3.1.1 and 34.1.3.1 in 2019.
- The Romanian fleet operates exclusively in the Black Sea and landed 233 kg of bonito, valued at EUR 1 566 in 2019.
- The Slovenian fleet operates exclusively in the northern Adriatic Sea and landed 765 kg of bonito, bullet tuna and dolphinfish, valued at EUR 4 921 in 2019.
- The Swedish fleet landed 450 kg of bluefin tuna from area 27.3.a, valued at EUR 8 032 in 2019, a decrease on the 1.7 tonnes in 2017 (no landings were reported in 2018).

### **Main drivers and limiting factors affecting fleet performance in the ICCAT RA**

- The main commercial species and stocks regulated by ICCAT targeted by the EU vessels are:
  - \* Tuna (major sp.) - 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 sp.) - Atlantic and Mediterranean swordfish (SWO), blue marlin (BUM), Atlantic white marlin (WHM), Atlantic sailfish (SAI)
  - \* Sharks (major sp.) - blue shark (BSH), shortfin mako (SMA).
- In terms of volume and value of landings, the main fisheries in the area are tropical tuna stocks (yellowfin, bigeye and skipjack), albacore, swordfish and great blue shark.
- Both low fuel costs and high average prices (for key stocks) remained relatively stable in 2018 and with a slight increase in 2019.
- In terms of fleet segments, most of EU purse seiners fishing in the Mediterranean and Atlantic have managed to reach positive gross profit margins (between 8-12%) with the exception of French purse seiners over 40m, with a declared gross loss of -2%. Spanish and French longliners between 18-24m and 24-40m generally declared very low levels of profit (many under 1% or close to zero). Many pole and line fleet segments between 18-24m and 24-40m reported losses, and some were from the Outermost Regions of the Canary Islands and Reunion.
- The current regulatory framework with increased control of tuna landings and transshipments coupled with the implementation of technical measures such as 2 months' time closure for FADs might have a negative impact in terms of fleet presence of French and Spanish purse seine active vessels in ICCAT RA.
- Regarding shortfin mako, the Commission could not reach a consensus on annual catch limits but agreed to impose restrictions for vessels to catch and retain on board, tranship or land North Atlantic shortfin mako. Stringent measures and increases in observer coverage might likely have as well an impact in terms of catches of these species reported by Spanish and Portuguese surface longliners and a possible displacement of effort to other areas including the Indian Ocean.
- A full assessment of Atlantic bigeye tuna stock was conducted in 2018 with worrying results in terms of biomass. Efforts are being made to gather and collect missing datasets particularly from non-European longliners and purse seiners. However, the lack of a comprehensive and periodic control system to monitor quota uptake and the unilateral increase of capacity by many CPCs could hamper the process.
- In 2019, full scientific stock assessments were carried out for two species: yellowfin tuna and white marlin, while new projections were provided for the northern shortfin mako shark. Ongoing work will continue in 2020 in terms of assessment for mako which seems to be in a dire situation (according to SC, even with 0t catch, biomass will decline until 2035) where

ambitious rebuilding measures might be adopted including an improved data collection and registration of dead individuals as by-catches and release of alive specimens of the sea.

## Outlook for 2021 and beyond

- Due to COVID-19 pandemic and travel restrictions in 2020 and 2021, ICCAT decision-making process has been severely disrupted. The 2020 Annual Meeting, as well as all intersessional and all delegations' consultations in 2021 are taking place by written correspondence procedure. A roll-over of the measures would likely have little impact in changes of fleet activity in these areas in terms of economic performance but a degradation of the biological state of certain stocks such as bigeye tuna compromising the long-term sustainability. Inversely, any drastic decisions could have a knock-on effect on landings and presence in the area in future years.
- ICCAT Annual Plenary Meetings and intersessional Panels have taken place remotely via written correspondence through the website. This has posed a number of logistic and technical challenges, exacerbated by the high number of Contracting Parties (53), mostly developing countries, number of languages, and time difference due to its wide geographical distribution. As a result, no significant progress has been made in passing new conservation and management measures, and work has focused only on a limited number of decisions to extend existing measures.
- The ICCAT Commission agreed to hold a series of intersessional meetings in 2020 and 2021 to develop conservation and management measures for tropical tunas and sharks, with special attention to the bigeye tuna and the northern shortfin mako. These are the two species that will be dealt with in 2021 as a matter of priority due to the low biological state of both stocks.
- The Atlantic bigeye stock is in a poor state, overfished and subject to overfishing.
- It is possible that Rec 19-02 currently in force will be revised to modify the BET allocation scheme and allow a reduction of the overall TAC for the whole tropical tuna. This might be reduced by setting more stringent catch limits adopting more stringent management measures for the whole of the three tropical species (skipjack, yellowfin and bigeye). Some examples of measures that have been proposed and discussed at 2020 Annual Meeting are: an increase in time of seasonal closures (e.g., from 2 to 3 months in 2021); an increase of its area coverage (e.g., extending the FAD closure from Gulf of Guinea to the entire Atlantic Ocean); limits and reductions in the number of FADs deployed and number of supply vessels per PS fleets; limits in capacity. Such suite of measures could have short term detrimental economic consequences in the performance of the French and Spanish purse seine fleet in terms of catch (landings) and effort (days at sea). They might also bring about unintended shifts in fishing patterns and, potentially, displace fishing effort towards the Indian and, in a lesser extent, the Pacific Oceans.
- Work on developing a Management Strategy Evaluation (MSE) for the tropical tuna species (yellowfin, skipjack and bigeye) is in course, following a similar scientific process that the ones made for Bluefin and albacore tunas. However, it is still pending of agreeing a set of clear objectives as well as improving the effectiveness of management measures currently in place. There are also significant information gaps for some parts of these fisheries (in particular longliners, pole and lines, etc.) and specific allocation keys cannot be set for yellowfin or skipjack for this reason. If data issues were to be overcome and possibilities of setting HCR for each of the stocks coupled with mitigation measures to avoid unintended catches of juveniles of bigeye tuna, this could provide economic stability for the fleets in the long term.
- The adoption of further management measures for FADs will also, potentially, have an impact on the way FAD dependant fisheries are conducted. Such management measures on FADs might include inter alia a limit on the number of deployed FADs, the use of non-entangling and further research on biodegradable ones, monitoring and tracking systems for lost or abandoned FADs, etc. Such measures can be expected to impact the economic performance and profitability of the purse seiners and could, once again, bring about changes to fishing patterns and/or displacement of effort.

- The introduction of a Harvest Control Rule for Northern Atlantic Albacore Tuna in 2018, together with a 20% TAC increase has given increased certainty to EU operators, particularly in Spain and France, around future management of this stock using a set of clear rules. This could bring about increased landings by Spanish and French purse seiners and longliners for the years to come. The aim for 2021 is to consolidate the implementation of the two existing Recommendations in force, as well as adopt a protocol on exceptional circumstances for the MSE and a multiannual management plan.
- Further scientific work is needed to get more reliable and robust data for both the North and South Atlantic swordfish stocks. While total catches are below the EU TAC, at least one EU Member State (Spain) is near full exploitation of its individual quota. In addition, the EU fleet may retain, as by-catch, up to 15% of individuals below the minimum landing size (by number) within its declared catches thereby reducing the degree of discarding.
- Following previous measures in place since 2017, ICCAT adopted its Recommendation 19-06 on the conservation of North Atlantic stock of shortfin mako caught in association with ICCAT fisheries. Technical and spatial conservation measures are already in place, including enhanced reporting of catch, safe handling and release of live specimens to reduce incidental mortality due to high survivability. This will likely have a short-term economic impact in terms of lower landings for the concerned Portuguese and Spanish surface longline fleets. Since 2020, some ICCAT CPCs are proposing to immediately stop any direct fishing by adopting a non-retention policy of both death and alive specimens with no exceptions, to increase the chances of rebuilding the North Atlantic stock of such species. This would mean a *de facto* close of the fishery with the corresponding loss of economic data for future years for two specific fleet segments: Spanish and Portuguese longliners between 24 and 40 metres.
- In addition to the above, in March 2019, the International Union for the Conservation of Nature ([IUCN](#)) classified the Atlantic shortfin mako and the longfin mako as Endangered Species. In August, they were included in the Appendix II Listing of the Convention on International Trade in Endangered Species ([CITES](#)), together with other 16 threatened species of sharks and rays this is a valuable fishery for Spanish and Portuguese surface longliners operating in ICCAT RA and it requires extra verification and documentation. This means that a new trade measure is in place in addition to the conservation and management measures, requiring on the operators to provide evidence and documentation on sustainability of the fishery to be sold. This has already raised specific problems in terms of operations and logistics. For example, in 2020, the Spanish Trade Ministry set a quota unilaterally established which does not let allow operators to commercialise legally caught makos from ICCAT which are kept in the meantime stored in freezing facilities. This decision by the Spanish Minister of Energetic Transition has been legally challenged by Spanish longline fleet organisations and will likely produce financial losses as a result of storage and freezing costs and potential loss of income if they cannot sell their catch.
- Regarding blue shark, ICCAT established for the first time at its Annual Meeting in November 2019 a total TAC for the southern Atlantic blue shark of 28 923 tonnes; and a quota allocation for the northern Atlantic blue shark stock of 39 102 tonnes [Rec. 19-07, amending the Rec 16-12]. The EU got a quota allocation for the northern blue shark stock of 32 578 tonnes for 2020. This is in line with current levels of reported catches in the area so there should be no big alterations in forthcoming years.
- The ICCAT Commission finalized in 2019 the protocol to amend the International Convention for the Conservation of Atlantic Tunas, which had been developed over the past six years. The new text modernizes the Commission and provides a mandate to manage oceanic sharks and rays as directed or by-catch fisheries. This will likely result in better accountability and reporting of catch and landings data along with improved control systems for these species.
- In terms of commercial aspects, Spanish and Portuguese surface longliners witnessed a sharp fall in demand in target countries (Italy, Brazil, Senegal...) for swordfish and frozen sharks in 2020 and 2021 so a substantial part of their landings has been stored in freezing facilities in Galicia (Vigo, A Guarda, Marín) or Portugal (Viana do Castelo, Porto).

- Tuna purse seiners saw a drop in the prices due to frozen tuna and tuna loins purchased from China as a result 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.
- Regarding monitoring, control and surveillance, there is work to develop integrated monitoring measures (IMM) including a set of minimum standards for electronic monitoring is under study. Progress is also being made on a regional observers' program to better implement Rec. 19-02; as well as a review of Statistical Document Schemes

## IOTC - Indian Ocean Tuna Commission

### Background

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 3.38). 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 3.38 - 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

### Fleet selection and data limitations

Similar to ICCAT, the EU fleet targeting species covered by IOTC are 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, activity of the EU fleet in analyse two main parts: (1) IOTC fleet and (2) IOTC LDF fleet.

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 2019.

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 LDF fleet, all fleet segments over 18 metres LOA and with 20% or more of their landings in value obtained in 2019 from one or more of the major species or stocks in the IOTC RA are selected.

This method differs to that used in previous AERs in three aspects: (1) only the major IOTC species and stocks are considered; (2) the vessel length group 18-24 metres is included, as opposed to 24 metres and over in AER 2018 and 2019 and (3) high dependency on the IOTC RA in terms of value of landings is set at 20%, as opposed to 40% used in AER 2020 (and 60% used in the AER 2019).

### EU IOTC Fleet

According to IOTC data, four EU Member States were active in the IOTC Convention region in 2019: France (including Reunion), Portugal and Spain. Italy, active in 2018, has no reported catch for 2019. The EU fleet active in 2019 consisted of 324 vessels: 295 from France (129 mainland fleet + 166 Reunion), 26 from Spain (11 surface longliners targeting swordfish and 15 purse seiners) and 3 from Portugal (all longliners targeting swordfish).

The EU catch amounted to 308 584 tonnes in 2018 and 254 682 tonnes in 2019. The top species were skipjack (158 566 tonnes), yellowfin (70 188 tonnes), bigeye (15 489 tonnes), swordfish (3 615 tonnes) and blue shark (3 424 tonnes). The Spanish fleet caught 70.5% of the total EU catch in IOTC in 2019, followed by France with 27.9%, Reunion 0.9% and Portugal 0.6%.

The results obtained for the EU IOTC fleet largely match with the reported data from IOTC.

For the EU IOTC fleet, an estimated 343 vessels showed some activity in the RFMO in 2019. Landings amounted to 264 192 tonnes valued at EUR 368.6 million in 2019 (Table 3.39). The main species landed were the tropical tuna species skipjack, yellowfin and bigeye (Figure 3.258).

Table 3.39 shows the coverage of the EU-MAP data compared to IOTC by Member State fleet. Overall, the results for the French and Spanish fleets match well while some discrepancy in catch / landings is observed for the Portuguese fleet. No comparison is possible for Italy as no (catch and vessel) IOTC data were reported for Italy in 2019.

**Table 3.39 – Coverage of the EU-MAP data for the EU IOTC fleet in 2019**

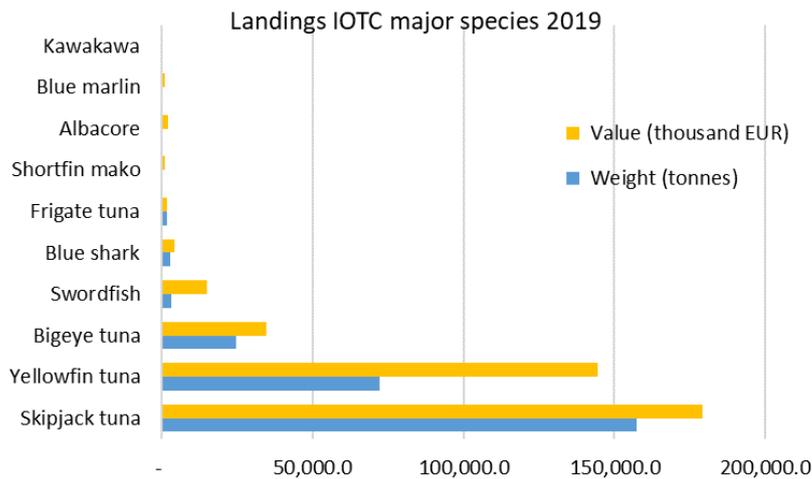
	Fleet segments	Number of vessels	Live weight of landings (tonnes)	Gross value of landings (million EUR)	Revenue (million EUR)	Gross profit (million EUR)
<b>IOTC reported data</b>		<b>324</b>	<b>254,682</b>			
<b>EU IOTC fleet 2019</b>	13	343	264,192	368.6	363.2	71.8
<b>EU IOTC LDF</b>	5	33	256,324	343.9	342.8	73.2
<b>Coverage LDF</b>	<b>46%</b>	<b>10%</b>	<b>97%</b>	<b>93%</b>		
<b>IOTC OMR fleet with dependency &gt;=20% and &lt;18m</b>	4	288	1,905	9.9	5.1	-1.5
<b>Coverage OMR IOTC Fleet &gt;=20% and &lt;18m</b>	31%	84%	1%	3%		

**Table 3.40 – Comparison between data reported by IOTC and EU-MAP for fleets active in IOTC, 2019**

	IOTC data	EU-MAP IOTC	Coverage EU-MAP 2019	
FRANCE	N vessels	295	314	106%
	Catch (landings)	73,421	73,625	100.3%
Spain	N vessels	26	25	96%
	Catch (landings)	179,650	185,478	103%
Portugal	N vessels	3	3	100%
	Catch (landings)	1,611	1,046	65%
Italy	N vessels	-	1	
	Catch (landings)	-	4,902	

### EU IOTC LDF

For the **EU IOTC LDF**, five fleet segments over 18 metres, with an estimated 34 vessels, showed high dependency on activity in IOTC in 2019 (Table 3.24). Landings for the IOTC LDF amounted to 256 324 tonnes valued at EUR 343.9 million (Table 3.41). Thus, the IOTC LDF with high dependency covered 97% of the IOTC fleet's landings in weight and 93% of the landings value in 2019.



**Figure 3.257. Top species landed in value by the EU IOTC fleet, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.41 – Member State fleets operating in IOTC, 2019**

MS	Estimated number of vessels		Landings in weight		Landings in value	
	2018	2019	2018	2019	2018	2019
ESP	23	25	209,370,452	185,478,258	255,647,247	257,668,062
FRA	320	314	87,025,382	72,765,317	134,722,035	101,695,097
ITA	1	1	7,008,504	4,902,384	9,211,522	6,062,864
PRT	4	3	1,112,774	1,045,884	3,027,734	3,110,005
<b>EU IOTC Fleet</b>	<b>348</b>	<b>343</b>	<b>304,517,112</b>	<b>264,191,843</b>	<b>402,608,538</b>	<b>368,536,028</b>

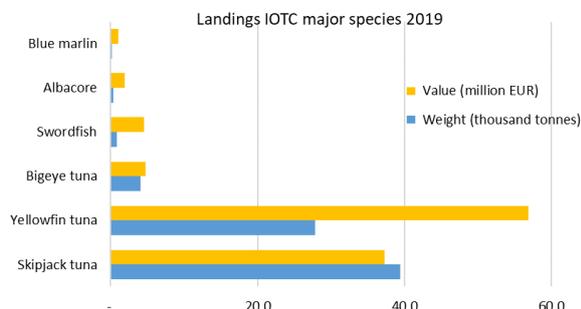
**Table 3.42 - Selected IOTC LDF fleets, 2019**

MS	2021 AER	% landed value ICCAT	Landed weight	Landed value	No vessels	FTE	Gross profit	
ES	1	ESP OFR PS 40XX NGI	69%	180,216,142	244,897,689	15	861	69,170,186
FR	2	FRA OFR PS 40XX IWE	62%	70,512,983	90,084,124	13	305	4,566,903
	3	FRA OFR HOK1824 RE *	49%	355,953	1,735,451	4	18	-395,735
ITA	4	ITA OFR PS 40XX IWE	100%	4,902,384	6,062,864	1		
PRT	5	PRT OFR HOK40XX IWE*	23%	336,195	1,196,185	1	22	-187,542
<b>EU IOTC LDF</b>				<b>256,323,657</b>	<b>343,976,312</b>	<b>34</b>	<b>1,207</b>	<b>73,153,812</b>

## Results by Member State fleet

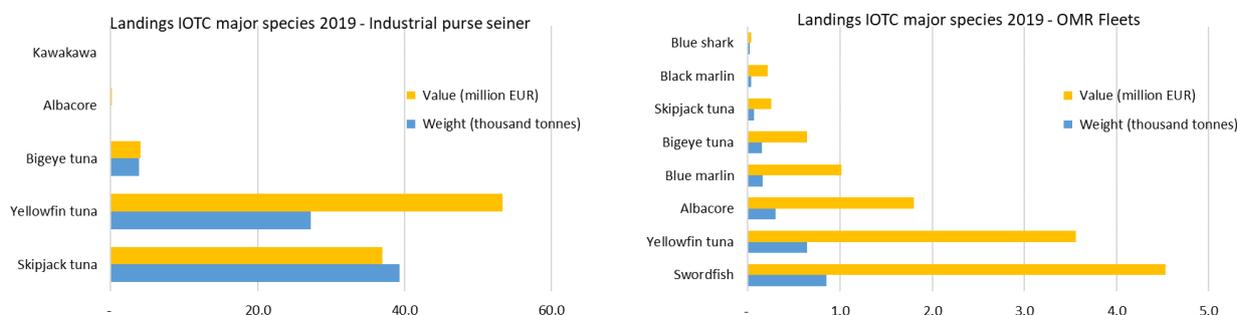
### FRANCE

Overall, eight French fleets were active in the IOTC RA in 2019. Two French fleet segments with high dependency on IOTC major stocks are part of the LDF. All the other (four) segments with high dependency are OMR fleets below 18 metres LOA. An additional two OMR fleet segments showed low activity on IOTC stocks in 2019.



**Figure 3.258. Top species landed in value by the French IOTC fleets, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.259. Top species landed in value by the French industrial purse seiner (left) and OMR (right) fleets, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

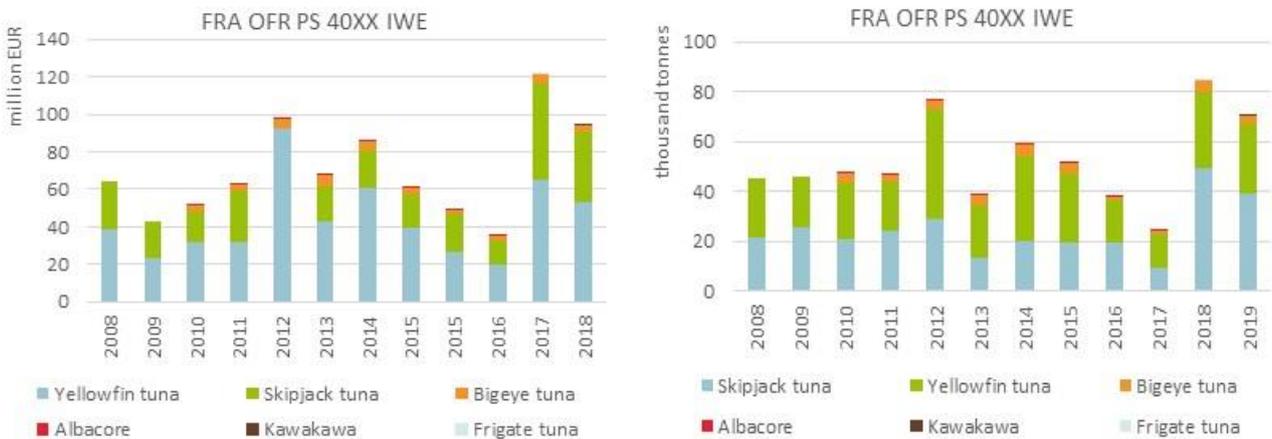
**Table 3.43 - Summary findings for the French fleet segments with activity in IOTC RA, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
FRA OFR PS 40XX IWE	62%	70,513	90.1	13	305	37.6	4.6
FRA OFR HOK1218 RE	98%	1,051	5.3	15	54	0.5	-1.5
FRA OFR HOK0010 RE *	56%	665	3.7	152	63	NA	NA
FRA OFR HOK1824 RE *	49%	356	1.7	3	18	-0.2	-0.4
FRA OFR HOK0010 YT *	22%	158	0.7	109	97	NA	NA
FRA OFR PGP0010 RE *	47%	31	0.2	12	6	NA	NA
FRA OFR DFN0010 YT *	1%	1	0.0	10	20	NA	NA
<b>FRA IOTC Fleet</b>		<b>72,775</b>	<b>101.7</b>	<b>314</b>	<b>564</b>	<b>37.9</b>	<b>2.7</b>
<b>FRA IOTC LDF</b>		<b>70,869</b>	<b>92</b>	<b>16</b>	<b>323</b>	<b>37.4</b>	<b>4.2</b>
Coverage LDF		97%	90%	5%	57%	99%	156%

### FRENCH INDUSTRIAL PURSE SEINERS

The entire fleet of French tropical purse seiners, composed of 22 vessels, concerns only three companies, which operate the vessels concerned. The fishing strategies deployed by these companies are distinguished in particular by the geographical zones practiced by the vessels: in the Atlantic (ICCAT zone) or in the Indian Ocean (IOTC zone). It is thus possible to find a company that owns vessels working in the two oceans. In addition, and given that economic data collection for those vessels is done at an aggregated level, it is more complicated to analyse the profitability observed between the two fishing zones practiced. In terms of catch composition, the main tuna species caught were yellowfin, skipjack and bigeye tuna. The segment was profitable, yet while landings increased in 2018 and 2019, after years of a decreasing trend, profit margins have not recovered, falling in 2019 compared to 2018.

The French industrial fleet of freezer tuna purse seiners operating in the Indian Ocean consisted of 13 vessels in 2019. In terms of catch composition, the main tuna species caught were yellowfin, skipjack and bigeye tuna. The segment was profitable, yet while landings increased in 2018 and 2019, after years of a decreasing trend, profit margins have not recovered, falling in 2019 compared to 2018.



**Figure 3.260. Trends on landings of the top species in value (left) and weight (right) by the French industrial purse seine segment targeting IOTC stocks.**

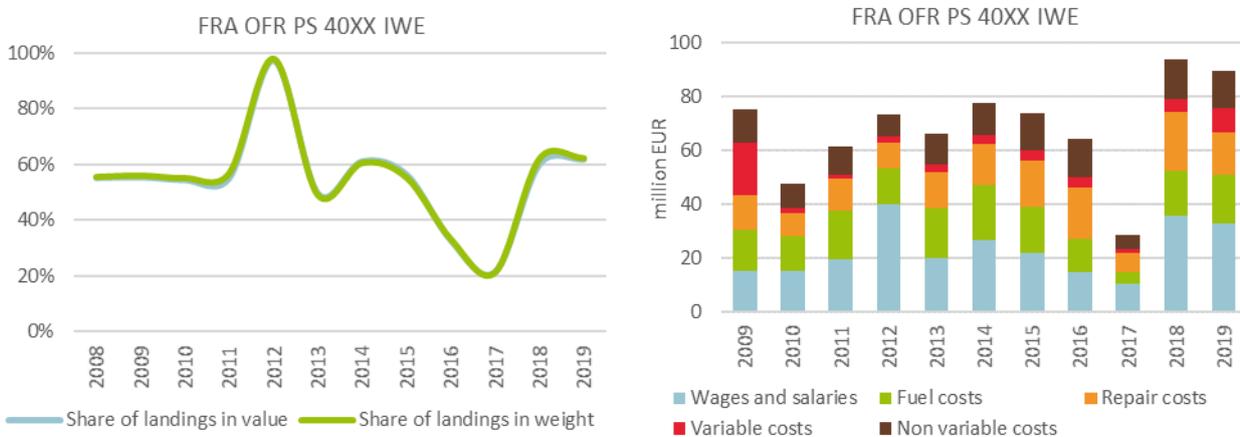
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).





**Figure 3.261. Trends on key indicators for the French industrial purse seine fleet with high dependency on IOTC stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

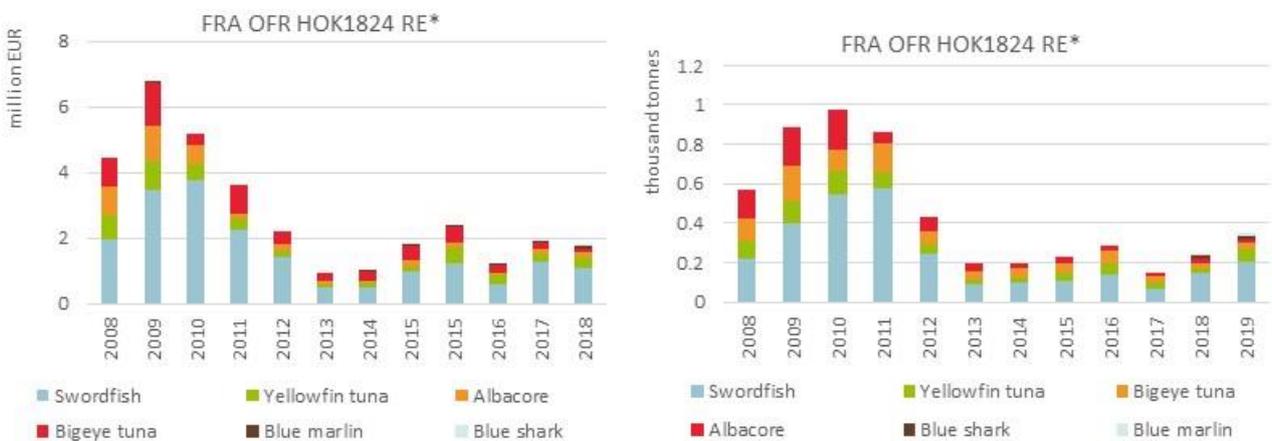


**Figure 3.262. Trends on the dependency (left) and cost structure (right) for the French purse seine OFR 40XXm segment in IOTC.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

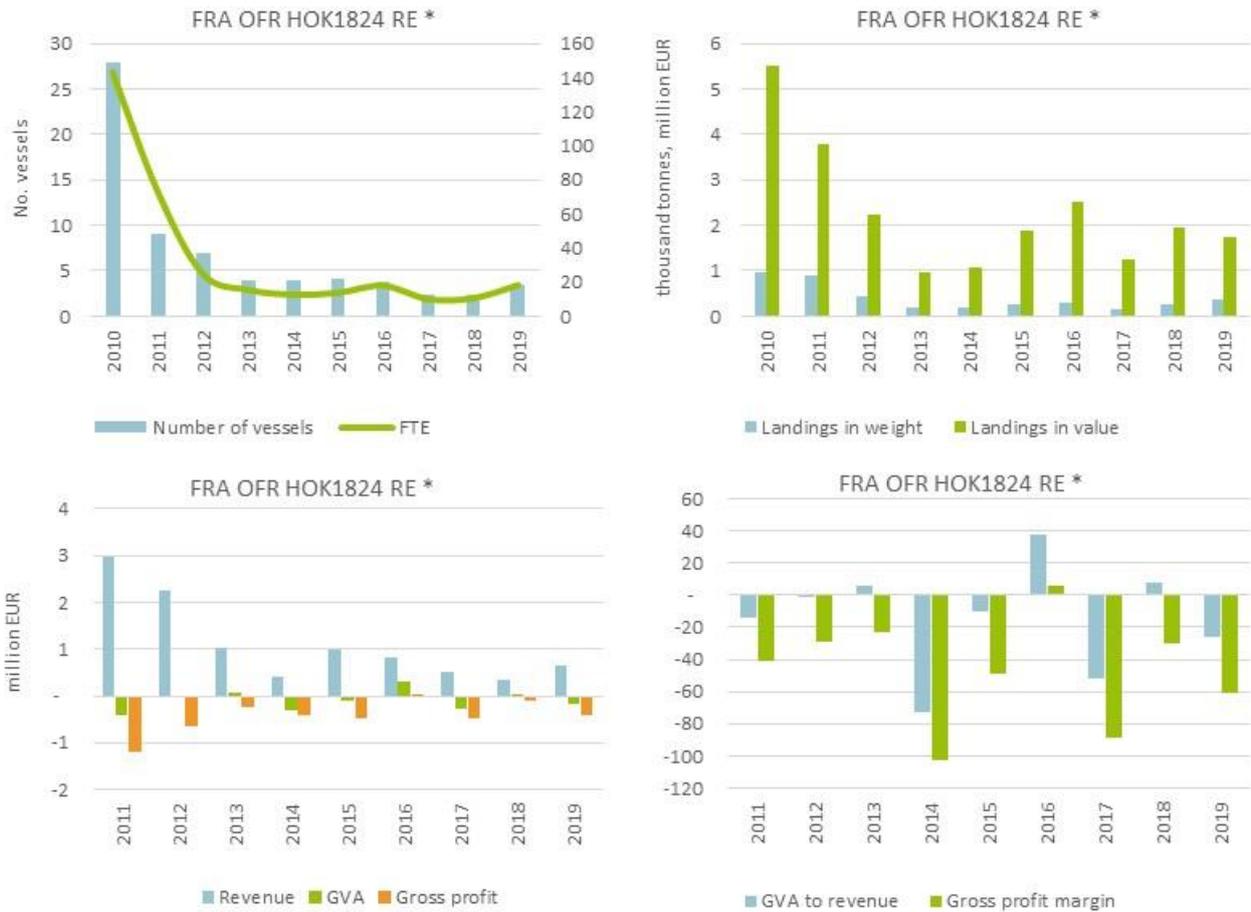
**FRENCH REUNION HOOK AND LINE AND LONGLINERS**

FRA OFR HOK1824RE were made of four vessels, including one longliner of 33 metres – OFR HOK 2440 IWE, which has been clustered here for confidentiality reasons.



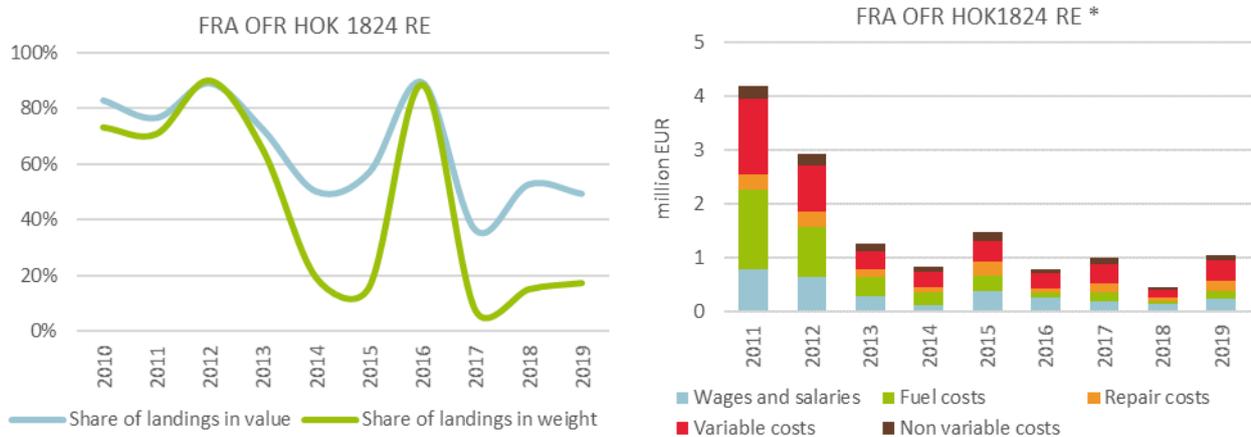
**Figure 3.263. Trends on landings of the top species in value (left) and weight (right) by the French Reunion large longliner segment targeting IOTC stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.264. Trends on key indicators for the French Reunion segment with high dependency on IOTC major stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

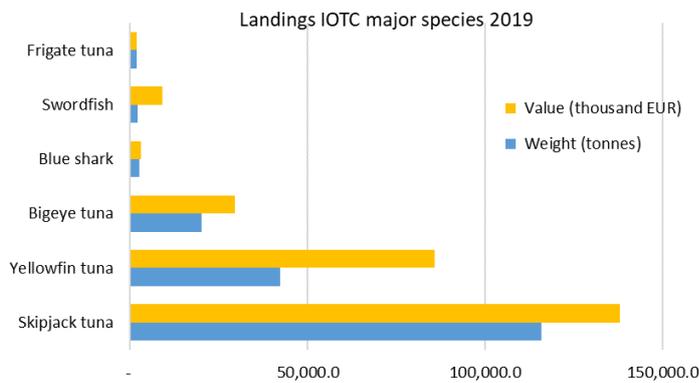


**Figure 3.265. Trends on the dependency (left) and cost structure (right) for the French purse seine OFR 40XXm segment in IOTC.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**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 longliners target swordfish and blue shark (Figure 3.266).



**Figure 3.266. Top species landed by the Spanish fleet operating in IOTC, 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

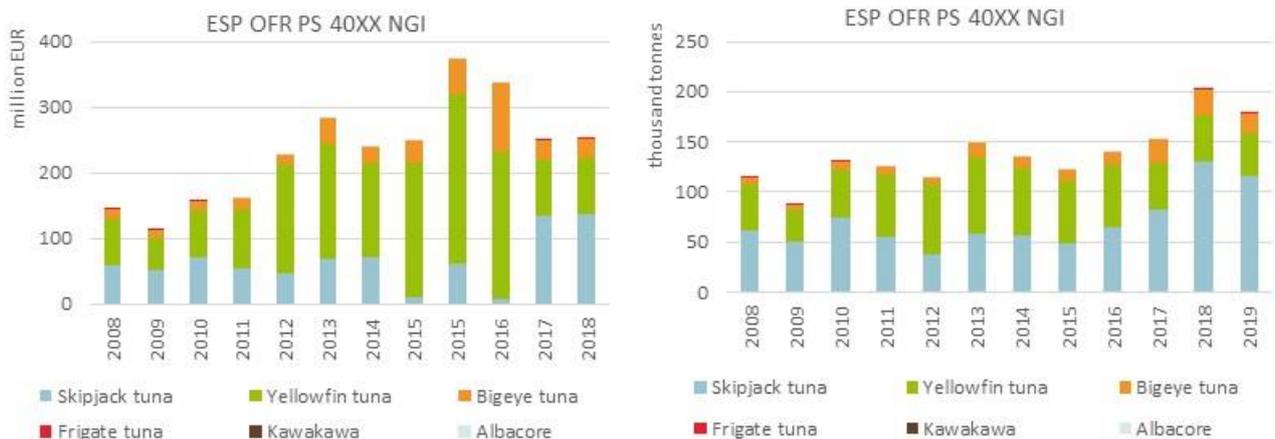
Table 3.44 shows fishing activity and preliminary economic performance statistics for the fleet segments with activity in IOTC RA in 2019. Only one fleet segment – the industrial purse seiner fleet showed high dependency on the RFMO.

**Table 3.44 - Summary findings for the Spanish fleet segments with activity in IOTC RA, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
ESP OFR PS 40XX NGI	69%	180,216	244.9	15	861	117.6	69.2
ESP OFR HOK2440 LLD*	14%	4,960	12.1	10	212	3.2	0.2
<b>ESP IOTC LDF</b>		<b>185,177</b>	<b>257</b>	<b>25</b>	<b>1,073</b>	<b>121</b>	<b>69</b>

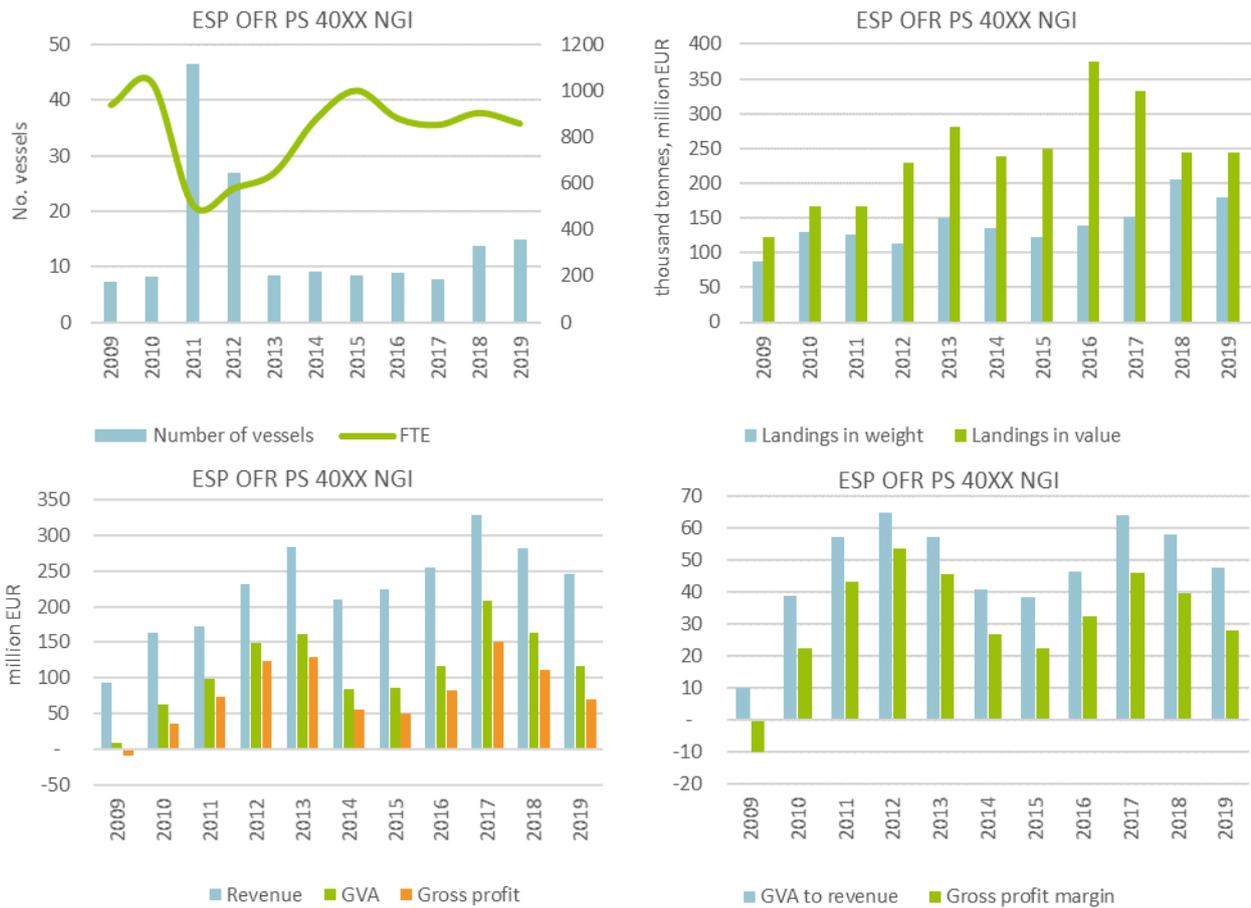
*SPANISH PURSE SEINER FLEET OVER 40M LOA*

The Spanish industrial purse seiner fleet is the most important EU fleet in the IOTC RA in terms of landings with over 180 000 tonnes in weight and EUR 245 million in value. It is composed of 15 vessels, employs 861 FTEs and its main target species consist of skipjack, yellowfin tuna and bigeye tuna. This fleet segment was profitable in 2019 with an estimated gross profit of EUR 69 million, but has seen some deterioration since 2017.



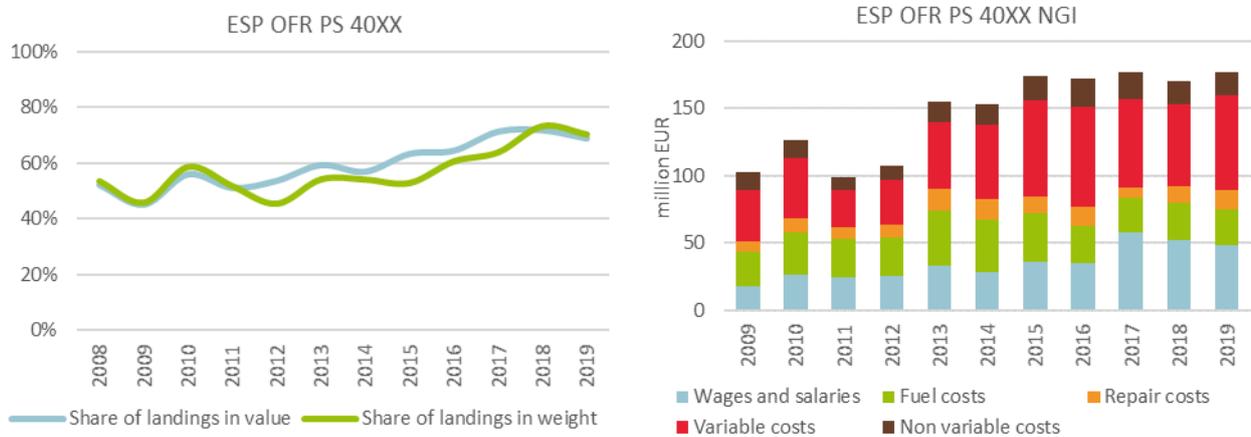
**Figure 3.267. Trends on landings of the top species in value (left) and weight (right) by the Spanish industrial purse seine segment targeting IOTC stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.268. Trends on key indicators for the Spanish (purse seine) fleet segment with high dependency on IOTC major stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

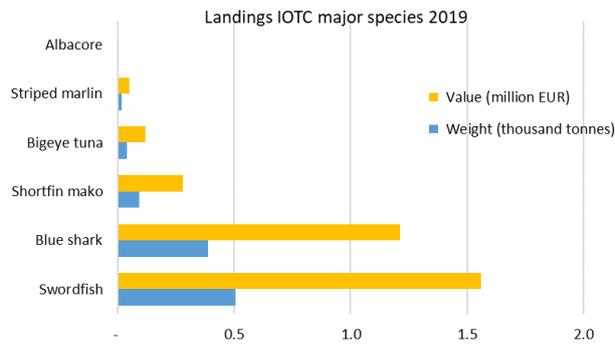


**Figure 3.269. Trends on the dependency (left) and cost structure (right) for the Spanish purse seine OFR 40XXm segment in IOTC.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**PORTUGAL**

There were two Portuguese LDF fleet segments active in the IOTC RA, only one segment showed high dependency on IOTC major stocks in 2019 (Table 3.45). These longline vessels mainly target swordfish and blue shark (Figure 3.270).



**Figure 3.270. Top species landed in value by the Portuguese IOTC fleet, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

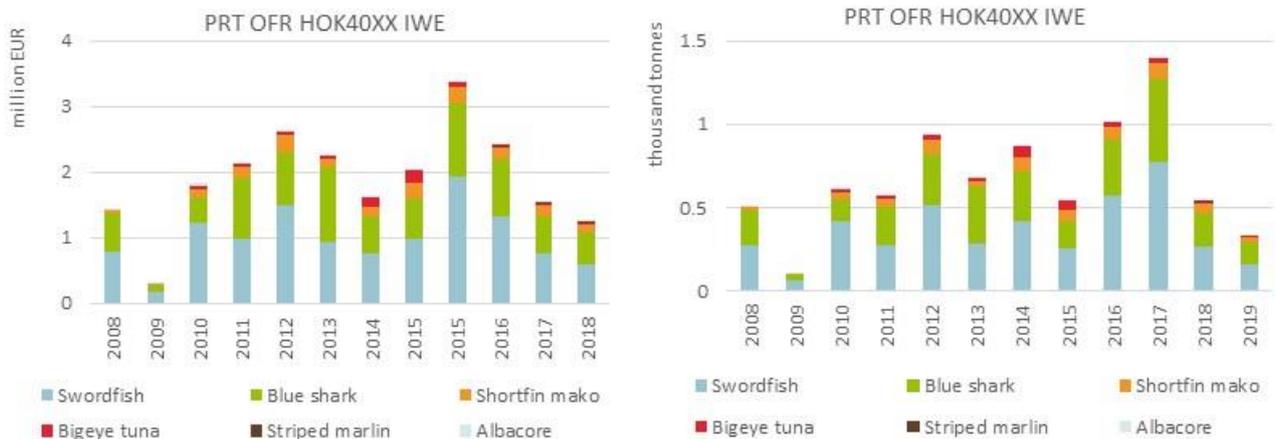
**Table 3.45 - Summary findings for the Portuguese fleet segments with activity in IOTC RA, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
PRT OFR HOK2440 IWE*	12%	710	1.9	2	33	0.3	-0.1
PRT OFR HOK40XX IWE*	23%	336	1.2	1	22	0.2	-0.2
<b>PRT IOTC LDF</b>		<b>1,046</b>	<b>3.1</b>	<b>3</b>	<b>56</b>	<b>0.5</b>	<b>-0.3</b>

### PORTUGUESE INDUSTRIAL LONGLINE FLEET

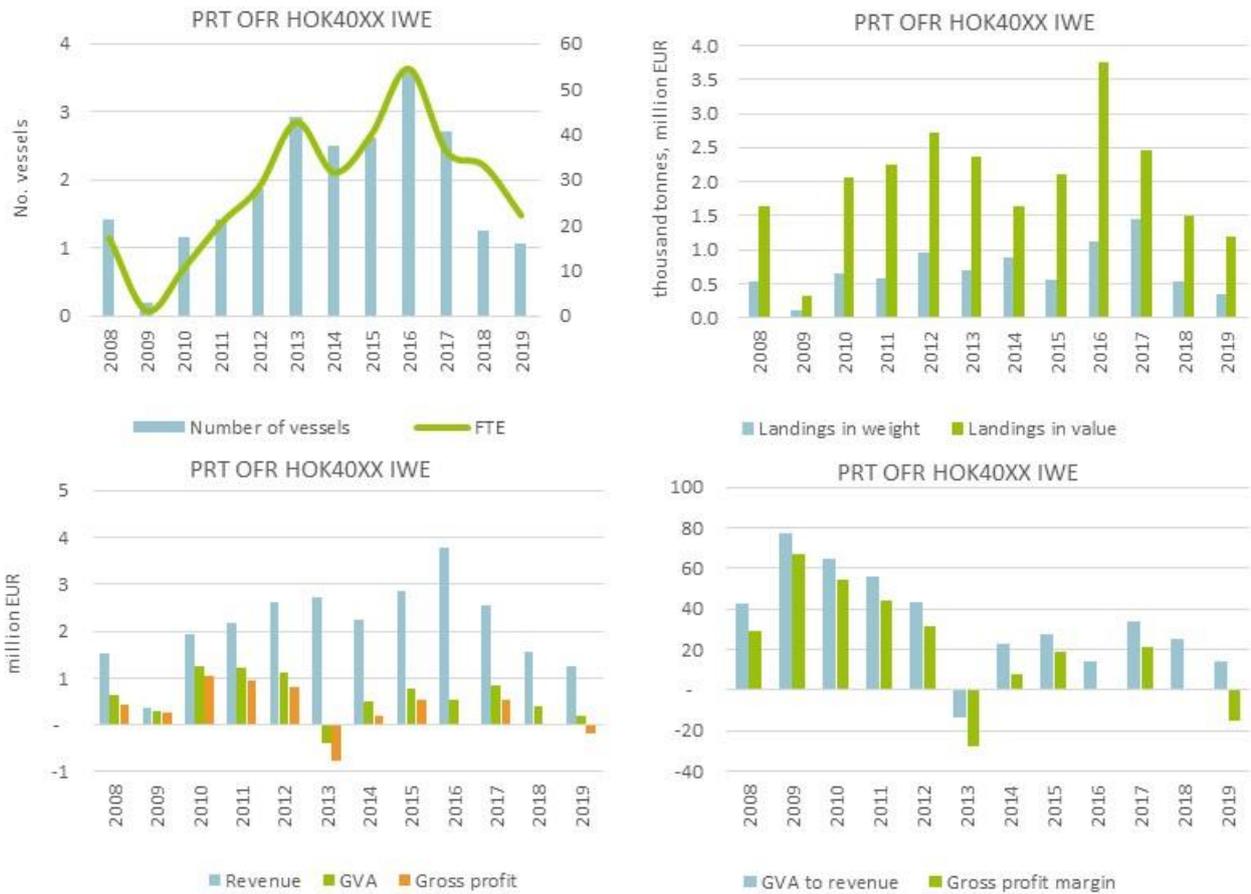
There were three vessels belonging to the mainland longliners between 24-40 metres and above 40 metres LOA fishing exclusively in international waters: PRT OFR HOK VL2440 IWE (13 vessels at the fleet segment level) and PRT OFR HOK VL40XX IWE (six vessels at the fleet segment level). The activity of the three vessels is confined to the IOTC area. The other vessels in these two fleet segments operate in the Atlantic and Pacific oceans. Only the larger segment showed high dependency on IOTC stocks in 2019.

Landing and profitability of this segment linked to IOTC activity has continued to decrease since 2016, suffering gross losses in 2019.



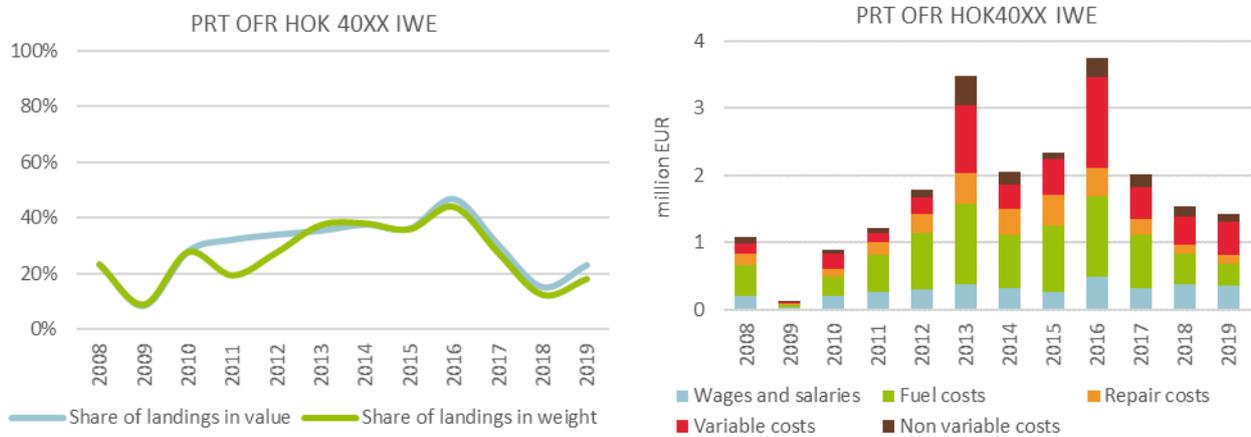
**Figure 3.271. Trends on landings of the top species in value (left) and weight (right) by the Portuguese longline segment targeting IOTC stocks**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.272. Trends on key indicators for the Portuguese longline segment with high dependency on IOTC major stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

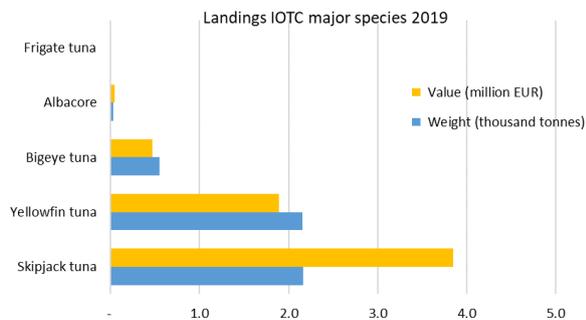


**Figure 3.273. Trends on the dependency (left) and cost structure (right) for the Portuguese HOK OFR 40XXm segment in IOTC.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**ITALY**

Only one Italian vessel was active in the IOTC RA in 2019. This Italian purse seine vessel over 40 metres targets tropical tuna stocks (skipjack, yellowfin tuna and bigeye tuna) exclusively in the IOTC area. Due to confidentiality issues, economic data is unavailable for this fleet (Table 3.46).

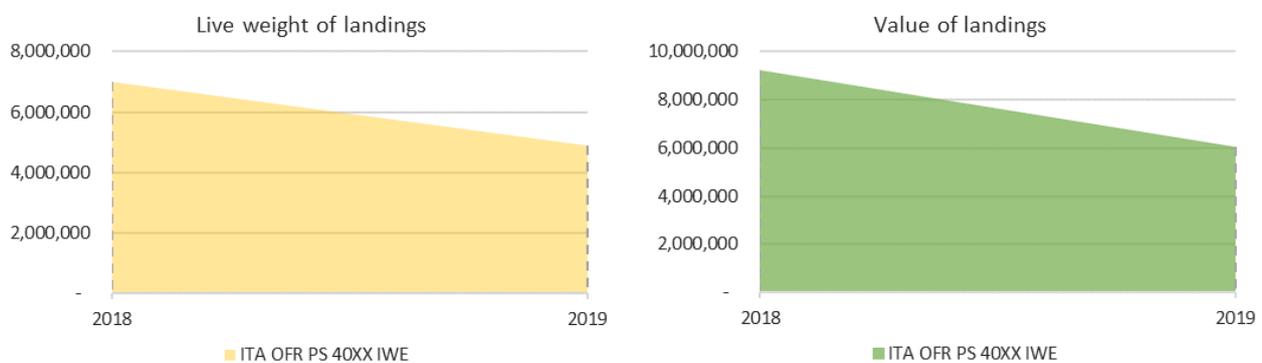


**Figure 3.274. Top species landed in value by the Italian vessel active in IOTC, 2019**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.46 - Summary findings for the Italian fleet segment with activity in IOTC RA, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
ITA OFR PS 40XX IWE	100%	4,902	6.1	1			



**Figure 3.275. Trends on some key indicators for the Italian purse seine segment with high dependency on IOTC major stocks.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### Drivers and limiting factors affecting the performance of the EU fleet

- Skipjack and yellowfin tuna are the two main species fished in this area, both in terms of volume (over 85% of total) and value (84%) of the total landings. It has been noted a considerable increase in 2018 and 2019, in particular of catches of skipjack, representing near 60% of the total in both years .
- The Spanish and French purse seiners above 40 metres LOA show a high degree of dependency in this area. The Spanish purse seine fleet are around 70% (slightly above in 2018 and 69% in 2019) in value while the French purse seiners are above 60%. This confirms that the Indian Ocean is the main fishing ground for both fleet segments followed by ICCAT, where they have over 20% of their value of landings. There is also one Italian purse seiner above 40 meters showing a 100% dependency.
- The stability of fuel costs and market first sale prices have contributed to sustain an overall gross profit and positive economic performance of the EU fleet targeting the tropical tuna species, mainly purse seiners. However, a contraction in their growth and benefits is shown which could be partly explained due to a higher ratio of catches for skipjack (of lower value) vis à vis large yellowfin in the catch composition. The reductions in catch of large yellowfin tuna in the Indian Ocean are the consequence of a sharp reduction of 15% in average in comparison to 2014 levels as a result of a regulatory decision adopted to tackle poor status of the stock in the area.

- 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, following lower quota than the one adopted by IOTC. The implementation of the catch limits by each Member State imposed more stringent management to reduce in average 17% of the catch average from the period 2014-2016. If we consider the EU catch by the reference year (2014), the effective reduction by EU flag state 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 has 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 is now caught in higher quantities than in the past while having a lower market value in overall terms.
- The reduced purse seiner activity is having serious socio-economic consequences not only for the European fleet, but also for the economies and livelihoods of some coastal countries in the Indian Ocean where these companies have investments and work with supply chains. Some of the detrimental effects are reduced access fees, lack of raw material at canning factories, and economic loss due to a drop of services and economic activity in several coastal countries.
- In terms of economic performance, it must be noted that some Spanish and French operators are the beneficial owners of purse seine vessels flagged and registered in third countries such as Seychelles which are coastal states of IOTC and have their own quota. Although this fleet is not part of the analysis under the EU-MAP, this might have an implication in terms of calculation of cost structure and economic returns for some of those companies which act as holding due to integration of their economic activities as European investments in third countries with likely financial transfers to the parent company.

### **Regulatory framework, data issues and outlook for 2021 and beyond**

- In recent years, the IOTC adopted management measures including catch and effort limits for purse seine and other fisheries. For tropical tunas, the measures adopted include Harvest Control Rules for skipjack, catch limits for yellowfin tuna (Resolution 19/01), and measures to limit fishing effort for purse seine fisheries as a whole; as well as procedures on a fish aggregating devices (FADs) management plan, including a limitation on the number of FADs, more detailed specifications of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species. It also includes a resolution for the conservation of albacore caught in the IOTC area of competence; observer schemes and regional programme for monitoring transshipments at sea.
- The 25th Session of the Indian Ocean Tuna Commission (IOTC Annual Meeting), held on 7-11 June 2021, adopted an updated resolution on an interim rebuilding plan for the Indian Ocean yellowfin tuna stock (which has been overfished and subject to overfishing since 2015). The new measure will come into effect on 1 January 2022. If fully implemented, the adopted measure projects a resultant yellowfin tuna catch level of 401 000 tonnes, an amount that meets the recommendation of the IOTC Scientific Committee.
- The EU accepted a further reduction of 6% in catches of yellowfin tuna, summing up to a total reduction of 21% compared to 2014 catch levels (around 92 000 t). As such, the EU is the main contributor to the catch reduction scheme. For the EU fleet (mainly Spanish and French purse seiners), the cut in the TAC is estimated to be around 4 500 tonnes for 2022 for the Spanish and French tuna purse seiners (from 77 694 tonnes in 2021 to 73 146 tonnes in 2022). This reduction in quota will be coupled with the reduction of supply ancillary vessels from 3 to 1 for each 10. These measures combined will have a likely effect of effort displacement towards EEZs of countries where the EU has tuna agreements in place

(Seychelles, Ivory Coast, Gabon...) or fishing in international waters. Longer fishing trips might also reflect into lower energy efficiency, higher fuel consumption and costs.

- However, it is still uncertain if this reduction in YFT catch will be achieved, given the intent expressed by five IOTC member nations (namely, Oman, Iran, India, Madagascar and Indonesia) to object to the measure. These five countries represent near 40% of the total catch of yellowfin and a TAC has not been agreed for this stock for them. In the case that all IOTC parties do not fully implement the yellowfin measure, the catch levels recommended by the IOTC Scientific Committee are likely to be exceeded.
- Failure in recovering this stock could have a direct economic impact in EU and other fleets as many retailers and supermarkets in developed countries (following mandate from organisations such as ISSF or GTA) have agreed to reduce their annual sourcing of Indian Ocean yellowfin tuna in the event that IOTC does not take appropriate action.
- The EU proposal to bring back the catches of skipjack within the agreed Total Allowable Catch (TAC) was not adopted due to opposition of other IOTC parties. However, a proposal submitted by Maldives on skipjack tuna management without allocation keys was adopted. This is not envisaged to produce any short- or medium-term effect in the catch levels for this species.
- The IOTC agreed to the mandatory use of non-entangling FADs from 1 January 2020 and use of biodegradable FADs from 1 January 2022. In addition, the Commission further reduced the limit on active FADs to 300 for 2020 (down from 500 in 2015 and 350 in 2017) and the number acquired annually per purse seiner to 500 (down from 700). The non-entangling FADs should not have a great economic impact in the fishing activity of French and Spanish purse seiners as they have them already installed and internalized in their operating costs. However, the limitation of FADs per vessels could bring a considerable reduction of catch landings in weight and increase the number of days at sea.
- At the IOTC Annual Meeting in 2021, there was a proposal aiming to further regulate the management of drifting fish aggregating devices (dFADs) which was rejected by a narrow margin. At the present moment, it is under review from FAO to decide on the outcome of the vote, according to their interpretation of the inclusion of notifications of abstention within the total vote counting. If adopted, it will set an obligation to reduce the number of FADs from 300 to 150 per vessel. This could have short term economic losses in terms of not using those supply vessels and also reducing the catchability of their operations.
- The main issue in the IOTC relates to lack of comprehensive and quality scientific data. The result is patchy and incomplete data which is used to underpin the scientific assessments. It is therefore crucial that the IOTC increases activities to assist developing states in improving data collection and reporting, and verification of their capacity to monitor compliance with quotas in near-real time.
- Increase in observer coverage (EMS included) would be needed as up to now only EU purse seiners have a 100% observer coverage, whereas non-EU longliners do not reach levels below 10%. An increase in observer coverage, with a minimum of 20% of the activity covered in all industrial vessels, could help to have a more accurate picture of by-catches (e.g., dolphin fish, wahoo, barracuda, etc.) and discards by gears, to understand interactions with tuna purse seiners and long liners.
- Divergencies have been noted between different sources, e.g., submission of catch data by EU Member States and CPCs to IOTC and via official statistics from EUROSTAT and EU-MAP. This could bring discrepancies on the data collected by the EU-MAP while cross-checked with IOTC to perform analysis.
- Estimate of total catch, including target species and non-target species (by-catch and discards) has to be improved. Currently there is a non-existing level of reporting of by-catch data by most CPCs, with only EU purse seiners and long liners collecting this sort of information. This ends up in a rough estimation of nominal discards. There is a need to fill this gap to improve knowledge in particular of sensitive species such as turtles or silky sharks.

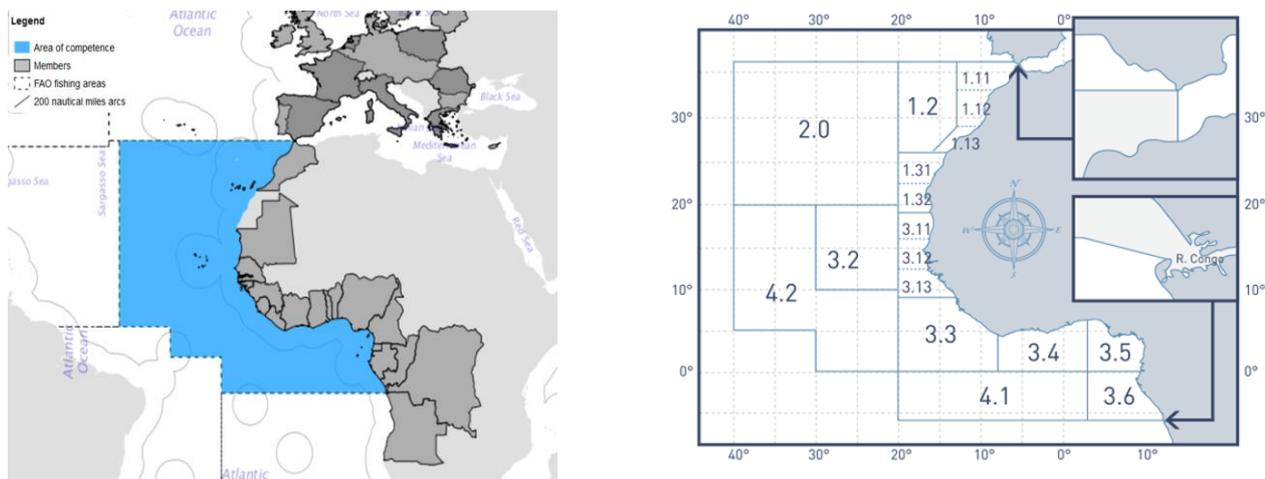
- More information would be desirable in the way fishing effort is accounted for and reported for all gears in the IOTC area. Some CPCs such as Korea, Japan and Mauritius have made already a specific request on this in Annual Meetings.

## CECAF - Fishery Committee for the Eastern Central Atlantic

### Background

CECAF is an advisory body and hence has no mandate on fisheries management in its area of competence (Figure 3.276). The Committee covers all living marine resources within its area of competence.

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 Príncipe, 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 3.276. 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, focus is given to the fleets targeting small pelagic and demersal fisheries in the CECAF AC by excluding the ICCAT major species. Vessels over 18 metres are selected to exclude activity of OMR local fleets in national waters (area overlaps, Canaries, Madeira and Azores). The two criteria mean a change with respect to AER2020 which is detailed in the Table 3.47.

According to the criteria, 23 fleet segments are identified with a dependency >20% on CECAF activity for 2019. The estimated number of vessels amount to 768 with 3 819 FTE. Landings (all species) amounted to 224 798 tonnes valued at EUR 334 million in 2019. However, these includes all the tropical tuna and big pelagics caught within CECAF that are within the remit of ICCAT.

When excluding landings of ICCAT main species, 13 fleet segments were identified with high dependency on CECAF activity (i.e., demersal and small pelagics). These fleets covered 81% of the estimated number of vessels of the CECAF EU fleet, 45% of the landings weight and 43% of the landings value (Table 3.47).

**Table 3.47 - Summary results for the 13 fleets operating in the CECAF area with high dependency on non-ICCAT species – including both small scale and long-distance fisheries (EU-MAP)**

Fleet segments	Depende ncy	Number of vessels	FTE	Landings in weight	Landings in value	Revenue	GVA	Gross profit
ESP OFR DTS2440 NGI	77%	27	1,000	19,396,415	57,835,092	46,801,140	13,737,186	2,830,573
LTU OFR TM 40XX NEU*	70%	4	165	71,368,177	52,873,347	54,930,551	24,297,648	19,933,500
ESP OFR HOK2440 NGI*	40%	15	346	3,178,125	10,300,971	15,481,862	2,181,542	-6,358,599
ESP NAO PMP0010 IC *	73%	450	367	1,403,622	7,766,548	7,405,740	4,637,628	-557,295
PRT NAO HOK1218 P2	88%	16	148	1,832,607	5,934,973	6,274,938	4,953,245	1,856,918
ITA OFR DTS40XX IWE	100%	7	84	1,145,696	5,309,014	5,649,455	2,248,768	931,216
ESP NAO PS 1218 IC *	93%	13	77	1,600,728	1,555,230	2,741,532	1,785,132	553,098
PRT NAO HOK0010 P2 *	61%	53	72	298,773	1,272,412	1,342,913	786,274	381,129
PRT NAO HOK1824 P2	56%	3	26	192,016	623,302	662,106	359,930	63,946
ESP NAO HOK1218 MA *	55%	10	15	84,586	511,237	707,484	383,744	32,071
ESP NAO FPO1012 IC *	90%	14	14	86,706	509,184	414,034	308,512	-153,695
PRT NAO MGP1824 P2 *	99%	3	33	443,791	476,361	499,805	270,201	17,869
PRT NAO MGP0010 P2	88%	7	7	68,526	332,453	352,910	280,558	96,233
<b>EU CECAF (no ICCAT) fleet</b>		<b>622</b>	<b>2,355</b>	<b>101,099,768</b>	<b>145,300,124</b>	<b>143,264,469</b>	<b>51,867,284</b>	<b>19,626,963</b>
Share of CECAF (all)		<b>81%</b>	<b>62%</b>	<b>45%</b>	<b>43%</b>	<b>42%</b>	<b>45%</b>	<b>75%</b>
<b>EU CECAF (no ICCAT) LDF</b>		<b>58</b>	<b>1,654</b>	<b>95,724,220</b>	<b>127,418,087</b>	<b>124,024,919</b>	<b>38,732,191</b>	<b>17,418,504</b>
Share of CECAF no ICCAT		<b>9%</b>	<b>70%</b>	<b>95%</b>	<b>88%</b>	<b>87%</b>	<b>75%</b>	<b>89%</b>

When compared with data reported by FAO for CECAF<sup>32</sup>, the overall coverage of the EU-MAP CECAF data (all species and fleet segments >18 metres) amounted to 93% (when excluding Greece and Latvia from the FAO data). The EU-MAP data coverage for Germany, Italy, Lithuania, Poland (in 2017) and Spain is high (>90%) or matches precisely with the FAO reported data in 2017 and 2018. Coverage for France is high (87%) in 2018 but appears over reported in 2017 (+177%). For the Netherlands, coverage is low (25%) in 2017 but relatively high in 2018 (87%). For Portugal coverage is low in 2017 (66%) and 2018 (53%) (Table 3.48).

EU-MAP data are unavailable for Latvia. Activity for Greece and Ireland in the area is low, with limited or no data available. France mainly or exclusively targets tuna and tuna-like species in the area in 2018 and 2019 (shown by the absence of CECAF no ICCAT data). Germany, Italy, Lithuania and the Netherlands do not target ICCAT major species in the area, i.e., activity of these fleets are directed towards small pelagics and demersal stocks.

Due to EU-MAP data limitations, it is still not possible to assess fleet activity by SFPAs individually, nor undertake an economic performance analysis of these fleets. Lack of more detailed spatial data makes determining the dependency of these fleets on activity in the CECAF regulatory area challenging, e.g., some activity may take place in the Canaries and Madeira (as well as a small part of the Azores) EEZs, which are located in FAO 34. Currently, the analysis identifies the main EU fleet segments with activity in the region targeting non-tuna and tuna-like species, providing a baseline for future developments.

Due to time constraints, the EWG 21-08 was unable to produce an in-depth assessment of these fleets. However, it does provide a summary overview of fleet activities occurring in the area and a brief outline of its economic performance (when possible).

The EWG 21-08 reiterates the statement made by EWG 20-06 that an in-depth assessment of the economic performance of the EU fleets operating in CECAF could help to better understand the importance of this area as a fishing ground for several small pelagic and demersal stocks. It also notes that, while it will be difficult to overcome the current limitations in the short term,

<sup>32</sup> www.fao.org/figis

disaggregated data can be made available beforehand for experts to assess and produce a more comprehensive analysis for the area 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 waters.

**Table 3.48 – Comparison between landings (tonnes) data reported by FAO and EU-MAP (CECAF all species and excluding ICCAT species) for 2017-2019**

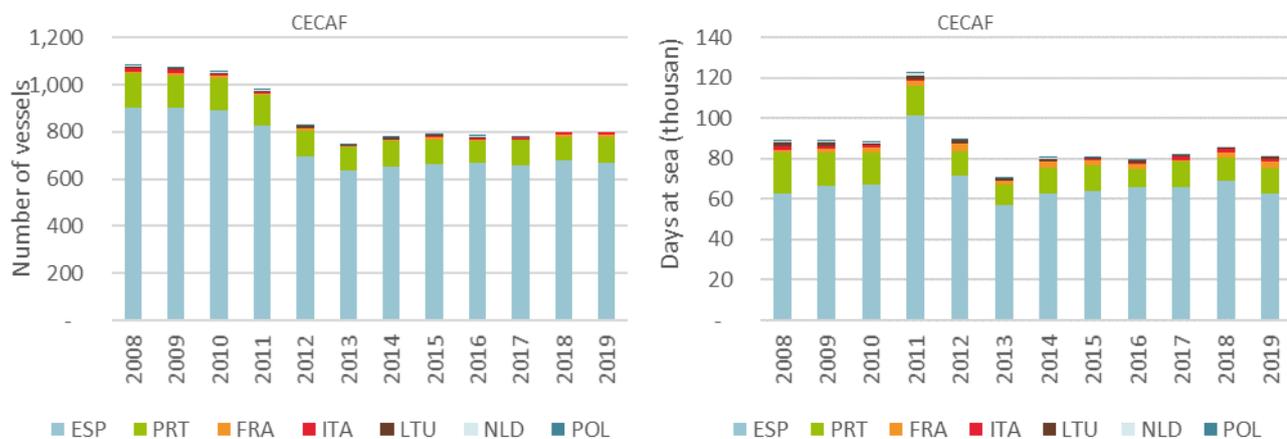
MS	2017					2018					2019		
	FAO	EU-MAP CECAF all	% EU- MAP over FAO	EU-MAP CECAF no ICCAT	% EU-MAP over FAO	FAO	EU-MAP CECAF all	% EU- MAP over FAO	EU-MAP CECAF no ICCAT	% EU- MAP over FAO	EU-MAP CECAF all	EU-MAP CECAF no ICCAT	% CECAF no ICCAT over CECAF all
France	48,064	85,197	177%		0%	52,360	45,619	87%	-	0%	42,573	-	0%
Germany	24,956	24,819	99%	24,608	99%	23,583	23,391	99%	23,362	99%	16,360	16,358	100%
Greece	702		0%		0%	44		0%		0%			
Ireland	7		0%		0%	-							
Italy	1,382	1,383	100%	1,383	100%	1,152	1,151	100%	1,151	100%	1,129	1,129	100%
Latvia	48,730		0%		0%	62,319		0%		0%			
Lithuania	43,152	43,153	100%	43,069	100%	31,414	28,576	91%	27,890	89%	71,829	71,368	99%
Netherlands	35,578	9,003	25%	8,919	25%	17,121	14,907	87%	14,636	85%	8,043	8,014	100%
Poland	12,486	12,487	100%	12,470	100%	-	-		-		-	-	
Portugal	11,145	10,001	90%	3,093	28%	10,518	8,892	85%	2,919	28%	10,354	2,977	29%
Spain	127,171	134,933	106%	44,029	35%	100,728	109,527	109%	30,322	30%	117,911	33,432	28%
EU fleet CECAF	353,373	320,975	91%	137,571	39%	299,239	232,062	78%	100,280	34%	257,269	127,666	50%

## Brief description of the EU fleet activity in CECAF

The EU fleet with some activity in CECAF in 2019 comprised an estimated 801 vessels and spent over 81 000 days at sea to land 251 959 tonnes with a value of EUR 368.8 million. The number of vessels with activity in the region has decreased steadily since 2008 to then stabilise at around 800 vessels from 2014 onwards. The number of days at sea, apart from a sharp increase in 2011 (owing to the Spanish fleet), has also stabilised at around 80 000 days since 2014 (Figure 3.277).

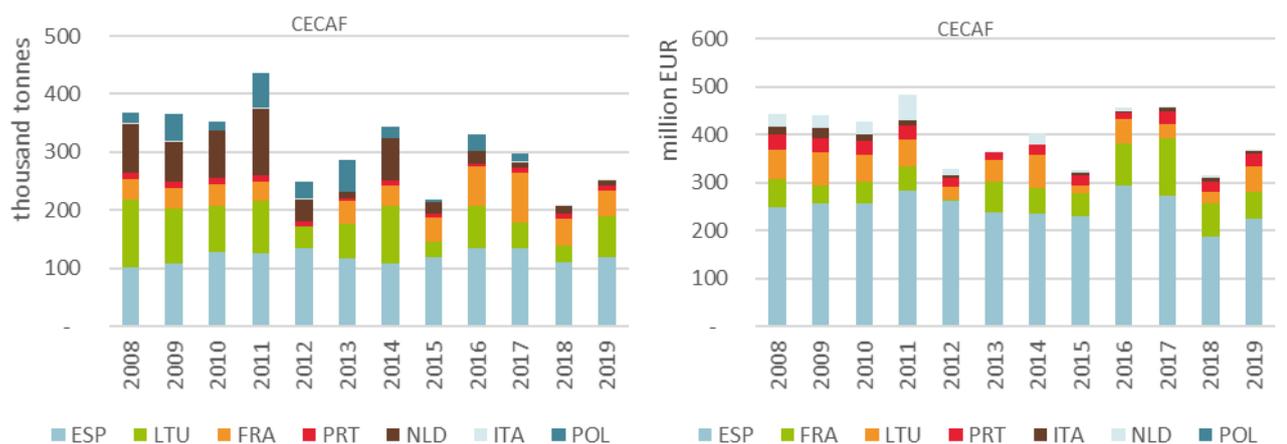
The Spanish fleet dominates the fishery, comprising 83% of the vessels, 78% of the days at sea, 47% of the landings in weight (118 000 tonnes) and 61% of the landings in value (EUR 224.5 million) in 2019. The Portuguese fleet with 14% of the vessels, covered 16% of the effort but only 4% of the landings in weight (10 354 tonnes) and 7% of the value (EUR 26.7 million) (Figure 3.278). A large part of this activity is from fleets based in the Spanish and Portuguese Outermost Regions of the Canaries and Madeira (and to a lesser extent the Azores), the EEZs of which are located in FAO area 34 (i.e., CECAF CA).

The Lithuanian fleet is also a major player in the region with 29% of the landings in weight (71 829 tonnes, mainly of small pelagic species) and 15% of the value (EUR 53.2 million), followed by the French fleet with 17% of the landings (42 573 tonnes, of ICCAT stocks) and 15% of the value (EUR 55.6 million) (Figure 3.278, Figure 3.280).



**Figure 3.277. Trend on capacity (no. vessels) and effort (days at sea) for the EU fleet active in the CECAF Area of Competence**

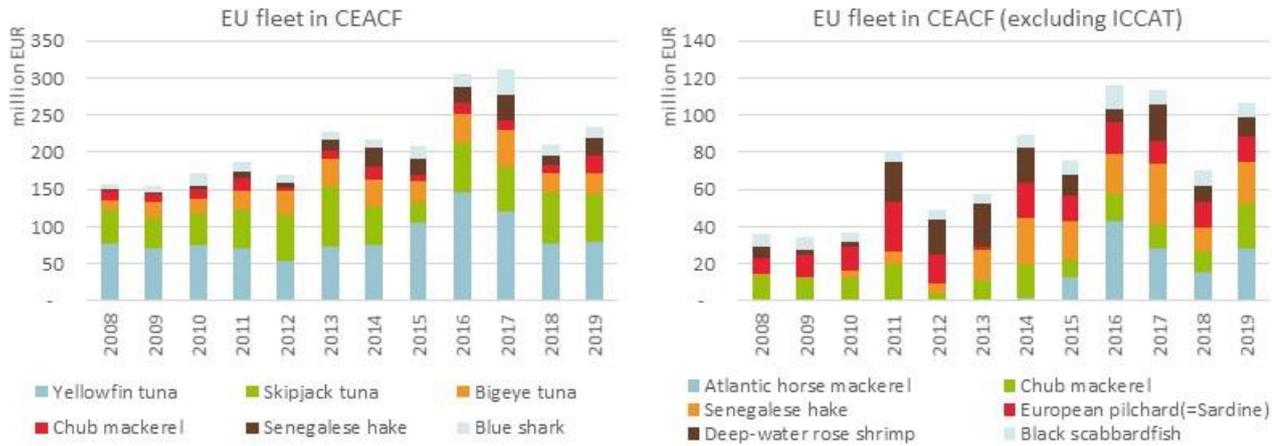
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.278. Trend on landings in value and weight by EU fleet activity in the CECAF Area of Competence.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

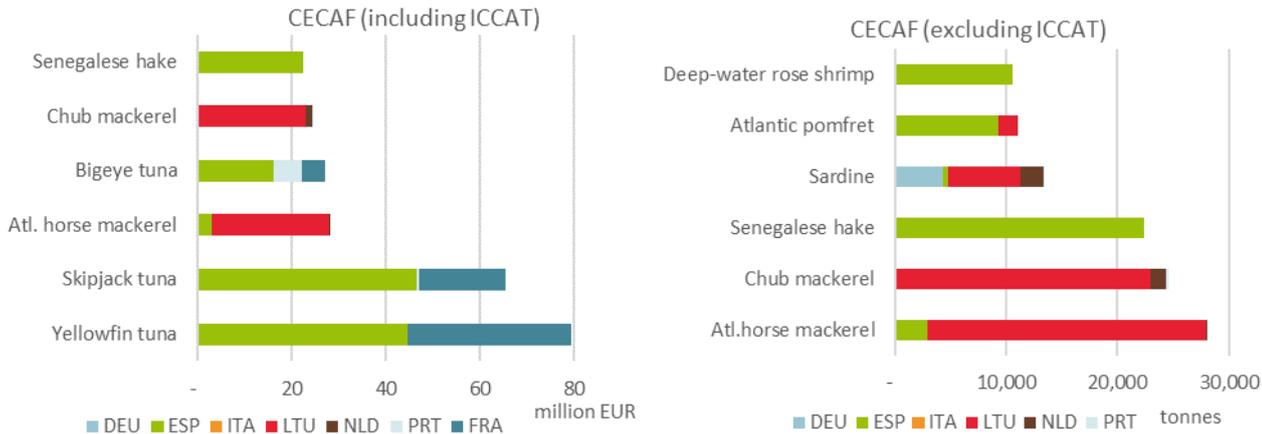
Historically, the main species landed in value are the tropical tunas (yellowfin, skipjack and bigeye tuna), chub mackerel and Senegalese hake. When excluding the ICCAT major stocks, the top species landed in value are Atlantic horse mackerel, chub mackerel, Senegalese hake and sardine (Figure 3.279).



**Figure 3.279. Trend on landings in value of the top species, including (left) and excluding (right) ICCAT stocks, by the EU fleet operating in the CECAF Area of Competence**

Most of the tropical tuna are caught by Spain and France. The Spanish fleet also lands most of the Senegalese hake and Atlantic pomfret while the Lithuanian fleet mainly targets small pelagics (sardine, horse and chub mackerel) (Figure 3.280).

In sum, the French fleet exclusively targets ICCAT major stocks in CECAF while the Italian, Lithuanian and Dutch fleets almost exclusively target demersal and/or small pelagics. For Spain, around 59% of the landings in value come from ICCAT stocks; while for Portugal ICCAT stocks represent around 66% of the landings in value.



**Figure 3.280. Trend on landings in value of the top species (including and excluding ICCAT species) by the EU fleet operating in the CECAF Area of Competence**

## Spanish longline fleet operating predominately in the Morocco Coastal fishing grounds

The Spanish longline fleet 12-18m (ESP NAO HOK 1218 MA) 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).

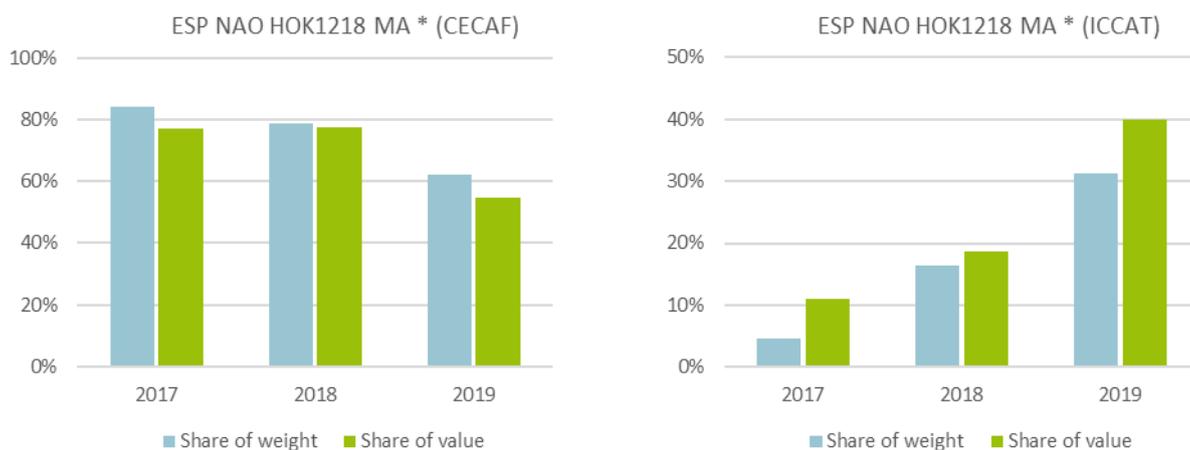
In 2019, this fleet comprised 16 vessels (50% more than 2018), the majority being vessels under 12 metres in length using hooks. As the number of vessels increased by 50%, employment (in FTE) and effort (days at sea) also increased but by only 22% and 27% compared to 2018, respectively. In the same way, fuel consumption underwent a less remarkable increase (+7% compared to 2018).

Landings (in weight) are dominated by Atlantic bluefin tuna (32%), Canary dentex (12%) and rubberlip grunt (9%). In terms of value, the most representative species are again Atlantic bluefin tuna (42%) and Canary dentex (13%), followed by blackspot(=red) seabream (13%) and red porgy (10%).

In terms of activity in CECAF, the fleet segment was more dependent on demersal/pelagic stocks than ICCAT stocks in 2019, obtaining 55% of its landing in value and 62% of the weight from the fishery. Dependency on CECAF for demersal and pelagic species, however, has decreased since 2017 while increasing for ICCAT stocks (Figure 3.282). In 2019, the fleet obtained 31% of its landings in weight and 31% of the value from ICCAT stocks, up from 4% and 11%, respectively in 2017 (Table 3.49). In 2019, the fleet landed only bluefin tuna from its ICCAT activity, mostly from CECAF.

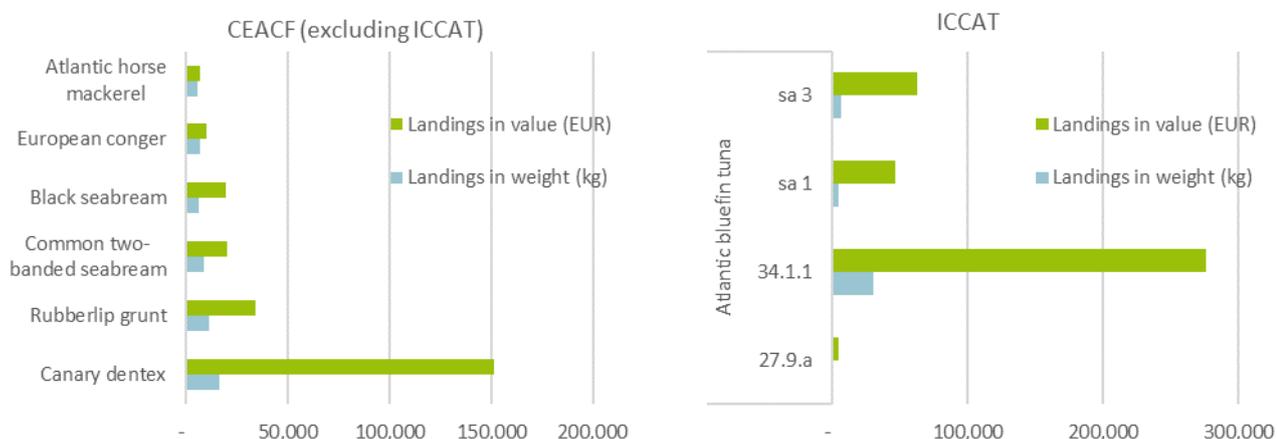
**Table 3.49 – Dependency of the Spanish Morocco Coastal fleet on CECAF fisheries, 2019**

Fleet segment	Fishery	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (EUR)	Vessels	FTE	GVA (EUR)	Gross profit (EUR)
ESP NAO HOK1218 MA *	CECAF non ICCAT	62%	55%	84.6	511,237	10	15	383,744	32,071
	ICCAT	31%	40%	42.4	373,955	6	9	311,394	54,156



**Figure 3.281. Trends on dependency of the Spanish Morocco Coastal fleet on CECAF demersal species (left) and CECAF ICCAT stocks (right).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.282. Top species landed by the Spanish longliner 12-18m segment operating in the Morocco Coastal.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

The 16 vessels employed 22 FTE and spent 705 days at sea to landed 136 tonnes with a value of EUR 935 339. The fleet segment obtained a revenue of EUR 1.2 million and was profitable in 2019, generating a GVA of EUR 747 038 and gross profit of EUR 129 920; an overall improved situation compared to 2018 when the fleet suffered EUR 108 276 in gross losses. In 2019, GVA was estimated at EUR 737 933 (68% more than 2018) while the GVA to revenue and gross profit margin reached 59% and 37% respectively.

From a fishery perspective, the number of vessels increased for both CECAF (demersal and pelagic fishery) and ICCAT (tuna fishery) but while FTE remained stable for the CECAF segment, it more than doubled for ICCAT. Both activities were profitable in 2019, yet overall activity related to ICCAT improved compared to 2018 while CECAF saw landings decrease with only a slight improvement in performance compared to 2018, in large part due to lower operating costs.

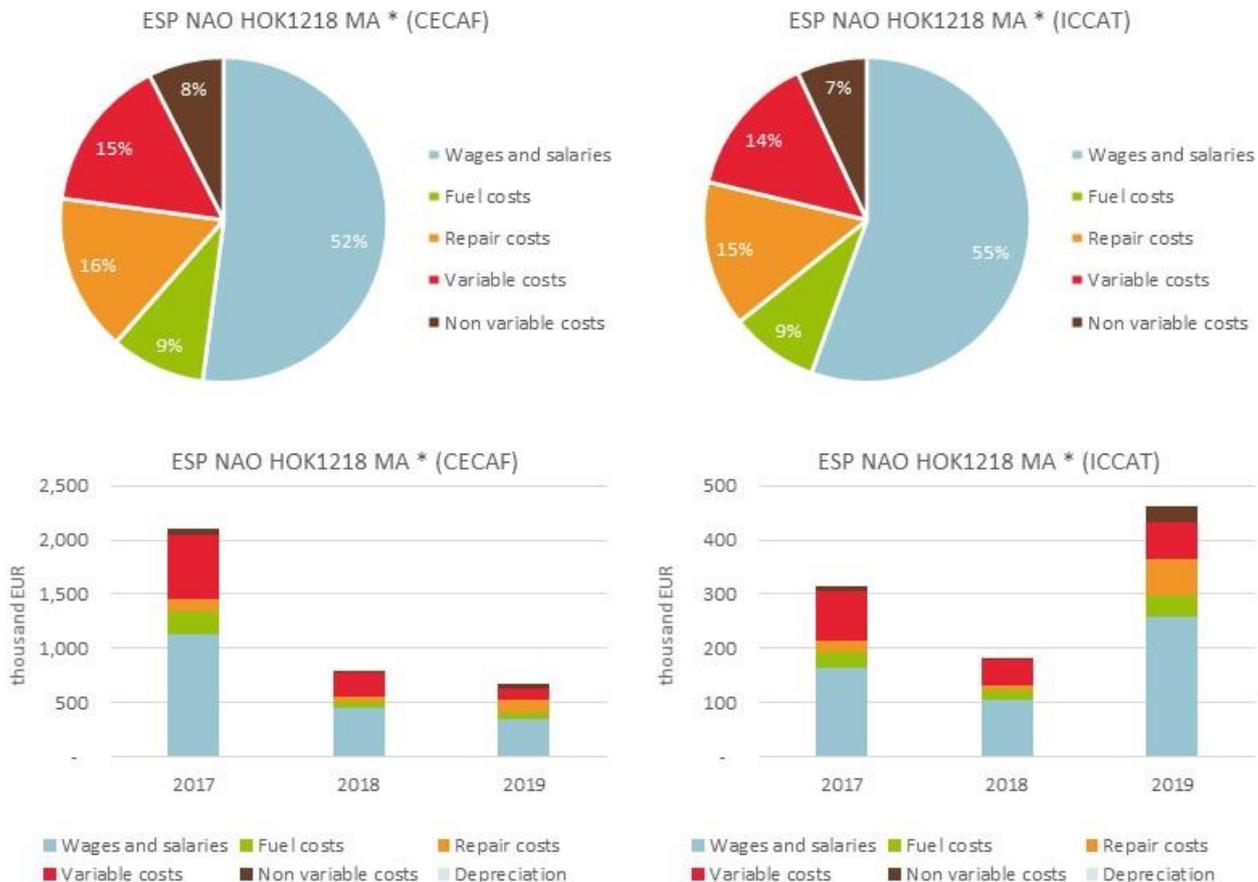
Both segments have similar cost structures, dominated by wages and salaries (52-55%), followed by repair costs (15-16%) and other variable costs (14-15%). Fuel costs are relatively low at 9% of operating costs. In line with the increase in the number of vessels and FTE, operating costs increased in 2019 for the fleet targeting ICCAT stocks (Figure 3.283).





**Figure 3.283. Trends on key indicators for the Spanish Morocco Coastal fleet operating in CECAF targeting non ICCAT and ICCAT stocks**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.284. Cost structure for the Spanish Morocco Coastal fleet, 2019**

Data source: MS data submissions under the 20210 Fleet Economic data call (MARE/A3/AC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



## Brief description of the EU CECAF LDF - targeting demersal and small pelagic species

The long-distance fleet, defined as vessels over 18 metres LOA with high dependency on CECAF (excluding ICCAT), included an estimated 58 vessels from four Member States<sup>33</sup> in 2019: Spain, Portugal, Italy and Lithuania. These vessels combined landed 95 724 tonnes in weight with a value of EUR 127 million, covering 95% of the landings in weight and 88% of the landings in value of the EU CECAF fleet targeting non-ICCAT species (see Table 3.50).

The highest number of vessels corresponded to Spain, with 72% of the total (42 vessels including demersal trawlers and longliners), followed by Italy (7), Portugal (6) and Lithuania (4 demersal trawlers).

In terms of fleet segmentation, there were six LDF segments targeting non-ICCAT main species in 2019, namely:

- Two Spanish (one demersal trawler and one longline between 24-40 metres each);
- Two Portuguese (one longliner and one polyvalent active gear 18-24 metres each);
- One Lithuanian pelagic trawler over 40 metres;
- One Italian demersal trawler over 40 metres.

Amongst these six fleet segments, there were five 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; and four fleet segments were within a range of 70% to 100% in weight. The most dependent fleets were the Italian demersal trawlers over 40 metres operating in international waters; and the Portuguese polyvalent active gear vessels between 18 and 24 metres based in Madeira reporting 100% and 99% of their value in landings, respectively. They were followed by the Spanish demersal trawlers 24-40 metres and the Lithuanian pelagic trawlers over 40 metres (70%) (Table 3.50).

**Table 3.50 – Structure of the EU CECAF LDF (excluding ICCAT) in 2019**

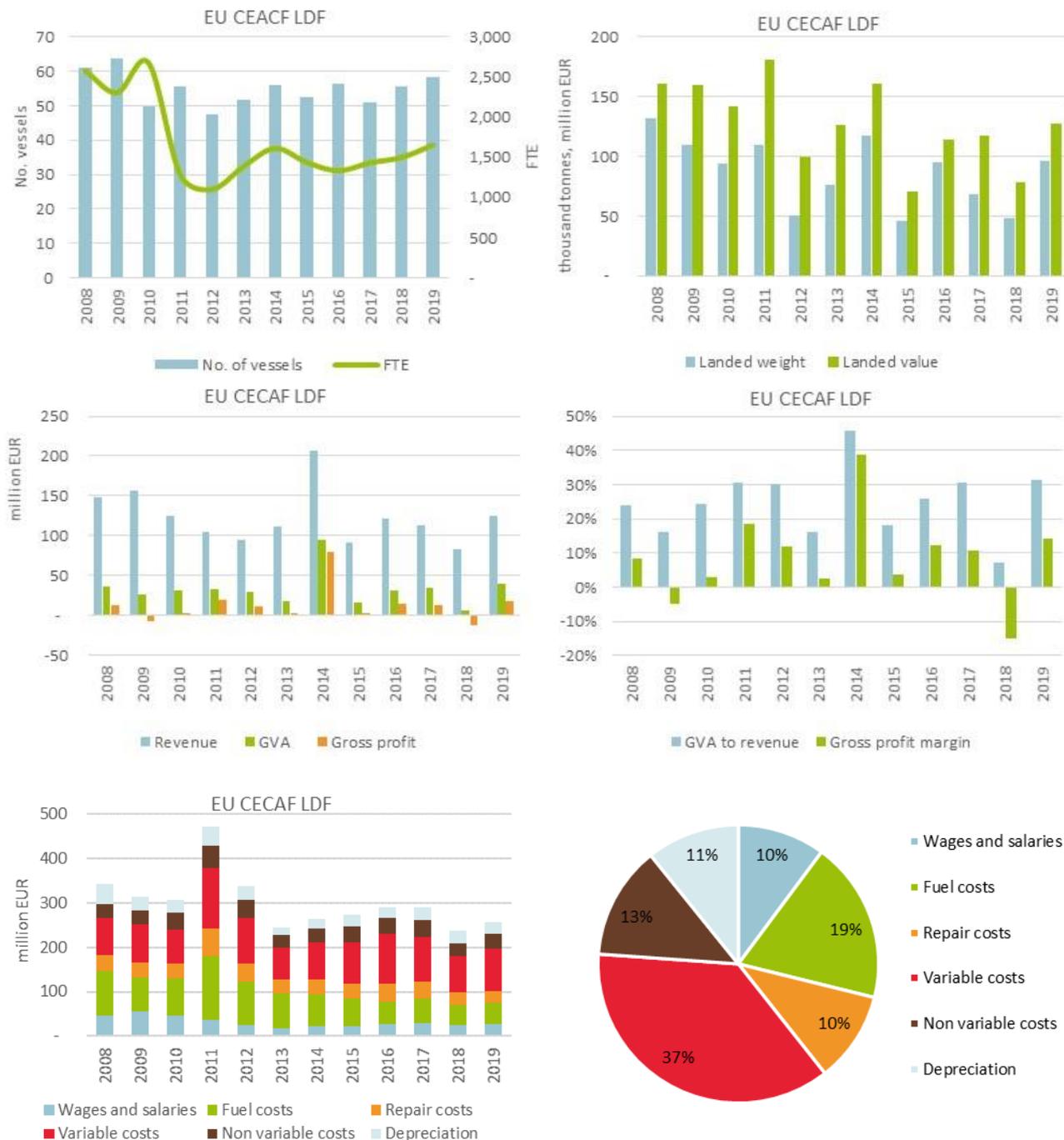
CECAF LDF	Dependency			No. vessels	FTE	Days at sea	Landings weight (tonnes)	Landings Value	Revenue	GVA	Gross profit	GVA to revenue (%)	Gross profit margin (%)	GVA per FTE EUR per FTE
	Effort	Weight	Value											
ITA OFR DTS40XX IWE	100%	100%	100%	7	84	1,327	1,146	5.3	5.6	2.2	0.9	39.8	16.5	26,771
PRT NAO MGP1824 P2 *	100%	99%	99%	3	33	680	444	0.5	0.5	0.3	0.0	54.1	3.6	8,188
ESP OFR DTS2440 NGI	71%	93%	77%	27	1,000	7,763	19,396	57.8	46.8	13.7	2.8	29.4	6.0	13,739
LTU OFR TM 40XX NEU*	54%	88%	70%	4	165	930	71,368	52.9	54.9	24.3	19.9	44.2	36.3	147,296
PRT NAO HOK1824 P2	97%	45%	56%	3	26	700	192	0.6	0.7	0.4	0.1	54.4	9.7	13,731
ESP OFR HOK2440 NGI*	89%	21%	40%	15	346	3,669	3,178	10.3	15.5	2.2	6.4	14.1	41.1	6,299
<b>CECAF LDF</b>				<b>58</b>	<b>1654</b>	<b>15069</b>	<b>95724</b>	<b>127</b>	<b>124</b>	<b>38.7</b>	<b>17.4</b>	<b>31%</b>	<b>31%</b>	<b>23,412</b>

The Lithuanian pelagic trawlers over 40 metres landed the most catch in weight with 71 368 tonnes (showing a significant increase from the reported 28 500 tonnes in 2018), followed by the Spanish demersal trawlers between 24 to 40 metres with 19 400 tonnes (vs 17 500 tonnes in 2018).

Despite its relatively small volume of landings, the Italian demersal trawlers over 40m seem to have the highest ratio value/weight with EUR 4 624 per tonne, followed by Spanish longliners 24-40m (EUR 3 241 per tonne) and Portuguese-Madeiran hook and line (EUR 3 125 per tonne), respectively. This might be partially explained due to factors such as proximity to the fishing ground implying low fuel consumption and high energy efficiency, as well as reduced transport and operational costs as most catch is channelled to local consumption from neighbouring markets as the target species are mainly sold in the Spanish and Portuguese auctions and markets.

Combined, the CECAF LDF was profitable in 2019, improving on its loss-making position in 2018. The number of vessels and FTE increased as did landings in weight and value, fostering higher revenues. Operating costs also increased in 2019 but the increase in revenue was higher, generating positive profit margins and an overall improved situation compared to 2018.

<sup>33</sup> 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 3.285. Trends on key indicators for the EU CECAF LDF and cost structure in 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## Results by Member State fleet

### SPAIN

Spain has several fleet segments operating in FAO 34 landing a total of 117 911 tonnes in 2019, of which 33 432 tonnes (28%) consisted of non ICCAT main species. Only six fleet segments showed a dependency higher than 20% in 2019, and of these, only two segments were over 18 metres, i.e., CECAF LDF (Table 3.51).

These two segments combined (ESP OFR DTS2440 NGI and ESP OFR HOK2440 NGI) caught 22 575 tonnes in weight (88% of the total CECAF no ICCAT catch) valued at EUR 68 million (87%). It also employed 74% of the total number of jobs in the area (1 346 FTE) but suffered gross losses of -EUR 3.5 million in 2019. This can be partially explained by the poor performance of the hook and longline segment targeting demersal/pelagic stocks in the area. These vessels compensate their catch with tropical tuna in the same area under ICCAT, obtaining revenues of over EUR 20 million and positive gross profits when considering their combined fishing operations (Table 3.51).

**Table 3.51 - Spanish fleet segments with high dependency on non-ICCAT species in CECAF, 2019**

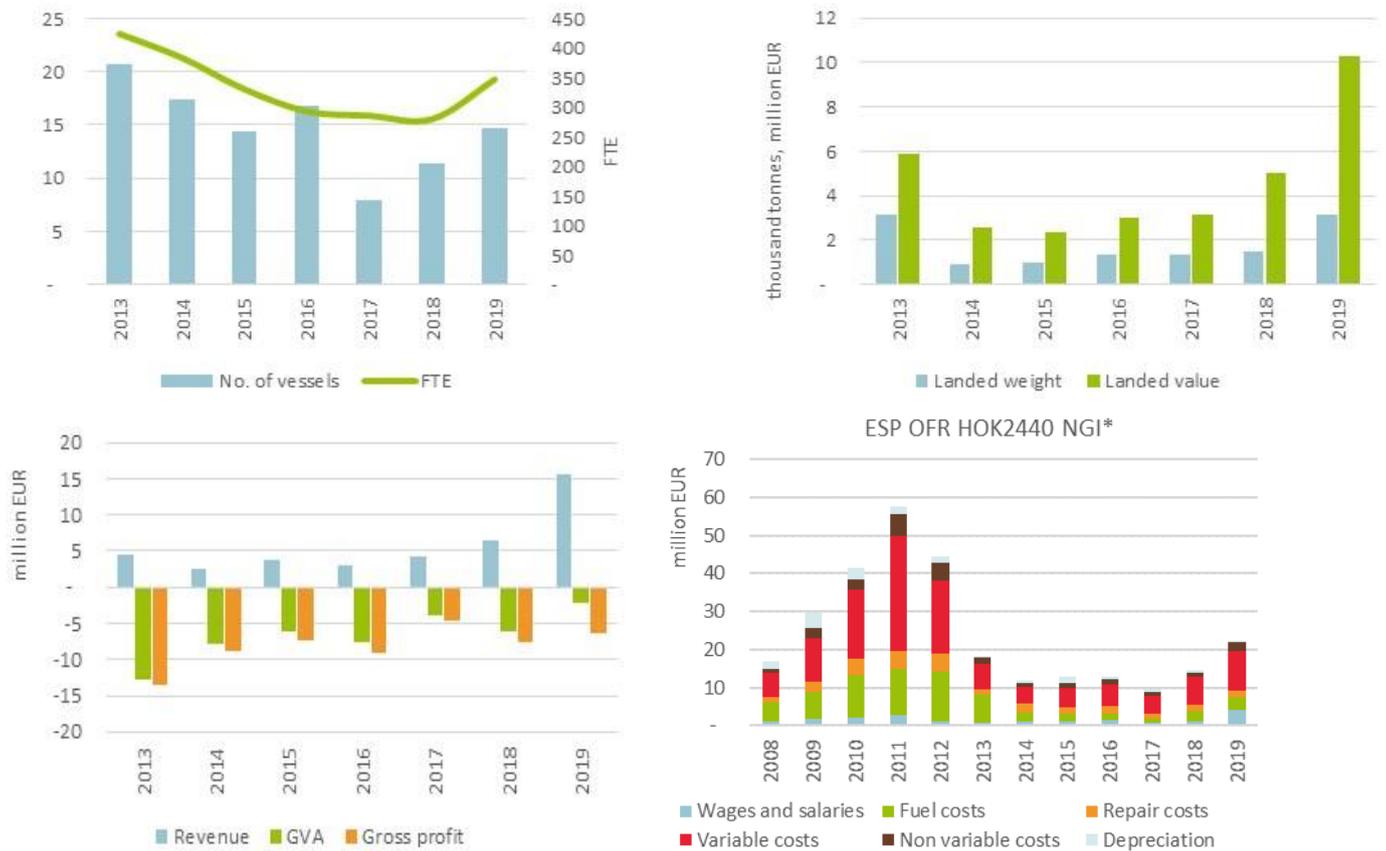
Fleet 2019	segments	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
ESP NAO PS 1218 IC *		93%	1,601	1.6	13	77	1.8	0.6
ESP NAO FPO1012 IC *		90%	87	0.5	14	14	0.3	-0.2
ESP OFR DTS2440 NGI		77%	19,396	57.8	27	1,000	13.7	2.8
ESP NAO PMP0010 IC *		73%	1,404	7.8	450	367	4.6	-0.6
ESP NAO HOK1218 MA *		55%	85	0.5	10	15	0.4	0.0
ESP OFR HOK2440 NGI*		40%	3,178	10.3	15	346	-2.2	-6.4
<b>ESP CECAF (no ICCAT) Fleet</b>			<b>25,750</b>	<b>78</b>	<b>529</b>	<b>1,820</b>	<b>18.7</b>	<b>- 3.7</b>
<b>ESP CECAF (no ICCAT) LDF</b>			<b>22,575</b>	<b>68</b>	<b>42</b>	<b>1,346</b>	<b>11.6</b>	<b>- 3.5</b>
Coverage LDF			88%	87%	8%	74%	62%	95%

**SPANISH HOOK AND LINE 24-40 SEGMENT (ESP OFR HOK 2440 NGI)**

The Spanish hook and line 24-40m segment operating in CECAF (on no ICCAT stocks) was composed of 15 vessels that landed 3 178 tonnes with a value of EUR 10.3 million in 2019. These vessels employed 346 FTE and obtained a negative GVA of -EUR 2.2 million and gross losses of -EUR 6.4 million. The fleet segment obtains most of its revenue from targeting tuna stocks in the same area. Overall, the fleet segment was profitable, generating a gross profit when also considering revenues from ICCAT activity (Table 3.52).

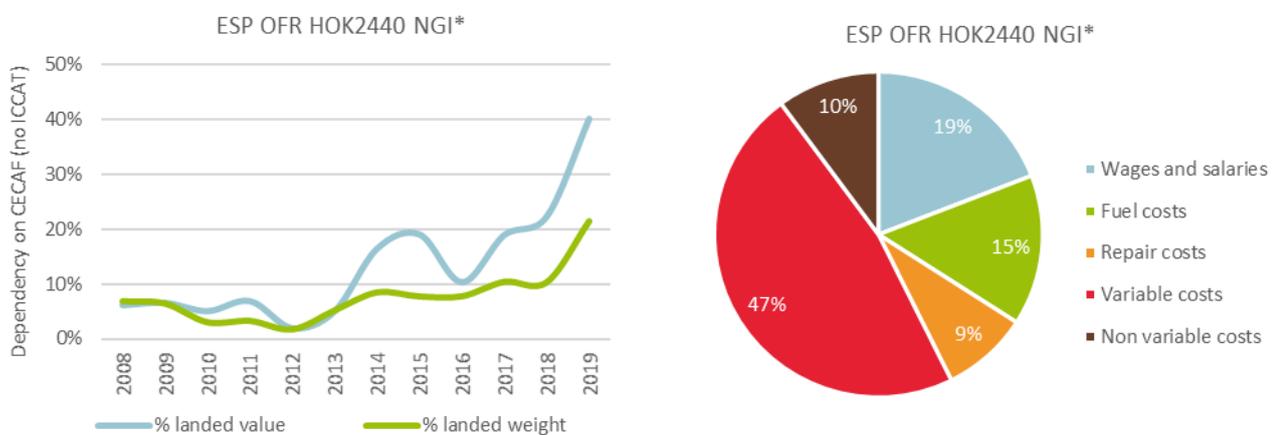
**Table 3.52 - Activity of the Spanish hook and line 24-40 segment with high dependency in CECAF, 2019**

Fleet 2019	Fishery	Share of seadays	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Estimated vessels (FTE)	FTE	GVA (million EUR)	Gross profit (million EUR)
ESP OFR HOK 2440 NGI	CECAF no ICCAT	89%	21%	40%	3,178	10.3	15	346	- 2.2	- 6.3
	ICCAT	91%	66%	46%	9,756	11.9	8	188	8.2	3.6
	CECAF (all)	89%	87%	87%	12,934	22.2	15	346	15.6	7.0



**Figure 3.286. Trends on key indicators for the Spanish hook and line 24-40m segment in CECAF (no ICCAT major stocks).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.287. Trends on the dependency (left) and cost structure in 2019 (right) for the Spanish hook and line 24-40m segment in CECAF (no ICCAT major stocks).**

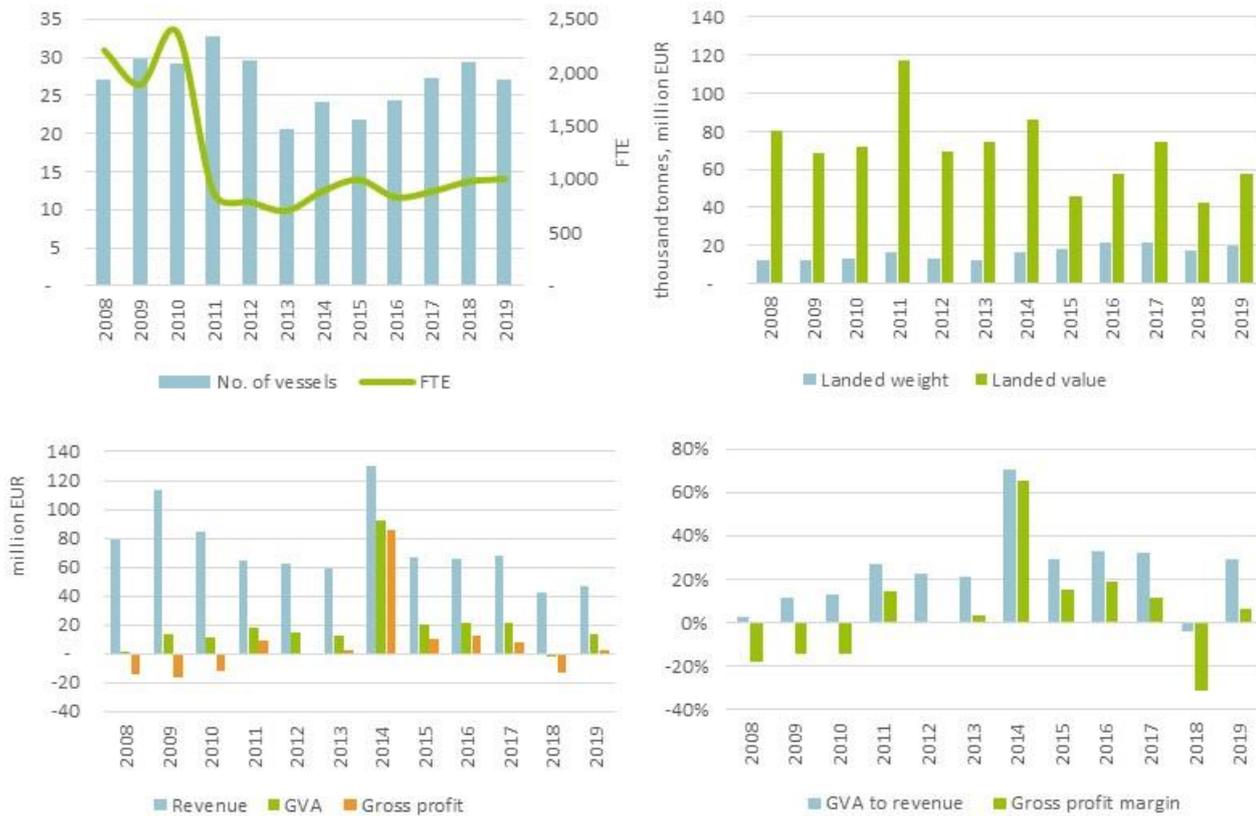
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

### SPANISH DEMERSAL TRAWLER 24-40 SEGMENT (ESP OFR DTS 2440 NGI)

The Spanish demersal trawlers between 24-40 metres, with a high dependency on the fishery (77% of the value of landings and 93% of the weight), reported 27 active vessels (a slight decrease compared to 29 in 2018) that landed 19 000 tonnes in weight (compared to 17 540 tonnes in 2018).

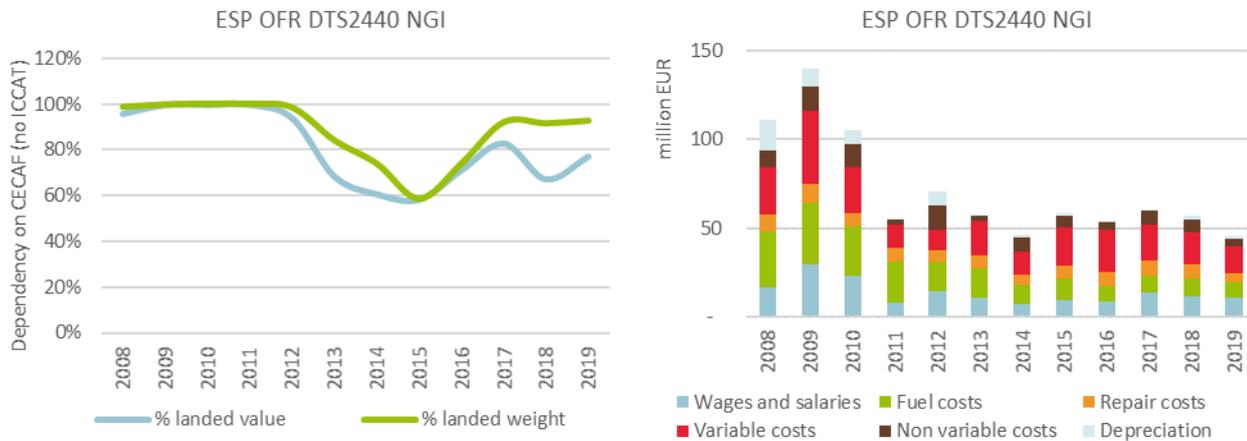
The value of landings amounted to EUR 58 million in 2019, a considerable increase compared to 2018 (EUR 42 million). In terms of employment, they reported 1 000 FTE (25 more than in 2018) with a GVA of EUR 13.7 million and a gross profit of EUR 2.8 million (-EUR 13.6 million in 2018). Landings, particularly in value, decreased in 2018 while costs remained largely unchanged, contributing to the deteriorated performance in 2018.

In terms of employment, FTEs have decreased by almost three times from 2 000–2 400 FTEs in the period 2008–2010 down to 750 in 2011–2013 and then remain within the region of 900–1 000 in the period 2015–2019.



**Figure 3.288. Recent trends of the top earning Spanish fleet segment with high dependency on activity in CECAF (no ICCAT major stocks).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.289. Trends on the dependency (left) and cost structure in 2019 (right) of the Spanish demersal trawler 24-40m segment in CECAF (no ICCAT major stocks).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**PORTUGAL**

Five fleet segments based in Madeira showed high dependency on CECAF (no ICCAT) activity in 2019 (Table 3.53). These vessels target mainly black scabbardfish in area 34.1.2 (Figure 3.290). Of these fleet segments, two are part of the CECAF LDF.

From table it can be concluded that the Madeiran fishing fleet is highly dependent of non-ICCAT major species since 5 of 6 fleet segments representing 94% of the Maderian active fishing fleet have a dependence of at least 56% non-ICCAT major species. From Figure 3.291 it also can be concluded that the Maderian fleet is highly dependent of the catches of one single specie: black scabbardfish.

Like from the fleet from Canary islands, the LDF definition is not a real figure for the fleets based on these islands since they are situated in area 34 that belongs to CECAF region. Even so applying the new definition, two fleet segments with length over 18 m were identified with three vessels each. The first one using mobile and passive gears (MGP 1824) and the second one using hooks (HOK1824).

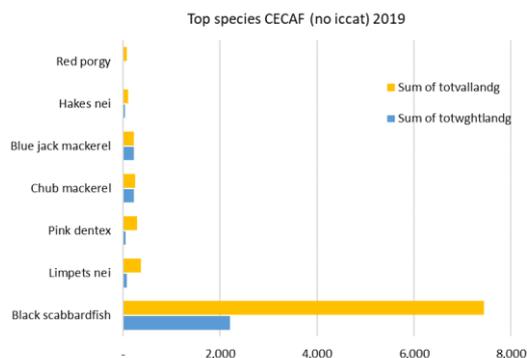


Figure 3.290. Top species landed by the Portuguese fleet operating in CECAF targeting non-ICCAT major species

Table 3.53 – Portuguese fleet segments with high dependency on non-ICCAT species in CECAF, 2019

Fleet segments 2019	Dependency (%)	Weight of landings (tonnes)	Value of landings (million EUR)	No. vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
PRT NAO MGP1824 P2 *	99%	444	0.5	3	33	0.3	0.018
PRT NAO HOK1218 P2	88%	1,833	5.9	16	148	5.0	1.857
PRT NAO MGP0010 P2	88%	69	0.3	7	7	0.3	0.096
PRT NAO HOK0010 P2 *	61%	299	1.3	53	72	0.8	0.381
PRT NAO HOK1824 P2	56%	192	0.6	3	26	0.4	0.064
<b>PRT CECAF (no ICCAT)</b>		<b>2,836</b>	<b>8.6</b>	<b>82</b>	<b>286</b>	<b>6.8</b>	<b>2.4</b>
<b>PRT CECAF (no ICCAT) LDF</b>		<b>636</b>	<b>1.1</b>	<b>6</b>	<b>59</b>	<b>0.6</b>	<b>0.1</b>
Coverage LDF		22%	12%	7%	21%	9%	5%

#### MADEIRA PASSIVE AND MOBILE GEAR 18-24M SEGMENT (PRT NAO MGP1824 P2)

This fleet segment was composed by three vessels fishing exclusively in FAO area 34.1.2 (Canaries/Madeira Insular). Beside the classification of passive and mobile gear, from the species composition it can be concluded that this fleet segment uses only mobile gear (purse seine). This fleet segment generates over 3.5% of total landings value and around 4.7% of total weight in Madeira.

The fleet targets small pelagic species (chub and blue jack mackerel). In 2019, the total value from landings was EUR 0.5 million (27% lower than 2018). The fleet segment employed 33 FTEs. Economic indicators for this fleet reported a gross profit margin of EUR 18 000.

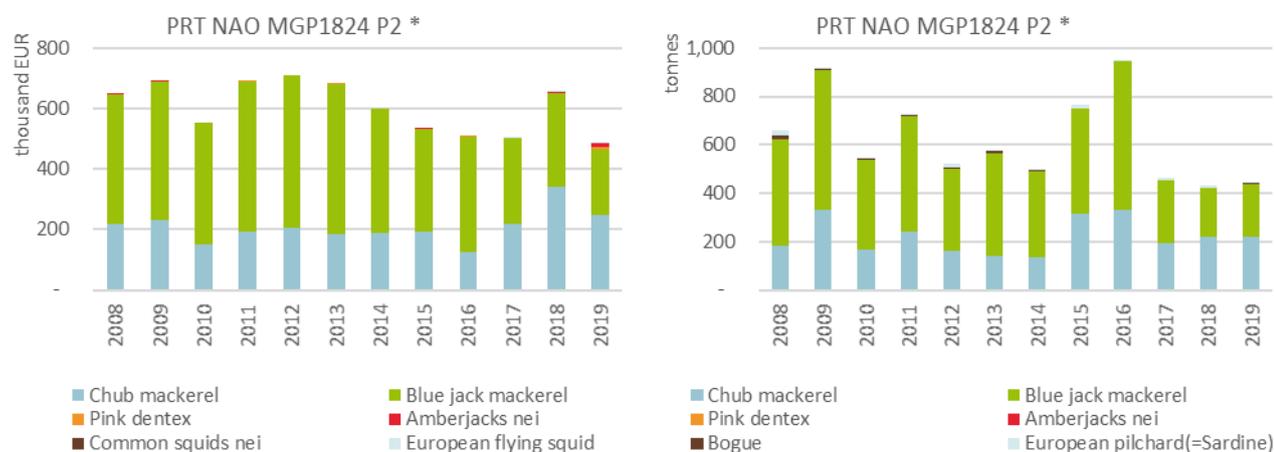


Figure 3.291. Trends on main species landed by the Portuguese passive and mobile gear 18-24m segment operating in CECAF (no ICCAT species).

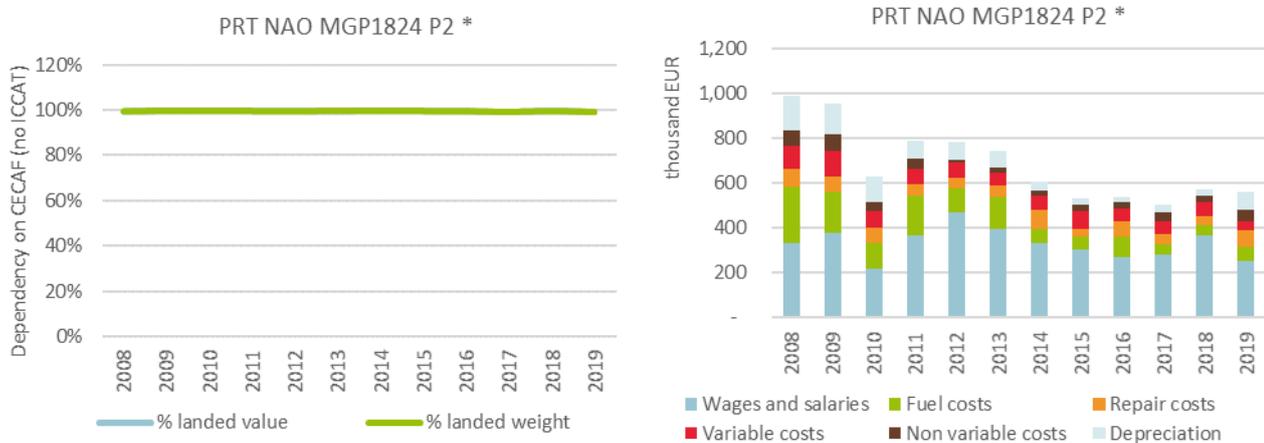
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

In 2008 and 2009, they had negative gross profit and the number of vessels was reduced from 5 to 3. Since then the fleet segment reveals to follow a positive trend but a weak economic performance over the whole period.



**Figure 3.292. Trends on key indicators for the Portuguese passive and mobile gear 18-24m segment operating in CECAF (no ICCAT species).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



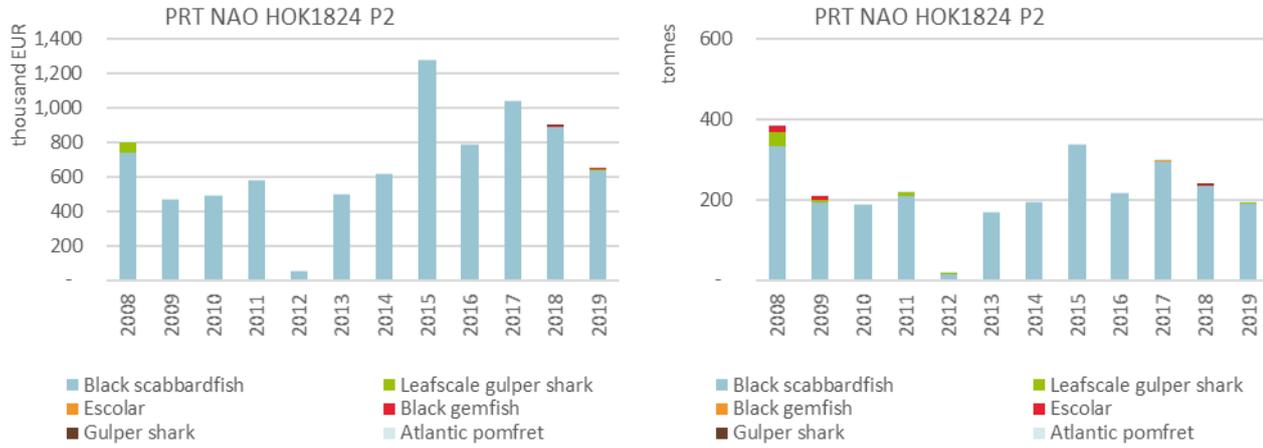
**Figure 3.293. Trends on the dependency (left) and cost structure (right) of the Portuguese passive and mobile 18-24m segment in CECAF (no ICCAT major stocks).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**MADEIRA HOOK AND LINE 18-24M SEGMENT (PRT NAO HOK1824 P2)**

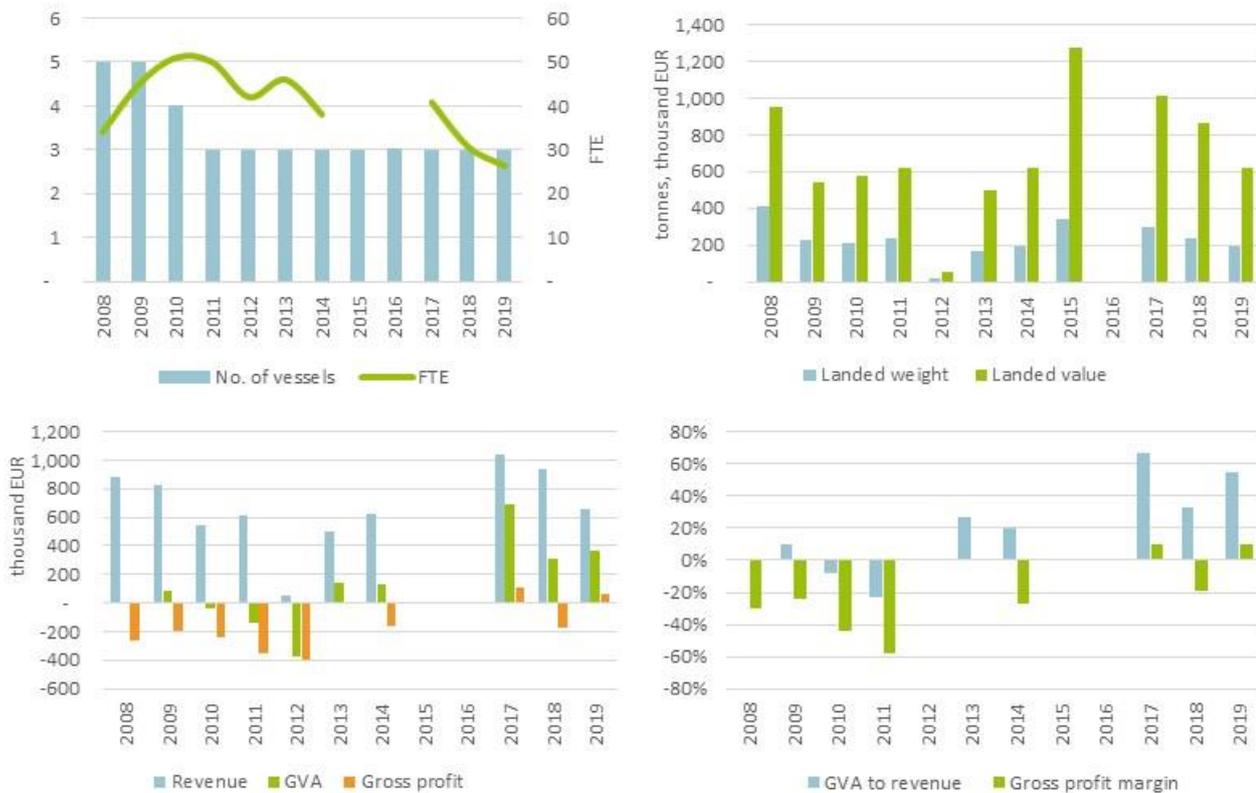
This fleet segment generates over 56% of total landings value and around 45% of total weight in Madeira. It's composed by three vessels operating mainly in FAO area 34.1.2.

The fleet targeted exclusively black scabbardfish as non-ICCAT species in 2019, the total value from landings was EUR 0.6 million (30% lower than 2018). The fleet segment employed 26 FTEs. Economic indicators for this fleet reported a gross profit EUR 64 000.



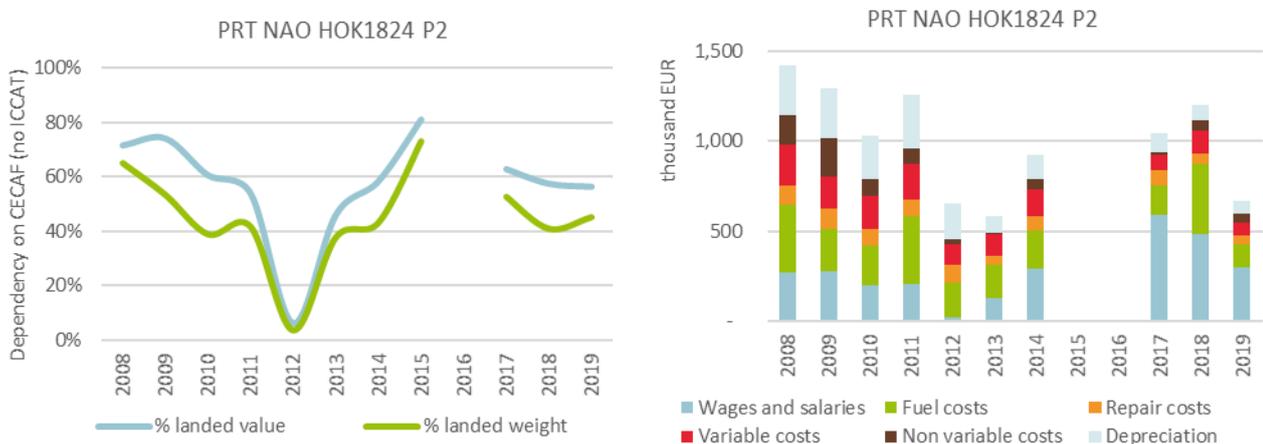
**Figure 3.294. Trends on main species landed by the Portuguese passive and mobile gear 18-24m segment operating in CECAF (no ICCAT species)**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



**Figure 3.295. Trends on key indicators for the Portuguese hook and line 18-24m segment with activity in CECAF (no ICCAT major stocks).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).



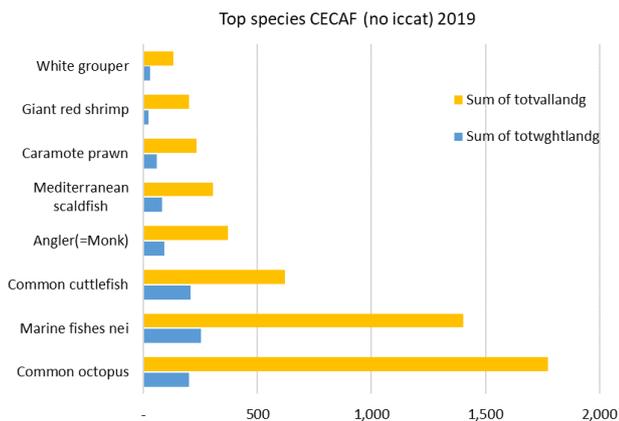
**Figure 3.296. Trends on the dependency (left) and cost structure (right) of the Portuguese passive and mobile 18-24m segment in CECAF (no ICCAT major stocks).**

## ITALY

The Italian trawlers over 40 metres operating in FAO 34 (Sierra Leone and Senegal) included seven vessels in 2019, the same as in 2018, belonging to two shipowner companies (Table 3.54). The fleet has a 100% dependency on CECAF activity and mainly targets demersal species, such as common octopus, marine fish and cuttlefish (Figure 3.297).

The fleet landed almost 1 146 tonnes in 2019, with an estimated value of EUR 5.3 million. Revenue decreased by 6% compared to 2018 as a consequence of a reduction of 5% in the average price of the landings. Between 2018 and 2019, both labour costs and fuel costs decreased by respectively 30% and 22%.

Due to a significant increase in two other items of expenditures (non-variable costs and repair costs), the DWF reported a strong decrease in GVA and gross profit in respect the previous year (Figure 3.299 54). Despite this, DWF was profitable in 2019 with a GVA of EUR 2.2 million and gross profit of EUR 0.9 million (Table 3.54). The fleet was not active in 2013 and 2014.

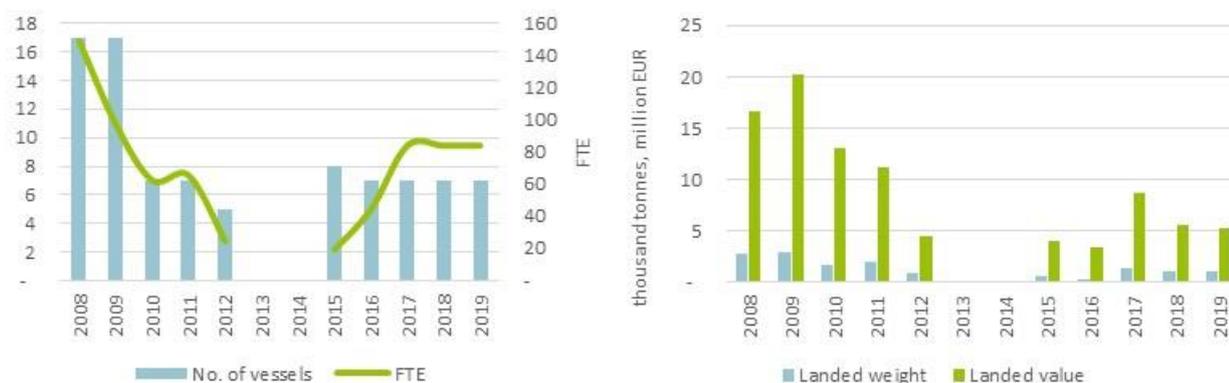


**Figure 3.297. Top species landed by the Italian fleet operating in CECAF targeting non-ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.54 – Italian fleet segment with high dependency on non-ICCAT species in CECAF, 2019**

Fleet segments	Dependency (%)	Weight of landings	Value of landings	Vessels	FTE	GVA	Gross profit
ITA OFR DTS40XX IWE	100%	1,146	5.3	7	84	2.2	0.9



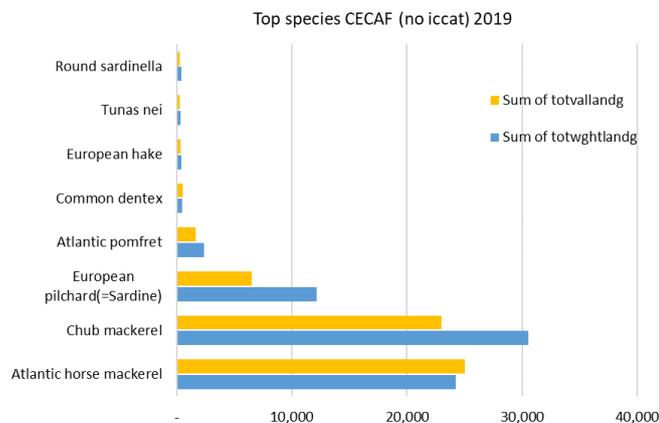


**Figure 3.298. Trends on key indicators for the Italian demersal trawler 40XX segment with activity in CECAF (no ICCAT major stocks).**

**LITHUANIA**

Lithuanian long-distance fleet predominantly operates in CECAF area but have also reported fishing effort in NEAFC. 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 2019, four Lithuanian pelagic trawlers were operating in CECAF, up from two vessels in 2018. Estimated weight of landings in 2019 increased to 71 368 tonnes, valued at EUR 52.9 million (Table 3.55), compared to 27 890 tonnes and EUR 24.2 million in 2018. In comparison with the 2008-2018 average period, the weight and value of landings in CECAF was 6% and 17% higher, respectively. The decline in fishing effort (DaS) was related to the termination of agreement with Morocco in 2018. In 2019, the SFPA with Morocco was renewed and fishing access and quota were granted for small pelagic species. The main species landed included horse mackerel, chub mackerel and sardine (Figure 3.299).

Estimated number of employees in CECAF area increased from 88 FTE in 2018 to 165 FTE in 2019. Compared to 2008-2018 average number of FTE, this was 4% higher in 2019. As a consequence of the decrease of fishing opportunities in CECAF during 2018, there was loss making DWF performance. However, in 2019 profitability increased to 14% of gross profit margin and around EUR 12 million GVA.

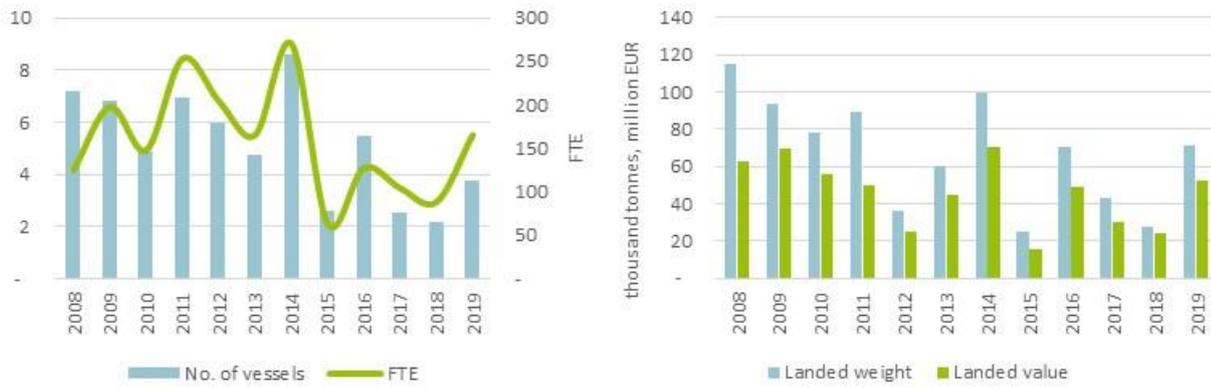


**Figure 3.299. Top species landed by the Lithuanian fleet operating in CECAF targeting non-ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.55 – Lithuanian fleet segment with high dependency on non-ICCAT species in CECAF, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings	Value of landings	No. of vessels	FTE
LTU OFR TM 40XX NEU*	70%	71,368	52.9	4	165

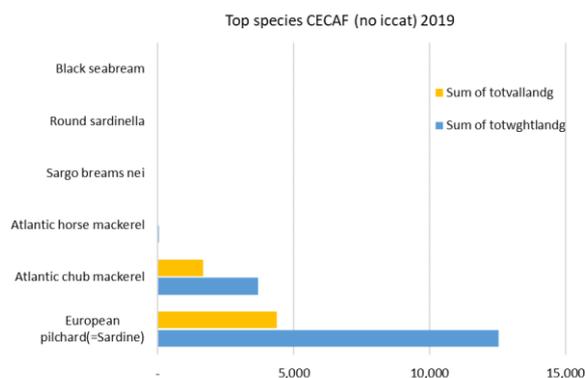


**Figure 3.300. Trends on some key indicators for the Lithuanian pelagic trawlers with activity in CECAF (no ICCAT major stocks).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## GERMANY

One German pelagic trawler TM VL40XX operated mainly in FAO 34.1.3 (Coastal Sahara), targeting sardine and chub mackerel (Figure 3.301). Only landings data are available due to confidentiality issues.

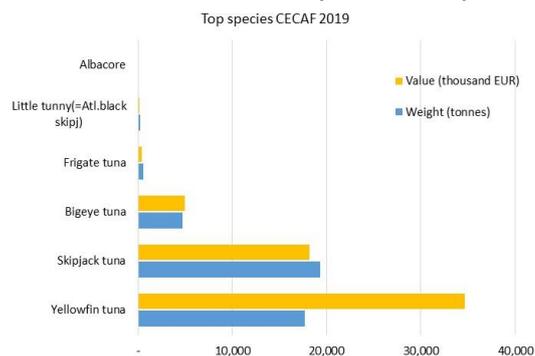


**Figure 3.301. Top species landed by the German fleet operating in CECAF targeting non-ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## FRANCE

None of the French fleets active in the region showed high dependency on landings of non ICCAT species in 2019. Two fleet segments showed high dependency on activity in the CECAF area targeting ICCAT main species (Figure 3.302); the industrial purse seiner fleet (FRA OFR PS 40XX IWE) and a longline fleet from Reunion (FRA OFR HOK1824 RE\*) (Table 3.56). Therefore, they are not assessed further in CECAF as they are incorporated in the ICCAT analysis.



**Figure 3.302. Top species landed by the French fleet operating in CECAF, 2019**

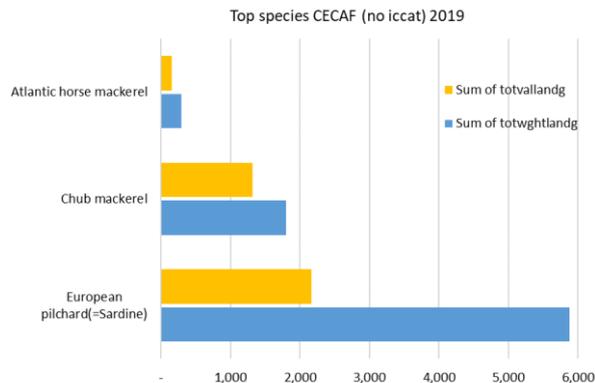
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.56 – French fleet segments with activity in CECAF, 2019**

Fleet segments 2019	Dependency (%)	Weight of landings (tonnes)	Value of landings (million EUR)	No. vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
FRA OFR HOK1824 RE *	50%	1,695	1.7	2	8	0.3	0.1
FRA OFR PS 40XX IWE	37%	40,878	53.8	9	224	14.7	-5.0
<b>FRA CECAF (all) LDF</b>		<b>42,573</b>	<b>56</b>	<b>11</b>	<b>232</b>	<b>15</b>	<b>- 5.0</b>

## THE NETHERLANDS

None of the fleet segments showed high dependency (either on ICCAT or non-ICCAT species). One fleet segment made up of six pelagic freezer trawlers showed low activity (4% of the value of landings) in the CECAF area in 2019, with some fishing activity in Moroccan waters. The main species landed were sardine and mackerel amounting to 8 014 tonnes in 2019, 3% of the total landings in weight (Figure 3.303).



**Figure 3.303. Top species landed by the Dutch fleet operating in CECAF targeting non-ICCAT major species**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## LATVIA

The Latvian fleet had four active distant water vessels with a combined 11 807 GT, a total engine power of 14 451 kW and an average age of 32 years owned by four Latvian companies in 2019. Two vessels with the average length of 60 metres were based predominantly in NEAFC area targeting beaked redfish and two with an average length of 100 metres operated in the CECAF area and targeted Atlantic horse mackerel, Atlantic mackerel, Madeiran sardinella and sardine. In 2019, the main landing ports for these vessels were Cuxhaven, Tromsø, Båtsfjord, Dakhla and Nouadhibou. In 2019 the total weight for the Atlantic catches was 40 931 tonnes of fish with an estimated value of EUR 19.7 million and reported income from landings EUR 20.2 million.

## POLAND

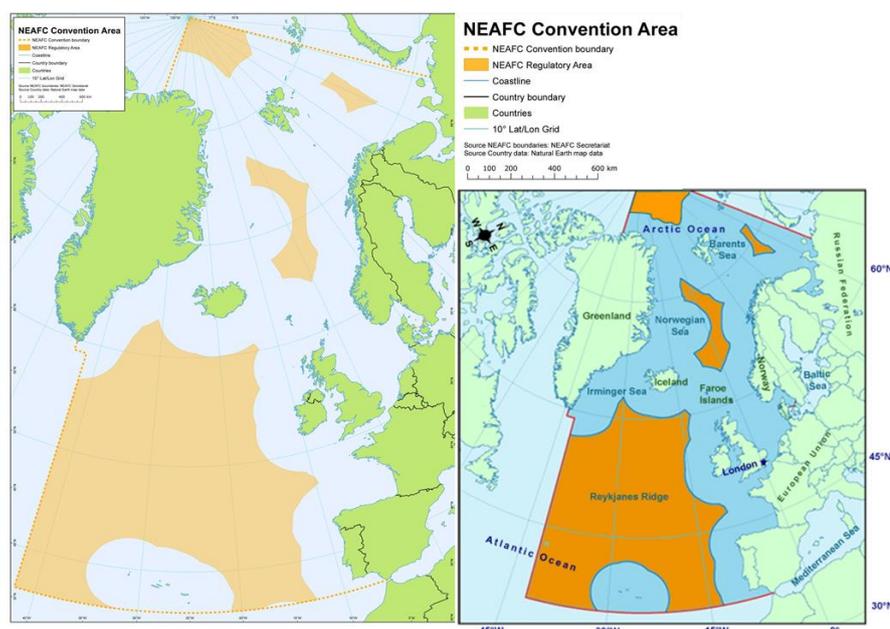
The last year Poland reported landings data in the CECAF area was in 2017. Low quota and CPUE triggered the departure of the one Polish pelagic trawler vessel (from the segment TM VL40XX), which targeted horse mackerel and Atlantic chub mackerel, towards the North Atlantic.

## 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. 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 New Zealand.

The area covered by the NEAFC Convention stretches from the southern tip of Greenland, east to the Barents Sea, and south to Portugal (Figure 3.304). 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.



**Figure 3.304. Map of the NEAFC area of competence**

The main fisheries in the NEAFC CA are:

- Redfish (oceanic *Sebastes Mentella* and pelagic deep-sea *Sebastes Mentella*)
- Mackerel
- Haddock
- Herring (Norwegian Spring- Spawning Atlanto-Scandian)
- Blue whiting
- Deep-sea species

Total catches in the North East Atlantic are approximately 10.5 million tonnes. The four top main fisheries regulated in the NEAFC Regulatory Area give catches in the NEAFC Convention Area of approximately 3.3 million tonnes, that is 31 % of 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.

Once agreement is made regarding the area to be assessed (CA or RA), further refinements can be made, such as calculating the dependency of fleet segments only on the species considered by NEAFC.

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. One solution would be to call transversal data (effort and landings) at the level of ICES statistical rectangle or by C-square cells, as requested in the FDI data call. A potential issue with this would be related to confidentiality rules, which is already an issue in some cases at level 3 or 4. However, as NEAFC appears to consider catch in the Convention Area (i.e., FAO major fishing area 27), then this is no longer an issue.

Data comparisons are difficult to perform for several reasons, including:

- Catch data available from NEAFC are reported aggregated for the EU (no country level data was found online) and only for a selected group of species in pdf form<sup>34</sup>.
- Additionally, the catch data reported by NEAFC appears to comprise all sub-areas in area 27 (excluding the Baltic Sea); that is, for the Convention area as opposed to the Regulatory area.
- The UK catch data also appears to still be included within the EU reported catch.

Table 68 provides a comparison of the NEAFC official catch data with the landings data reported under the EU-MAP, highlighting the discrepancies detected by species.

Overall, coverage of the EU-MAP landings data from the NEAFC CA (area 27) for the species reported by NEAFC, by all fleet segments (including the UK fleet) is estimated at 103%.

However, at the species level, significant deviations between the two data sources are observed for several species (for example, haddock). For other species on the other hand, the data reported by the two data sources match very well.

When considering the EU-MAP landings data from the NEAFC RA, the coverage is low compared to the data reported by NEAFC, in particular when excluding the UK fleet (14%)

Table 3.57 provides summary statistics for the EU fleet operating in the NEAFC RA in 2019 as well as the Member State fleet with high dependency on the area.

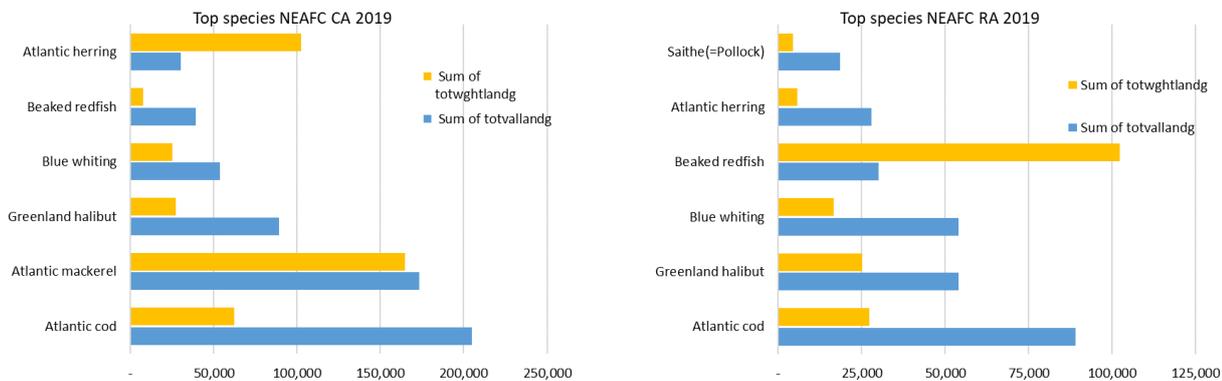
These results suggest that the EU LDF obtained 249 561 tonnes in landings weight from activity within the NEAFC RA in 2019. Due to confidentiality reasons, not all the landings value are reported.

---

<sup>34</sup> <https://www.neafc.org/catch-stats>

**Table 3.57 – Summary results for the EU NEAFC fleet, highlighting fleets with high dependency on activity in the NEAFC RA, 2019**

MS	Estimated no. of vessels	FTE	Landings in weight (tonnes)	Landings in value (million EUR)	Gross Value Added (million EUR)	Gross profit (million EUR)
DEU	8	103	17,459	37.9	25.4	11.9
<i>DEU &gt;20%</i>	<b>8</b>	<b>103</b>	<b>17,439</b>	<b>37.9</b>	<b>25.4</b>	<b>11.9</b>
DNK	2	12	69,045	20.9	134.8	101.7
ESP	105	1792	36,568	96.3	54.3	3.8
<i>ESP &gt;20%</i>	<b>52</b>	<b>1,143</b>	<b>36,479</b>	<b>96.1</b>	<b>66.9</b>	<b>17.4</b>
FRA	60	539	38,915	101.2	46.4	16.2
<i>FRA &gt;20%</i>	<b>38</b>	<b>416</b>	<b>26,060</b>	<b>82.7</b>	<b>42.6</b>	<b>18.8</b>
IRL	266	650	36,829	50.2	11.8	-5.1
<i>IRL &gt;20%</i>	<b>48</b>	<b>304</b>	<b>12,572</b>	<b>35.0</b>	<b>11.1</b>	<b>0.97</b>
LTU	3	118	6,788	18.1	-2.6	-4.1
<i>LTU &gt;20%</i>	<b>3</b>	<b>118</b>	<b>6,788</b>	<b>18.1</b>	<b>-2.6</b>	<b>-4.1</b>
NLD	1	44	34,007	12.0		
POL	1	17	2,691			
<i>POL &gt;20%</i>	<b>1</b>	<b>15</b>	<b>1,267</b>	<b>-</b>	<b>-</b>	<b>-</b>
PRT	542	1218	7,258	33.2	402.7	368.6
<b>EU NEAFC RA LDF</b>	<b>987</b>	<b>4492</b>	<b>249,561</b>	<b>369.7</b>	<b>176.3</b>	<b>43.1</b>
<i>EU NEAFC RA LDF &gt;20% dependency</i>	<b>149</b>	<b>2,098</b>	<b>100,605</b>	<b>269.7</b>	<b>143.4</b>	<b>45.0</b>
<b>Coverage fleet &gt;20%</b>	<b>15%</b>	<b>47%</b>	<b>40%</b>	<b>73%</b>	<b>81%</b>	<b>104%</b>

**Figure 3.305. Top species landed by fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right), 2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.58 – Comparison between data reported by NEAFC and EU-MAP (for the CA and RA), highlighting discrepancies between the data sources, 2019**

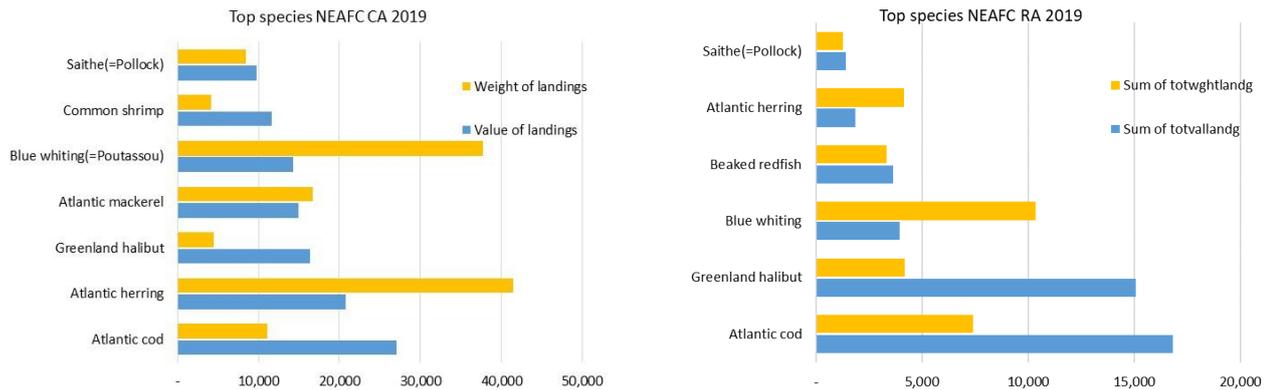
Species code	NEAFC	NEAFC CA with UK	Coverage NEAFC data	NEAFC CA no UK	Coverage NEAFC data	NEAFC RA with UK	Coverage NEAFC data	NEAFC RA no UK	% NEAFC
HER	374,543	366,195	98%	290,497	78%	36,217	10%	34,416	9%
WHB	348,712	360,061	103%	299,270	86%	144,795	42%	102,228	29%
MAC	327,959	323,977	99%	171,792	52%	4,453	1%	3,195	1%
LIN	12,018	11,980	100%	6,115	51%	949	8%	564	5%
REB	8,752	8,301	95%	8,294	95%	8,166	93%	8,166	93%
COE	7,783	7,856	101%	7,633	98%	407	5%	380	5%
HAD	7,364	46,487	631%	12,745	173%	9,338	127%	2,113	29%
GHL	6,122	5,527	90%	5,408	88%	4,924	80%	4,894	80%
ARU	5,382	5,598	104%	5,591	104%	9	0%	9	0%
BSF	4,032	3,802	94%	3,757	93%	191	5%	191	5%
RED	3,919	1,746	45%	1,098	28%	1,601	41%	990	25%
BLI	2,564	2,618	102%	1,895	74%	457	18%	457	18%
ARG	1,499	55	4%	54	4%	2	0%	2	0%
BRF	1,395	1,414	101%	1,314	94%	704	50%	659	47%
GFB	1,392	1,424	102%	1,313	94%	476	34%	466	33%
RNG	981	986	101%	980	100%	361	37%	361	37%
SBR	659	653	99%	652	99%	508	77%	508	77%
USK	444	449	101%	307	69%	76	17%	53	12%
ALC	317	317	100%	317	100%	126	40%	126	40%
FOX	304	22	7%	22	7%	0	0%	0	0%
ALF	262	56	21%	56	21%	28	11%	28	11%
RIB	200	194	97%	194	97%	133	67%	133	67%
WRF	150	178	119%	176	117%	85	57%	85	57%
KEF	137	137	100%	137	100%	120	87%	120	87%
SFS	114	112	98%	112	98%	65	57%	65	57%
CMO	110	119	109%	119	109%	15	13%	15	13%
SHO	63	60	96%	60	96%		0%		0%
ORY	60		0%		0%		0%		0%
REG	34	935	2750%	935	2750%	876	2578%	876	2578%
EPI	21	23	109%	23	109%	11	52%	11	52%
GUQ	12	17	140%	17	140%		0%		0%
ETX	7	7	100%	0	3%		0%		0%
CYO	7		0%		0%		0%		0%
SHL	7	0	5%	0	5%		0%		0%
RHG	6	6	106%	6	103%	4	61%	4	61%
DCA	4	5	115%	5	115%		0%		0%
GSK	3		0%		0%	0	0%	0	0%
CFB	3	0	7%	0	7%		0%		0%
SYR	1		0%		0%	0	17%	0	17%
TJX	1	1	144%	1	143%	1	59%	1	59%
GUP	1	1	51%	1	51%		0%		0%
CYP	1	1	61%	1	61%	1	103%	1	103%
HPR	1	1	136%	1	136%		0%		0%
API	1		0%		0%		0%		0%
JAD	1	1	107%	1	107%		0%		0%
ANT	1	1	50%	1	50%		0%		0%
SFV	1	1	59%	1	59%		0%		0%
<b>Total</b>	<b>1,117,350</b>	<b>1,151,323</b>	<b>103%</b>	<b>820,901</b>	<b>73%</b>	<b>215,100</b>	<b>19%</b>	<b>161,118</b>	<b>14%</b>

Due to time constraints, STECF EWG 21-08 was unable to provide a detailed account of the main fishing fleets operating in NEAFC. Furthermore, the EWG requests more guidance on what fleet activity should in essence be assessed in the NEAFC chapter, i.e., activity in the NEAFC convention area or activity in the regulatory area. For the latter, more detailed and digitalised data from NEAFC, such as catches by species and Member State fleet in the RA, would be required.

Summary results for the main fleet segments with activity in the NEAFC area in 2019 are presented below.

## Results by Member State fleet

### GERMANY



**Figure 3.306. Top species landed by the German fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right), 2019.**

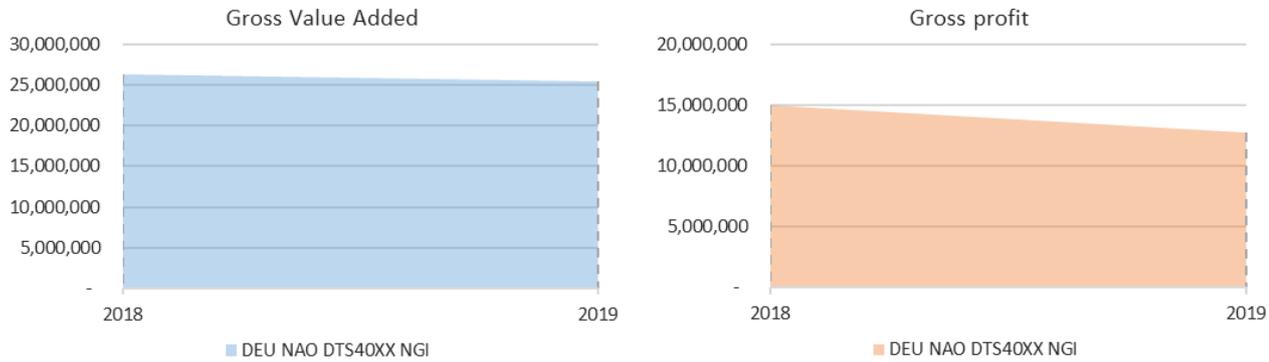
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.59 - Summary findings for the German fleet segments with high dependency on NEAFC RA, 2019**

Fleet segments 2019	Share of seadays	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
DEU NAO DTS40XX NGI	64%	72%	70%	17,015	35.9	4	67	25.5	12.8
DEU NAO DFN2440 NGI*	55%	45%	52%	423	1.9	4	36	-0.1	-0.8

### GERMAN DEMERSAL TRAWLERS OVER 40 METRES

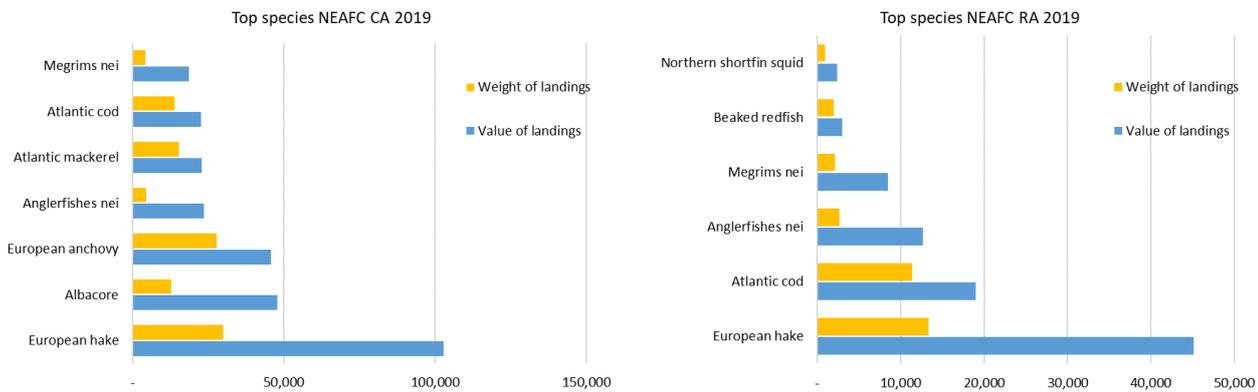




**Figure 3.307. Key indicators for the German demersal trawler segment with high dependency on activity in NEAFC, 2018-2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**SPAIN**



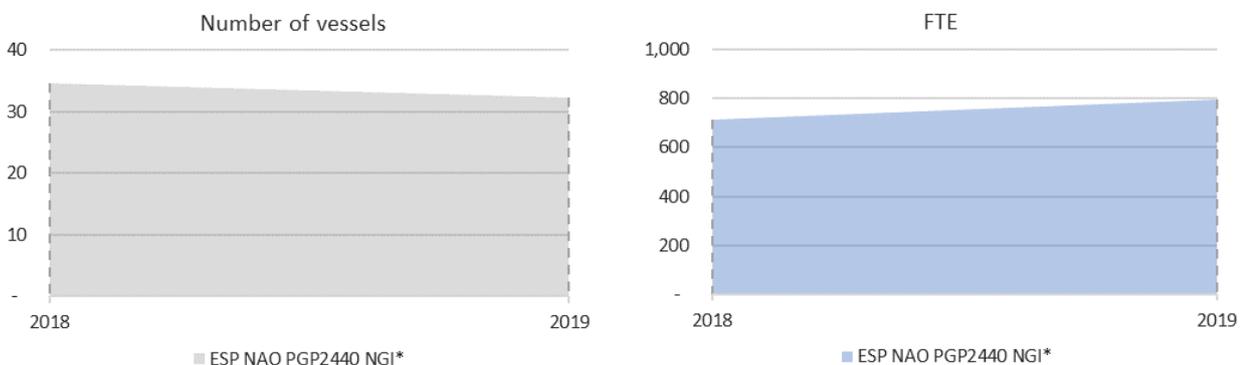
**Figure 3.308. 309 Top species landed in 2019 by Spanish fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).**

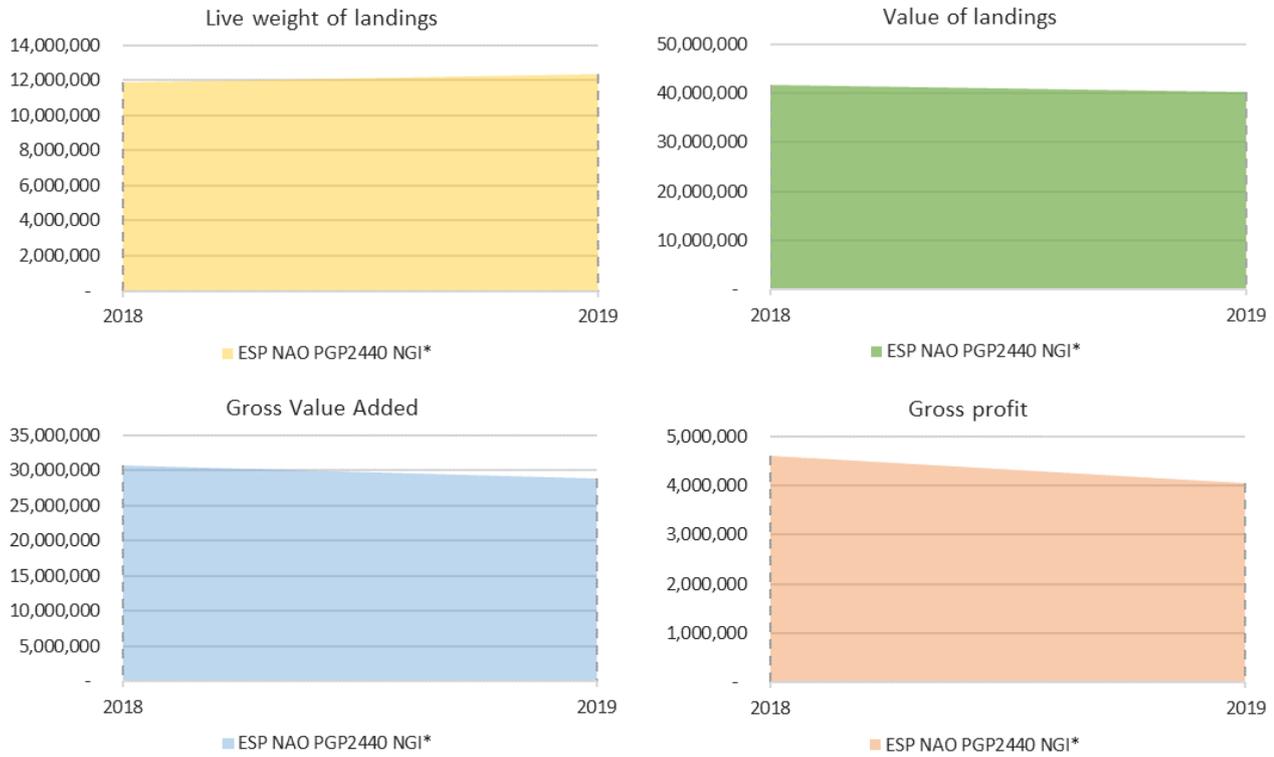
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.60 - Summary findings for the Spanish fleet segments with high dependency on NEAFC RA, 2019**

Fleet segments 2019	Share of seadays	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
ESP NAO PGP2440 NGI*	55%	54%	53%	12,379	40.4	32	797	28.9	4.0
ESP NAO DTS2440 NGI	17%	16%	29%	8,947	32.8	16	236	23.7	9.5
ESP NAO DTS40XX NGI	27%	42%	36%	15,152	22.9	4	110	14.3	3.9

**SPANISH PGP SEGMENT 24-40 METRES**

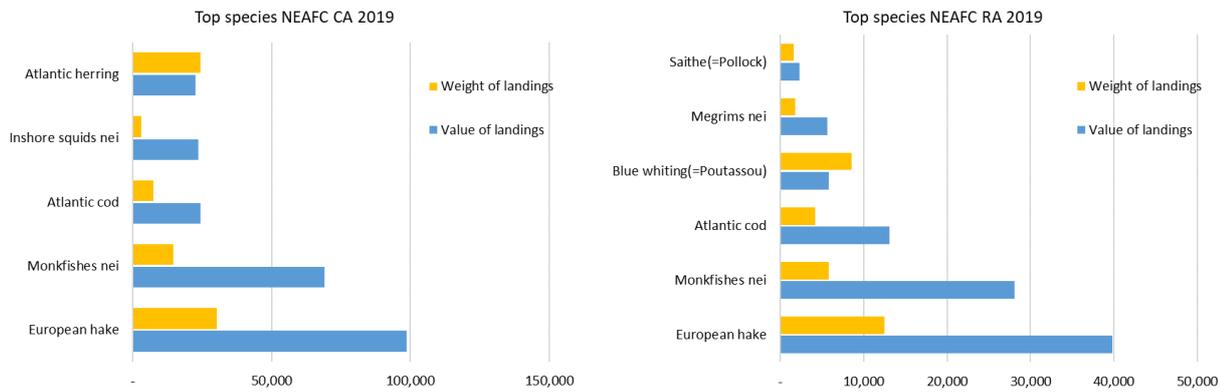




**Figure 3.310. Key indicators for the Spanish PGP 24-40m segment with high dependency on activity in NEAFC, 2018-2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

FRANCE



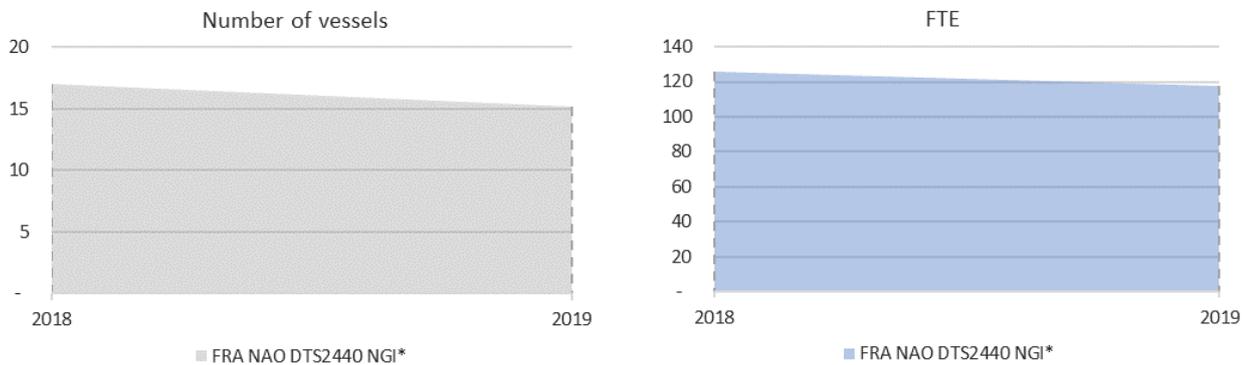
**Figure 3.311. Top species landed in 2019 by French fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).**

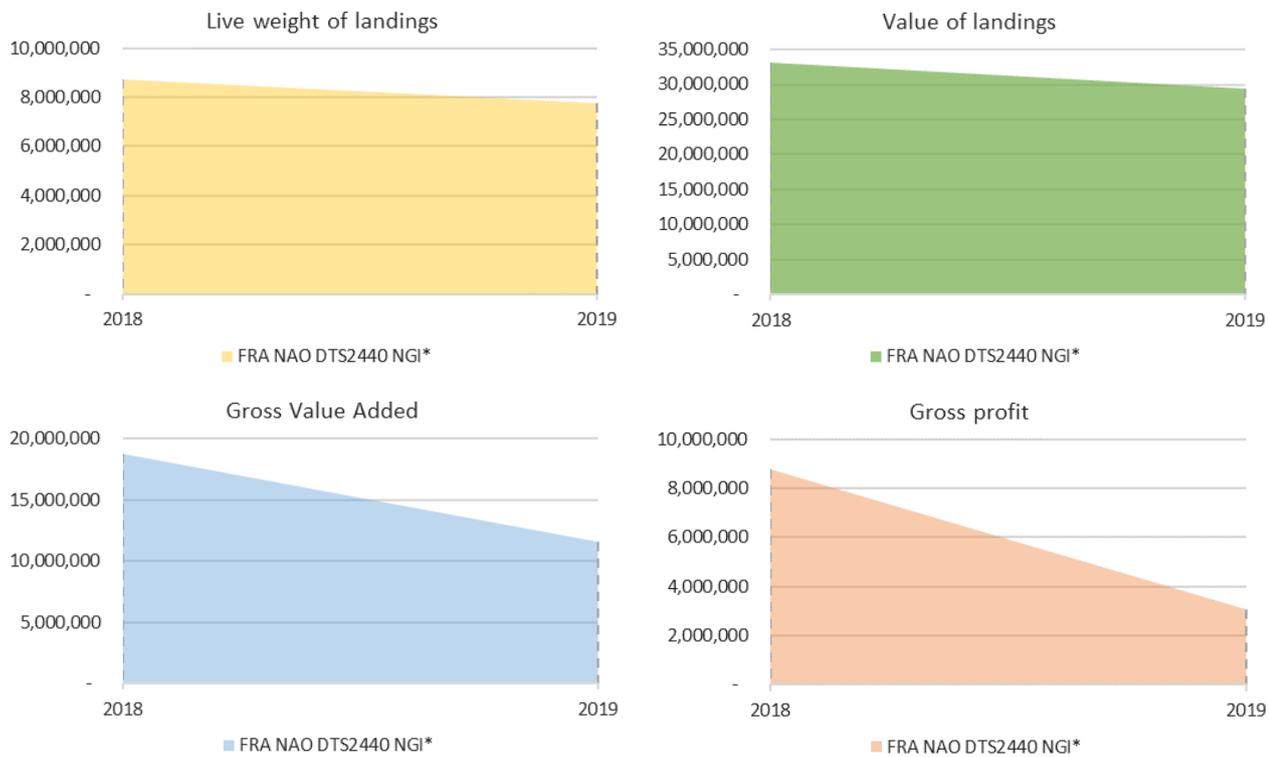
Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.61 - Summary findings for the French fleet segments with high dependency on NEAFC RA, 2019**

Fleet segments 2019	Share of seadays	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
FRA NAO DTS2440 NGI*	27%	25%	30%	7,782	29.4	15	117	11.6	3.1
FRA NAO DFN2440 NGI*	55%	55%	55%	7,934	22.6	13	169	12.4	5.3
FRA NAO DTS40XX NGI	12%	25%	30%	6,975	17.7	1	22	11.6	7.0
FRA NAO HOK2440 NGI*	36%	36%	36%	3,369	12.9	8	107	7.1	3.4

FRENCH DEMERSAL TRAWLERS 24-40 METRES

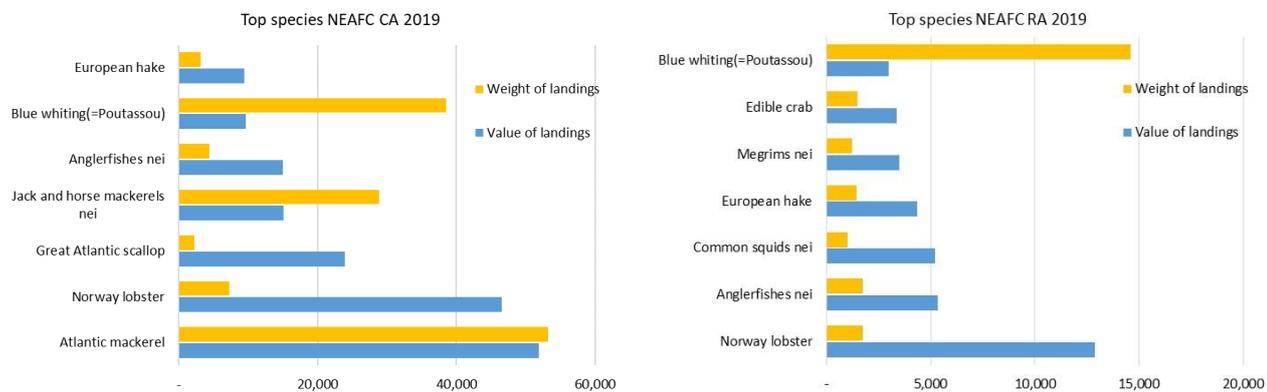




**Figure 3.312. Key indicators for the French demersal trawler segment with high dependency on activity in NEAFC, 2018-2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**IRELAND**



**Figure 3.313. Top species landed in 2019 by Irish fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**Table 3.62 - Summary findings for the Irish fleet segments with high dependency on NEAFC RA, 2019**

Fleet segments 2019	Share of seadays	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
IRL NAO DFN1824 *	41%	40%	39%	721	2.0	6	20	0.8	0.3
IRL NAO DTS2440	44%	41%	39%	8,182	19.7	21	159	8.1	3.7
IRL NAO DTS1824	32%	21%	25%	3,669	13.3	21	125	2.2	-3.0

### IRISH DEMERSAL TRAWLERS 24-40 METRES

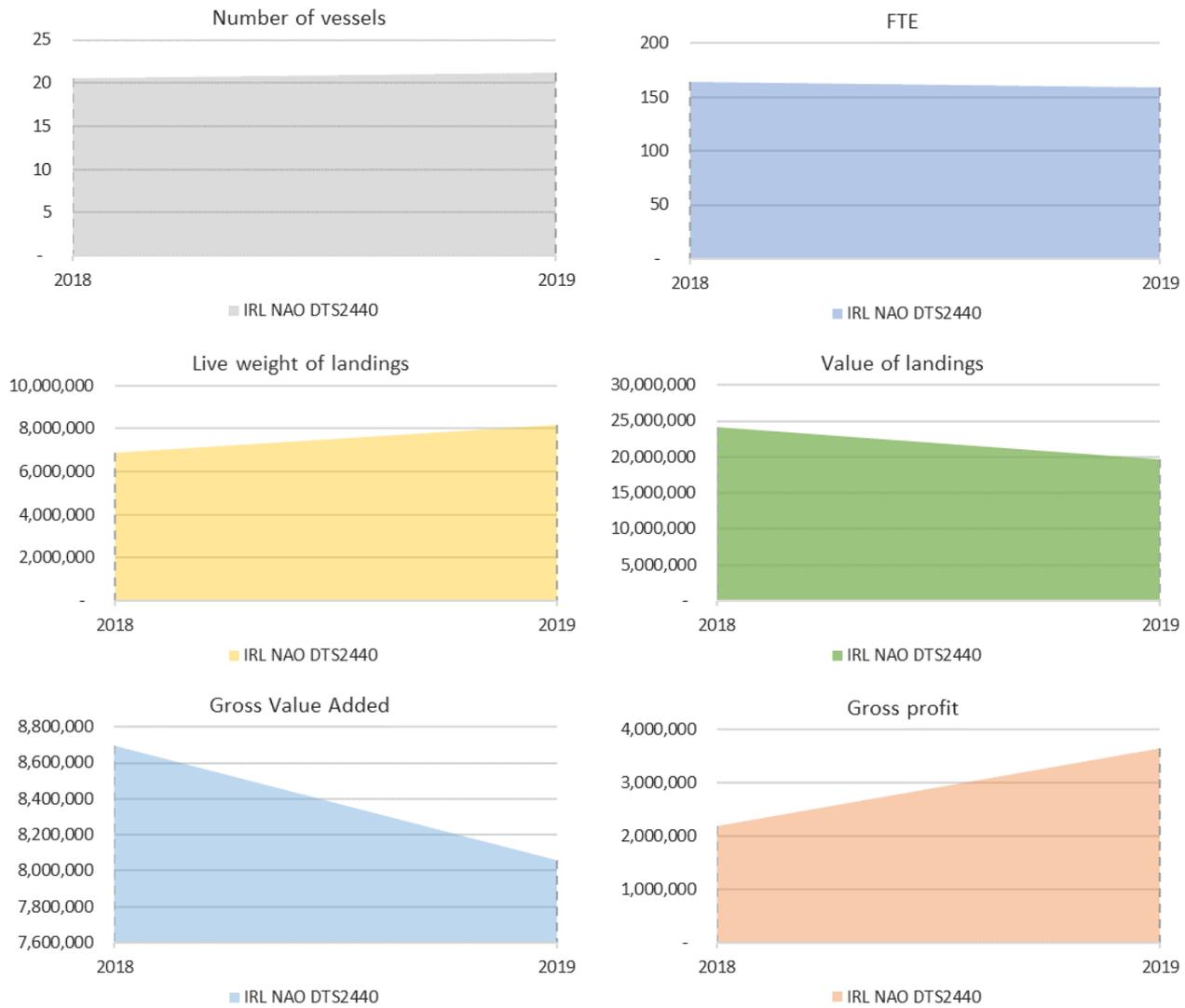


Figure 3.314. Key indicators for the Irish demersal trawler segment with high dependency on activity in NEAFC, 2018-2019

### LITHUANIA

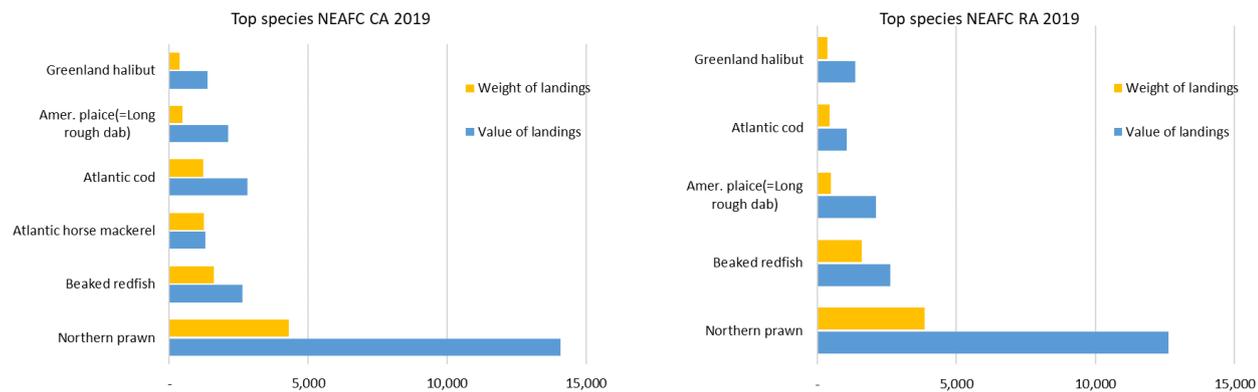
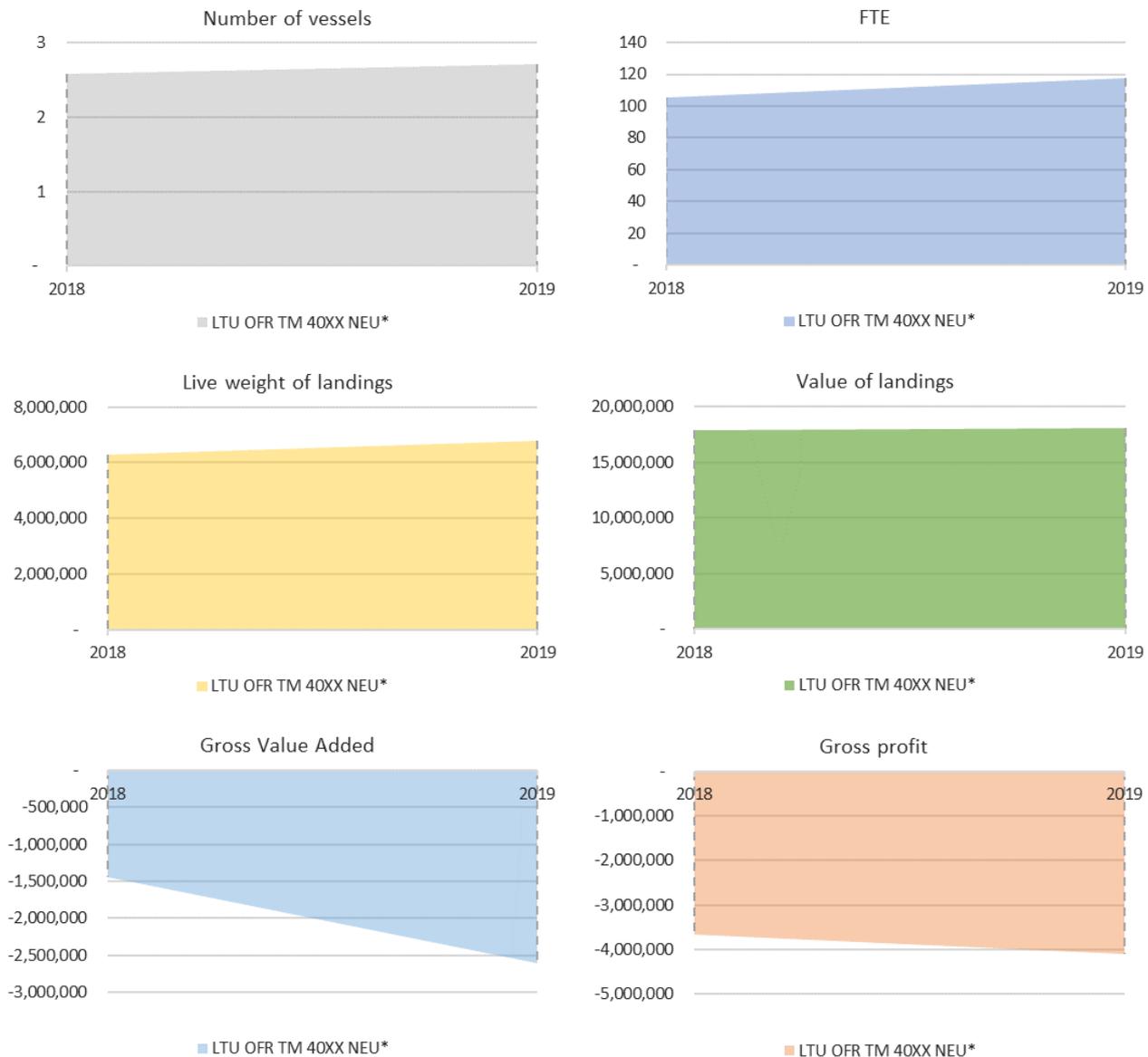


Figure 3.315. Top species landed in 2019 by Lithuanian fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right)

**Table 3.63 - Summary findings for the Lithuanian fleet segment with high dependency on NEAFC RA, 2019**

Fleet segments 2019	Share of seadays	Share of weight	Share of value	Weight of landings (tonnes)	Value of landings (million EUR)	Vessels	FTE	GVA (million EUR)	Gross profit (million EUR)
LTU OFR TM 40XX NEU*	39%	8%	24%	6,788	18.1	3	118	-2.6	-4.1

**LITHUANIAN PELAGIC TRAWLERS OVER 40 METRES****Figure 3.316. Key indicators for the Lithuanian pelagic trawler segment with high dependency on activity in NEAFC, 2018-2019.**

Data source: MS data submissions under the 2021 Fleet Economic data call (MARE/A4/ACS(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

**LATVIA**

The Latvian fleet had five active distant-water vessels in 2018; two vessels operated predominately in the NEAFC area targeting beaked redfish and northern prawn, and three vessels operated in the CECAF area. Data on these vessels are not submitted under the EU-MAP data call (due to confidentiality issues).

## 4 EU National Chapters

### 4.1 Belgium

#### Short description of the national fleet

##### *Fleet capacity*

In 2019 there were 68 vessels registered in the Belgian national fleet with a capacity of 13 060 GT or 44 000 kW; 65 (96%) of these vessels were active. This is a decrease of 2% compared to 2018 and of 18% when considering the overall time series. In 2020 there were 63 active vessels.

##### *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). Belgium does not have vessels of more than 40 metres.

##### *Employment*

Total number of crew on board was estimated at 328 in 2019, without considering rotation, corresponding to a total employment of 207 FTEs. The segment with the highest employment was TBB VL2440 (60% of the national fleet) with an average of 5 FTE per vessel. In the DTS VL2440 segment there were 2.8 FTE per vessel, while in TBB VL1824 this further dropped to 1.65 FTE per vessel (-8% compared to 2018).

##### *Effort*

Belgian vessels operate mainly in the North Sea, English Channel, Bristol Channel and other areas of the North Atlantic. In 2019, a total of 13 500 days were spent at sea; 1% less than in 2018, but 13% less than the average 2008-2017.

##### *Production*

Despite a declining fleet in terms of number of vessels, landed weight showed an increasing trend between 2008 and 2016. Since 2016 the trend is decreasing. Value of landings does not follow this trend, illustrating the volatile nature of fish prices. However, since 2016 it also follows a decreasing trend.

In 2019, 21 200 tonnes of seafood were landed by the fleet, with a value of EUR 75.2 million, 5% and 5% less than the previous year, respectively. The fleet mainly targets demersal species. Sole remained the dominant species, generating the highest landed value (EUR 27.3 million) and representing about 35% of the total landings value. In terms of weight, European plaice remained the top landed species (5 700 tonnes or 27% of the total landed weight) and generated the second highest landed value (EUR 12.4 million, 20% of the total). Values increased for sole but decreased for plaice compared to 2018.

The North Sea (FAO area 27.4) was the most important area in terms of total landed value (38%), followed by the Eastern Channel (27.7.d) with 22%, the Bristol Channel (27.7.f) and the Celtic Sea (27.7.g,h,j) (together 23%), the Irish Sea (27.7.a) (8%), the Western Channel (27.7.e) (3%) and the Bay of Biscay (27.8) (5%). The share of the North Sea decreased compared to 2018.

#### Economic results for 2019 and recent trends

##### *National fleet performance*

The economic performance of the overall fleet remained in an improved state compared to most previous years. After years of being in a loss-making position, net profit was positive between 2015 and 2019. However, not all fleet segments were profitable in 2019.

GVA, gross profit and net profit in 2019 were estimated at EUR 36.6 million, EUR 9.8 million and EUR 2.5 million, respectively. Considering the entire time series, these values represented a decrease

of 1% for GVA, an increase of 20% for gross profit and 305% for net profit. Compared to 2018, GVA decreased by 8%, gross profit and net profit decreased by 17% and by 38%, respectively. These results still indicate an overall positive economic situation, however, a decreasing trend since 2016 can be observed and it is uncertain how long this will remain the case.

Compared to 2018, in 2019 total income (no income from fishing rights) decreased by 6% (EUR 77.95 million). Revenue decreased by 5% (EUR 77.8 million) as income from landings decreased by 5%. Direct income subsidies decreased by 19% compared to 2018 and by 88% compared to the average of all other years. This is likely a result of the implementation of the new regulation. The questionnaire was adjusted in 2017 to meet the needs of the New 2016 EU Decision (Commission Implementing Decision EU 2016/1251). Definitions were clarified in the questionnaire, most likely leading to different interpretations.

Total variable costs – excluding unpaid labour- were comparable to 2018 (-3%). Energy costs decreased by 3% and decreased by 26% compared to the average since 2008 (EUR 16.6 million). Personnel costs decreased by 3%, while repair and maintenance costs increased by 5%. Energy and crew costs represent the largest costs (55% in 2019 as in 2018). However, the share of energy costs has been decreasing each year since 2014. The share of labour costs on the other hand increased over these years.

Contrary to the situation in some other Member States, the crew share is a direct percentage of the gross value of landings (without first subtracting variable costs). The crew share usually amounts to about 30% of the value of landings. Value of landings decreased by 5% in 2019. Personnel costs and the number of total FTE (-2%) also decreased. Average crew costs only slightly decreased compared to 2018 (-2%). Caution must be used when translating this into what the crew earned. Pay related social insurance taxes are not taken into account. As in 2018, personnel costs represented 33% of the value of landings in 2019.

The value of physical capital of the Belgian fleet was estimated at EUR 40 million. The average age of the vessels is high and increases by one unit every year. Newly built or younger vessels rarely enter the fleet to replace older ones. Investments increased by 46% in 2019. They had been steeply increasing in 2016 and 2017 and decreased again in 2018. However, they remained high in this period compared to previous years. This may be an anomaly as a result of a different interpretation of this variable.

### *Resource productivity and efficiency indicators*

The gross profit margin in 2019 was 13%. This was lower than in previous years, but higher than figures between 2012 and 2014, still indicating an improved operating efficiency of the sector compared to these years. Gross profit margin showed an increasing trend until 2016 but seems to be decreasing since then. Net profit margin was estimated at 3% in 2019. This is still positive, but the overall increasing trend seen in the past years seems less certain, questioning whether the outlook will be positive.

RoFTA also highly increased in 2015 (13%) and 2016 (52%) compared to previous years. In 2017 it was not as high as in 2016, however, still higher than in all other years (22%). In 2018, it decreased to 8% and to 5% in 2019.

Landings per unit of fishing effort (kg per day at sea) have followed an increasing trend until 2016, but now seem to be decreasing.

Energy consumption per landed tonne has followed an overall decreasing trend since 2008, with the lowest estimated value in 2016 of 1 390 litres per landed tonne. In the period 2013-2017 it has stagnated around 1 500 litres, increasing to 1 600 litres per landed tonne in 2018 and even 1 760 litres per landed tonne in 2019. In 2019, the total amount of energy consumed by the fleet decreased by 1% compared to 2018, while landings decreased by 5%.

In general, efforts have been made since the fuel crisis to use more fuel-efficient engines and fishing techniques. Fuel prices were particularly high in 2008 and 2012. One of the reasons behind a still relatively high fuel consumption is that the fishing grounds are spread out and sometimes far away from the Belgian coast. Another explanation is related to the use of trawling gear, as the focus remains on catching demersal species. Despite this, the fleet still seems to be making efforts to reduce their fuel consumption and improve their overall efficiency.

Labour productivity (GVA/FTE) also increased significantly over the years, peaking in 2016 and still remaining high in the following 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.

## 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 requirements (vessel under 12 metres using passive gears).

## Performance results of selected fleet segments

The Belgian fleet is dominated by trawlers (beam, shrimp and otter). In 2019, as was the case in 2018, the larger beam trawlers (TBB VL2440) appear to perform better than the smaller ones (TBB VL1824) in terms of GVA, revenue, profit and profit margins. The demersal trawlers (DTS VL2440) also have lower profits than the larger beam trawlers (less vessels). Their profit margins were higher in 2017 and 2018, but not in 2019. In other years, this fleet segment seemed to be relatively performing the best, but this is not the case for 2019. It must be noted that this is a clustered fleet segment containing a wide range of length categories.

This national division of fleet segments based on engine power forms the basis for management measures such as effort limitations and quota distribution. Roughly TBB VL2440 corresponds to the nationally defined "*large-fleet segment*" (engine power of >221 kW), consisting of vessels that make longer trips and visit the faraway fishing grounds. On the other hand, TBB VL1824 is a clustered segment and more or less corresponds to the "*small-fleet segment*" (engine power of ≤221 kW). These are the coastal vessels and *Eurocutters* that are allowed to fish within 12 nautical miles of the coast.

### Beam Trawl 24-40m

24 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 2019, the value of landings amounted to EUR 50 million, representing 66% of total landed value (similar to 2018). The vessels in this fleet segment target a variety of species, particularly common sole (30% total value of landings), European plaice (11%) and anglerfish (5%).

This fleet segment reported a positive gross profit of EUR 8.1 million and a net profit of EUR 3.8 million in 2019, a decrease of 0% and 57% compared to 2018. Average crew wage per FTE was highest in this fleet segment. Labour productivity was also relatively high. The profitability of this fleet segment was esteemed weak in 2018 and 2019, while it was reasonable both in 2016 and 2017. The gross and net profit margin were 16% and 7%, respectively.

Energy consumed per landed tonne was comparable to the value in 2018 (~1 800 litre/tonne), but higher than in 2017.

### Beam trawl 18-24m

20 active vessels operating predominantly in the North Sea, Eastern and Western English Channel, employing almost 16% of total FTE. Value of landings amounted to EUR 8.0 million, 11% of total national landings (a decrease compared to 2018). These vessels target a variety of species including common shrimp (3% of total value of landings), common sole (3%) and European plaice (1%).

Gross profit was still positive in 2019 (EUR 0.02 million), a decrease compared to 2018. However, a negative net profit of - EUR 0.95 million was generated in 2019 (EUR 1.1 million in 2018, -183%) and the GVA was EUR 3.35 million (~-40%). 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 gross and net profit margins were 0% and -12% in 2019 (an important decrease compared to 2018).

This fleet segment includes part of the smaller scale (coastal) section of the Belgian fleet. These vessels are less efficient than vessels in the larger fleet segment as they make short coastal trips and land low volumes. However, they are likely more vulnerable.

## Demersal trawlers

This segment operates predominantly in the North Sea (27.4) and Eastern Channel (27.7d) and employed 25% of total FTE. Value of landings amounted to EUR 16.6 million (22% of totals; an increase compared to 2018). Targeted species include *Nephrops* or Norway lobster (5% of value of landings), European plaice (5%) and common sole (3%).

Profitability in 2019 was weak with a negative net profit of - EUR 0.6 million (EUR 617 000 in 2018 a decrease of 199%). The gross and net profit margin were 8% and -4%. Energy consumed per landed tonne was lowest for this fleet segment (1 640 litre/tonnes). This fleet segment seems to have performed the best both in 2016 and 2017, but this was not the case in 2018 and 2019.

## Drivers affecting the economic performance trends

Since 2013, fuel prices have been decreasing and efforts have been made to reduce average fuel consumption leading to proportionally lower energy costs. Fish prices also increased leading to lucrative wages for the crew members. Overall economic performance improved between and figures between 2015 and 2017 were positive. In 2018, figures were still positive, however profitability decreased.

Despite higher average fish prices in 2018, the total value of landings was lower and fuel costs were higher. The value of landings in 2019 was the lowest record since 2014 with the same number of vessels and even lower in 2020.

Events such as the full implementation of the LO, COVID-19 outbreak as well as Brexit make for less optimistic forecast in the years to come.

## 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: EUR 11.2 per kg. The value of landings for sole increased by 17% compared to 2019 (~35% of the total value of landings).

Plaice prices have been increasing since 2013 and reached the highest yearly average in 2018: EUR 2.3 per kg. This in part accounts for the profitability of TBB VL2440 and TBB VL1824. It slightly decreased in 2019 to EUR 2.2 per kg. Both value of landings and landed weight were lower in 2019.

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, they were slightly lower than in 2018 and this fleet segment was not profitable.

Prices for Norway lobster increased considerably between 2014 and 2016, but decreased in 2017, 2018 and 2019 (-8% compared to 2018). Value of landings and landed weight increased compared to 2018. However, 2018 and 2019 were difficult years for DTS VL2440 and in 2019 they were not profitable.

Over the years common squids have become more important reaching the highest landings and value of landings in the time series in 2019 (516 tonnes; EUR 3.4 million). 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 is remarkable. Over 90% of landings in foreign harbours occurs in Dutch ports Netherlands. About a third of the fleet is also owned by Dutch nationals (Velghe et al., 2020). 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 2019 this exemption consisted of 101 tonnes of sole spread out over the different areas (58 tonnes in the North Sea) (Velghe et al., 2020). Once this amount exceeded, sole below the minimum landing size was landed and subtracted from the national quota.

In 2019 a total of ~1 880 kg of cod, 3 740 kg plaice and 4 680 kg of sole below minimum conservation reference size was landed in Belgian harbours; an increase of 170%, 110% and 60% compared to 2018 (Velghe et al., 2020), respectively.

In some cases an exemption with regards to high survivability is permitted. For e.g., undersized plaice may be discarded in the NS for beam trawlers with mesh sizes 80-119mm (vessels above 221 kW) if a benthos release panel is included in the gear. Vessels below 221 kW may discard undersized plaice if trawling time was less than 90 minutes.

### *Stock status, TACs and quotas*

Initial quota for Norway lobster and sole decreased in 2019 (-8% for sole) but increased again in 2020 (+34% compared to 2019 for sole). Quota for plaice saw a yearly decrease between 2017 and 2020, however, was still relatively high (esteemed positive stock status). Initial quota for cod decreased significantly in 2019 (-32% compared to 2018) and 2020 (-51% compared to 2019). This is mainly caused by a decline of North Sea cod quota and its unfavourable stock status.

The total quota for sole, which is especially important for the Belgian fleet, was initially 2 670 tonnes and 3 530 tonnes after swaps (69% of this was caught). The later represents a decrease of 2% compared to 2018. The sole stocks in the Western English Channel (27.7.e), Eastern English Channel (27.7.d), Celtic Sea (27.7.fg) and in the Bay of Biscay (27.8ab) are currently exploited at sustainable levels. The North Sea stock (27.4) are approximating precautionary approach limits. The fishing mortality was above the  $F_{MSY}$  reference point in 2019, while the spawning stock biomass remained low (below all reference points) (ICES advice, 2020).

Spawning stock biomass of sole in the Irish Sea (27.7.a) has been below sustainable levels since 2003, reaching a historical lowest point in 2014. Therefore, quota restrictions were implemented.

The quota for plaice was 9 995 tonnes after swaps in 2019 (-5% compared to 2018); 57% of this was caught. Plaice stocks have developed favourably under the current management plans. Plaice stocks in the North Sea, the Irish Sea and the Bristol Channel (27.7.f,g) were exploited at sustainable levels according to ICES advice. Caution must still be applied as discard rates for plaice were estimated to be high. However, this information points towards a healthy stock status. Plaice stocks in the Eastern English and Western English Channel were harvested above the  $F_{MSY}$  reference point in 2019 (ICES advice, 2020).

The quota for cod was 1 290 tonnes after swaps in 2019; North Sea cod was harvested unsustainably for many years. Despite the implementation of the cod management plan since 2003 and some signs of stock recovery, cod in the North Sea and Eastern English Channel remains a point of concern. Fishing mortality declined since year 2000 but increased since 2016. In 2019 fishing mortality was above precautionary approach limits. Similarly spawning-stock biomass decreased since 2015 and was below precautionary approach limits in 2019 (ICES advice, 2020).

### *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. The Belgian fleet is dominated by trawlers, both beam and demersal trawlers. Therefore, as trawling is typically fuel intensive, even slight decreases of the fuel price might make a difference. Fluctuations in fuel prices are therefore a key driver for the profitability of the fleet.

## ***Innovation and Development***

Research on technical innovations and alternatives for the beam trawler in the flatfish and shrimp fishery is on-going. The fuel crisis of 2008 forced the fleet to adjust to the rapidly increasing fuel costs. A number of vessels changed from traditional beam trawling to alternative beam trawling methods. For example, to reduce drag forces, a beam on wheels was introduced (Ecoroll) or the beam was replaced by a wing (SumWing). Some vessels even adopted a combination of both. Other adjustments were to reduce the overall weight of the used gears and replace old engines, nozzles and propellers. Subsidies were granted to encourage taking these measures.

Facing the implementation of the 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.

## **Nowcasts for 2020-21 and beyond**

### **Model results**

Overall, it is expected that 2020 and 2021 will be less profitable than in 2019. However, the forecast still indicates a positive and better outcome in 2020 compared to 2019, as a consequence of the decrease of fuel costs (-38% in 2020 compared to 2019). For 2021, the model forecasts an 42% decrease in gross compared to 2020. It is estimated GVA will reach EUR 28 million and gross profit EUR 7 million.

### **Outlook**

Initial quota increased for sole (+34%) and Norway lobster (+4%) in 2020. It decreased for plaice (-4%) and cod (-51%). However, regardless of the fishing opportunities, 2020 was a very special year with COVID-19 outbreak and the demand for fishing products drastically dropped. The value of landings decreased in 2020 (-31%) as did the landed weight (-6%), while the number of active vessels remained the same.

### ***Landing obligation***

With the full implementation of the LO as of 2019, its effects on fishing activities and performance may become more visible than in previous years.

It is believed that the socioeconomic impact of the LO will not be negligible. Fishers fear that the LO will have a large impact on their profitability and that they may have more difficulty to find crew. It is furthermore expected that the concerns related to choke species, will become apparent as of 2019. Dab and brill are potential choke species for the Belgian fleet.

Despite exemption measures, the landings of species below minimum landing size increased in 2018 and 2019 compared to 2017. At the time of writing, the total quota and *de minimis* amounts for 2021 were not final awaiting further agreements with the United Kingdom in the framework of Brexit.

### ***Brexit***

At the end of 2020, an agreement was reached between the EU and the UK. Belgium will still be permitted to harvest sole, anglerfish, plaice and rays from British waters and retain access to the 6-12

nm zone for the next 5.5 years. Additionally, 25% of the value of landings extracted from British waters will have to be refunded to the UK. Furthermore, a yearly quota reduction of 25% is foreseen.

At the time of writing this report uncertainty remains concerning the implementation of these agreements. However, as things are now, this will certainly have an impact on the Belgian fleet. The Belgian fleet is highly dependent on landings from within British waters and this transition period is relatively short. European support is foreseen, however, the industry will need to adjust quickly.

Quota distributions for 2021 were only set for the first quarter. Furthermore, delays in distributing permits for Belgian vessels to access the 12nm zone were observed. By the end of January 2021 most permits were granted. Many vessels decided to proceed with activities in the North Sea due to uncertainty regarding landings in British harbours (unclear administrative paperwork). As a consequence, sole landings in January and February 2021 were much lower than in the same period in 2019 and 2020, while the plaice landings increased.

## COVID-19

In March 2020 Belgium went into lockdown. This had an impact on the organization of the entire country. The fishing sector was permitted to continue its activity. However, the demand for fish largely decreased while the supply remained the same. As a consequence, first sale prices dropped up to 50% for some species. Only the prices of sole remained stable during the first lockdown (March to June 2020).

Some reasons for this sudden change in demand were:

- Closing of the HORECA sector (mainly restaurants), schools, public markets and fresh subsections of supermarkets;
- A reduction of exports, for e.g. cuttlefish and flatfish to Spain and Italy;
- Favoring using vacuum packaged products, for e.g. in retirement homes;
- fish processing companies were also affected as it was no longer possible to supply to for e.g. restaurants.

As a result, fishers had to make a cost benefit analysis to decide if they would set sail, given low fish prices on one hand and low fuel prices on the other hand. Even though prices for sole remained relatively high, there was an additional fear that if targeted too much, the quota would not be sufficient to last through the year. As a consequence, some vessels decided to remain in the harbor. Fishers who temporarily stopped working fell under a special status (technically unemployed) and received an unemployment benefit.

To stabilize the prices, a rotation system was introduced to reduce supply between the 1<sup>st</sup> of May and the 31<sup>st</sup> of August. Financial support was given during this period for remaining in the harbor. This is a weekly compensation for maximum three weeks. Additionally, a maximum of 40% of the total fleet may remain in the harbor while applying for a compensation. The distribution is as follows:

- EUR 6 000 /week for vessels > 221kW;
- EUR 1 500 /week for coastal vessels;
- EUR 2 250 /week for other vessels ≤ 221kW (non-coastal vessels).

Later in 2020 there was a brief reopening of the HORECA sector (a few months). It was closed again and remained so until the time of writing (it was planned to reopen as of May 2021). Measures were implemented throughout 2020 and 2021 to prevent COVID-19 from spreading during fishing activities. These entailed a number of logistical complications for fishers and their crew.

The COVID-19 situation will affect the outcome of 2020. The closing of the HORECA sector had an impact on the value of landings (-8% compared to 2019). Total landings decreased by 5%. It is may be that the catch composition for this period will be different compared to other years. Sole remained the most important species, but it's share to the value of landings increased considerably (42% in 2020 compared to 36% in 2019). The share of plaice decreased to 11% of the value of landings (17% in 2019). The total effort was lower. As crew wages are correlated to the value of landings, these will also decrease compared to previous years.

Overall, 2020 and 2021 will be challenging years for the Belgian fishing industry.

## Data issues

Data comes from the Department of Agriculture and Fisheries of the Flemish Government who conducts the data collection. The questionnaire was adjusted in 2017 and fine-tuned in 2018 to meet the needs of the New 2016 EU Decision. This may have an impact on the time series of certain

variables requested in this data call. For example, investments increased enormously, and this may be an anomaly as a result of interpreting this variable differently. Furthermore, subsidies were now split into different variables and definitions annexed to the questionnaire were clarified, leading to some unusual trends. Direct income subsidies decreased by 51% in 2017.

Response rate with regards to number of unpaid labour was too low in 2017 and 2018 to make sensible estimations. In 2019 an estimation was 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 6% of the fleet was inactive in 2019 (four vessels).

As the Belgian fleet is small, fleet segment aggregation (clustering) has been inevitable. The Belgian fleet is mainly composed of demersal trawlers and beam trawlers. Only a few other fishing gears were in use (seiners, dredges, gill nets and trammel nets). As the number of vessels using these as their main gear has been very low throughout the years, they were grouped in a separate fleet segment (PMP VL1824).

## References

ICES Advice (2020). COD - cod.27.47d20 – <https://doi.org/10.17895/ices.advice.5891>

ICES Advice (2020). -ple.27.7d –

<https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2020/2020/ple.27.7d.pdf>

ICES Advice (2020). - ple.27.7e– <https://doi.org/10.17895/ices.advice.5874>

ICES Advice 2020 – ple.27.7a – <https://doi.org/10.17895/ices.advice.5918>

ICES Advice 2020 – ple.27.420 – <https://doi.org/10.17895/ices.advice.5910>

ICES Advice 2020 – ple.27.7fg – <https://doi.org/10.17895/ices.advice.5872>

ICES Advice 2020 – sol.27.7fg – <https://doi.org/10.17895/ices.advice.5851>

ICES Advice 2020 – sol.27.7a – <https://doi.org/10.17895/ices.advice.5853>

ICES Advice 2020 – sol.27.7d – <https://doi.org/10.17895/ices.advice.5947>

ICES Advice 2020 – sol.27.8ab – <https://doi.org/10.17895/ices.advice.5850>

ICES Advice 2020 – sol.27.7e – <https://doi.org/10.17895/ices.advice.5852>

ICES Advice 2020 – sol.27.4 – <https://doi.org/10.17895/ices.advice.5946>

Velghe, M., Scherrens, N., & De Temmerman, P.-J. (2020). De Belgische zeevisserij 2019: Aanvoer en besomming: Vloot, quota, vangsten, visserijmethoden en activiteit. De Belgische zeevisserij: aanvoer en besomming. Departement Landbouw en Visserij: Brussel. 108 pp.

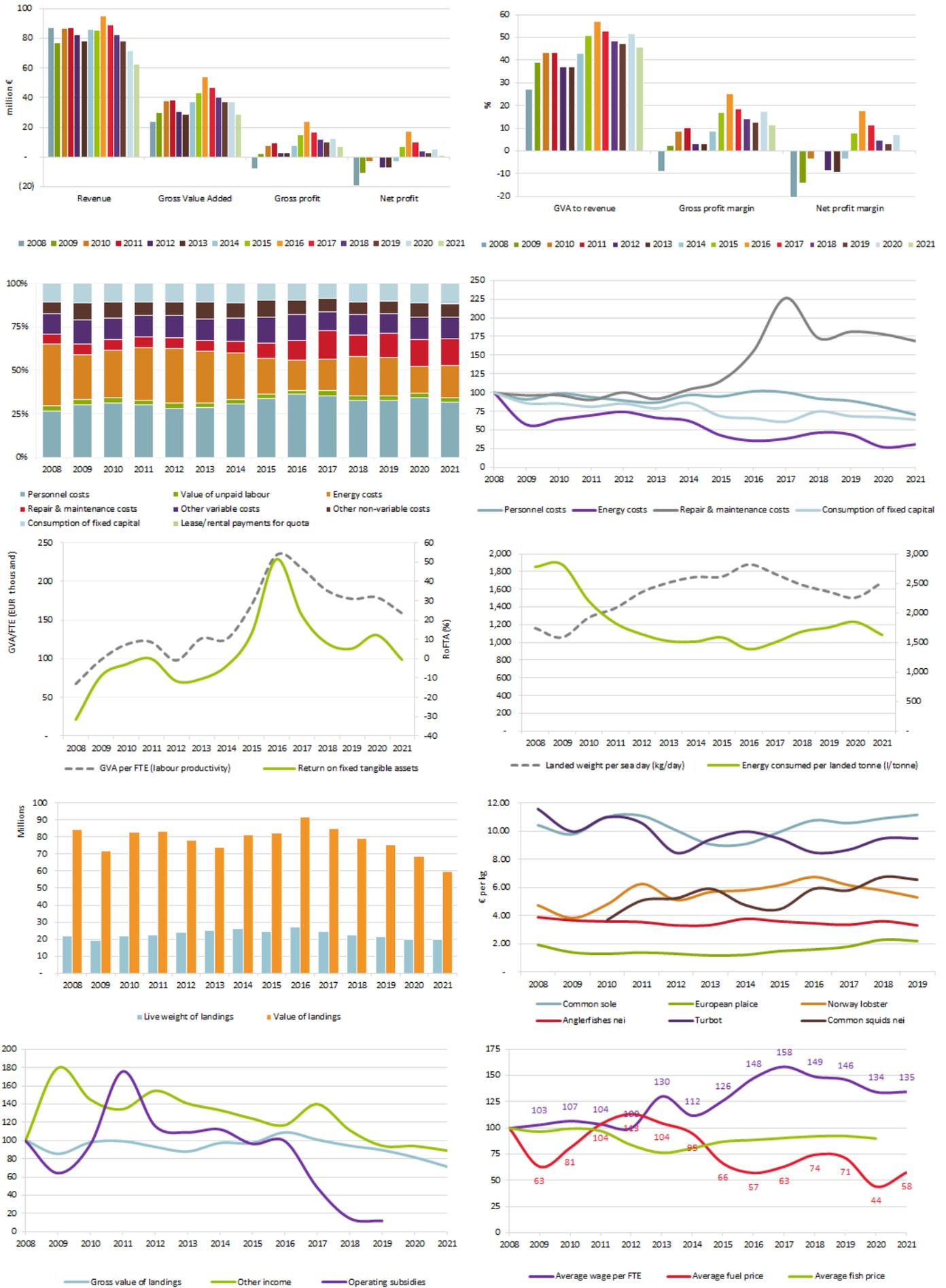


Figure 4.1 Belgium: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;

## landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

## 4.2 Bulgaria

### Short description of the national fleet

#### Fleet capacity

In 2020, the Bulgarian fishing fleet consisted of 1 830 registered vessels, of which 1 233 were active and the remaining 597 vessels were inactive. The active fleet had a combined GT of 4 895 tonnes, engine power of 40 404 kW and an average age of 22 years.

#### Fleet structure

The Bulgarian fishing fleet is divided into a SSCF (1 017 vessels, representing 91% in 2019) with an engine power of 21.3 kW and a LSF segment (106 vessels, representing 9% in 2019) with an engine power of 16.4 kW. The overall size of the Bulgarian fishing fleet decreased 1% between 2018 and 2019, and by 14% compared with the average for the period 2008-2018. Between 2018 and 2019, the inactive vessels increased by 10% while the number of active vessels decreased by 7%. Compared to 2018 in 2019, the active SSCF decreased by 8%, while the active LSF increased by 1%. In the active SSCF, GT and kW decreased by 8% and 7%, and in the active LSF, GT increased by 3% and kW increased by 1%, respectively.

#### Employment

Total employment in 2019 was estimated at 1 619 jobs, corresponding to 938 FTEs with an average of 0.84 FTE per active vessel. The level of employment decreased between 2018 and 2019 by 9%, but the total employed for 2019 remains 7% higher compared to the average total employed for the period 2008-2018. The decrease in employment might be because of the decreasing of active SSCF vessels. 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 are unpaid labour. This can be explained by fact that 63% of the active vessels in 2019 had between 1 and 10 days at sea and 15% had between 11 and 20 DaS for the whole year. These vessels are used mainly by the owner or family member.

#### Effort

The Bulgarian fleet spent 22 375 days-at-sea in 2019, a 1% decrease compared to 2018 and a 10% increase over the period 2008-2018. While the days-at-sea remained steady in the period 2013-2015, data for 2016 and 2017 indicated almost 20% increase compared to the period. In 2020 the days-at-sea were at the same level as in 2018 and 2019 (22 831 days).

The quantity of fuel consumed in 2018 totalled 2.81 million litres, an increase by 2% in 2019, totalling 2.86 million litres. According to the data, the increasing trend seems reliable in 2019 compared to the trend over the years and the expectations are to raise further in next years, which is reasonable when engines of the vessels are getting older.

#### Production

The total landed weight in 2019 was 10 269 tonnes of seafood, with a landed value of EUR 6.16 million. Compared to the period analysed (2008-2018) the total weight of landings increased by 21% while the value increased by 5% and compared to 2018 the total weight increased by 20% while the value decreased by 21%.

Regarding the top species in terms of value, the price of sea snails for 2019 decreased by 21% compared to 2018 and compared to the period 2008-2018, decreased by 6%. The average first sale price for 2019 for European sprat decreased by 42% compared to 2018 and decreased by 29% compared to the period 2008-2018. The price of sand gaper increased by 4% compared to 2018 but it was 25% higher than the average for the period 2013-2018. In 2019 the price of bluefish increased by 30% compared to 2018, while the price of red mullet decreased by 28%. Turbot continued to be very important due to the quota and the price has increased by 2% compared to 2018 achieved an average price of 6.3 euro/kg.

The main landed species for the Bulgarian fleet as a percentage of the total are the sea snails, with 32% in value and 41% in weight, followed by the European sprat, with 27% in value and 45% in weight.

## Economic results for 2018 and recent trends

### National fleet performance

The amount of income from landings generated in 2019 was EUR 6.16 million while non-fishing income amounted to a further EUR 0.31 million, and the total amount of income EUR 6.47 million. In 2019, the income from landings decreased by 21% compared to 2018 but it was 5% higher than the average for the period 2008-2018. The decrease in income from landings was due to the decrease in the total landings, combined with the reduction of the first sale price. The other income, which is mainly coming from tourists activities, increased by more than 100% to 2018 but they are still far from the 2015 level, when it was more than EUR 2 million.

In general, all costs decreased by 19% between 2018 and 2019. The wages and salaries of the crew in 2019 decreased by 13% compared to 2018 and 49% to the period 2008-2018. The most valuable cost, energy costs, also decreased and in 2019 it was 17% less than in 2018.

The operating costs in 2019 amounted to EUR 2.98 million. Energy costs and crew costs were the two major cost items (EUR 1.14million and EUR 0.92 million, respectively). However, EUR 0.11 million of crew cost were estimated for the unpaid labour which remained in the hands of the fishers as working capital. Between 2018 and 2019, operating costs decreased by 13%.

In terms of economic performance, the GVA, gross profit and net profit in 2019 were estimated at EUR 4.5 million, EUR 3.5 million and EUR 3.6 million, respectively. The net profit in 2010, 2011 and 2014 was negative, the value for 2015 to 2017 showed improvement but in 2019 the value continued to decrease compared to 2018 and 2017.

In 2019, the Bulgarian fleet had an estimated value of physical capital of EUR 15.7 million and investments amounted to EUR 0.1 million, which is a 13% decrease of the value of physical capital and 100% increase of investments, compared to 2018. The estimated value of total assets in 2019 was EUR 14.9 million.

The distribution of the fleet has not changed over time. According to the number of vessels, SSCF is the main fleet in Bulgaria, with 1 017 active vessels in 2019. They spent 12 836 DaS and landed 2 510 tonnes of fish for EUR 2.55 million. The LSF spent 9 539 days-at-sea and landed 7 760 tonnes of fish for EUR 3.6 million.

The difficult access to funding by the Operational Program under EMFF for SSCF is the main reason for the very low value of investments during the last years. Fishers spent their own funds or use additional funding and generate debts that amounted near EUR 0.01 million.

### Resource productivity and efficiency indicators

In 2019, the gross profit margin was 53.92%, indicating a 5% decrease in operating efficiency of the sector compared to 2018. However if it is compared to the period 2008-2018 an increase of 76% is observed. This is also seen in the net profit margin for 2019 which increased slightly (2%) compared to 2018 and 191% over the period 2008-2018. A RoFTA near 21% in 2019, confirms an improvement over the period 2008-2018.

In 2019 labour productivity decreased by 47% compared to 2018 and drop down even more than the level of 2014. The indicator for 2019 was 45% lower than in the period 2008-2018.

Fuel consumption per landed tonne followed an overall increasing trend since 2008. In 2019, it was estimated at 279 litres per landed tonne which was 50 litres less per landed tonne compared to 2017 and 6% increase compared to the amount of 262 litres per landed tonne during the period 2008-2018. Taking into account the average age of the fleet, this is a standard consumption for a typical fishing vessel in the Black Sea region.

Landings in weight per unit of effort (in DaS) followed the increasing trend starting from 2017 (after the lowest value in 2016) and in 2019 increased by 22% compared to 2018 and 2% than the average for 2008-2018.

### Performance by fishing activity

## Large-scale fleet

The Bulgarian LSF consisted of 106 vessels in 2019: 22 of them were under 12 metres, but with active gears; 13 of them were between 0-6m using beach seines, four were between 6-12m using beach seines, two were between 6-12m using mid-water trawls and three vessels between 6-12m were with beam trawls. The FTE was 191 in 2019, which is 5% lower than in 2018 (representing 253 total employed -7% less-) were employed in the LSF segment.

This LSF produced 7 758 tonnes of landings, which were 76% of the landings of the whole fleet. Its value was estimated at EUR 3.61 million, representing 59% of the value of all landings.

The income from landings decreased by 24% and it came back to the value of landings in 2017, but the other income increased significantly. In 2019 wages and salaries of crew decreased by 14% compared to 2018 and 15% compared to the overall period 2008-2018. The number of unpaid labour in LSF was 58, or 4.6% of the total in the fleet. The main expenditure - energy costs, decreased by 18% and the other variable costs by 15%. The other non-variable costs and value of unpaid labour increased by 17% and 62%, respectively, and the repair & maintenance costs decreased by 6%. The most significant changes between the values of variables in 2019 and the period 2008-2018 were the decrease of the value of unpaid labour and the decrease of the other variable costs, by 77% for both.

## Small-scale coastal fleet

The majority of the vessels in 2019 (1 017 from 1 123 active vessels) had a total length under 12 metres, used only passive gears and carried out mainly a small-scale coastal, seasonal fishing. Their preferred fishing gear was gillnet (anchored) and for catching sea snail they used the manual method by scuba diving. The total number of employees was 1 366, but this number includes also the unpaid labour - 1 191. 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 restaurant. The live weight of landings was 2 510 tonnes, decreased by 4% compared to 2018 and decreased by 1% to the period 2008-2018. The value of the landings in 2019 decreased by 16% to 2018 and it was 25% higher than the average for 2008-2018. The net profit for 2019 decreased by 10% compared to 2018, but it was 171% higher than the average for the period 2008-2018.

The increase of the net profit margin was only 3% from 2018 to 2019, but compared to the period 2008-2018 it was 270%. These significant differences were possible because over the period 2008-2019 there were 3 years (2011, 2013 and 2014) in which the net profit was actually a net loss, because the expenses of the SSCF exceed the income or total revenue produced during the years.

## Performance results of selected fleet segments

The fleet is diverse with a broad range of vessel types targeting different species only in the Black Sea. The national fleet consisted of 24 active fleet segments in 2019, with a further 722 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 17 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 2019, the Bulgarian fleet was clustered in six segments: drift net 12-18m (10 vessels), purse seiners 0-6 (18 vessels), vessels beam trawls 12-18m (12 vessels), vessels using *pots and traps* 6-12m (35 vessels), pelagic trawls 12-18m (21 vessels) and vessels using passive gears only (21 vessels).

Four fleet segments obtained more than 1 000 tonnes in live weight of landings:

### Pelagic trawlers 24-40m

In 2019, 10 vessels made up this segment that targets a variety of species but in particular European sprat and sea snail exploited by some vessels which had as a second fishing gear the beam trawl in the segment. In 2019, the total live weight of landings was 3 009 tonnes with a value EUR 1.14 million (decreased 24% compared to 2018) and 42 FTEs were employed in this fleet segment. The profitability of the segment is high, and according to the economic development, the trend is improved. In 2019 the net profit margin increased by 37% compared over the period 2008-2018.

### **Polyvalent active and passive gears 6-12m**

In 2019, 148 vessels made up this segment that targets mainly sea snails, sand gaper, red mullet and Mediterranean horse mackerel. In 2019, the total live weight of landings was 1 474 tonnes with a value EUR 1.42 million (a decrease of 16% compared to 2018) and the fleet segment employed 79 FTEs. The profitability of the segment is high and the net profit margin in 2019 increased by 69% compared to the period 2008-2018.

### **Pelagic trawlers 12-18m**

In 2019, 21 vessels made up this clustered segment targets European sprat, sea snail and red mullet. In 2019, the total live weight of landings was 1 402 tonnes with a value EUR 670 334 (a decrease of 39% compared to 2018) and 42 FTEs were employed in this fleet segment.

### **Polyvalent active and passive gears 12-18m**

In 2019, 21 vessels made up this segment that targets a variety of species but in particular red mullet, sea snails, and turbot. In 2019, the total live weight of landings was 1 087 tonnes with a value EUR 619 003 and the fleet segment employed 35 FTEs.

The profitability of ten of the fleet segments, which involve 321 vessels was high for 2019, while two of the segments (420 vessels) were with reasonable profitability, and the rest five segments, represented by the rest of 382 vessels showed weak profitability.

## **Drivers affecting the economic performance trends**

The prices of fish and fuel were the main driving forces behind the overall sustainability of the fleet.

The stable average price of some important species with significant landings for the Bulgarian fleet as sea snail had a positive impact on the profitability of some segments of the fleet even with a decrease of the average price of European sprat.

Also, the fact that the days-at-sea for the whole fleet stays almost the same as in 2018, and energy costs decreased by 17% helps for the positive situation. This was possible because the decrease of effort was only coming from the SSCF and days-at-sea of the LSF increased by 10%. Both SSCF and LSF, were supported by the increase in other income mainly is generated by tourist activities.

## **Markets and Trade**

The domestic market has not increased the demand for the local fishery so that the catches are similar levels for small pelagic, as well as for demersal species. The yearly consumption of fish and fish products had a slight increase from 5.2 kg per capita in 2018 to 5.3 kg for 2019 and 5.6 kg for 2020. 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 2019, total imports of fish and fishery products in Bulgaria amounted to 43 139 tonnes, which is 1.6% increase compared to 2018. The decrease of supplies of aquatic invertebrates and molluscs was compensated by the increase in the import of fillets, chilled fish, crustaceans, and processed fish.

About two-thirds of the total quantities of imported fish and fisheries products in 2019 were from the EU (28 227 tonnes, 6% less than in the previous year). Imports from third countries increased by 20% for the same period.

The total Bulgarian export of fish, aquatic and fishery products in 2019 amounted to 15 890 tonnes, 4.9% lower than the previous year, due to the reduction in mollusc (fresh and frozen) exports.

79% of the total export of fish and fish products during 2019 was for the EU. The amount of 12 505 tonnes allocated to the EU decreased by 4.6% compared to 2018.

The most significant dispatches were for Romania, Sweden, Greece, Belgium, the Netherlands. Exports of fish and fishery products to third countries decreased by 5.9% compared to 2018.

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.

However, in 2019 the increased value of catches, reduction of fish prices for some traditional species, and the lower export supported the domestic market and increase of fisheries product by Bulgarian citizens.

### Management instruments

As EU Member State and a contracting party to GFCM Bulgaria is applying monitoring, control and surveillance (MCS) activities in combating IUU fishing system and, consequently is working in strong cooperation with EFCA, of sound fisheries management to increase the control and monitoring of landings of all species and especially of turbot. All measures as designated ports to land turbot, equipment of all turbot fishing vessels with a tracking device, introduced minimum size for turbot, etc. have a very positive impact on reducing IUU-fishing.

Furthermore, an international scheme for joint inspection and surveillance in the Black Sea was established. Ensuring the minimization of the risk of IUU turbot fisheries all vessels who receive a permit to catch turbot are obliged to be equipped with tracking devices regardless of their length. The fleet is managed mainly through TACs, together with a range of input controls. With the Recommendation, GFCM/43/2019/3 the multiannual management plan for turbot fisheries in the Black Sea which lay down a list of measures and total allowable catch for 2017-2019 was amended for the period 2020-2022.

### TACs and quotas

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.

In 2017, quotas were 43.2 tonnes of turbot and 8 032.5 tonnes of sprat and landings were 41.8 tonnes of turbot and 3 189 tonnes sprat, respectively.

At its 41st Annual Meeting in 2017, the General Fisheries Commission for the Mediterranean (GFCM) adopted Recommendation GFCM/41/2017/4 on a multiannual management plan for turbot fisheries in the Black Sea. The recommendation a total allowable catch (TAC) for turbot for 2 years (2018-2019) with a temporary allocation of quotas. With the adoption of Council Regulation (EU), 2017/2360 of 11 December 2017 quota for sprat was fixed at the same level as in 2017 while the quota for turbot was allocated to 57 tonnes for Bulgaria which is 32% more than in 2017.

After amendments of the multiannual management plan for turbot due to decisions taken during Working Group on the Black Sea (WGBS) held in September 2019 was adopted Council Regulation (EU) 2019/2236 of 16 December 2019 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Mediterranean and the Black Sea. With the regulation quota for sprat remain the same while turbot quota was increased to 75 tonnes for Bulgaria, 32% compared to 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 the same fishing opportunities were fixed for 2021 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 also helps for improving part of fleet performance. The trend continues and in 2021 where 216 vessels are allocated to catch turbot.

### 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. This change in the distribution of expenses was due to the decrease of the average annual wage which can be explained by the huge number of small coastal vessels and the growing number of unpaid workers. The sector continues to offer very low wages, compared to the other sectors in the country. This is why the larger percentage of vessels` owners perceive fishing as a family work for livelihood, not as a business.

The value of the wages and salaries continue to decrease between and in 2019 and decreased also as a percentage of the operating costs by 13%. The energy cost, which was the second major cost item during the years took has become the most significant expense in 2019. The price of fuel is not particularly constant, but from 2014 up to 2016 decreased year by year, in 2017 it was stable and in 2018 increased. The average price of diesel in 2018 and 2019 was almost stable with a negligible decrease of 0.5% and this was a factor for near 70% of the active vessels from the Bulgarian fleet.

## 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 2019 almost EUR 13 000 in subsidies for investments were provided to Bulgarian fishers. The support was mainly used for improving electronic equipment and for safety measures for the crew. The tendency from last years for basic development on the gear or engine reparation, as well as on improving terms of fish preservation or the processing is still valid which is understandable from fishers point of view which main aim is increasing product quality and value.

## Nowcasts for 2020-21 and beyond

### Model results

Overall, it is expected that 2020 and 2021 will be less profitable than 2019. The forecast indicates a negative outcome in 2020 compared to 2019, as a consequence of the decrease of landings (-31% in 2020 compared to 2019). For 2021, the model forecasts an 25% decrease in Gross profit compared to 2020. It is estimated GVA will reach EUR 2.6 million and gross profit EUR 1.7 million.

### Outlook

In 2020, 6 227 tonnes of seafood were landed by the Bulgarian fleet, with a value of EUR 4.5 million which is 26% lower than the value of landings from 2019. The decrease in the landings of the two most important species in terms of landings /rapa whelk by 35% and sprat by 65%/ in 2020, led to a decrease of 39% in total landings.

Based on the available data showing a decrease in volume and value of landings for 2020 and the additional COVID-19 consequences, the economic performance during 2020 deteriorated compared to the overall improvement in the last years.

### COVID – 19

After the introduction of the state of emergency from 13 of March to 13 of May in 2020, the Bulgarian fisheries sector was suffered during the pandemics' outbreaks with loss of market due to constraints for travelling at all, at the beginning of the period. There was no ban on fisheries activities in regards to COVID-19. Both, commercial and recreational fisheries shall be carried out by respecting the safety rules adopted by the Government and avoiding close contact with other persons. The closure of the tourism sector was also with high impact on the supply of fisheries products.

During March and the second quarter of the year (when the state of emergency and number of restrictions were applied), there was a decrease in fishing activities compared to previous years. Based on the data available the days at sea in March, April, and May 2020 decreased by 36%, 53%, and 33%, respectively when compared to the same period for 2019. The landed weight for the period decreased by around 50% and the value also decreased by 25%.

At the beginning of the pandemic, the prices of the most important commercial species increased significantly compared to 2019 – sprat 116% increase, anchovy 35%, rapa whelk 19%. Due to the restrictions for travelling the export was reduced to zero in the early stage of the pandemic. The reduction of exports was crucial for the Bulgarian fisheries sector because the sector, usually realised a bigger part of the production out of the country market. The reduction of export was crucial for the decrease in annual average prices for rapa whelk by 11% and by 17% for turbot in 2020 compared to 2019. The average price of sprat in 2020 increased by 6% compared to 2019 because the species is traditional for the local markets and the sector was able to supply after the reduction of restrictions.

In the second half of the year, the fleet tried to compensate the losses with an increase in fishing activity which could explain the increase of days at sea but unfortunately were not possible to compensate for the volume of landings that was already dropped down.

The government has started different measures aimed at reducing the economic impact of the COVID-19 pandemic on businesses and individuals. The support took the form of reduction of certain taxes, deferred payment of certain credits, and compensatory payments. With the support of the EU and EMFF, 71 Bulgarian vessels (48 companies) were compensated under the measures due to COVID-19 with a total of EUR 929 698.

## **Data issues**

### **Identify changes in respect to previous years**

The only change that was done during the last data call was in the cluster naming which was only to keep the cluster consistency. All the clusters were used only for data reporting, not for data collection because the data was collecting through questionnaires from all vessels.

### **Improvements achieved within 2019 data collection**

No major improvements were achieved during the last year. The overall performance in last years continues and during the last data call.

### **Problems identified**

No problems were identified.

### **Remaining issues**

No major data issues were identified during the meeting, and all minor ones were corrected, the data was resubmitted and validated.

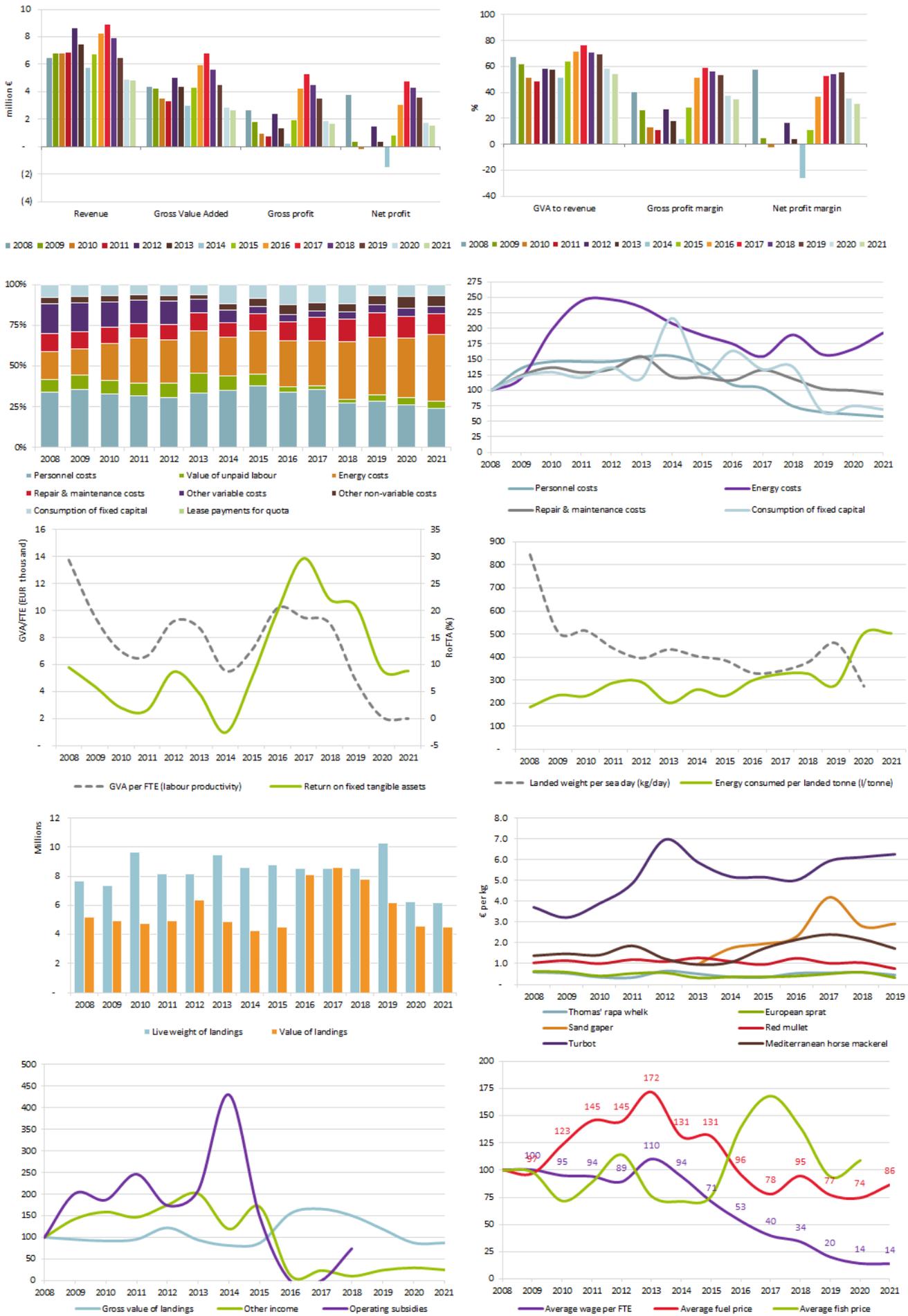


Figure 4.2 Bulgaria: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;

## landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

### 4.3 Croatia

#### Short description of the national fleet

##### Fleet capacity

In 2019 Croatian fishing fleet consisted of 7 829 vessels of which 6 216 were active. Fleet capacity remained stable in 2019, with increase of 1% in the number of vessels compared to 2018 and decrease by 1% compared to the average value 2015-2018. GT and kW have been reduced by 9%, compared to average values 2015-2018. Inactive vessels represented 21% of the total fleet registered in 2019.

##### Fleet structure

The Croatian fleet, which operates solely in the Northern Adriatic Sea, is divided into main commercial fleet and a category of small-scale artisanal coastal fisheries for personal needs consisting of some 3 500 vessels. These vessels were transferred into the commercial SSCF in 2015, pursuant to Croatia's Accession Treaty, however they continue to operate mostly for personal needs and are kept as a separate legal category with specific requirements and constraints.

In 2018, the active fleet was divided into 85% SSCF (5 166 vessels) and 15% LSF (897 vessels). Engaged crew in SSCF amounted to 69% (44% FTEs) and to 31% in LSF (56% FTEs).

Decline in fleet capacity in 2018 is due to reduction of LSF by 7% in number of vessels, 11% in GT and 10% in kW compared to 2017, as scrapping of PS, DTS and DRB vessels has continued in 2018.

The number of fishing enterprises totalled 5 684, with the majority (88%) owning a single fishing vessel, as is typical of artisanal fleets. More than 45% of Croatia's fishing vessels are registered as multipurpose vessels with a possibility to use different gears over the course of the year.

##### Employment

The total number of employees remained stable in 2019 and is estimated at 7 952, corresponding to 3 125 FTEs. Engaged crew in SSCF amounted to 70% (45% FTEs) and to 30% in LSF (55% FTEs). The level of employment is steadily increasing since 2012, and compared to 2012-2018 average, engaged crew increased by 32% and FTE by 19%. However, this increase is mostly due to activation of SSCF vessels in 2015, while engaged crew in LSC decreased by 11% compared to 2012-2018 average.

As the need for labour in LSF is increasing, mostly due to competition for workers during the tourist season, an annual quota of 540 licenses for the employment of foreign workers was approved for 2019 according to the Government Decision from December 2018.

##### Effort

In total around 306 000 days were spent at sea in 2019 (+18% compared to 2018) of which 68% in SSCF. In line with the limitation of effort for purse seiners for small-pelagic fish and temporal cessation in pelagic and demersal fishery, reduction of effort (expressed in sea days) compared to 2014 is evident in LSF which is continued in 2019 (-5%). In contrast, effort increased in SSCF by 28% compared to 2019, and by 47% compared to 2015, which is consistent with the inclusion of small-scale artisanal coastal vessels to the commercial fleet in 2015.

##### Production

The overall landing of seafood has been gradually decreasing since 2014 due to management measures in the Adriatic Sea. Compared to 2014 when it has been at its highest, landings decreased by 20% to 63 350 tonnes of landed seafood products in 2019, while landed value has decreased by 9% amounting to EUR 56.7 million in 2019.

More than 110 species are caught commercially in Croatia as is typical of multispecies fisheries. However, small pelagic species targeted in purse seine fisheries, of which sardine and anchovy are most important, by far dominate the overall catch structure and accounted for 91% of total volume and 49% total value of products landed in 2019. Higher value species targeted by demersal fisheries,

European hake, Norway lobster, deep-water rose shrimp, common sole and red mullet, account for 5% in terms of quantity and 22% in terms of the value.

Prices obtained for the key species targeted by the fleet generally remain stable in the period 2012-2019. Slight annual variations of the prices are mostly resulting from changes in volume of landings over the period. Annual variations in prices are more evident for higher value demersal species.

As in previous years, in 2019 purse seiners from 24 to 40 metres LoA contributed for the majority of landed weight and value, 54% and 29%, respectively. Overall, purse seine segments amount to over 90% of volume and 50% of value of products landed, and are managed under the provisions of a multiannual management plan for small pelagic fish in the Adriatic Sea as adopted under the GFCM.

## Economic results for 2019 and recent trends

### National fleet performance

In 2019, the economic performance of the overall fleet remained stable compared to previous years. Total revenue estimated at EUR 84.4 million has slightly decreased by 3% compared to 2018 but compared to 2012-2018 average revenue increased by 17%. The major factor for the positive trend is higher revenues from landing income and an increase in income from other sources which has more than tripled since 2016 and represents 30% of all income in 2019.

The total amount of GVA and gross profit in comparison to 2018 decreased by 2%, EUR 50.5 million and EUR 23.7 million, respectively, while net profit increased by 2% (EUR 3.9 million).

Total expenditures decreased in 2019 by 2% compared to 2018 and amounted to EUR 79.2 million. Decreased fuel costs (-3% compared to 2018) are a result of lower fuel prices in 2019, from 0.63 EUR/litre in 2018 to 0.59 EUR/litre in 2019, while energy consumption has remained almost the same. As in previous years, personnel costs have the highest share of 29% and followed by energy costs with 19% of all costs.

Decreasing trend of value of physical capital which started in 2015 has stabilized in 2019 and estimated (depreciated) replacement value amounted to EUR 196 million.

### Resource productivity and efficiency indicators

An overall improved development trend is present as of 2017. The gross profit margin in 2019 was 28%. Net profit margin was estimated at 5% in 2019, an increase since 2018.

Labour productivity (GVA per FTE) amounted to EUR 16 150, slightly decreasing by 2% compared to 2018 and increasing by 25% compared to the 2012-2018 average as both FTE and GVA increased by 19% and 14%, respectively, in the same period. Similarly, return on fixed tangible assets was 2% in 2019. Average wage decreased by 2% in 2019 compared to 2018 and amounted to 8 500 EUR/FTE.

Fuel intensity increased to 408 litre/tonne in comparison to 370 litre/tonne in 2018, while landed weight per sea day continued to decrease to 206 kg/day in 2019 from 266 kg/day in 2018. In the period from 2012-2019 the Croatian fleet on average landed 285 kg/day with a fuel intensity of 366 litre/tonne. Overall, the fleet has been most efficient in 2014, mostly due to larger quantity of small pelagic fish caught in purse seine fisheries, and since then the ratio between landed weight per sea day and fuel consumed per sea day has decreased. One of the reasons for that is scrapping of purse seiners for small-pelagic fish and demersal trawlers and therefore changing the productivity and efficiency of the remaining fleet. Lower volume of landings of purse seiners mostly affected the productivity and fuel efficiency since these vessels have the best ratio between landed weight and energy use.

### Performance by fishing activity

The Croatian fleet has a range of vessel types using various gears and targeting different species exclusively in the Northern Adriatic Sea. In 2019, the fleet consisted of 23 (DCF) active fleet segments, 10 in SSCF (DFN, FPO, HOK, PGP and PMP) and 13 in LSF (DFNVL1218, DRB, DTS, MGO and PS), and five inactive length classes.

### Small-scale coastal fleet

SSCF covers 86% (5 336) of active vessels and 2% and 17% of landed weight and value, respectively, in 2019. Number of fishers has increased by 3% in 2019 compared to 2018, amounting to 5 589

persons and corresponding to 1 412 FTEs. The ratio between unpaid and paid fishers is much higher than in LSF, as 84% (4 710) fishers in SSCF are unpaid (self-employed, family workers or retired).

The amount of revenue generated by SSCF in 2019 was EUR 24 million or 29% of total revenue in 2019. Landings income constitutes 17% of total landings income and has increased in 2019 by 8% to EUR 9.5 million and by 27% compared to the 2012-2018 average.

In the period from 2012-2019, GVA, gross profit and net profit have gradually improved even though a substantial fall was recorded in 2015 and 2016. The major factors causing the improvement in economic performance in this period included increases in landing income and a substantial increase of income from other sources (+109% in 2019 compared to 2012-2018 average) while operational costs remained relatively stable during the same period. In 2019, the SSCF had an estimated (depreciated) replacement value of EUR 65.5 million. Investments by the fleet amounted to almost EUR 5 million in 2019.

In 2019 average length of SSCF vessels was only 6 metres with an average age of 38 years, limiting fishing activities to fishing grounds near the port and to one-day fishing trips. DaS in SSCF have a distinct seasonal character with spring and autumn peaks, depending on migration of target species to the inshore area during the warmer period of the year, but also depending on other integrated activities such as tourism, transport, processing, aquaculture and agriculture. Catch is mainly sold on the local market and income from fishing is supplemented with other sources of income; 55% of income in 2019 was from other income.

The most prominent fleet segments with an important traditional and social character are the segments using fixed nets (DFN). Even though relatively low profitability is indicated for the fleet in relation to number of vessels, with low landing values, fixed nets segments are considered to be primarily highly artisanal and important in terms of social and economic elements for local population and communities.

The oldest segment is PGP in general (average vessel age of 41) and average vessels licence holders' age of 65 in 2019. This group of vessels, previously categorised as "for personal needs", falls into a separate category of commercial fleet. Most of the fishers are retired and occasionally engaged in fishing activities. Due to legal restrictions, authorized persons in this category can only be natural persons without legal rights to be involved in first sales and without obligations to pay social security fees. Since there is no landing income or salaries all of the participants in PGP are considered as unpaid labour. Still, this category with a large number of participants is of great social importance as supplementary activity and food security for households.

## Large-scale fleet

Majority of LSF in Croatia is constituted of high activity commercial purse seiners and demersal trawlers which are under a strict management regime. The number of LSF (880 vessels) continued to decrease in 2019 (-2%) compared to 2018. In the period since 2012 capacity was reduced by 16% in GT and 17% in kW. Effort remained on the same levels in 2019 compared to 2018 (on average 110 days at sea per vessel).

Employment (2 363 engaged crew) has decreased by 11% compared to 2012-2018 average, which is consistent with the reduction of number of vessels by 14% in the same period. Number of FTEs (1 713 FTEs in 2019) is consistent in the period. The ratio between paid and unpaid workers is reversed in comparison to SSCF as 83% of persons in 2019 are paid workers.

In 2019, volume of landings (68 000 tonnes) and landing income decreased by 9% and 7%, respectively, compared to 2018 mostly due to decreased landing value of small pelagic fish. Landings income constituted 71% of income in 2019, while income from other sources was only 20%. Due to strict management measures and reductions both in effort and catch the viability of LSF highly relies on EMFF support mostly through implementation of temporary cessation of fishing activities. In 2019, operating subsidies have decreased by 15% compared to 2019 amounting to 9% of total income.

Expenditures in LSF (EUR 56 million) have remained stable in 2019 compared to 2018, with a decrease of 10% compared to 2012-2018 average. The decline in fuel prices (-5% between 2018 and 2019) had a direct effect of decreasing fuel costs by 5% in 2019, which accounted for 24% of total LSF expenditures, taking also into account that energy consumption has remained on the same levels as in 2018 (19.5 million litres).

In 2019, GVA, gross profit and net profit decreased by 7%, 15% and 38%, respectively. LSF had an estimated (depreciated) replacement value of EUR 130.7 million. Investments by the fleet amounted to EUR 7.6 million in 2019.

## Performance results of selected fleet segments

In 2019 the Croatian fleet consisted of 23 active fleet segments. Almost all segments with the exception of dredges from 6 to 12 metres showed improved economic development trend compared with the previous year. Based on the net profit margin, eight fleet segments showed high profitability, two a reasonable profitability and 13 a weak profitability. Net losses are registered for 12 segments (PS2440, PS1824, PS1218, DTS0612, DTS2440, MGO0612, DRB1218, DFN1218, PGP0006, PGP0612, DRB0612 and PMP0006).

In 2019, the most important fleet segment in terms of landing percentage was purse seiners (PS, 91% of total landings), whereas the largest number of vessels were active in fixed nets segment (DFN, in Croatia fixed nets – gill nets and trammel nets, 1 035 active vessels). In terms of landing of demersal fish most important segment is DTS VL1218 with 40% of total DTS landing. In purse seine segments, most significant are PS VL2440 with 60% and PS VL1824 with 29% of total purse seiner landings.

Most important segments in terms of contribution to total revenue are PS2440, DFN0612, PS1824 and DTS1218, with 22%, 16%, 11% and 10% share in total revenue, respectively.

### Drift and fixed netters 6-12m

Not taking into account PGP vessels, although this segment had the highest share of active commercial vessels (27%) in 2019, its share in total volume and value of landing in the same year was small, 1% and 7%, respectively. These fishers operate predominantly in coastal areas targeting different species and using fixed nets, hooks, traps and longlines. The segment employed 13% of total FTE (excluding PGP), and in 2019 it had landing value of EUR 4.3 million, while income from other sources amounted to EUR 9.5 million, representing 16% of total revenue. It reported a positive gross profit of EUR 7.4 million and a net profit of EUR 6 million in 2019. Average wage per FTE was EUR 7 000.

### Demersal trawlers / seiners 12-18m

In 2019, 155 demersal trawlers (6.3% of active commercial fleet) operated in GSA 17 targeting different demersal species, mostly European hake, Norway lobster, red mullet and deep-water rose shrimp. This segment employed 8% of total FTE in 2019, and its share in landing volume and value was 3% and 10%, respectively. It reported a positive gross profit of EUR 1.6 million, and a net profit of EUR 460 000 in 2019. Average wage per FTE was EUR 8 000. Segment contributed to 10% of total revenue.

## Drivers affecting the economic performance trends

### Markets and Trade

In 2019 average landed price of 1.53 euro/kg increased by 12% compared to 2018 and by 19% compared to average in the period 2012-2018. Of the top six commercially most important species Norway lobster and Common sole had the highest prices (12.8 and 8 euro/kg, respectively) in 2019, while sardine and anchovy were sold at relatively low prices (0.4 and 0.9 euro/kg, respectively). A high influence on fish prices of small pelagic species has the product destination. As Croatia is a bluefin tuna farming country, a large quantity of small pelagic fish landed on the landing sites is designated for tuna feeding. The small pelagic fish intended for tuna feeding are declared with low prices in the sales notes. These low prices have a minimizing effect on the average price of small pelagic fish. For the purpose of tuna feeding Croatia has a pronounced import of herring from other countries.

Croatia's accession to the EU had a substantial influence on fish market, along with facilitating transport it brought increased competition. Domestic market is still slow to adapt to the EU market in terms of competitiveness and prices, however higher prices are achieved in direct sales activities in local markets.

Croatia is a net exporter of fish and seafood products. Both import and export have been gradually increasing in the period 2012-2020. Within the EU, Italy, Slovenia and Spain are the main export destinations for fresh and salted fishery products. Sardine and anchovy originating from purse seine fisheries are the main species exported mainly to neighbouring countries, Italy and Slovenia. Demersal fish and cephalopods are exported fresh mainly to Italy where fishers achieve higher fish prices than on domestic market which contributes to the profitability of demersal trawlers. Croatia is one of the main EU exporters of farmed Bluefin tuna which is exported almost exclusively to Japan. Export of fish and seafood in 2019 amounted to EUR 209 million and 54 500 tonnes. Imports originated mainly from Spain, Italy, Slovenia and the Netherlands and amounted to EUR 179 million and 54 500 tonnes in 2019.

Fish consumption in Croatia is lower than the EU average (24.4 kg in 2017) with a highly seasonal demand. According to latest data on consumption in 2019, apparent consumption was estimated at 20 kg per capita (national study, 2021), a 7% increase compared with 18.7 kg per capita in 2017 (EUMOFA, 2020).

### Operational costs

The most important operational costs are personnel costs followed by fuel costs.

Trends from the five-year period are followed in terms of share of personnel costs, and fuel costs in total costs. In 2019, share of fuel cost of 19% remained stable compared to the average in the period 2012-2018. At the same time share of personnel costs increased to 29%, compared to 25% average value in the period 2012-2018 which is line with trend of increase of average wage. Other costs such as repair and maintenance, unpaid labour and other variable costs have been stable over period accounting for 9%, 5% and 9%, respectively, in 2019.

The average fuel price in 2019 was lower than in 2018. The increasing trend of the fuel price since 2016 affected profitability in fuel intensive fleet segments such as demersal trawlers.

Personnel costs remained stable in 2019, decreasing by 2% in LSF in line with decreased value of landings in relation to 2018.

### Management instruments

Croatian fleet is managed through capacity and effort limitations, as well as through temporal and spatial restrictions. Effort regulations are related to restrictions on issuing fishing licences and transfer of fishing rights from one license to another in terms of permitted fishing gears or fishing zones, as well as through issuing additional authorisations for fisheries under management plans. This system is preventing an increase of fishing effort related to fishing gear or fishing zone, or even subzone. Capacity limitation is related to increase of vessel power and length in terms of total national fleet capacity and total capacity for specific fisheries. Additionally, national regulations restrict transfer of effort between fishing zones of inner and outer fishing sea, preventing increase of effort in the most vulnerable areas of inner sea. Spatial and temporal closures have been used in past years for management of purse seine and trawling fishery. In the recent period this has become an effective measure in preventing catch of smaller categories of small pelagic as well as in protection of areas important for recruitment of target species.

In addition to the aforementioned, from 2014 GFCM management plan for small pelagic fish in GSA 17 has been in force. By the provisions of this plan maximum number of fishing days for targeting sardine and anchovy has been set, as well as temporal closure period. Given full implementation of these measures and additional national restrictions implemented for protection of small pelagic, the total number of days-at-sea will probably decrease further in the future.

In 2015, Italy and Croatia adopted joint management measures at the national level establishing no-take zone for bottom trawls in the area of Jabuka/Pomo pit. This regime was introduced from July 2015 to October 2016 after which a more stringent regime has been established for the three-year period. On the top of national legislations this new regime was also transposed into GFCM Recommendation 41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea.

In 2015 Italy and Croatia adopted joint management measures at the national level establishing no-take zone for demersal trawls in the area of Jabuka/Pomo Pit. This regime was introduced from July 2015 to October 2016 after which regime was modified and more stringent one has been established for the three year period. On the top of national legislations this new regime was also transposed into GFCM Recommendation 41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea. New regime includes three zones where particular management regime applies, one in the middle where all kind of demersal (trawls and longlines) and sport fishery is prohibited, and two side zones where only limited number of authorised vessels can operate for limited time of two days per week. This is the first FRA area in the Adriatic Sea and an important measure for demersal fishery which has a significant impact on the fleets.

### Status of key stocks, 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 TAC.

- Bluefin tuna: National quota for 2019 was set by the Regulation (EU) No 124/2019 and amounted to 862.79 tonnes. This quota was nationally allocated to commercial fleets: PS and HL fleet with the quantity also allocated to by-catch from commercial vessels not authorised for BFT fishery, and non-commercial fleets: sports, recreational and scientific. Quota after swaps was adjusted to 843.8 tonnes. Total catch in 2019 was 830.73 tonnes (98.5% of adjusted quota).
- Swordfish: in line with the ICCAT Recommendation 16-05, the Croatian Administration established the national list of vessels authorised to fish for swordfish and regulated the use of fishing gears; Regulation (EU) No 124/2019 has set a total quota of 15.05 tonnes for 2019 for Croatia. After three quota swaps (17.87 tonnes increase from Spain 25 tonnes increase from Greece; and afterwards - 10 tonnes back to Spain), the adjusted Croatian SWO quota was 47.9 tonnes for 2019. Total amount of catch in 2019 was 33.4 tonnes (70% of adjusted quota). Croatia applies approach of allocating individual quota 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: in December 2016, for the first time, the Council set a catch limit for the EU concerning small pelagic species in the Adriatic Sea for 2017 (112 700 tonnes of small pelagic species - anchovy and sardine) -Annex IL of Regulation 2017/0127-. Furthermore, Recommendation GFCM/42/2018/8 set an obligation to progressively over a three-year period (2019-2021) decrease the level of the catches of sardine and anchovy by 5% annually starting with the level of catches reported for 2014. This obligation was transposed into EU legislation by way of Regulation (EU) No 124/2019 (Annex IL) which has for 2019 set a maximum catch limit for sardine and anchovy in Adriatic for EU Member States to a level of 107 065 tonnes.

According to stock status indicated in the GFCM SAC 2019 and STECF EWG 17-15 (part 1), sardine in GSA 17-18 is overexploited, while anchovy is in overexploitation, hence for both stocks it is advised to reduce fishing mortality.

With the exception of common cuttlefish which is being sustainably exploited (taking into account some uncertainties in stock assessment results), all key demersal species in the Adriatic Sea are in overexploitation and it is advised to reduce fishing mortality (GFCM SAC 2019 and STECF EWG 19-16). On the level of GFCM SAC in previous years, following scientific advice regarding hake, it was suggested to implement measures to reduce the mortality of large spawners, for example by limiting effort or catches from longlines or gillnet fisheries, complementary measures to the advice already provided by the SAC in 2017 and 2018 on the implementation of measures to protect juveniles of hake, such as the improvement of selectivity or the establishment of FRAs in nursery areas (GFCM SAC 2019 Report). Following establishment of Jabuka/Pomo Pit FRA, according to recent years' monitoring programmes (MEDITS and FAO AdriaMed FRA JABUKA/POMO survey), it is evident that these measures have already yielded positive results in increased abundance and size of many priority species within the FRA.

## Innovation and Development

In 2019, investments remained stable compared to 2018. Although investments increased by 43% compared to 2012-2018 average the level of investment is still very low (an average of EUR 2 000 per active vessel in 2019). LSF accounts for 60% of total investments and investments are much higher (EUR 9 000 per vessel) compared to investments in SSCF (EUR 1 000 per vessel).

After Croatia's accession to the EU in 2013, and changes that followed due to a full implementation of Mediterranean regulation, economic performance still cannot be considered stable. Firstly, this is because of the process of permanent cessation which was ongoing by the end of 2018 and which affected LSF purse seines, bottom trawlers and dredgers, but also due to a process of inclusion of large number of vessels in the small-scale PGP segment. In connection to the progressive, but still limited, increase of fishing activities in PGP segment, an overall increasing trend is expected in the values of fishing activity and economic indices. Nevertheless, due to their large number these vessels have a visible impact on the performance of the entire fleet.

Key challenges in Croatian fisheries sector are in ensuring competitiveness and sustainability of enterprises, including SSCF.

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 2016 GFCM adopted Recommendation GFCM/40/2016/3 with additional restricting measures for 2017 and 2018 for small pelagic fisheries in Adriatic. In 2017, European Commission presented a proposal for multi-annual plan for small pelagic stocks in the Adriatic Sea and the fisheries exploiting those stocks. With the new plan for Adriatic small pelagic stocks, which are exploited mainly by Croatian and Italian fishing vessels, the Commission proposed to introduce a major shift in fisheries management in this area, currently based on fishing effort, by setting TACs. In 2018, Parliament's Committee on Fisheries (PECH) supported maintaining the current fishing effort regime and opposed the introduction of TACs. It also required that catch limits for small pelagics are set in 2019 at the level of the 2014 catches, and reduced by 4% annually between 2020 and 2022. The improvement of safety and working conditions on-board is a high priority, especially since fishers are forced to conduct fishing activities in unfavourable conditions as number of possible days at sea has been limited due to spatial-temporal closures and limitations of catch and effort. Dependence of the sector on two species, sardine and anchovy, which are in poor condition, leads to the need for diversification in the production targeting different species and for value addition for the two species, in order to increase the income of fishers.

## Socio-economic impact

Overexploitation and management measures implemented as a result of the stocks status remains to have a significant influence on the economic performance of the sector. This is true primarily for small pelagic fleets which have been under strong restrictions from 2015. These were also followed with appropriate measures from the EMFF which compensate their effect to a certain level. As the sector is heavily dependent on small-pelagic fish the effects of management measures, mainly temporary and permanent cessation of fishing activities, is expected to have a positive impact as Croatia intends to continue with the measures provided within the framework of the EMFF and EMFAF. Same measures have been implemented in the demersal fishery. Assuming that fuel prices remain fairly constant and fish prices continue to increase, the effects of conservation measures are expected to have a positive long-term impact on the general recovery of the sector. As for the demersal fleet, Fisheries Restricted Area (FRA) in the Jabuka/Pomo Pit is having a positive impact on the performance of demersal trawlers and longliners, since status of demersal stocks in the area has significantly improved.

## Nowcasts for 2020-21 and beyond

### Outlook

In 2020, over 70 000 tonnes of seafood were landed by the Croatian fleet, with a value of over EUR 61 million (provisional figures). The overall days-at-sea increased (+3% compared to 2019). Deterioration of economic performance is expected with lower Gross profit and a significant increase in the number of fleet segments with net loss. The negative economic trend is mainly due to the COVID-19 outbreak. Another important factor that could impact the performances of the fleet is the reduction in fishing days for demersal trawlers and purse seiners. Concerning the period beyond 2020, in line with management measures further reduction of fishing effort can be expected in the main commercial fleet - PS and DTS segments.

### Model results

Number of active vessels in 2020 remained stable (6 239 vessels), while landed weight increased by 11% and landed value dropped by 3%. Projections suggest that operating costs decreased slightly, due to drop in fuel price in 2020.

Forecasts indicate that the Croatian fleet operated at a profit in 2020: with an estimated GVA of almost EUR 50 million (-1% compared to 2019) and gross profit of EUR 21 million (-11% compared to 2019). Decreasing trend is forecasted for 2021 (-13% GVA compared to 2019).

### Landing obligation

Commission Delegated Regulation (EU) 2018/161 of 23 October 2017 established *de minimis* exemptions to the landing obligation in the small pelagic mid-water trawl and purse seines fisheries for certain small pelagic fisheries in the Mediterranean Sea until 31 December 2020.

In 2018, the Commission Delegated Regulation (EU) No 2018/2036 (amending Delegated Regulation (EU) 2017/86 establishing a discard plan for certain demersal fisheries in the Mediterranean Sea) extended current survivability and *de minimis* exemptions for various single species or introduced new *de minimis* exemptions for some groups of species until 31 December 2021.

As *de minimis* exemptions were applicable until the end of 2020 in the case of small pelagic fish, and in force until the end of 2021 in the case of demersal species, the LO has not yet been fully implemented.

## COVID 19

In Croatia, the COVID-19 pandemic was declared on 11 March, 2020.

SSCF is not affected as much due to quick reorganization of fish marketing, distribution and sales (fish is placed mostly locally and sold directly to end consumers). Nonetheless, in order to mitigate the economic losses caused by this crisis, the amount of *de minimis* state aid support per beneficiary was increased, especially in relation to SSCF.

The closure of fish markets and restaurants and a number of restrictions imposed to curb the spread of the coronavirus have dealt a severe blow to Croatian fisheries. In order to reduce the damage and support fishers to overcome the crisis, several measures were adopted whose main goal is to mitigate the negative impact on business.

Following a swift procedure, national legislation was amended to make it easier for fishers to distribute and sell their products on the domestic market directly to end consumers.

LSF was heavily affected with the crisis therefore temporary cessation of fishing activities due to COVID-19 was launched following amendments to the EMFF Regulation from April 2020. This measure was enabled for purse seiners for small pelagic fish from 8 April-1 May and entire December 2020 and demersal trawlers from 15 April-15 June and from 20 November-31 December 2020. Although the cessation was non-mandatory most purse seiners and demersal trawlers participated (either they could not ensure safe conditions on-board or due to problems with market demand/placement), especially since measure was also applicable to vessels that have already reached the maximum six-month duration of EMFF support for temporary cessation.

Bluefin tuna longliners started their fishing activity as most of the landing was sold to Spanish buyers. Bluefin tuna purse seining season (26 May-15 July) was not affected.

## Data issues and improvements

No major issues detected. All fleet segments with major contribution to the total catch of the Croatian fleet have been sampled with satisfactory response rates. 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.

Methodologies for estimation of value of unpaid labour, value of physical capital and consumption of fixed capital have been improved to allow more consistent results over time series. As a result of these changes values and figures may differ from previous reports.

With regard to the 3 500 small-scale vessels which were transferred into the commercial SSCF in 2015, all these vessels fall under the polyvalent passive gears segment (PGP), however, these fishers are not full-time engaged in fishery and most had very limited activity in 2015-2019. Therefore, economic indicators for the PGP segment should be taken with caution. Landing value has been estimated for these vessels, however most PGP vessels cannot place their catch on the market due to national legislation in force.

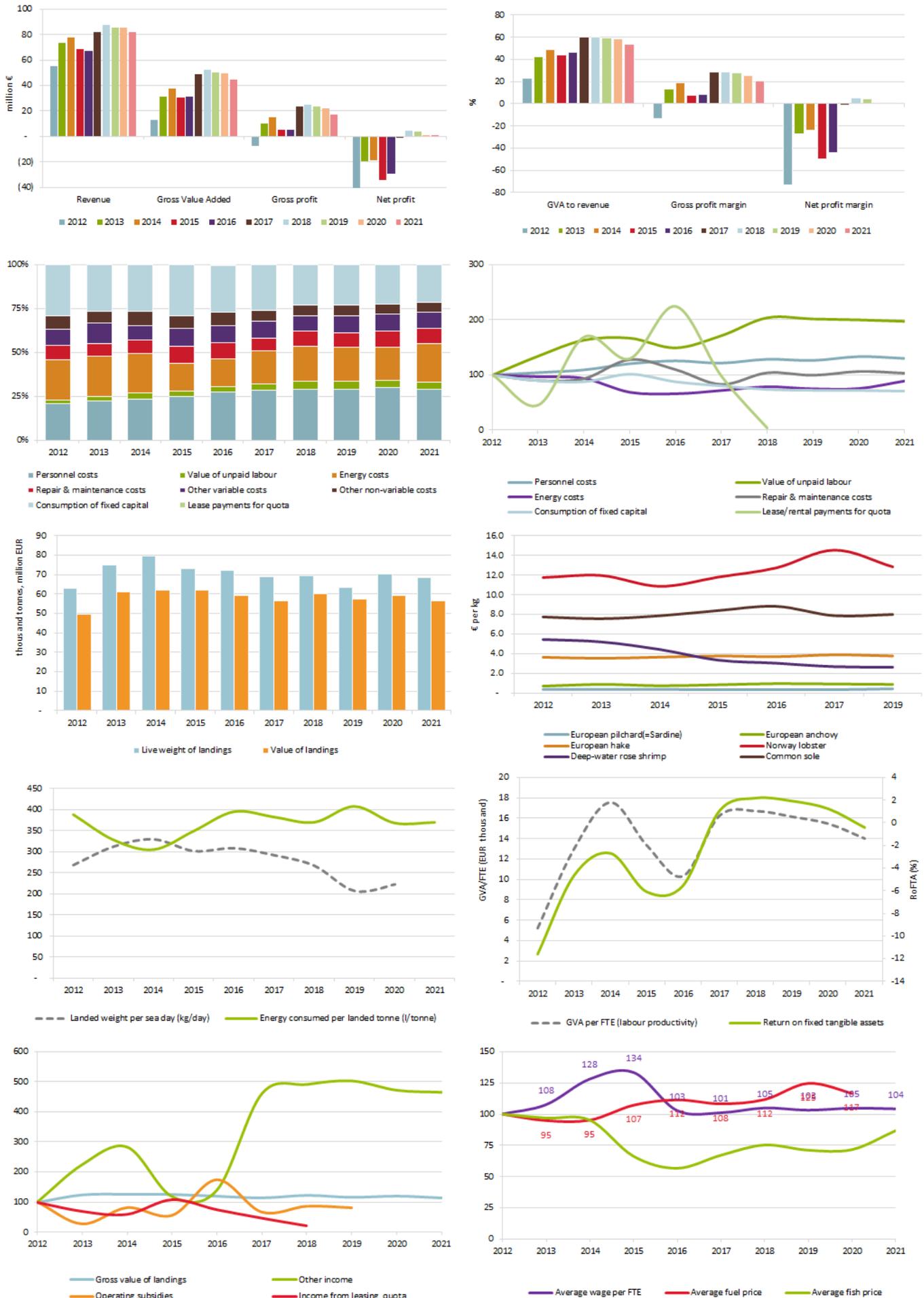


Figure 4.3 Croatia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;

## landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

### 4.4 Cyprus

#### Short description of the national fleet

The Cypriot fishery is dominated by small-scale vessels dispersed across many landing places that use a variety of fishing gears, usually on the same fishing trip. Fisheries in the Mediterranean Sea are of mixed-species type, where more than one species are present in the area being fished and caught by the fishing gear no matter if these species are not the targeted ones.

In the Mediterranean region the species that have catch quotas are bluefin tuna and swordfish based on the Multiannual recovery plan of these species.

A new fleet segment was introduced in the national fleet in 2017; the purse seiner segment targeting bluefin tuna. This fleet segment includes only one vessel and despite the fact that it was taking into account for data collection purposes it was not included in the economic analysis for confidentiality reasons. Cyprus has provided landings and effort information regarding this vessel.

#### Fleet capacity

Fleet capacity in 2020 was increased compared to previous year; not following the declining trend that lasted until 2018. Actually, it consisted of 864 registered vessels with a combined gross tonnage of 3 900 GT and total engine power of around 41 000 kW.

As for 2019, the Fleet Vessel Register consisted of 858 vessels with a combined gross tonnage of 3 800 GT and total engine power of around 40 800 kW. On average, there was a reduction of 13% in the number of vessels if compared to the period 2008-2018 resulting in, both the combined gross tonnage and the total engine power be decreased by 6% and 5%, respectively. Yet, the number of the vessels increased by 8% when compared to 2018, with combined gross tonnage being increased by 2% and engine power increased by 6%, meaning that new vessels were introduced in the Fleet Vessel Register or some vessels have substituted their engines with others with higher engine power.

Even though the active small-scale vessels decreased by 8% during the period 2008-2019, the large-scale ones increased by nearly 30%. This is strengthened by the fact that the total vessel tonnage and engine power where both of them increased by 20% and 23%, respectively, for the same time period.

SSCF reduced by 8% in number of vessels, having a negative impact of 7% on the total engine power and 13% 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 7 644 kW in 2019 and SSCF consisting of vessels of less than 12 metres length overall with total engine power of 28 661 kW in 2019.

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 in the length group 12-18m and thus, for sampling purposes, as well as for confidentiality reasons due to small number of vessels all the polyvalent vessels were regrouped in the 12-18m length group. It is noted that all the groups of vessels using polyvalent passive gears with length over 12 metres are engaged in the same métiers since these vessels target the same group of species with the same gears despite their 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 annually.

Demersal trawlers range from 22-27 metres. The demersal trawlers fleet segment below 24 metres is only one vessel and thus, for confidentiality reasons as it is impossible to report data without identifying this company it was regrouped in the over 24 metres length group (up to 28 metres). It is emphasised though, that both groups are engaged in the same métier and they target the same group of species with the same gear despite their 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 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 with bottom set nets and bottom longlines, targeting demersal species. Cyprus Fisheries Law<sup>35</sup> provides for a limited number of licenses for this segment annually and divides it into three subcategories: vessels with fishing license category A' (full-time activity in fisheries), vessels with fishing license category B' (part-time activity in fisheries) and vessels with fishing license category C' (periodic activity in fisheries). The professional fishing license category (C') was introduced by a new national law and based on this law their fishing activity is performed on a periodic basis since they are allowed to fish only a total of 70 days each year. Consequently, their income from fisheries activities is too low. Thus, this new professional licence category with the low fishery activity was not grouped in the same category with the professional licences of category A' and B'. The vessels with fishing licence categories A' and B' belong to the fleet segment PG0-6m and PG6-12m whereas the vessels with fishing licence category C' belong to the fleet segment PGO0-6m and PGO6-12m.

## Employment

Employment was estimated at 1 241 jobs in 2019, an increase of 3% compared to the period 2008-2018.

In 2019, the total jobs corresponded to 741 FTEs, an increase of 2% compared to 2018 (730 FTEs), which it is very important if taken into account the declining trend (-5%) of the previous decade.

## Effort

An estimated 47 765 days were spent at sea in 2019, a significant increase of 8% compared to 2018, especially considering the reduction of 32% when compared to the period 2008-2018. The declining trend in fishing days leads, to a significant decrease in the amount of energy consumed by around 40% for the same period 2008-2018. The increase in fishing days for LSF for 2019 compared to 2018, approximately 45%, was much more significant for this part of the Cyprus fleet, compared to the SSCF where the increase was around 6%.

The increase in days spent at sea for the LSF (45%) and the increase in the number of fishing trips performed (25%) were much higher than the increase in energy consumed (8%) when compared to previous year 2018. This implies that the vessels were performing shorter fishing trips. Therefore, taking into account also the slight decrease in fuel price (0.76 euro/litre in 2019, 0.77 euro/litre in 2018) the energy cost was increased by lower rate at around 6% compared to previous year.

The SSCF spent 6% more days at sea in 2019 and they also increase their fishing trips by 6% more in 2019, than in 2018. Having in mind that the energy consumed decreased by 4% compared to previous year 2018, it means that, as in the case of larger vessels, they were also performed shorter (closer to the shore) fishing trips. Taking into account the slight decrease in fuel price, together with the decrease in the amount of energy consumed and the fact that SSCF performs shorter trips than the LSF and thus it consumes lower amount of fuel resulted in, this part of the Cyprus fleet, to follow a declining trend as regards the energy cost; a significant reduction by over 40% when compared the year 2019 to the period 2008-2018.

## Production

The weight of seafood landed reached 1 480 tonnes a slight increase of 1%, with a value of EUR 7.5 million in 2019 representing an increase of 7% compared to 2018. Nevertheless, the landed weight per sea day (kg/day) continues a declining trend since 2009, at around 31 kg/day in 2019.

The bottom trawl fishery in the territorial waters and the inshore fishery with polyvalent passive gears target a mix of demersal species, as it is the case in all Mediterranean demersal fisheries. The exploited stocks are not shared with other countries' fleets. Landings of both fisheries are mainly composed by picarel bogue, red mullet, surmullet, common pandora and cephalopods: common octopus, musky octopus, European squid and common cuttlefish. The inshore fishery with polyvalent passive gears catches also relatively large quantities of parrotfish, blotched picarel and spinefeet or rabbitfishes.

<sup>35</sup> 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.

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.

## Economic results for 2019 and recent trends

### National fleet performance

The Cypriot national fleet was in a net loss-making position in 2019 (around EUR 0.56 million) but its economic performance was significantly better when compared to 2018, showing a significant decrease of net loss of about 42%. In addition, the economic performance was also much improved compared to the period 2008-2018.

The total revenue obtained by the Cyprus fleet in 2019, basically the income generated from landings since there is no other source of income, was estimated at EUR 7.5 million. The increase in total value of landings in current year by 7% compared to last year, is the main reason driving the positive economic results but not being able to cover all expenses.

It is important to have in mind the increase by 59% in subsidies (operating subsidies and subsidies on investments) from EUR 419 297 in 2018 to EUR 669 394 in 2019. The operating subsidies were more or less constant in 2019 (EUR 442 204) compared to 2018 (EUR 415 697) but the subsidies on investments were increased to EUR 227 190 in 2019 from EUR 3 600 in 2018.

The GVA increased in 2018 by 9%, and it was estimated at EUR 2.9 million (EUR 2.65 million in 2018) showing also a considerable rise (more than 200%) compared to the period 2008-2018. Gross profit and net profit in 2019 were estimated at EUR 1.65 million and -EUR 0.5 million, respectively, showing a significant improvement in the economic performance compared to the previous year 2018, especially in the case of net profit which increased by around 40%.

The consumption of fixed capital (annual depreciation), the variable costs and the energy (fuel) cost are the main cost items for the Cyprus national fleet for 2019 of 27%, 22% and 19%, respectively. In 2019, the consumption of fixed capital showed an increase of approximately 17% compared to 2018. Other variable costs raised by around 7%. The energy cost was estimated to be more or less constant.

Another operating cost item, the personnel costs (wages and salaries) which contributes around 13% to the total expenditure, showed an increase of nearly 17% compared to 2018. 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, increased by around 20%.

The total expenditures in 2019 increased by 8% compared to 2018 having a negative impact on the profitability of the sector. The total value of landings in 2019 increased by 7% compared to 2018.

### Resource productivity and efficiency indicators

The gross profit margin in 2019 was positive, nearly 24%, at the same rate as last year's one indicating operating efficiency of the fisheries sector. Considering that this is the second higher value of the whole decade, it is not a surprise that it has been greatly improved compared to the period 2008-2018. The net profit margin in 2019 was negative estimated at -8% but well above of that in 2018 which was estimated at -15%, showing an increase of 45%. Also, it is much improved (89%) in comparison to the period 2008-2018.

The RoFTA turned to -0.6% in 2019, showing a deterioration compared to the previous year 2018 which was estimated at -0.1%. Yet, it is a significant increase when compared to the whole period 2008 to 2018, of over 90%. Except for 2017 for which it was positive and 2018 which was nearly zero, RoFTA has been negative for the whole period 2008 to 2016.

There is an overall improved trend when compared to previous year 2018 in all indicators, except for RoFTA. This picture is also reflected in labour productivity (GVA/FTE) which after being negative for the period 2009-2012 it has become positive the last years and it has increased in 2019 at EUR 3 893 per FTE, showing an increase of 7% compared to 2018. In addition, in 2019 GVA estimated at EUR 2.9 million and GVA to revenue estimated at 42%, both increased tremendously compared to the last decade (2008-2018) and also increased by 9% and 4%, respectively compared to 2018, strengthening the economic performance. Moreover, the number of total employed is more or less stable compared to 2018 one at 1 241 (1 246 in 2018). The same picture stands for the number of FTE which increased slightly by 2% at 741.

Fuel consumption per landed tonne did not continue its decreasing trend in 2019 but it was rather constant at 1 184 litres per landed tonne. In 2018 this indicator was at 1 179 litres per landed tonne, reaching the lowest value of the whole period 2008 to 2019.

Despite the downfall of landings in weight per unit of effort (in weight per DaS) during the period 2008-2012 this variable, followed an increasing trend for the period 2013-2017. Actually, in 2017, landed weight per sea day was at its peak reaching 34 kg/day. Then, it followed a declining trend both in 2018 (33 kg/day) and in 2019 (31 kg/day).

### **Socioeconomic Impact**

The fishery sector contributes less than 0.5% to the Cyprus Gross National Product. However, it is an important sector for the fisheries dependent areas for direct employment (vessel owners and crew members) and auxiliary services such as 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 like fish taverns and restaurants,

## 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 2019 and in 2020 in terms of number of vessels and employment. In addition, it represents 32% of the total weight of landings and accounts of 45% of total value of landings in 2019. 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 n.m.), 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 increased slightly in 2019 by four vessels (1% increase) compared to 2018. An estimated 44 711 days were spent at sea in 2019 for the SSCF, an increase of 6% compared to 2018, which account for almost 95% of the total sea days of the Cyprus fleet. This part of the fleet consumed 55% of the energy consumption of the Cyprus fleet around 1 million litres of fuel.

The income generated from landings was enough to cover all expenses made by SSCF and thus, it is in a net profit-making position in 2019 of EUR 472 511. Net profit was increased by 220% compared to 2018, indicating that the economic performance improved. Over the last decade this part of the fleet had positive net profits only the last three years. Unsurprisingly, the GVA increased by 4% compared to 2018, reaching EUR 1.8 million.

### Large-scale fleet

The LSF is composed of polyvalent passive gears vessels and trawlers with length  $\geq 12$ m. In 2019 the number of vessels increased slightly at 40 vessels (one more vessel than in 2018) with a combined gross tonnage of 1 760 GT and a total engine power of 7 644 kW.

In 2019, there was a significant increase of 45% in the days spent at sea compared to 2018, reaching the 3 057 days. The same picture stands for the fishing trips which increased by 25%. Additionally, energy consumption increased but by at a lower rate, since 8% more litres were consumed by this part of the fleet compared to the previous year.

Despite the increase in both weight by 5% and value of landings by 15%, the income generated from landings was not enough to cover all the expenditure of the LSF resulting in a net loss-making position (close to EUR 1million). Most of the expenditures were increased significantly compared to 2018. The biggest increase was shown in the consumption of fixed capital which raised by 33%. Moreover, both the variable costs and the personnel costs increased by 17%. The economic performance improved compared to the period 2008-2017.

## Performance results of selected fleet segments

### Polyvalent 'passive' gears 6-12m

The most important SSCF segment is the *Polyvalent 'passive' gears with length 6-12m* since it represents 28% of the total number of active SSCF and thus of employment. In 2019, there were 291 active vessels of this small-scale part of the fleet operating in territorial waters, i.e., less than 12 n.m., an increase of nearly 3% compared to 2018. 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 2019 the FTEs increased to 453 from the 433 in 2018.

In 2019 the value of landings amounted to EUR 2.87 million, 38% of the total value of landings of the Cyprus fleet (including the landings from the bluefin tuna purse-seiner). Due to the increase in value of landings of around 4% compared to 2018 and as a result the increase in the revenue, the income obtained was sufficient to cover all the operating expenditures and this fleet segment generated gross profits of EUR 1.5 million. Furthermore, in 2019 this fleet segment was in a net profit-making position

of EUR 0.86 million, a significant increase of around 30% compared to 2018. Another important indicator, the net profit margin increased by over 180% when compared to the period 2008-2018. All the above estimated indicators, clearly show the improved economic trend for the year 2019, mainly due to the increase in the value of landings by 4% and the fact that the total expenditures were increased by just 1%.

The GVA reached the amount of EUR 1.78 million in 2019 an increase of around 4% compared to 2018 (EUR 1.7 million). Also, the GVA to revenue increased from 59.7% in 2018 to 61.7% in 2019.

Fuel consumption was estimated at 1 837 litres per tonne of landed fish in 2019, an increase of about 7%, due to the reduction in the landed weight per sea day from 15.88 kg per day to 11.98 kg per day.

There was a significant increase in the overall days-at-sea of the segment since the vessels spent 28 043 days-at-sea in 2018 and 34 687 days in 2019. The fuel consumption in 2019 did not follow the declining trend observed since 2014 but it was steady (0.3% increase) compared to 2018. Moreover, in 2019 the energy cost was slightly reduced by 0.6% due to lower fuel prices.

Overall, the main economic indicators in 2019 improved compared not only with the 2018 but also with the period 2008-2018.

### Vessels using Polyvalent 'passive' gears with length $\geq 12m$

The most important LSF segment is the *Polyvalent 'passive' gears with length  $\geq 12m$* . After this segment, the *Polyvalent 'passive' gears with length 6-12m* segment is the second one with the highest percentage of total revenues (32% of the total ones). 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.

Despite the fact that in 2019 this fleet segment consisted of 34 vessels; two more than in 2018, the FTE national reduced from 130 in 2018 to 125 in 2019. 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 2019 the value of landings amounted to EUR 2.2 million and it accounted for 29% of total value of landings of the Cyprus fleet (including the landings from the bluefin tuna purse-seiner). Due to the increase in value of landings by around 8% compared to 2018, the income was such that all the operating expenditures could be covered, and the fleet segment could generate positive gross profits of EUR 55 223 for the year 2019. However, the fleet segment was operating at a net loss-making situation in 2019; net loss at EUR 0.72 million, a deterioration compared to 2018 where the net loss reached EUR 0.52 million. The main factors behind this economic deterioration are the great increase by more than 50% in variable costs at EUR 0.8 million and also more than 50% increase in depreciation costs of around EUR 0.7 million.

### 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. Indeed, there is a positive message coming from the 2016, 2017 and 2018 stock assessments. In 2018, Cyprus has performed stock assessment for one of the main commercially important demersal stocks in GSA 25, common pandora which was found in sustainable exploitation status with high spawning stock biomass. Moreover, in 2017 the stock assessment for two of the main commercially important demersal stocks in GSA 25, bogue and striped red mullet were both found in low overexploitation status. In 2016, the stock assessment of picarel and red mullet found both species sustainably exploited.

In 2019 two stock assessments were performed; Red mullet (*Mullus barbatus*) and common pandora (*Pagellus erythrinus*). The first one showed a slight over-exploitation with intermediate Spawning Stock Biomass (SSB) and the other one was assessed in sustainable exploitation with relatively high biomass.

In 2020 a transitional assessment of red mullet (*Mullus barbatus*) found the stock to be in over-exploitation with high SSB.

In 2017 the lessepsians species like *Lagocephalos sceleratus* and the recently reported in Cyprus waters, lionfish, greatly affect the biodiversity and thus, the economic performance of the fisheries sector.

The attacks to the fisher's nets and catch by some of the protected species mainly by dolphins and sea turtles can have a negative impact on the limited fishing income and as a result, put at a risk the economic sustainability of the fleet segments especially the one of the small-scale inshore fishery fleet and of the polyvalent '*passive*' gears vessels with length  $\geq 12m$ .

Recreational fishery is another driver that can negatively affect the economic performance of the professional fishers. The sport fishers are 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 in the end of 2015, after decommissioning schemes through structural funds have become a driving force for the improvement of the economic performance of the Cyprus fleet overall but especially for the SSCF over time.

The only species managed in the Mediterranean by quotas until 2016 was the bluefin tuna. 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  $\geq 12m$*  fleet segment at least in the short-run.

Cyprus after many years has issued a purse seiner license for bluefin tuna. Thus, from 2017 a new fleet segment, with only one vessel, exists.

### Markets and Trade (including fish prices)

In Cyprus the fish is mostly sold fresh. The processing fishing industry in Cyprus is at its early stages.

Cyprus has a negative trade balance in fresh fishery products both in value and weight. The fish prices are relatively high compared to other Mediterranean countries and the main reason 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.

### 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 to national and European regulations.

In regards to the SSCF, the fleet segments *Polyvalent passive gears with length 0- < 6m and 6- < 12m* (category license A' and B') are allowed to operate every day all year round, with a number of restriction measures on the use of fishing gears and 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 positive news for these two fleet segments were the recent decision of the Cyprus Department of Fisheries and Marine Research to allow the fishers belonging in these groups to use nets of up to 600 m length of lower mesh sizes for targeting the species for the period 25 February to end of April 2017, increasing their value of landings and as a result, their income.

The fleet segments *Polyvalent passive gears with length 0- < 6m and 6- < 12m* (vessels with license category C') have a limited fishing period, with a maximum of 70 working days and stricter measures on the use of fishing gears.

For the trawlers fishing in territorial waters a limited number of licenses (two) is provided every year, and an extended closed season (from 1 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  $\geq 12m$ , a closed period for the swordfish is applied as required by the EU law.

## TACs and quotas

In 2016, the only species managed in the Mediterranean by quotas was the bluefin tuna and the total initial available quotas (TAC) for the Cyprus fleet in 2016 amounted to around 98 tonnes. The quota was distributed only to the *Polyvalent 'passive' gears with length  $\geq 12m$*  fleet segment operating with drifting longlines. The bluefin tuna TAC for 2017, 2018, 2019 and 2020 increased, and Cyprus was entitled to 117.7 tonnes, 138.65 tonnes, 153.4 tonnes and 169.35 tonnes, respectively. 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  $\geq 12m$*  vessels. Thus, since 2017, there is a new national fleet segment, the purse seiner, which includes only one vessel. The quota distributed to this vessel for 2018 was 75 tonnes, 85 tonnes for 2019 and 95 tonnes for 2020.

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. The implementation of such a management measure is expected to negatively affect the *Polyvalent 'passive' gears with length over 12 metres* fleet segment at least in the short-run.

## Status of Key Stocks

In 2017, Cyprus has performed stock assessment for two of the main commercially important demersal stocks in GSA 25, bogue and striped red mullet and both were found in low overexploitation status. It is noted that the assessment of striped 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 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 (*Mullus barbatus*) 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.

## 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  $\geq 12m$ ) 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, with the exception of 2019, followed a decreasing trend from 2012 to 2020. There has been an increase in fuel prices by 11% to 0.77 euro/litre in 2018 compared to 2017. Yet, in 2019 there was a slight decrease of around 1% compared to 2018.

## Innovation and Development

The SSCF is not very technical advanced and neither the polyvalent segment. Only the trawlers segment does it use more advanced technology but even in this case, not at a great extent. Investing in new technology needs capital and the return is not assured.

The vessels can get funding for modernisation of their vessel for specific purposes such as hygiene and safety from the EMFF 2014-2020. Moreover, under the Operational Program, 'Thalassa' artificial reefs were created for the improvement of biodiversity and the protection of fish stocks. Improving quality of the marine environment will increase the fish stocks resulting in increasing the income of the fishers and their economic sustainability.

Also, fishers through the structural funds could participate in seminars for improving their skills and their fishing knowledge. There is great interest by fishers for attending seminars that promotes sustainable fishing and new fishing technologies.

## Nowcasts for 2020-21 and beyond

### Model results

Landed weight remains stable and landed value dropped by 9%. Projections suggest that operating costs decreased slightly.

Forecasts indicate that the fleet operated at a profit in 2020 and 2021: with an estimated GVA of almost EUR 2.9 million (-0.2% compared to 2019) and gross profit of EUR 1.6 million in 2020 (similar to 2019). Decreasing trend is forecasted for 2021 (-2% GVA compared to 2020).

### COVID-19

The fisheries conditions have been deteriorated since the mid of March 2020 when the COVID-19 appeared in Cyprus and the Government had to take measures to stem the spread of this virus. The mandatory closure of restaurants and hotel units has seriously negatively affected the quantity demanded, the prices and the trade chain. Fisheries activities have been reduced, with many vessels, mainly the small-scale ones, ceasing their activities completely since they were operating at a loss-making situation. Furthermore, polyvalent vessels could not start fishing pelagic species (mainly albacore) during mid-May 2020 as they normally did, as trading depends to a large extent, on exports to Italy and Spain. The economic viability of the fisheries sector is at stake.

Cyprus, in order to mitigate the effects of the spread of the COVID-19, implemented through the EMFF, a scheme of temporary cessation of fishing activities for two months for the period mid-April to mid-June 2020 for the SSCF segments, polyvalent 'passive' gears with length 0-6m and 6-12m, and for the large-scale fleet segment Polyvalent passive gears vessels with length  $\geq$  12m. The monthly compensation was EUR 1000 for the small-scale vessels and EUR 1500 for the polyvalent vessels. The budget of the program was EUR 750 000 but at the end around EUR 445 000 was paid to the 251 vessels entering in this program.

The same temporary cessation of fishing activities scheme was also implemented during the end of the 2020. Polyvalent vessels ceased their fishing activities during the period 16/10/2020 until 31/12/2021. The monthly compensation was the same as in the previous scheme i.e. EUR 1500 and the total amount of the aid for this fleet segment was about EUR 116 000 with 31 owners entering this scheme. As for the small-scale fleet segment, polyvalent 'passive' gears with length 0-6m and 6-12m, the duration of the scheme was from 16/11/2020 until 31/12/2021. The monthly compensation was the same as in the previous scheme i.e. EUR 1000 and the total amount of the aid for this fleet segment was over EUR 300 000 with approximately 220 owners entering this scheme.

## Data issues

No major issues that need reporting.

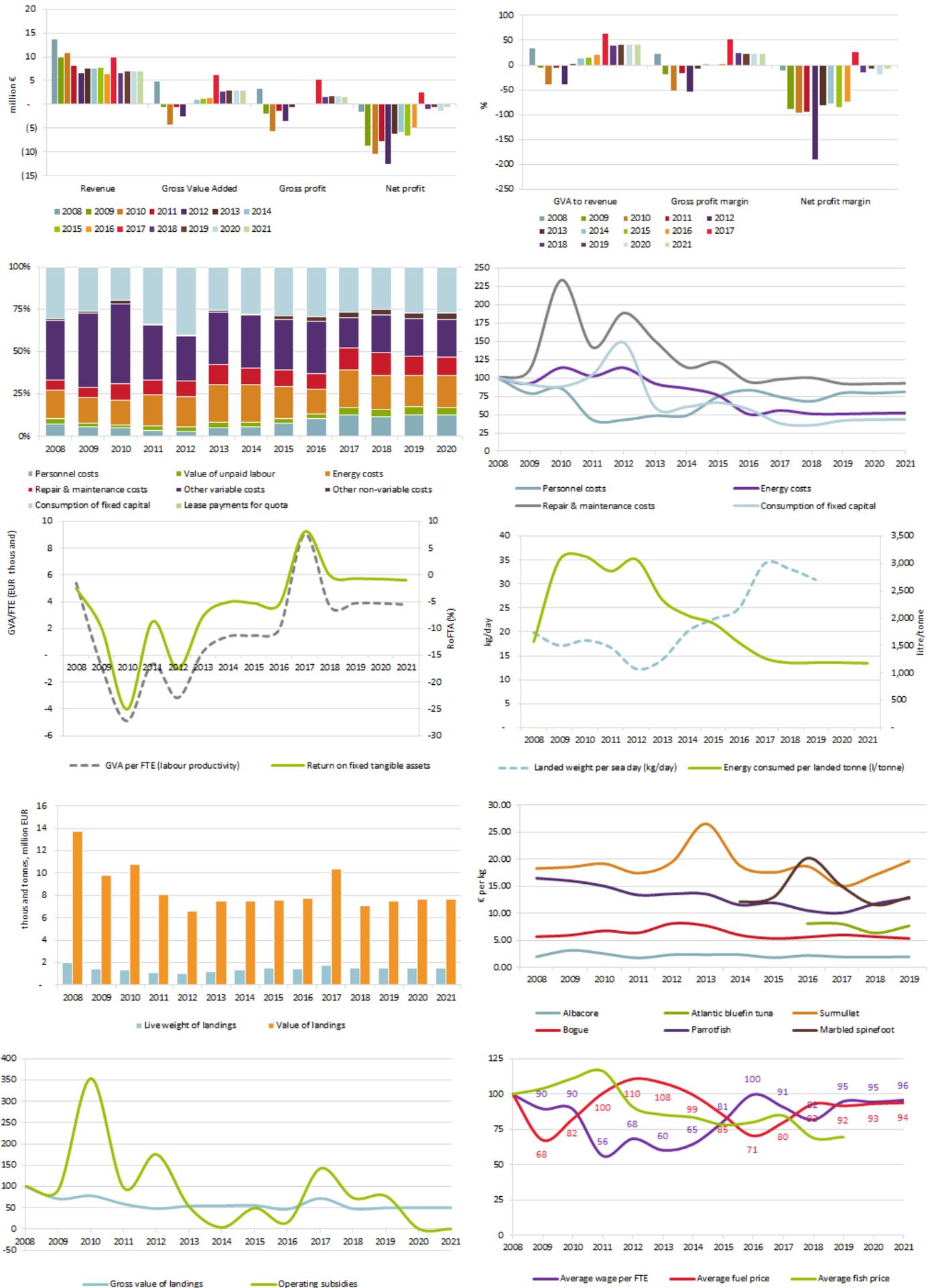


Figure 4.4 Cyprus: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in cost items; productivity and efficiency indicators;

## landings and average price (EUR /kg) of top species; variation in income and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

### 4.5 Denmark

#### Short description of the national fleet

##### Fleet capacity

In 2019, the Danish fishing fleet consisted of 1 671 registered vessels, with a combined vessel tonnage of 71 436 GTs and engine power of 205 393 000 kW. The 1 671 vessels represent production units, which may be active or inactive, and some of these production units can include more than one vessel. In 2019, there were 1 219 active and 452 inactive production units. The number of registered fishing vessels decreased by 2% between 2018 and 2019. Comparing 2019 to the average for the period 2008 to 2018, the number of vessels were 19% lower in 2019; tonnage was 9% lower, while engine power was 4% higher. Since 2008, the number of vessels have decreased with 41%, tonnage with 9% and engine power with 27%.

##### Fleet structure

Around two-thirds of the active part of the fleet consists of vessels below 10 metres in 2019. These made up an even larger part of the fleet when including inactive vessels, because the major part of these inactive vessels are below 10 metres. The vessels between 24-40 metres and the ones above 40 metres corresponded to less than 3% each of the total number of active vessels in 2019, but accounted for 16% and 46% of the total landings value, respectively. 62% of the Danish active vessels used passive gears only, 18% used demersal trawlers or seiners or both, 14% used both active and passive gears, while a minority of vessels (6%) used dredge, pelagic trawl or beam trawl. The largest landings in 2019 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).

##### Employment

Total employed in 2019 was estimated to be at 1 228 jobs, which is a small reduction compared to 1 289 employed in 2018. Converting into FTEs, there were 984 FTEs employed in 2019. This seems to be a high reduction compared to the number in 2018 (1 642 FTEs), but this is due to a change in the measurement of FTE, see Data Issues section below.

##### Effort

In 2019, the Danish fleet spent a total of around 85 000 days at sea. The total number of days at sea decreased by 5% between 2018 and 2019. Fuel consumption was 100 million litres in 2018 and decreased 4% compared to 2018.

##### Production

In 2019, the total weight landed by the Danish fleet was 634 000 tonnes of seafood with a real landing value of EUR 408 million. In 2018, the weight was 788 000 tonnes and the real value EUR 448 million. Thus, the total weight of landings decreased from 2018 to 2019 by 20%, while the value of landings decreased by 9%. Some of the reduction in weight has thus been offset by increased prices.

Again in 2019, the primary species driving the decrease in total weight landed were sandeel with a decrease of 47% from 178 000 tonnes in 2018 to 94 000 tonnes in 2019. Landings of other important species measured by weight also decreased, for instance, the landing of herring decreased with 25% (-41 000 tonnes), blue whiting with 21% (-19 000 tonnes) and European sprat plus cod by 19% (-37 000 tonnes and -3 000 tonnes, respectively).

Zooming in on the landings value measured in real terms, the total real landings value did not decrease as much as the decrease in landings weight. For sandeel, the decrease in real value was 40% (-EUR 16 million) contrary to 47% in weight. For herring, the decrease in real value was 7% (-EUR 5 million), European sprat 6% (-EUR 2 million) and cod 10% (-EUR 4 million).

It can also be observed that the landings of common shrimp were reduced by 50%, while the real landings value was reduced by 73% from EUR 15 million in 2018 to EUR 4 million in 2019. For some

species, increased real value of landings was observed, including mackerel (+6%), Norway lobster (+9%) and Atlantic horse mackerel (+7%).

## Economic results for 2019 and recent trends

### National fleet performance

The total income generated by the Danish fleet in 2019 was EUR 432 million, a decrease of 12% compared to 2018. The total income generated from direct fishing activities accounted for EUR 408 million (-9%, compared to 2018), EUR 16 million in non-fishing income (+13% compared to 2018) and EUR 8 million from leasing out fishing rights (-69% compared to 2018).

The three major variable costs consisted of labour (excl. the value of unpaid labour), energy and repair & maintenance. The costs for labour were EUR 79 million (-10% compared to 2018), energy costs were EUR 51 million (-8% compared to 2018) and repair & maintenance costs decreased with 7% to EUR 45 million.

The annual depreciation costs, which are the major group of capital costs, decreased 7% compared to 2018 to EUR 83 million.

In terms of economic fleet performance, GVA decreased 10%, gross profit decreased 10% and net profit decreased 7% compared to 2018. So, the reduction in total income by 12% was partly offset by decreased costs, but not enough to completely level it off.

In 2019, the Danish fleet had a value of physical capital (estimated replacement value) of EUR 884 million and an estimated value of fishing rights of around EUR 1.9 billion. Compared to 2018, the value of the physical capital increased by 16% and the estimated value of fishing rights increased by 2%. Investments by the fleet amounted EUR 30 million in 2019, a decrease of 46% from 2018.

### Resource productivity and efficiency indicators

The Danish fleet had a gross profit margin of 38% in 2019, which is a reduction compared to 2018, where it was 39%. The net profit margin was 20% in 2019, thus being the same as in 2018.

Labour productivity, measured as GVA against FTE decreased 1% from 2018 to 2019.

The total energy consumption was 100 million litres in 2019, thus 4% lower than in 2018. The landed weight per energy consumed, was 6.3 kg/litre in 2019 compared to 7.5 kg/litre in 2018. Per landed tonne, the fuel use was in 2018 on average 133 litres/tonne, which in 2019 increased to 158 litres/tonne.

The weight of landings per unit of effort (in days-at-sea) decreased 15% compared to 2018. In 2018, almost 0.9 tonnes were landed per day at sea on average, while this was reduced to 0.75 tonnes in 2019.

## Performance by fishing activity

### Small-scale coastal fleet

The Danish SSCF operates mostly on the Baltic Sea, the Sounds and Kattegat, and consisted in 2019 of 864 vessels (-3%, compared to 2018), with a total vessel tonnage of 3 265 GT (-5%) and a total engine power of 37 257 kW (-3%) in 2019. Compared to the average of the period 2008-2018, the number of vessels decreased by 18%, total vessel tonnage decreased 17% and total vessel power decreased 11%.

The value of the landings decreased 7% from 2018 to 2019 being EUR 22 million in 2019, which is 5% of the national landings value for fisheries. Total cost including crew costs decreased 7% to EUR 23 million in 2019. Energy costs increased 7% to EUR 1.6 million, while repair and maintenance costs were reduced with 10% to EUR 3.3 million. Other variable costs and non-variable costs were almost unchanged, when comparing 2018 and 2019, thus being EUR 4.1 million and EUR 2.7 million respectively. Crew costs (incl. unpaid labour value) are a major expense for the SSCF, although it decreased with 3% from EUR 12 million in 2018 to EUR 11 million in 2019.

Looking at the economic performance indicators, gross profit decreased from being at a positive level in 2018 equalling EUR 0.4 million to -EUR 0.9 million in 2019. However, net profit continues being

negative for this fleet, and no improvement was observed in 2019. In 2018, net profit was -EUR 2.4 million, while it was -EUR 2.6 in 2019.

### 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 2019 the LSF consisted of 355 vessels (-2% compared to 2018) with a total vessel tonnage at 65 682 GT (+1%) and a total vessel power of 149 317 kW (+1%). Compared to the average of the period 2008-2018 number of vessels decreased 23%, total vessel tonnage increased 9% and total vessel power decreased 7%.

The value of the landings decreased 9% to EUR 387 million, which is 95% of the national landings value for fisheries. Total cost including crew costs decreased 7% to EUR 239 million. For the LCF, crew costs are the primary expense. It decreased 10% to EUR 102 million (incl. unpaid labour value) in 2019. Energy costs decreased 8% to EUR 49 million, maintenance costs decreased 7% to EUR 42 million, while the remaining costs decreased with 2% from EUR 47 million in 2018 to EUR 46 million in 2019.

For the key economic performance indicators, gross profit decreased 10% to EUR 163 million in 2019, while net profit decreased 7% to EUR 89 million in 2019.

## Performance results of selected fleet segments

The Danish fleet is highly diversified with a broad range of vessel types operating and targeting different species predominantly in the North Sea, Baltic Sea, and North Atlantic. The national fleet consisted of 19 DCF fleet segments in 2019. Looking at gross profit, three fleet segments made losses, while 16 fleet segments had a positive gross profit. The Annex 2 provides a breakdown of the 2019 key performance indicators by all 19 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:

- PGP 1012m is selected due to their high dependency on fishing in the Baltic Sea
- DTS 1218m 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 due to the fact that 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

### Fleet segment: PGP 1012m

PGP 1012m (polyvalent passive gears 10-12m) consisted of 49 vessels. Their overall importance in the Danish fishery is limited, they took around 1% of the total Danish landings value in 2019. However, more than 50% of their landings value comes from fishing in the Baltic Sea. Thus, their economic performance is expected to be negatively influenced by the reduced cod and plaice quotas for 2020. Therefore, it is of interest to look at this fleet and then, when 2020 official figures become available, see how the consequences actually were for these vessels.

In 2019, the total value of landings for this fleet was EUR 5.3 million and 28 FTEs were employed in this fleet segment. The total gross profit was EUR 0.5 million and the net profit was EUR 0.07 million. Thus, these vessels are operating on a knife-edge in relation to have a positive economic balance. Therefore, such severe reductions in the available quotas for key species can turn the balance for this fleet, thus resulting in a reduced number of vessels in the coming years.

In 2020, compensation schemes have been set in place, but if no improvement is observed in the coming years, this will not be enough.

### Fleet segment : DTS1218m

The fleet segment DTS1218m (Demersal trawl 12-18m) consisted of 112 vessels in 2019. These vessels contribute to approximately 9% of the total Danish landings value in 2019, and they fish in all of the fishing areas around Denmark, but primarily Skagerrak (40%), Kattegat (35%) and the Baltic Sea (17%) and to a minor extend in the North Sea (5%). Lobster and shrimps are the most important species accounting for around 50% of their landings value, while flatfish and cod account for 25% and 17%, respectively. 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 2019, the total value of landing for this fleet was EUR 38 million accounting for 9% of the total Danish landings value. 181 FTEs were employed in this fleet segment. Total gross profit was EUR 4.5 million in 2019, while the net profit was EUR 0.2 million. This fleet segment is not expected to be directly influenced by either Brexit or reduced quotas in the Baltic Sea. However, given their dependency on lobster and shrimp, which is a high quality/high price product, effects as a consequence of the COVID-19 pandemic might be an issue, when looking at their economic performance in 2020.

### Fleet segment: TM 40XXm

TM 40XX (Pelagic trawl >40m) consisted of 15 vessels which operates predominantly in the North Sea and the Norwegian Sea. The fleet targets pelagic species for consumption (mackerel and herring) as well as reduction species such as sandeel, sprat, and blue whiting. These vessels are thus expected to be affected by Brexit.

This fleet segment is without question the one taking the highest share of the total Danish landings value, which in 2019 was 36%. In 2019, the total value of landings was EUR 148 million and 85 FTEs

were employed in this fleet segment. This fleet segment reported a total gross profit of EUR 101 million and total net profit of EUR 66 million in 2019.

As mentioned, Brexit will influence the vessels in this fleet. Reduced quota availability might result in lower landings. Also, the agreement with Norway regarding fishing in Norwegian waters might have an extra effect following Brexit and finally any unilateral United Kingdom regulatory initiatives might affect these vessels, because of their high dependency on fishing in the United Kingdom economic exclusive zone.

## 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 2019 increased for four of these. For the most important species, herring, the price with 23% from 0.43 euro/kilo in 2018 to 0.53 euro/kilo in 2019, for European sprat by 17% from 0.23 euro/kilo to 0.27 euro/kilo, Atlantic Mackerel with 8% from 1.21 euro/kilo to 1.30 euro/kilo and Atlantic cod by 11% from 2.57 euro/kilo to 2.86 euro/kilo. Only for the fourth most important species, Norway lobster, the price decreased with 5% from 6.81 euro/kilo to 6.45 euro/kilo.

### Management instruments

The majority 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 in order to account for unwanted situations, such as quota concentration.

### Status of Key Stocks, TACs and quotas

The Danish quotas of the most valuable species to the Danish fishery were in 2019 the following: Atlantic herring 128 000 tonnes, European sprat 170 000 tonnes, Atlantic mackerel 26 000 tonnes, Norway lobster 12 000 tonnes and Atlantic cod 22 000 tonnes.

Compared to 2018, all five quotas have decreased. For Atlantic herring by 29%, European sprat by 20%, Atlantic mackerel by 15%, Atlantic cod by 14%. Only, the quota for Norway lobster increased with 5%.

In 2020, the Danish quotas for Atlantic Mackerel and Norway lobster improved a bit, but the quotas for herring, Atlantic cod and European sprat continued to decrease. Generally, many of the most important Danish quotas have shown a decreasing trend in the last two years.

The general trend of decreasing fishing quotas has had an economic impact on the Danish fishery. However, in some fishing waters the reductions have been more severe than in others. This is the case for the vessels conducting fisheries in the Baltic Sea, where the quotas for the very economically important Atlantic cod have been reduced from 4 500 tonnes in 2019 to 2 300 tonnes in 2020 for the Eastern Baltic and 6 300 tonnes to 460 tonnes for the Western Baltic. In addition, the plaice quota has been reduced thus contributing to the economically unstable situation especially for the fishing vessels with a high dependency on these quotas in the Baltic Sea.

### 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. in order to identify, test and implement the most promising ideas.

## Nowcasts for 2020-21 and beyond

### Model results

Preliminary results for 2020 forecast an increase of 11% in landed weight, but this resulting in a decrease of 3% in the value of landings. Projections suggest operating costs will decrease with 12%, primarily driven by reduced energy cost. However, despite the decrease in revenue gross value added is expected to increase by 3%, gross profit by 11% and net profit by 26%.

Results indicate that the Danish fleet operated at a profit in 2020: with an estimated net profit of EUR 110 million and a margin of 21%.

### Outlook

The TACs and thus quotas continue to be one of the most important factors that influence the fleet performance.

A look at some of the most significant changes in the Danish quotas is relevant to consider, when foreseeing the trends in economic performance in 2020-21

Quotas for the most important species are described here: sandeel 205 000 tonnes in 2020 and 102 000 tonnes in 2021, European sprat 163 000 tonnes in 2020 and 195 000 tonnes in 2021, Atlantic herring 112 000 tonnes in 2020 and 82 000 tonnes in 2021, European plaice 41 000 tonnes in 2020 and 30 000 tonnes in 2021, Atlantic mackerel 35 000 tonnes in 2020 and 32 000 tonnes in 2021 and Atlantic cod goes from 8 000 tonnes in 2020 to 6 000 tonnes in 2021.

Except for sprat, all quotas for the most important species decrease in 2019 and 2020.

Prices developed in 2020 with a mixed picture compared to 2019. The price for Atlantic cod and sandeel increased by 14% and 4% respectively, while the price for European plaice, Atlantic herring, Atlantic mackerel, Norway lobster, and European sprat decreased 14%, 1%, 14%, 14 and 4%, respectively.

## BREXIT

Brexit is expected to have an impact for many fleet segments in Danish fisheries either directly or indirectly. The TCA resulted in reduced Danish quotas for several important species. The fishing opportunities for e.g. cod, haddock, hake and sole, the pelagic consumption species herring and mackerel plus the primarily industrial species Norway pout, and to a minor degree sprat and blue whiting. Calculating the potential effects of Brexit for Danish fisheries is a complex issue. The loss of fishing opportunities can affect the value of the quota shares, which Danish fishers own and can sell amongst each other. Reduced quotas implies a lower annual absolute allocation of quota to each fisher, thus implying that the relative value of the shares will be reduced. Thus, the capital value of some fishing rights are expected to be reduced.

However, looking at the day-to-day effect, some of the quotas being reduced following Brexit are currently not fully utilised. Thus, the current landings can in some situations still be caught, thus implying no loss in landings value everything else being equal. For some quotas, the reduction is so large that current landings cannot be sustained. This is for example expected to be the case for herring, mackerel, saithe and hake.

Furthermore, the consequences of Brexit become even more difficult to assess due to the indirect effect on the agreements with Norway. The previous agreement between EU and Norway included access to United Kingdom waters. However, this is not a part of the agreement now, thus implying that the negotiation position for the EU towards Norway is reduced. Given that Danish fishers fish important species in Norwegian waters, the economic effects following Brexit might be even bigger due to this.

## COVID 19

The COVID-19 outbreak have affected the Danish fleet in some degree, but it varies between fleets. At the overall level, total landings in weight increased in 2020 compared to 2019, but the total landings value decreased. Many factors have contributed to this, lower quotas on some high priced fish, lower quota utilisation, price decreases etc. However, it is not straight forward to easily distinguish between the different effects, and also how much have been driven by COVID-19 or other factors.

However, generally the fishers delivering to the fresh markets, primarily to restaurants have had issues with selling their landings at the normal price. Much of fish are exported to restaurants in other countries, and these have been closed to a different degree, like it has in Denmark. An example of this is the *Nephrops* fishery, which delivers to restaurants. Despite increased quota in the North Sea, landings have be reduced and so have the sales price. It is likely that much of this is driven by COVID-19.

As a general note, the Danish fleet has been supported financially by the national government during the COVID-19 outbreak covering income support, support for fixed costs and guaranteed loans. Local governments have also granted financially support to some extent.

## Data issues

### Identify changes in respect to previous years.

New database makes it possible to match MS and FS data, so no differences occur.

### Improvements achieved within 2019 data collection

New database makes it possible to match MS and FS data, so no differences occur.

### Problems identified

Capacity data for [YEAR]+1 is always delayed from Denmark. Validated data are available in May, but data is requested in the data call in February/March. This always causes troubles in the calculation of 2020 forecast data. Denmark will try to obtain preliminary data, that can be reported to the data call. Preliminary data will then be corrected, verified and submitted the following year.

The initial FTE calculations of 2019 were greater than the number of jobs reported. That is not possible in the current framework. Denmark thus recalculated FTE at firm level with regards to maximal number of jobs in each firm. New calculations will be implemented for previous years, securing that number of jobs and FTE correlate in future data transmissions.

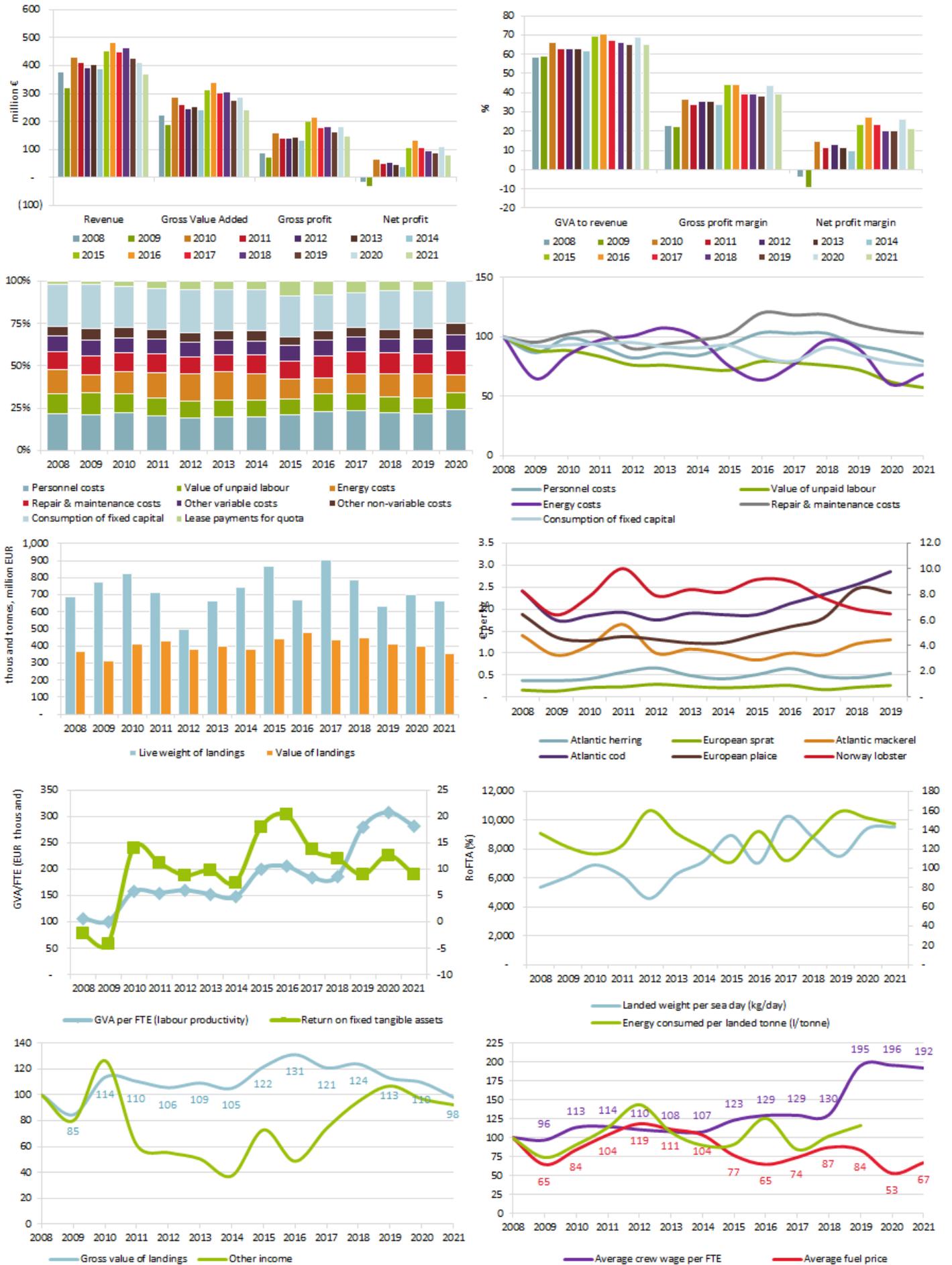


Figure 4.5 Demark: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

## 4.6 Estonia

### Short description of the national fleet

#### Fleet capacity

In 2019, total number of registered vessels continued to increase by 6% and reached 1 815 vessels. The increase in the total number was related to the registration of SSCF boats into the fishing fleet register. The estimated number of active vessels was 1 210, 2% lower compared to 2018. The active fleet was divided in 3% of LSF (33 vessels) and 97% of SSCF (1 177 vessels). The LSF can be divided into trawlers operating in the Baltic Sea and outside the Baltic Sea (NAFO and Eastern Arctic; two and three vessels, respectively). The SSCF operates in Estonian coastal waters using mainly passive gears.

#### Fishing activity and production

An estimated 63 801 days were spent at sea in 2019; decreasing 1% compared to 2018.

The live weight landed by the Estonian Baltic Sea fleet in 2019 was 66 151 tonnes of seafood, with a landed value of EUR 13.8 million. The total weight and the total value of landings decreased 1% and 5% compared to previous year, respectively.

In 2019, Atlantic herring generated the highest value (EUR 5.6 million) landed by the Estonian Baltic Sea fleet, followed by European sprat (EUR 4.7 million) and European perch (EUR 2.2 million). In terms of landings weight, Atlantic herring landings were 32 833 tonnes, European sprat 30 649 tonnes and European perch 979 tonnes.

#### Employment and average salaries

Employment was estimated at 1 168 jobs, corresponding to 326 FTEs in 2019. The big difference between numbers of total employed and FTE refers that there are many persons in the sector for whom fishing is not the only source of income. It mainly concerns the SSCF. Compared to 2018, the number of engaged crew decreased 6% and FTE increased 23% in 2019. Average wage per FTE amounted to EUR 16 136; decreasing 10% compared to 2018.

### Economic results for 2019 and recent trends

#### National fleet performance

The national fleet was profitable in 2019, despite of low first sales prices for key species as herring and sprat. Revenue, estimated at EUR 14.3 million in 2019, decreased by 3% compared to a year ago.

GVA, gross profit and net profit were estimated at EUR 8.1 million, EUR 2.9 million and EUR 0.8 million, respectively. Compared to 2018, GVA, gross profit and net profit decreased 14%, 39% and 71%, respectively.

When including capital costs, total costs amounted to EUR 14.1 million. Compared to 2018, total cost increased 9%.

The (depreciated) replacement value of the Estonian fleet was estimated at EUR 18.8 million in 2019 and investments amounted to EUR 0.9 million, which was five times lower than in 2018.

#### Resource productivity and efficiency indicators

The gross profit margin in 2019 was 20%. Net profit margin was estimated at 6%, which decreased 70% compared to 2018.

The RoFTA was estimated at 2% and decreased 81% in comparison to 2018. Labour productivity (GVA/FTE) decreased 30% compared to 2018.

Fuel consumption per landed tonne has followed rather decreasing trend compared to time period before 2012, with 53 litres per tonne in 2019. Compared to 2018, landings in weight per unit of effort (in days-at-sea) remained rather stable in 2019 with 1 037 kg per sea day.

### Drivers affecting the economic performance trends

2019 is characterised by a decrease in the total value of landings and an increase in total costs. Fall in the catches and average prices of some key species affected the total value of landings. The average prices fell for such commercially important species as sprat, pike-perch, smelt and pike. There was also a significant reduction in catches of perch, which is an important species in SSCF. Rise in average fuel price, labour costs and repair & maintenance costs were main drivers behind increase in total costs. The average fuel price in 2019 was 0.60 euro/litre, which is 0.05 euro/litre higher than in 2018.

## Markets and Trade

Key species as sprat and herring were mainly landed at Estonian ports, where the catch was sold to fish freezing or processing companies, unless the fishing company itself was engaged in the processing and marketing of fish. Fish was also landed at ports in Latvia, Finland, Sweden and Denmark. The proportion of catch landed at foreign ports decreased from 12% in 2018 to 10% in 2019.

The export volume of frozen fish (sprat and herring) of Estonian origin has started to recover after the loss of the Russian market. The main export market for fish and fishery products continued to be Ukraine. Large quantities of fish were also sold to Denmark, the Republic of Korea and Kazakhstan.

Despite the recovery of exports, the loss of the Russian market still affected the first-sale prices of herring and sprat. In 2013, before Russia's embargo, the average first-sale prices of these species had been 0.23 euro/kg and 0.22 euro/kg, respectively, but in 2019 an average of 0.17 euro/kg was paid for both herring and sprat. Compared with 2018, the average first-sale price of herring remained the same, while the price of sprat dropped by one cent.

## Operational costs

Main changes took place in fuel costs, labour costs and repair & maintenance costs. Compared to 2018, fuel costs increased 11% in 2019. Labour costs and repair & maintenance costs followed the same trend by 11% and 81%, respectively.

## 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.

International acoustic surveys of pelagic fish stocks conducted in the Baltic Sea in recent years show that the lion's share of the sprat stock is currently located in the central and north-eastern parts of the sea. Thus, the current status of the sprat stock in the economic zone of Estonia can still be regarded as relatively satisfactory.

Unlike sprat, which is treated as a single stock unit, i.e., population across the Baltic Sea, in the case of herring the state of stocks is assessed and advice for exploitation is given for four stock units in different subdivisions of the Baltic Sea. Only two stock units, Central Baltic herring and Gulf of Riga herring, are offering more interest to Estonian fishers. The current status of Gulf of Riga herring is regarded as relatively good, but the status of Central Baltic herring has deteriorated.

In 2019 the Estonian trawl fleet's final sprat and herring quotas were 31 479 and 25 519 tonnes, respectively. While the quotas for both species had shown an upward trend in recent years, in 2019, the quota increased only for sprat by slightly more than 1% compared with 2018, reaching the highest level of the last eight years. The herring fishing quota decreased sharply after five years of growth, falling 18% year on year. Quota uptake rates for trawlers remained high, amounting to 96% for herring and 97% for sprat. The final herring quota for the Estonian coastal fishers were 9 453 tonnes in 2019 and quota uptake rate amounted to 88%. Like in the preceding year, targeted fishing for cod was non-existent in 2019. Trawling companies explained the termination of cod fishing by the scarcity of fish, which makes fishing economically unviable.

## Management instruments

The main management measures in Estonia are landings volume quotas (ITQs) in the open water fisheries (trawling) and gear usage quotas (ITE -Individual transferable effort-) in the coastal fisheries. Fishing quotas are allocated according to the historic fishing rights. The Estonian experience shows that ITQs can be considered an effective method for increasing the allocation of fishing rights to the most efficient enterprises and speeding the process of reducing excessive fleet capacity. The size of the Baltic Sea trawling fleet decreased 56% between 2008 and 2019 (from 64 to 28 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

Innovation and development of the Estonian fishing fleet were supported through EMFF for two actions in 2019:

- Support for gear improvement. The support was used for reduction of unwanted by-catches and mitigation of negative impact of seals.
- Support for improving the energy efficiency of fishing vessels and mitigating climate change. The support was used to energy-efficient investments in fishing vessels that contribute to climate change mitigation.

## Assessment of the economic performance for 2020 and 2021

### Impact of the COVID-19 outbreak

Compared to 2019, the total weight and value of landings of the Estonian Baltic Sea fleet decreased by 16% and 13% in 2020, respectively. However, the main reason for this was not the COVID-19 outbreak, but reduction in the Estonian trawl fleet's sprat and herring quotas, which fell by a total of 16%. Trawlers catches were also affected by poor weather conditions at the beginning of the year. In case of coastal fishing, the total weight and value of landings remained stable in 2020. There were also no significant changes in average first-sale prices of the key species (herring, sprat and perch), compared to 2019. Preliminary data indicate that the COVID-19 pandemic did not play a major important role in the fishing activity of the Estonian Baltic Sea fleet in 2020.

## 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 2019 was 55 342 tonnes of seafood, with a landed value of EUR 8.8 million. The fleet has been profitable. In 2019, the weight of landings decreased 2% compared to 2018. At the same time, the value of landings decreased 4%. The main reason of this was the fall in the first-sale prices of sprat. Total operating costs increased mainly due to the rise in repair & maintenance costs. When including capital costs, total costs amounted to EUR 7.0 million in 2019. GVA, gross profit and net profit in 2019 were estimated at EUR 6.2 million, EUR 3.5 million and EUR 2.5 million, respectively. GVA, gross profit and net profit decreased 10%, 17% and 24%, compared to 2018. The (depreciated) replacement value of the LSF was estimated at EUR 10.9 million and investments amounted to EUR 0.2 million, decreased 91% compared to 2018.

### Small-scale coastal fleet

The SSCF operates in Estonian coastal waters using mainly passive gears. The largest catches taken in 2019 were of herring, followed by perch, smelt and flounder. The live weight landed by the SSCF in 2019 was 10 808 tonnes of seafood, with a landed value of EUR 5.0 million. The fleet made a loss. In 2019, the weight of landings increased 4% compared to 2018. At the same time, the value of landings decreased 5%. Total costs increased mainly due to the rise in value of unpaid labour. When including capital costs, total costs amounted to EUR 7.0 million in 2019. GVA, gross profit and net profit in 2019 were estimated at EUR 1.9 million, -EUR 0.6 million and -EUR 1.7 million, respectively. The (depreciated) replacement value of the SSCF was estimated at EUR 7.9 million and investments amounted to EUR 0.7 million, decreased 68% compared to 2018.

## Performance results of selected fleet segments

### Pelagic trawlers 24-40m

The 24-40 meter pelagic trawlers are the most important segment in the Estonian fishing fleet in the Baltic Sea. In 2019 this fleet segment consisted of 28 active vessels. The number of vessels increased by two compared to 2018. Employment in 2019 was estimated at 126 jobs, corresponding to 106 FTEs. The segment targets pelagic species such as sprat and herring. The total value of landings was EUR 8.8 million in 2019. The fleet segment was profitable. GVA, gross profit and net profit in 2019 were

estimated at EUR 6.2 million, EUR 3.5 million and EUR 2.5 million, respectively. Economic development trend shows improved situation.

### **Passive gears <10m**

The segment with the highest number of vessels and employment in the Estonian fleet is the 0-10 meter passive gears segment that operates in the coastal fishery. In 2018, this segment consisted of 1 134 active vessels. The employment in 2019 was estimated at 995 jobs, corresponding to 205 FTEs. The fleet targets mostly freshwater species, such as perch, pikeperch, but also marine species such as flounder and herring. The total value of landings was EUR 3.7 million in 2019. The fleet segment made a loss. GVA, gross profit and net profit in 2019 were estimated at EUR 1.2 million, –EUR 1.08 million and –EUR 2.16 million, respectively. Economic development trend shows deteriorated situation.

### **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. In particular, 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 three vessels, respectively.

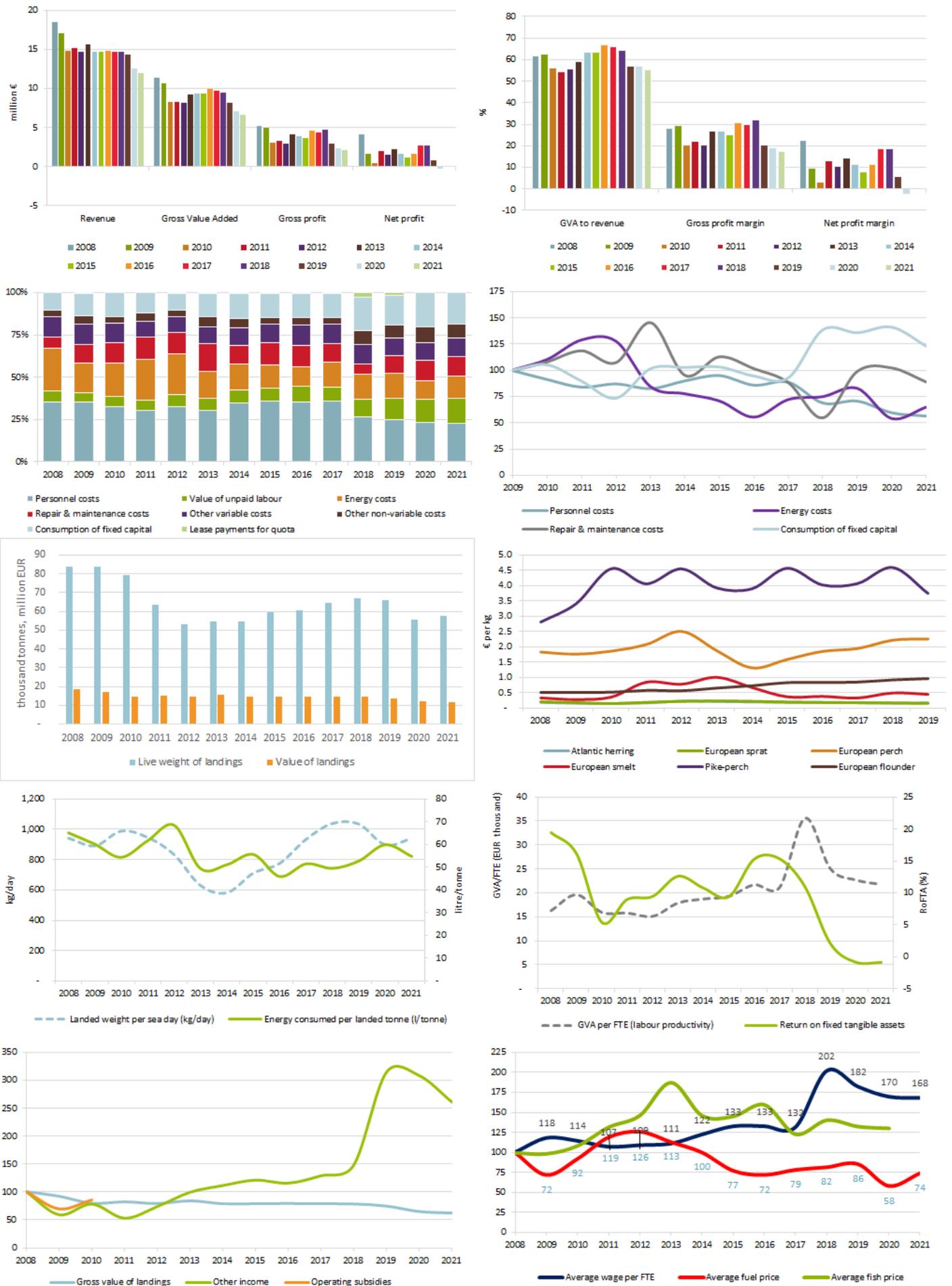


Figure 4.6 Estonia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;

**landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.7 Finland

### Short description of the national fleet

#### Fleet capacity

The Finnish fishing fleet consisted of 3 206 registered vessels of which 1 927 were inactive in 2019; the active fleet consisted of 1 279 vessels, with a combined gross tonnage of 11 700 GT and a total power of 85 000 kW. The capacity of active fleet declined some 3% with the number of active vessels from 2019.

#### Fleet structure

The Finnish fishing fleet is dominated by small-scale vessels: 1 230 out of 1 279 (96%) active vessels were operating in SSCF. However, the 49 trawlers (LSF) accounted for the majority (75%) of the total fleet capacity in terms of tonnage.

#### Employment

Total employment in 2019 was estimated at 1 149 jobs. Majority of the jobs (88%) are created by the SSCF that perform seasonal fisheries. Therefore, the employment in that sector is usually only part-time and in terms of FTE the total fleet added up to 258 FTE. The number of fishers has been dropping for a long time and the average age of fishers is high.

#### Effort

The total effort in 2019 was 78 000 fishing days. The SSCF accounted for 95% of the total effort and there has been declining trend during the past decade. After implementation of the ITQ system in pelagic fisheries in 2017 also the effort of LSF has been decreasing. Finnish fleet operates exclusively in the Baltic Sea.

#### Production

The total weight landed by the Finnish fleet in 2019 amounted 135 000 tonnes of seafood with value of EUR 35 million. The bulk of this catch consisted of Baltic herring and sprat caught by the trawler fleet. Catches of these pelagic species was increasing until 2017 due to strong herring stocks especially in the most important fishing grounds for Finnish fleet in northern Baltic Sea, however, in 2018 and 2019 the TACs for Baltic herring were cut and the catches decreased. Thanks to the higher price paid for foodstuff herring in 2019, the landed value of LSF increased although the catches decreased. At the same time the landings in SSCF declined by 5%. Catches have decreased significantly from the beginning of the decade but in 2019 there was a small increase in total landings value.

Baltic herring accounted for the highest landed value (EUR 24 million), followed by European sprat (EUR 3 million). The Russian embargo on EU food stuff as a countermeasure to EU sanctions due to the Ukraine crisis led to a loss of the most important market for pelagic fish that resulted in drop in pelagic fish prices in 2015.

Temperate winter together with increase of seal population and local impact of strong cormorant populations continued to hamper the small-scale coastal fishing. The landing weight of the SSCF decreased again in 2019 after short increase in landings in 2018. SSCF targets mostly various freshwater fish species and the most important species for the segment were European whitefish, perch, vendace, salmon and pike-perch.

### Economic results for 2019 and recent trends

#### National fleet performance

The amount of income generated by the Finnish fleet in 2019 was EUR 35.2 million, with a slight decrease of 4%. Income consisted of EUR 33.5 million in landings income and EUR 1.7 million in other income.

Profitability of the national fleet has been improving significantly for past few years until 2018 but in 2019 the GVA decreased to EUR 17 million, 21% lower than in 2018. Gross profit decreased also to EUR 9 million and was not high enough to cover the estimated opportunity cost of capital of the fleet resulting in a negative net profit (-EUR 1.3 million).

### Resource productivity and efficiency indicators

The GVA generated of the Finnish national fleet in 2019 was EUR 17 million with a decline of 21% from previous year. The gross profit margin decreased to 24%, and the net profit deteriorated. The weakening profitability originated mainly from the poor economic performance in the trawler segments (LSF) but also the profitability deteriorated in the SSCF. In the SSCF there are large number of low activity vessels and accounting the consumption of capital of all these vessels turned the segment's net profit negative.

Both LSF and SSCF made positive gross profits, however, the capital costs turned the long-term profitability negative. In 2019 the profitability of both segments decreased and trawlers and small-scale vessels were making losses, indicating unsustainable fishery in the long-term.

The relative share of energy costs to total operational costs has been decreasing for the total fleet while the landed weight per sea day has been increasing. Energy consumed per landed tonne dropped in 2016 and has stayed in lower level indicating improved energy efficiency, especially in the pelagic trawler fleet where some old vessels have left the business. Labour productivity (GVA/FTE) has increased significantly in 2015-2018, but it dropped in 2019.

### Performance by fishing activity

#### Small-scale coastal fleet

The Finnish fishing fleet is dominated by small-scale vessels: 1 230 out of 1 279 (96%) active vessels were operating in SSCF.

However, the segment account only one fourth of the national total value of landings that is dominated by the pelagic trawler fleet. At the same time the segment covers 88% of all fishers and employs over half of the total national total in terms of FTE. Therefore, the segment is really important from the social point of view.

Catches of coastal fisheries have been in continued decline for the past years but in 2018 there was an increase in landing weight and value.

In 2019, landed weight of the segment decreased by 5% and total revenues increased to EUR 9.9 million. The segment generated EUR 5.5 million of GVA and gross profit of EUR 3.5 million. However, accounting the value of capital of all these vessels, including low-activity vessels, turned the net profit of the segment negative.

The profitability of the most active part of the segment is higher than those with low activity. In 2015, the new fishing law, commercial fishing enterprises are defined in two groups: the first category (I) consists of enterprises that are value added tax liable (annual turnover over EUR 10 000 in 2016); the rest are classified as the second category (II) fishers. The first category fishers are the priority in the fisheries management; and only these enterprises are eligible for EMFF funding.

In 2019, 213 fishing units in the SSCF exceeded the VAT threshold and categorised as category I. These enterprises accounted for three-quarters of the total value of landings of the total SSCF segment. Therefore, the average turnover of a fishing unit in this category was over EUR 27 000; much higher compared to that for the whole small-scale segment (EUR 8 000). The increase in the average size has a significant impact on the economic performance. Profitability of the category I fishers is higher compared to the whole segment.

### Performance of fleet segments

The Finnish fleet operates exclusively in the Baltic Sea and is based on two main fisheries: pelagic trawlers (LSF) and the SSCF. Pelagic trawlers are divided into three segments. 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 <10m and 10-12m

The SSCF is the biggest Finnish fleet segment in terms of number of boats with 1 230 vessels in 2019. The SSCF consists of diversified vessels targeting mainly freshwater fish species; European whitefish, perch, vendace, salmon and pike-perch. In 2019, the total revenue of the small-scale fishery was EUR 9.9 million making a gross value added of EUR 5.5 million. The profitability in terms of Gross profit margin was 35% but it was not high enough to cover the estimated capital costs: the SSCF made losses of -EUR 0.8 million.

The coastal fleet is operating mostly seasonally, and there is also a high variation in the activity of the vessels; the 213 most active fishing units make up three quarters of the total SSCF landings value. These most active vessels are highly profitable compared to the low activity vessels which have relatively high capital costs. The overall economic performance of the whole SSCF has been poor for years and continued making losses in 2019 when the opportunity cost of capital is considered.

## Pelagic trawlers 24-40m

Pelagic trawlers 24-40m is economically the most important fleet segment in Finland targeting herring and sprat in the Baltic Sea. In 2019 these 19 vessels accounted for more than half of the total value landed by the Finnish fleet and employed 82 FTE. The average vessel revenue was EUR 1 million, employing four FTEs. The fleet segment generated a GVA of EUR 9 million. In 2019 the Gross profit margin was 17 % which was not high enough to cover the estimated capital costs and the fleet was making losses with a net profit margin of -3%.

## Pelagic trawlers 18-24m

Pelagic trawlers 18-24m segment consisted of seven vessels in 2019, also targeting Baltic herring and sprat. The average vessel revenue was EUR 284 000, second highest in the Finnish fleet and average on-board employment is two FTE. The segment generated EUR 1.5 million of GVA. The fleet made Gross profit of EUR 0.7 million with 33% margin. Gross profit was high enough to cover the estimated capital costs and the segment was the most profitable one with net profit margin of 6%.

## Pelagic trawlers 12-18m

Pelagic trawlers 12-18m is the smallest trawler segment in terms of individual vessel size and consists of 23 vessels. The average vessel revenue was EUR 105 000. An average vessel employed 0.8 FTE. In 2019 the segment generated EUR 1.4 million of GVA and EUR 0.8 million gross profit with 32% margin. Gross profit was high enough to cover the estimated capital costs and the fleet was making profits with net profit margin of 4%.

## Drivers affecting the economic performance trends

Most important driver for fisheries is the state of fish stocks. For several years due to the strong status of the most important fish stocks for Finnish fleet – pelagic stocks - the total weight of landings broke the all-time record year after year.

However, since 2018 there has been quota cuts in Baltic pelagic stocks and particularly significant cuts in the most important Baltic herring stocks for Finnish fisheries: The total Finnish pelagic quotas in 2021 is less than half of that in 2017 and that will have marked impact on the fleet economic performance on the current year.

The most important 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 foodstuff herring increased significantly in 2020. The price development of the most important species for coastal fishing have been rather favourable compensating low catches, but in 2020 also many of these prices decreased. Fuel costs are major cost item especially for the trawler fleet. The fuel prices were at the lowest level of the decade in 2016 but have increased since then and this have had an impact on the profitability of the sector. Fuel prices increased from 2016 until 2019, but due to COVID-19 economic slowdown on 2020 there was a marked drop in global fuel prices.

## Markets and trade (including fish prices)

Russia has traditionally been an important market for Baltic herring and sprat. Therefore, the continued Russian embargo for EU food stuff has forced Finnish fishers to find alternative markets in neighbouring countries for pelagic species. The average prices of pelagic species dropped significantly in 2015 as landings have been more heavily used as feed and domestically in fishmeal factories.

COVID-19 has had an impact on fish markets: especially the fresh fish markets have been down which has 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.

From the beginning of 2017, ITQ regime was introduced in the Finnish pelagic fisheries and salmon fishery. The allocation of the fishing rights was based on grandfathering. The new management regime will most likely have a major impact to the trawler fleet structure and performance. In 2020 there were 47 active trawlers operating under ITQ. That is 16 vessels less than when the ITQ was introduced. The outcome of the impact of ITQ on Finnish trawler fleet will be realised in the coming years, and the potentially improving profitability of the trawler fleet is still to be seen.

### **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.

There were further quota cuts for herring in 2019, 2020 and 2021, and the total pelagic quotas in 2021 is only 45% compared to the 2017 level. This imply significant impact on the fleet economic performance on the pelagic trawler segments and the depending downstream activities in the value chain.

The main quota species for the SSCF is salmon. Salmon quotas have been decreasing during the past 5 years. However, the most important salmon rivers in the Baltic Sea – river Tornio and river Kalix – show that they are on the recovery path towards MSY.

### **Operational costs (external factors)**

Fuel prices are the most important cost item especially for the larger pelagic trawlers. Fuel prices were at lowest level of the decade in 2016 but have increased since until 2019. In 2020 the fuel prices decreased by some 10-20% depending on the fuel type. The consumer price for gasoline and diesel went down by 7% and 10% respectively, while the consumer price for light fuel oil went down by 22%. The labour costs are the second major cost item and follows the revenue.

### **Innovation and Development**

The Finnish government has launched a development programme for promoting the use of domestic fish aiming at Finns eating double the amount of domestic fish in 2027 that they are currently eating. The biggest potential for increasing the supply of domestic food fish lies in the trawler fishing of Baltic herring. Currently, majority of the herring catch is utilized as feed for fur farms or 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 than what is paid for herring for feed or industrial use. The price of foodstuff Baltic herring can be even triple the one that is paid for the herring for feed.

### **Socioeconomic impact**

The number of fishers has been dropping for a long time and the average age has been increasing. The decline in the number of fishers and vessels has been particularly true for the SSCF.

ITQ system was introduced in the beginning of 2017. In other Nordic countries the implementation of ITQ led to a significant decrease in number of vessels and employment. Similar development may be expected in the Finnish pelagic segment. By 2020 the number of trawlers has decreased 25% since introducing the ITQ.

Already one third of the landings are landed abroad 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 of Baltic herring to improve the economic situation of the Finnish trawlers and to maintain the employment.

## Nowcasts for 2020-21 and beyond

### Model results

Baltic herring stocks have been exceptionally strong for past years especially in the most important fishing grounds in the Bothnian Sea. However, there were quota cuts for 2019 and 2020 and the total pelagic quotas has decreased one third during the past three years. Furthermore, there were further cuts for herring quotas in 2021.

Revenue of trawler fleet is projected to decrease with the decreasing TACs and in 2021 the revenue is estimated to decline by one third of that in 2019. This is projected to have a major impact on the trawler fleet profitability that will plummet.

In the SSCF landings the development is projected to improve. In 2020 landings increased and also the profitability and in 2021 the economic performance is projected to further improve. Despite the improved profitability the gross profits were not high enough to cover the estimated capital costs and the SSCF is projected to continue operating making negative net profit.

### Outlook

A total of 92 million kilos of Baltic herring and 12 million kilos of sprat were caught in 2020. The Baltic herring catch decreased by 20 million kilos from the previous year, while the sprat catch decreased by four million kilos. Despite the drop of herring catch the quota was not fully utilised.

There have been quota cuts during the past years since 2017 in pelagic stocks and the quotas for 2021 are lower than the catches in 2020 leading to further decrease in trawler segment. Furthermore, the ICES advice for 2022 proposed further quota cuts in pelagic species in Baltic Sea. However, proposed quota for the Bothnian Sea herring that is the most important fishing ground for Finnish pelagic trawlers was recommended to increase from the advice for 2021. This would have a positive impact on the trawler fleet economic performance.

The Finnish government has launched a development programme for promoting the use of domestic fish aiming at doubling the amount of domestic fish eaten by 2027. In the commercial fisheries, the potential for increasing the supply for domestic fish is in the trawler fishing of Baltic herring. If used for human consumption instead of current high use for feed fish or fishmeal, the Baltic herring catch would bring more income for fishers and boost the profitability of trawlers.

### COVID-19

According to preliminary data, COVID-19 did not have a significant impact on trawler segment, as herring is mainly used as a raw material for the fish feed industry. However, it had a significant impact on the fresh fish market: weak demand for fresh fish affected fish prices. This lowered especially prices of high value fish that are important for the SSCF. The government has provided temporary operating subsidies ranging from EUR 2 000 to EUR 120 000 for commercial fishers in category I whose economic situation has been significantly weaker due to the COVID-19 in 2020.

### Data issues

Capacity, logbook and landings data are derived from sources which are covered by different legislation. All these data are available exhaustively. The bigger vessels are covered by log-books and smaller vessels are covered by the coastal fishing report. However, in the SSCF the method for correcting non-response was changed in 2014 based the response loss survey. Furthermore, the fishing law reform sanctioned the coastal fishing reports mandatory for all 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 tm1820 segment in 2018 are exceptionally high because the figures include the sales revenue of one vessel, including fishing rights.

Economic data collection is based on a hierarchical multi-stage survey that combines information from different data sources. The main sources are the central control register on the commercial fishery (includes landings data, the vessel register, and first-hand sales of quota species), the financial

database in Statistics Finland (SF) and an additional account surveys for coastal fishers and trawlers. Starting in 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.

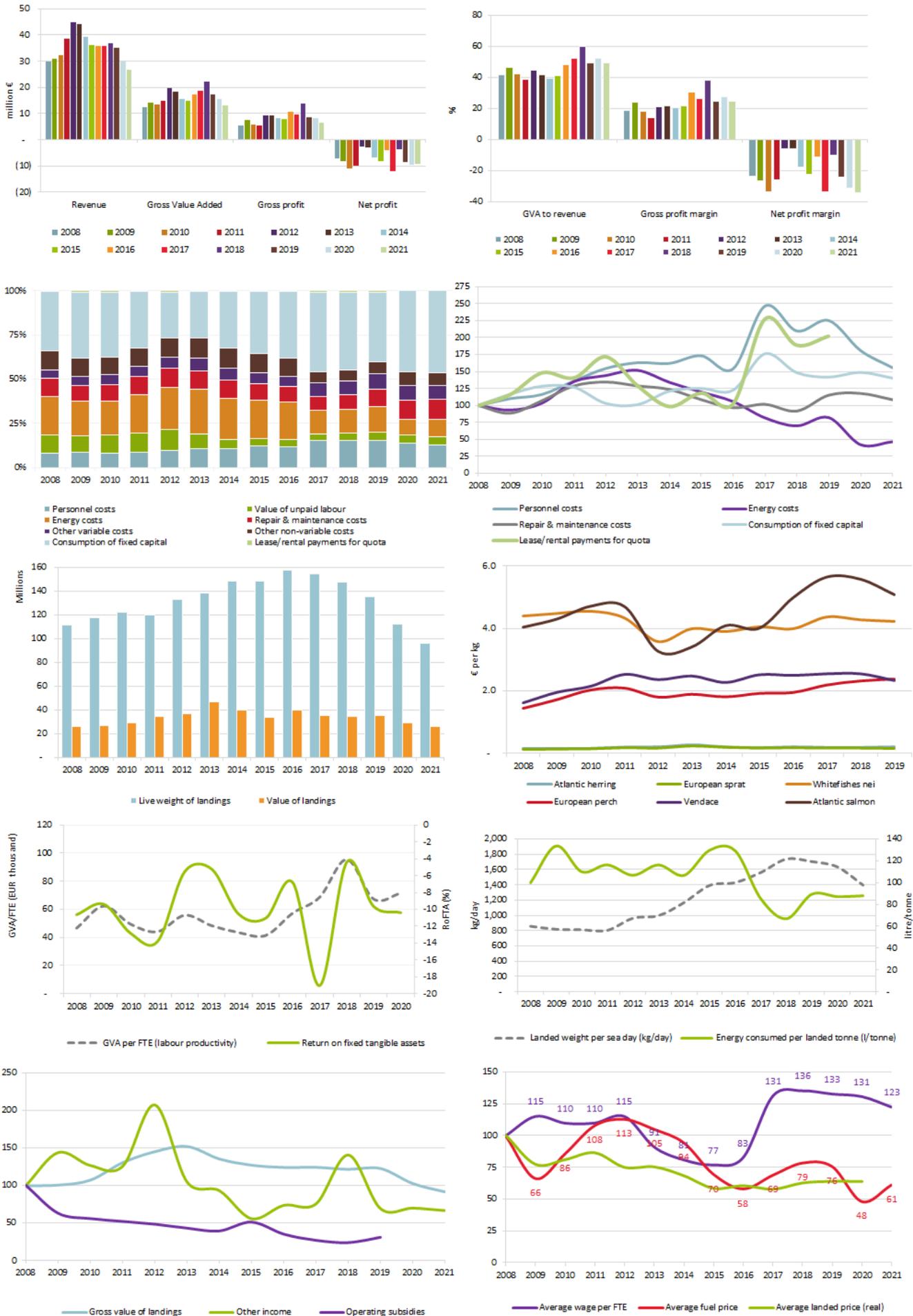


Figure 4.7 Finland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;

## landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

### 4.8 France

#### Short description of the national fleet

##### Fleet capacity

In 2019, the national fleet capacity consisted of 6 513 vessels (including 962 inactive), having a combined GT of 181 300 tonnes and engine power of 994 700 kW. The number of vessels decreased by 1.7% in 2019 compared to 2018.

The French fishing fleet is nationally divided into:

- A SSCF (72 % of total active vessels, but 8% of the whole gross tonnage) which was mainly composed of vessels less than 10 metres long with a large diversity of métiers and an important part of polyvalent vessels.
- A LSF (28% of total active vessels) which was mainly made up of vessels using active gears, especially demersal trawlers and dredgers with lengths ranging from less than 10 metres to more than 40 metres. Even though they were active in all the French regions, the major proportion of those vessels was based in North East Atlantic and North Sea regions. As they were most of time larger than SSCF vessels, they represented the major part of the fleet regarding the gross tonnage (63%).
- A DWF <sup>36</sup> composed of 22 tropical purse seiners over 40 metres catching tuna in South Atlantic and Indian Oceans; even if they represented only a small part of the fleet in terms of number, these vessels generated 12% of the national fleet's income.

In 2020, the number of fishing enterprises amounted to 5 079, with the vast majority (86%) owning a single vessel. The percentage of individual companies slightly decreased over the years, at an average rate of 2% between 2008 and 2020.

##### Fishing activity and production

An estimated 612 000 days were spent at sea, down compared to 2018 (-5%). In the same way, fishing days decreased (-5.3%).

After 3 years of decline, and 2018 up slightly, fuel consumption continued to increase significantly by 3.7% in 2019. This was mainly due to LSF and SSCF increasing their consumption (+5% and +8%, respectively). The major part of fuel is, moreover, used by LSF, representing 71% of the whole fleet consumption.

In 2019, fuel price reached an average price of 0.55 EUR/litre. Fuel price increased slightly every year since 2016. This, combined with fuel consumption increasing, led fishers to raise their energy costs, with a 7% increase in 2019 compared to 2018.

National production has been increasing between 2008 and 2017 by 7% in value. But since 2018 production decreased by 1% and by 7.5% in 2019 reaching EUR 1.24 billion as well as landings in weight decreased by 9% in 2019 at 519 000 tonnes of seafood<sup>37</sup>. Landings have increased continuously since 2010, except in 2015 (-3%).

In 2019, European hake landings generated the highest value by the national fleet (EUR 109 million), decreasing to 2018 by 5% and also a weight of landings decreasing to 2018 (-13%). Price of European hake increased from 2.9 euro/kg to 3.1 euro/kg. This species followed by yellowfin tuna (EUR 92 million), great Atlantic scallop (EUR 87 million) and monkfishes (EUR 85 million). The high average landed price of common sole and European seabass (13.5 EUR/kg) allowed these species to reach a value of EUR 63 million and EUR 37 million, respectively.

Seafood production by the SSCF represented 60 000 tonnes with a value of EUR 265 million, comprising 5% and 22% of the national production, respectively.

<sup>36</sup> In the AER report, the French distant water fleet takes into account a vessel using hooks of 33m length.

<sup>37</sup> It does not take into account landings for all outermost regions (vessels less than 12 metres in Martinique, Reunion and Mayotte).

The total production landed by the French LSF decreased by 7% in weight from 2018 to 2019 and the value decreased slightly by 0.6% reaching EUR 829 million in 2019. It represented the 67% of the total landings weight and of the total landings value of the national fleet.

## Employment and average salaries

Employment was estimated at 13 119 jobs in 2019, distributed as follows: 50% to the SSCF, 46% to the LSF, and 4% to the DWF. With smaller vessels, the SSCF displayed an average of two jobs per vessel, comparing to four for LSF and 25 for DWF, whose vessels were large and navigate further into the ocean.

In 2019, the level of employment decreased by 1% compared to 2018. A constant decrease since 2010.

Between 2013 and 2018, average wage by FTE increased by 20%. In 2019, this average decreased by 3.5% compared to 2018.

## Economic results for 2019 and recent trends

### National fleet performance

At the national level, the French fleet, after reaching in 2016 its highest economic performances since 2008, mainly thanks to a high income from landings, decreased by 7% in 2019 compared to 2018.

Revenue, estimated at EUR 1.2 billion, consisted mainly of landed values (97%) and other income (2.3%). Direct income subsidies amounted to EUR 6 million, which represented 0.5% of total revenues (no income from fishing rights in France).

Total operational costs represented 89% total income (excluding operating subsidies). Fuel costs represented only 14% of revenue in 2019.

Aside from the increase in fuel dependence, the operating cost structure have remained stable since 2016.

GVA, gross profit and net profit in 2019 were estimated at EUR 592 million, EUR 134 million and EUR 43 million<sup>38</sup>, respectively and decreased by 16%, 37% and 65% compared to 2018. These results indicated a strong declining trend for economic performance of the French fleet in 2019, much more than in 2018 and 2017, but after a very good year in 2016.

### Resource productivity and efficiency indicators

At the national level, the national landing weight decreased in 2019 compared to 2018 by 9%, after an increase over the period 2008-2018 by 3%.

Energy consumption per landed tonne increased in 2019 compared to 2018 (3.7%) after 4 years of stability. Thanks to that, the gross profit margin in 2019 was 11%, indicating an operating profitability of the French fisheries sector, but down compared to the last 4 years.

The net profit margin was 4% in 2019, compared to 10% and 9% in 2017 and 2018, respectively.

## Drivers affecting the economic performance trends

### Markets and Trade (including fish price)

The metropolitan French fishing sector is supplied daily by landings made in the 60 French fishing ports.

After landing, the fishery products are taken to the fish market, where they are sorted, checked, weighted and kept in a cold room while awaiting their first sale. In France, 34 auctions are allowed to sale fish. The new conditions offered for sale, with new mechanisms (connected market places and remote sales) are positive in France for the fish prices. The top three species in terms of value landed in 2019, and sold in auctions, were monkfish, sole and great Atlantic scallop (they represent respectively 9.8%, 9.1% and 8.3% of the total landed values sold in auctions during year 2019). The quantities sold in auction sales in 2019 decreased by 6% compared to 2018. At the same time, average price (all species combined) increased by 2%, causing a decrease of 4% of the landings value in auctions. The overall drop in volumes affects all major categories of species: -13% for white fish, -

<sup>38</sup> Net profit is overestimated as capital costs are not available for the DWF.

6% for fine fish and -2% for small pelagic. At the same time, some species have seen increasing landings, such as scallops, common cuttlefish and albacore.

Depending on the target species, destination markets (tropical tuna for example), vessel operating modes (freezer vessels) or historical patterns, all vessels did not use this sales method to sell their production. Direct sale is still particularly developed for species such as the great Atlantic scallop or some species of crustaceans. For some species such as whelks, horse mackerel or anchovies, the amounts sold off-auction represent more than half of the total amounts sold over the observed period.

Regarding foreign trade, French seafood imports were around EUR 6 billion in 2019. France's overall trade deficit reached EUR 4.3 billion the same year.

France exported species like tuna (in Asia), smoked salmon, frozen shrimp, fresh species like cuttlefish, seabass or sole in Italy, Spain, United Kingdom, Belgium, etc. On the other hand, four species accounted for 54.2% of imports by value: salmon (Norway, Scotland), shrimp (Ecuador, India, etc.), tunas (Seychelles, Ghana, Ecuador and Mauritius) and cod (Iceland).

### Operational costs (external factors)

The major cost items for the fleet of French fishing vessels were labour and energy costs in 2019 (representing 38% and 15% of the gross value of landings, respectively).

The increase in fuel prices had a negative impact on the operating profitability of fishing companies. In addition, other variable costs showed a significant increase in 2019 (19% compared to 2018), and the Gross profit margin reached 11%, while it was 16% in 2018.

### Stock status, TACs and quotas

European hake (three stocks, one main stock for France): For the first time, the main stock (northern stock (ICES Divisions 3a,4,6,7 and 8abd) was considered as in good state as fishing mortality is now below  $F_{MSY}$ .

Common sole (Eight stocks, four main stocks for France): Atlantic stocks with still room for improvement. The Eastern English Channel stock (7d) was exploited below  $F_{MSY}$  in 2020 with decreasing fishing mortality and increasing biomass, the biomass is now above reference biomass. The Western English Channel stock (7e) was still in a good status in 2020 with fishing mortality below  $F_{MSY}$  but increasing and biomass above reference biomass. Attention should be taken as biomass is decreasing, and fishing pressure reaches  $F_{MSY}$ . For the Bay of Biscay stock (8abd), biomass was still above the reference biomass, and fishing mortality is close to  $F_{MSY}$ . Biomass for the North Sea stock is just above  $B_{lim}$ , but a very strong recruitment was observed in 2019. Fishing mortality is decreasing, is now below  $F_{PA}$  but is still above  $F_{MSY}$  in 2020, thus the stock is not considered as impaired, but still overfished.

Gadoids in the Celtic Sea (7 e-k, three stocks): None of the three gadoids stocks were exploited at fishing rates consistent with  $F_{MSY}$  ranges. Status of cod is worrying as biomass is decreasing and under reference point. For whiting,  $F$  is now below  $B_{lim}$ , but the biomass is still low. Haddock stock is in a better shape as biomass of haddock is increasing, and  $F$  just above  $F_{MSY}$ .

European seabass (two stocks, two main stocks for France): Good news for the North East Atlantic stock. The fishing pressure for the North Sea / Irish Sea / English Channel / Celtic Sea stock (4b,c,7a,d-h) strongly decreased between 2012 and 2019, and is now way below  $F_{MSY}$ . However, biomass is still below reference, though recently increasing. For the Bay of Biscay stock (8ab) fishing pressure was estimated to be below  $F_{MSY}$  in 2020 and biomass was estimated to be above reference biomass.

Norway lobster: Good news for the Bay of Biscay stock (ICES Divisions 8abde). For the Bay of Biscay (8abde) stock, the harvest rate in 2020 was assessed to be above  $F_{MSY}$ .

Bluefin tuna (One stock): recovery of the stock confirmed. The evaluation for 2019 confirmed that the stock (27+37) was exploited below  $F_{MSY}$ . It was considered possible that the stock may have already rebuilt to the reference biomass, although considerable uncertainty remained.

TACs and quotas (source: FIDES):

Total available quota (TAC) for the French fleet in 2019 was 431 000 tonnes (a decrease of -1.8% or - 8 000 tonnes compared to 2018).

Looking at the main species for France in terms of value of landings, the quota trends between 2018 and 2019 showed:

SPECIES	QUOTA 2018 IN T	QUOTA 2019 IN T	VARIATION	2019 ECONOMIC VALUE IN M€ (APPROXIMATE)
Anglerfish (ANF)	34530	35320	2,30 %	89,6
Bluefin tuna (BFT)	5484	6057	10,40 %	7,1
Cod (COD)	12337	10667	-13,50 %	24,5
European Hake (HKE)	75783	92893	22,60 %	114,4
Mackerel (MAC)	39395	32524	-17,40 %	23
Norway Lobster (NEP)	12142	10663	-12,20 %	30,4
Saithe (POK)	33594	30874	-8,10 %	19,4
Common Sole (SOL)	6987	6652	-4,80 %	65
Blue Whiting (WHB)	21467	20588	-4,10 %	12,1
Whiting (WHG)	21008	18396	-12,40 %	14

Among the 181 stocks under TAC exploited by the French fleet in 2019, nine stocks (seven species) presented a quota uptake higher than 90% with an adapted quota higher than 1 000 tonnes:

- Bluefin tuna (Atlantic)
- Yellow fin tuna (Indian Ocean)
- Albacore (Atlantic)
- Big eye tuna (Atlantic)
- Cod (1, 2b – Norwegian waters of 1,2);
- Herring (4a,b - 4c, 7d);
- Mackerel (2a, 3a,b,c, 4, 6, 7, 8 a,b,d,e)

## Management instruments

The French fleet is managed through several management tools, as TACs and quotas related to the area and fishing stock, fishing license or multiannual management plans under national regulations. Each plan or fishing license (assigned to the pair "vessel\*owner") targets a particular species or a type of gear in a specific area. They specify the field of application and all the corresponding technical requirements such as:

- Gear type and dimension (meshing);
- Vessel size;
- Depth;
- Exemptions (e.g., if catches are below a threshold by year of meshing above a threshold);
- Fishing prohibition area or season (e.g. spawning area for Eastern English Channel sole, spawning season for netters targeting sole in Bay of Biscay or season for swordfish in the Mediterranean Sea);
- Maximum catches by year.

## Innovation and Development

Some studies have been conducted to:

Improve the knowledge:

COPECO : the objective of the COPECO research program is to assess the impacts of the health crisis linked to COVID-19 on the seafood sectors, in particular for the fresh sector.

RECCRU: develop one or more methods to estimate the level of recruitment of lobster, edible crab, spider crab and spiny lobster on an annual basis.

DREAM: The project aims to understand the process of reintegrating discards into the ecosystem to propose avenues for improvement that would limit the impact of fishing on this compartment.

Langolf-TV: using underwater video to count langoustine burrows has been tested. This method has proven to be applicable in the context of the Great Mudflat.

eDNAByss: the project aims to improve counting using the environmental DNA method. Marine organisms leave traces of DNA in seawater as they pass through. It will be possible to identify from a simple water sample the species present in a given environment and the population density.

Improve selectivity:

Game of Trawls: would allow fishers to detect the presence of too much "by-catch", such as dolphins or sea bass, and to activate a device to let them escape or to change the fishing area.

In the Lorient basin, researchers have carried out tests with green LEDs to repel whiting to encourage unwanted species to escape from the trawl meshes.

Improve gears:

REIP PECHE: Indicator of physical impact of fishing gears. This project proposes to assess some of these impacts using simple and "low-cost" instrumentation to extend the observations to a large number of vessels, and which can give an immediate and more accurate picture than a qualitative approach.

## Assessment of the economic performance for 2020 and 2021 (nowcasts)

### Model results

According to preliminary figures landings volume and value decreased by 1% and 10%, respectively in 2020 compared to 2019.

Projections suggest a 14% energy costs decreased in 2020. The trend of decreasing days at sea continued due to the pandemic, -59% for SSCF and -15% for LSF. Personal costs also decreased, after 7% in 2019, by 6% in 2020.

According to the model, GVA, gross profit and net profit have a decrease in 2020, 9%, 17% and 40%, respectively. It should be noted that 2019 saw larger decreases. The trend continued in 2020 of these economic indicators.

Results indicate that the French fleet operated at a profit in 2020, with an estimated net profit margin of 2%, the lowest since 2010.

### COVID-19 (A quantitative assessment of the impact)

Strict containment imposed from March 2020 by the health crisis linked to the COVID-19, paralyzed the seafood markets and forced the cessation of fishing activity for many fleets in France. Several possibilities of socio-economic supports are available to fishers to reduce its socio-economic impact, like national solidarity fund, compensation paid or partial unemployment. Normal activity could be gradually resumed from the second quarter of 2020. In February, the quantities sold remained below the average levels of the last two years for all the French coasts except in Southern Brittany where they were 1% higher than in February 2019-2020.

After a very eventful spring 2020 on the seafood products markets and an autumn characterised by an increase in landings at the Halle à Marée (HAM), the winter period led to a drop in volumes (-13% in December 2020 compared to the previous month, +0.3% in January and -1.4% in February) accompanied, however, by a strong increase in the average price in December (+26%), then a drop in January (-19%) and an increase in February (+4%). However, the producer price index for seafood products, which takes into account the composition of seafood products, continued to fall in January and February 2021, and this fall has been going on for a year.

This period is unprecedented and worrying for the sector.

### Brexit

The implementation of Brexit from 2021 to 2026 will not improve this uncertain and destabilizing situation for French fisheries.

Brexit constitutes a triple uncertainty, both legal, socio-economic and ecological, which could lead to an economic, social and environmental drama never before experienced by European fisheries. France accounts for approximately 30 to 40% of landings in British waters, in volume.

An agreement reached at the end of December between the EU and the United Kingdom provides for European fishers to have access to UK waters for a transitional period of five and a half years, during which the Europeans will have to gradually give up 25% of their catches. But the precise catch quotas for 2021 for the shared stocks (over 70 are concerned) had not been defined.

As for the accompanying plan, the European Commission has validated the content of the French plan (at this stage informally), which includes the use of the compensation for loss of turnover mechanism for the first quarter of 2021 and the temporary cessation mechanism for the first 6 months of the year.

## Economic performance by fishing activity

### Small-scale coastal fleet

The French SSCF with 3 975 active vessels covered almost 72% of the whole national active fleet in 2019 and was spread over all the French supra-regions: 34% in the NE Atlantic, 28% in the Mediterranean Sea and 38% of vessels in Other Fishing Regions. It represented 50% of vessels in the NE Atlantic fleet, 89% in the Mediterranean Sea fleet and 96% in the Other Regions fleet.

Overall, the SSCF production was EUR 265 million accounting for 22% of the French landings value. This is a strong decrease of 15% compared to 2018. The situation of the SSCF was different depending on the fishing area:

In the NE Atlantic, compared to 2018, number of active vessels remained stable but total activity expressed in sea days decreased by 4%. Landings in value and volume decreased by 2.3% and 3%, respectively. Economic performances measured by GVA decreased by 2.6% due in part to a rise in fuel costs (3%) in relation to the rise of average fuel price (6.6%). The SSCF in NE Atlantic is profitable, generating a gross profit of EUR 30 million in 2019 but the resource productivity and efficiency indicators were lower when compared with the same indicators calculated for all the NE Atlantic French fleet. The labour productivity indicator (GVA/FTE) was EUR 83 000 in 2019 and the value of landings per vessel about EUR 124 000.

In the Mediterranean Sea, compared to 2018, number of active vessels remained stable while days at sea increased by 16%. Landings in volume and in value decreased strongly (8% and 47%, respectively). Average price 12 euro/kg to 7 euro/kg. These bad trends had an impact on the economic performances evaluated by labour costs, GVA and gross profit which decreased respectively by 30%, 35% and 47%. Despite these strong decreases, the SSCF in Mediterranean Sea remains profitable, generating a gross profit of EUR 11 million in 2019 but the resource productivity and efficiency indicators was lower when compared with the same indicators calculated for all the Mediterranean Sea French fleet. The labour productivity indicator (GVA/FTE) was EUR 76 000 in 2019 and the value of landings per vessel about EUR 42 000.

In Other Fishing Regions, compared to 2018, number of active vessels and days at sea decreased by 3% and 1%, respectively. Landings in volume and value remained stable compared to 2018. Economic performance cannot be assessed. Indeed, these indicators are only available for the regions of French Guiana and Guadeloupe and extrapolation to other regions is meaningless.

### Distant water fleet

The French industrial fleet of Purse Seiners consisted of 22 vessels in 2019, including the five vessels registered on the island of Mayotte. The number of fishing vessels in this fleet has remained relatively stable over the years. The overwhelming majority of this fleet is made of freezer tuna seiners operating in the Indian Ocean (12 vessels) or Atlantic Ocean (10 vessels). The average age of those 22 vessels in this fleet segment reached almost 19 years in 2019. The average length reached by the vessels of this segment amounts to 78 metres. The average FTE was around 24 employees by vessel in 2019 (fishers employed come both from France and foreign countries -mostly African-).

In 2019, total volumes of landings of tropical seiners amounted more than 113 000 tonnes for the vessels of the fleet segment, down compared to the volumes observed in 2018 (-17%). Volumes of fish caught are made by seiners operating in the Indian or Atlantic Ocean. Tuna species caught were mainly skipjack (51.7%), yellowfin tuna (39.6% of the total volumes of landings), and bigeye tuna (7.7%).

Total values of landings for this fleet segment reached EUR 145.5 million in 2019. According to economic data collected, the three main cost items in 2019 were crew wage, energy costs and repair and maintenance. They represented 35%, 21% and 19% of the total income in 2019, respectively.

This segment of the French fleet is going through a period of crisis. Gross profit of tropical fishing companies fell sharply in 2019, to become negative (-3.5%). Given the exceptional fishing volumes in the Pacific Ocean, the end of the second half of 2019 was marked by a very low price level for skipjack which had not been reached since 2009. In addition, some operating costs have increased such as fuel costs. Finally, due to COVID-19, year 2020 will again be marked by a sharp drop in both volumes and values fished by those vessels, and a deterioration in profitability due to exceptional operating costs linked to the management of the health crisis.

## Performance results of selected fleet segments

The French fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the North East Atlantic, but also in the Mediterranean and in more distant fisheries.

The Table contains a breakdown of key performance indicators for the active fleet segments in 2019. A short description of five important segments in terms of total landings value or employment is provided below. Some of these segments include one, two or three clustered small segments and economic indicators refer to these combined segments. Generally, these smaller segments only have a marginal impact on the indicators. Other segments are important to the economy of the national sector: the "tropical" purse seiners are discussed in the chapter dealing with long distant fisheries, some segments contain too few vessels (or a small number of companies that own these vessels), such as pelagic trawlers and demersal trawlers or seiners over 40 metres, others are very heterogeneous such as trawlers and seiners from 24 to 40 metres.

### Drift and fixed nets 10-12m

151 vessels and 472 engaged crew made up this segment which operates predominantly in the NE Atlantic (and also 60 vessels for the DFN 10-12 in French Guyane with 200 engaged crew). The fleet targeted in NE Atlantic a variety of species, in particular, common sole, monkfish and spinous spider crab (31.4%, 8.3% and 8.1% of the total value of landings of this fleet segment, respectively). In 2019 the total revenue was EUR 47.4 million, contributing to 3.9% of total value of landings generated by the French fishing fleet. This fleet segment produced a gross profit of around EUR 7.2 million and the net profit represented 8% of the income.

### Drift and fixed nets 06-12m

With 528 vessels and 632 engaged crew, this segment was the largest in terms of number of vessels in France in 2019. The fleet operated in the Mediterranean region and targeted Gilthead seabream and Common spiny lobster (18% and 11% of the total value of landings of this fleet segment, respectively), and a variety of species contributing less than 10% to the total value of landings (for example European seabass, common sole and European hake). Total value of landings was EUR 21.5 million, contributing to 1.7% of total value of landings in France. This fleet segment produced a gross profit of around EUR 4.0 million and the net profit represented 11.3% of the income. In 2019, economic performance was slightly lower than in 2018, however, the profitability of this fleet segment remained positive.

### Demersal trawlers / seiners 12-18m

144 vessels make up this segment in 2019 and they are predominantly based in the NE Atlantic, located in particular on the ports of Guilvinec and Lorient, in Brittany.

These vessels target a variety of species. The top three species in terms of value landed in 2019 were Norway lobster, great Atlantic scallop and monkfishes (27%, 10.6% and 8.5% of the total value of landings of this fleet segment, respectively).

Total income was EUR 69.5 million for this segment in 2019, accounting for 5.6% of the national fleet income. It decreased by 5.2% compared to 2018. Volumes caught by trawlers in this segment decreased in 2019, not offset by a sufficient increase in the price of important species such as monkfish or great Atlantic scallop.

Around 407 FTEs contributed to the segment in 2019. It generated a gross profit of EUR 7.8 million in 2019 (11% of the income), with a decrease compared to 2018. Gross profit margin remained, nevertheless, stable compared to the previous year, despite the decrease in the landed value.

## Demersal trawlers / seiners 18-24m

165 vessels made up this segment in 2019. The vast majority (75%) of these vessels operate in the Atlantic, North Sea and Channel, 17% of the vessels operate in the Mediterranean Sea and 8% in French Guyana (only landings data are available for this last Region). Considering the clusters made for this fleet segment, 176 vessels made up this fishing fleet in 2019.

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 (20.5% of the total values of landings of this fleet segment), squids and common cuttlefish (11.8% and 5.8%, respectively). In terms of volumes landed, monkfishes and whiting represented 13.4% and 9.9% of the total volumes of landings in 2019, respectively. In the Mediterranean Sea, vessels have targeted hake (12.9% of the total values of landings of this fleet segment), Common octopus and Octopuses (11.1% and 8%, respectively). In French Guyana, vessels mainly caught *Penaeus* shrimp.

In 2019, total income value for this fleet segment was EUR 147 million, contributing to 12% of the total income from landings generated in the national fishing fleet. This fleet segment produced a gross profit of around EUR 11 million in the Atlantic area and EUR 2 million in the Mediterranean.

Economic situation varies by the supra-region, but two reasons for concern stand out clearly:

- Uncertainties linked to Brexit, for French vessels which are used to working in British waters;
- The implementation of the management plan for professional trawl fishing in the Mediterranean Sea for French vessels: the imposed reduction in fishing effort and spatio-temporal closures are a major source of concern for professional fishers in the future.

## Dredgers 12-18m

80 vessels, plus seven dredgers between 18 and 24 metres and one vessel between 24 and 40 metres, made up this segment in 2019 (88 vessels for this cluster), which operates exclusively in the North Atlantic. The fleet mainly targeted great Atlantic scallop (almost 76% of the total value of landings of this fleet segment in 2019). Total income was around EUR 46.7 million in 2019 for all the vessel of the cluster, accounting for 3.8% of the national fleet.

The scallop season was generally good in 2019, in terms of quantities landed, even if prices decreased at the same time. However, the financial health of fishing companies targeting scallops remained at a correct level in 2019, and gross profit margin reached 17%.

The scallop fishery is framed at both community, national and regional levels. In France the shell season generally begins around the month of October and ends in May of the following year. The fishing zones are open as the season advances. European fishers are all regulated in terms of size of the catches, and in France, they can be regulated by quotas distributed between vessels, or by suitable fishing times.

## Nowcasts for 2020-21 and beyond

### Model results

According to preliminary figures, landings volume and value decreased by 2.4% and 4.7%, respectively in 2020 compared to 2019. The nowcast shows a slight decrease of 2.5% in 2021 in value of landings (with the same volume 2020 and 2021).

Projections suggest a 28% energy costs decreased in 2020, particularly on the Atlantic coast. In contrast, in 2021, the energy cost would increase (10%) especially in the French Outermost Region. The trend of decreasing personal costs continue, after 7% in 2019, by 3% in 2020.

After a strong decline in economic performance in 2019, and according to the model, GVA, gross profit and net profit have an increase in 2020, 1%, 18% and 41%, respectively. The nowcast proposes a new decrease in economic performance in 2021, with 11% for GVA and 32% for gross profit

Results indicate that the French fleet operated at a profit in 2020, with an estimated net profit margin of 2%, the lowest since 2010.

## Data issues

## Identify changes in respect to previous years

From 2020, it is proposed to use a calibration on direct margins as a method of processing non-response (since 2017). The new weights have spread and dispersion properties very comparable to the old ones. The impact on macroeconomic results is small and is much more the result of calibration than the abandonment of a prior response model. Beyond the treatment of non-response, the calibration on margins allows us to have weights calibrated on the main objectives of data communication.

## Improvements achieved

Thanks to the change in methodology described above, the difference between Value of landings and Gross value of landings (Income), coming from two different sources has been reduced for the NE Atlantic and Mediterranean Sea supra regions.

It should be highlighted that a lot of improvements have been carried for 2019. In particular, economic data for less than 12 metres in Guadeloupe and French Guiana are available since 2010. Moreover, the coverage of effort and landings data has been integrated by each Outermost Regions, from 2010 to 2019. The series are now complete. Finally, data of effort for purse seiners over 40 metres length were corrected (2010 to 2019). Estimation of economic data have been calculated for less than 10 metres in Martinique for 2019.

## Issues still remaining

Economic data are not complete because data is missing for some fleets segments in outermost region. This concerns around 180 active fishing vessels based in the French islands of Reunion (less than 12 metres) and St Martin, as well as 100 vessels in Mayotte and 13 vessels more than 18 metres in French Guiana.

## Survey for economic data

A method of probability sampling has been applied to the 2019 data, on a similar way as previous years (set up in 2012): vessels have been selected by using a systematic random sampling, and the fleet has been classified inside each segment by size and maritime quarter, to ensure a good representativeness of the overall diversity of the French fleet.

When fishing vessel owners didn't answer, a statistical method was used to know the criteria (explanatory variables) that could explain the response rate. Then, vessels were merged into clusters according to that predicted response probability. Those clusters were used to weight again responding vessels, by increasing their weight. Concerning the partial non-responses, imputations of costs and earnings have been made.

Direct subsidies and other income are not available for few segments, in particular, segments of over 40 metres, and new segments in Guadeloupe and French Guiana, less than 12 metres.

Data on total personnel costs for a sample of vessels is available. Currently, we consider that they represent wages and salaries of crew for all vessels and we do not disseminate data on the value of unpaid labour. It would be possible to estimate the value of unpaid labour considering that it represents the total personnel costs for vessels with only one crew member. For the remaining vessels, we would consider that, with the crew share system, the value of imputed labour is zero and there are only wages and salaries of crew.

## Outermost fleet

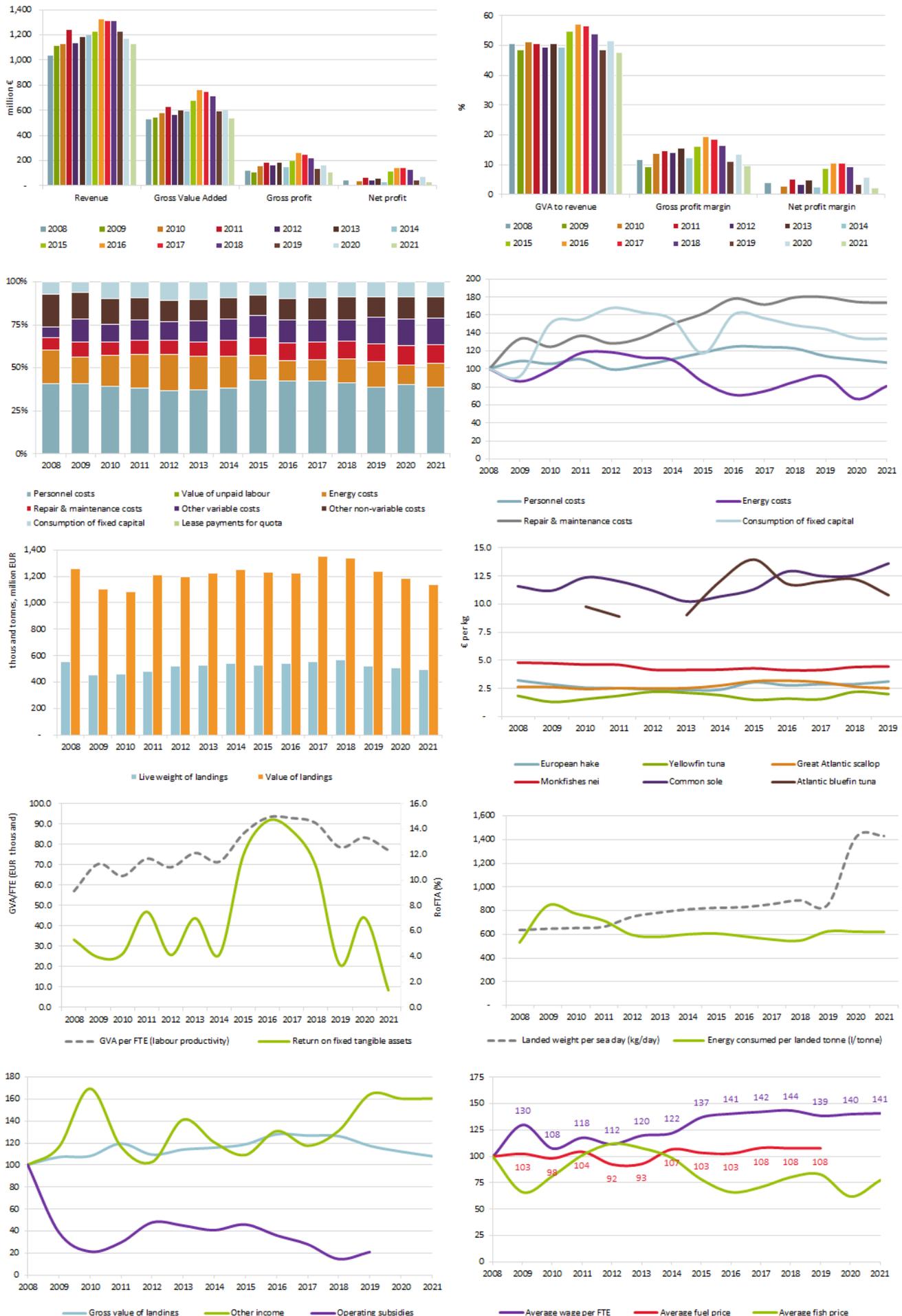
Distant water fleet gathers 22 purse seiners over 40 metres length. All operating in the Indian Ocean and in the South Atlantic Ocean, but 14 amongst them are registered in a French metropolitan port. Data for purse seiners are provided only for 17 vessels, while the other missing five are based in Mayotte. Another source enables to get all landings for those five missing vessels, then values are computed with species' prices (mainly tuna) reported on other fleet segments.

For those of French hooks 12-18m and 18-24m in the Indian Ocean, economic data are available for 2011 to 2019. 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 French islands of Reunion and Martinique economic data are not collected but estimation calculated for 2019.

It should be highlighted that one 33 metres longliner operating in other fishing regions should belong to distant water fleet according to European definition. However, it is clustered with other hooks 18-24 metres and belongs to the LSF.

### **COVID-19 related issues**

Between March and July 2020, because of the pandemic (and particularly due to lockdown which took place in France from mid-March to mid-May), Ifremer could not collect data for the small vessels as questionnaire is done through face-to-face interviews, and also some larger vessel segments. To compensate for this lack of data, we have calculated economic estimates from the results based on the last 3 years and set to landings.



**Figure 4.8 France: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;**

## landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

### 4.9 Germany

#### Short description of the national fleet

##### Fleet capacity

The national fleet capacity continued to decline, with a total of 1 297 vessels, 380 of which were inactive in 2020. The total fleet had a combined GT of 54 453 tonnes and engine power of 123 024 kW. In 2020, the total number of vessels decreased by 17 compared to 2019. Almost all the 380 inactive vessels belong to the smallest length class (below 10 metres). In that length class about 36% of the registered vessels have reported no activity in 2020 (similar to previous years). The percentage of inactive vessels decreases with increasing length – in the length classes above 18 metres only five vessels were filed inactive.

Vessels which target blue mussels are not included in the analysis even though they are included in the fishing fleet as they are defined as operating in the aquaculture sector and are therefore covered in the aquaculture report.

The German pelagic trawler fleet is excluded from the analysis except for capacity and weight and value of landings data as practically the entire segment is owned by one parent company. For confidentiality reasons the data cannot be published.

##### Fleet structure

In 2020, the German large-scale fishing fleet (length above 12 metres) consisted of 244 vessels (27% of active fleet), whereas 673 active vessels (73% of the active fleet) were accounted for the small-scale coastal fleet (below 12 metres). The decrease in number of vessels applied mainly to the small-scale fleet (-10) while the fleet of vessels above 12 metres decreased by six vessels in 2020. However, the overall decrease in number of vessels was lower than in previous years, especially for the small scale fleet. Both the total engine power and the gross tonnage decreased by 2% in 2020.

##### Employment

Employment was estimated at 1 506 jobs in 2019, corresponding to 991 FTEs. These figures follow the overall decreasing trend over time.

##### Effort

About 83 482 days were spent at sea by the non-pelagic fleet in 2020, a decrease of 6% from 2019 (89 038 days). The energy consumed in 2019 amounted to an estimated 36 million litres and was thus sensibly lower (-10%) than in 2018. As fuel prices remained rather stable, the energy costs decreased from about EUR 19.4 million in 2018 to EUR 17.1 million in 2019 (-12%).

German small-scale coastal vessels operate almost exclusively in the Baltic Sea, whereas cutters (<500 GT) above 12m fish in the North Sea and in the Baltic Sea. German high seas trawlers operate mainly in the North Atlantic and Eastern Arctic area, but to some extent also in African and in some years in Southern Pacific waters.

##### Total Production

Total production shows an increasing trend from 2012 up to 2018 with a live weight of landings increasing from 198 000 tonnes to 258 000 tonnes. In 2019, however, the weight of landings decreased to 207 000 tonnes (-20%). This trend continued also in 2020, with a catch of 194 000 tonnes (-6.5%). The main species are herring, blue whiting, cod, mackerel, common shrimp and Greenland halibut. In terms of weight herring is by far the dominant species, whereas the highest revenue is generated through cod.

#### Economic results for 2018 and recent trends

## National fleet performance

Overall the German non-pelagic fleet generated a net profit from 2010 (with the exception of 2011 when brown shrimp prices had dropped below a critical level) to 2018. In 2019, however, the economic performance turned into a significant loss. Profits were mediocre for the high seas fleet and negative for almost the entire remaining fleet.

The total revenue of the German fleet, excluding direct income subsidies, was estimated at EUR 185 million (EUR 125 million for the non-pelagic fleet) for 2019, thus decreasing substantially compared to 2018.

Direct income subsidies accounted for about EUR 2.1 million in 2019, a 50% decrease, compared to 2018. Figures were still high compared to preceding years, mainly due to payments for temporary cessation in the Baltic Sea.

Total operating costs of the non-pelagic fleet decreased by 8% in 2019. All cost types except non-variable costs (+24%) and consumption of fixed capital (+4%) decreased slightly. Fuel costs decreased by about 12%. In 2019, two 40m newly built vessels were introduced to the German fleet, replacing older vessels, thus causing high transaction and depreciation costs and, due to the considerable increase in fixed capital, also high consumption of fixed capital. In 2019, consumption of fixed capital was still considerably higher than in the years prior to 2017.

For the non-pelagic fleet, GVA, gross profit and net profit in 2019 were estimated at EUR 61.5 million, EUR 17.8 million and -EUR 7.9 million, respectively.

The (depreciated) replacement value of the German fleet was estimated at EUR 157 million, almost the same as in 2018, while investments amounted to EUR 36 million (+76%). These figures also reflect the effect of the two newly constructed 40m trawlers which entered the fleet in 2019 and thus caused a peak in investment.

Overall, the cost structure has undergone some singular alterations, mainly due to the construction of new vessels over the recent years with some fluctuation in consumption of fixed capital and energy costs; most cost items have increased compared to the low figures of 2014. 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 2019 was 14.2%. Net profit margin was estimated at -6.3%. The Rate of RoFTA dropped significantly to -7% in 2019 from +13% in 2018.

Labour productivity (GVA/FTE) for 2019 was estimated at EUR 62.084 per FTE, a 28% decrease compared with a relatively high value in 2018.

In 2019, the fuel consumption rate was around 632 litres/tonne of catch for the non-pelagic fleet, grossly varying between fleet segments. The fuel consumption rate varies considerably over the years, showing a slightly increasing 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 the figures exclude the pelagic fleet with its very high fuel efficiency, the national total might appear high compared with other fleets.

Excluding the pelagic fleet, the weight of landings per unit of effort (in days-at-sea) has fluctuated considerably throughout the time series since 2008 between 565 kg/day in 2017 and 880 kg/day in 2009. The value for 2019 was 644 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.

## Performance by fishing activity

### Large-scale fleet

In 2019, 267 active vessels were assigned to the large-scale fleet. These vessels mainly operate in the North Sea and the Baltic Sea, while the large trawlers fish also in the North Atlantic, Eastern Arctic and in distant areas. The cutters (<500 GT) target mainly brown shrimp, cod and saithe while the high seas trawlers fish herring, cod, Greenland halibut and other small pelagic species like mackerel.

The value of landings of the large-scale fleet increased continuously from 2011 to 2018 by about 21% altogether. The weight of landings also increased substantially, with some decline in 2015, but noticeable increase since then. However, for 2019 a sharp decrease in both weight (-21%) and value (-23%) took place. The figures for 2020 changed only slightly compared to 2019 (weight -3%, value +2%).

Labour costs decreased 17% in 2019 and energy costs dropped by 14%, repair and maintenance costs dropped by 9% and other variable costs by 10%, while consumption of fixed capital remained almost unchanged (+2%) and other non-variable increased considerably (+24%). Due to the sharp decrease in income from landings and only variable costs decreasing proportional to the effort while non-variable costs increased, both gross and net profit dropped substantially (gross profit -60%, net profit -114%, thus being negative).

The number of people employed in the LSF decreased by about 15% in 2019.

For confidentiality reasons these observations refer only to the non-pelagic fleet. Only the weight and value of landings include the pelagic segment.

### Small-scale coastal fleet

In 2019, 689 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 23% from 2018 to 2019 (5 674 tonnes vs. 4 337 tonnes) while the value of landings dropped by 8% from EUR 6.5 million to EUR 6.0 million. The 2020 figures are even lower (-24.6% and -21.6%, respectively.). The estimated total effort in terms of days-at-sea decreased from 60 600 days in 2018 to 58 200 in 2019. The overall costs for the SSCF dropped slightly by about 10% in 2019. While personnel costs remained almost unchanged (+2%), energy costs (+15.3%) and other non-variable costs (+14.6%) increased, whereas repair and maintenance costs (-6.1%) and other variable costs (-59.6%) decreased.

In 2018, the SSCF ended up with a gross loss of -EUR 1.7 million and a net loss of -EUR 2.8 million.

The number of people engaged on-board, including the skipper, was estimated at 940 in 2019.

### Performance results of selected fleet segments

The German cutter fleet (below 500 GT) is dominated by beam trawlers and, to a lesser extent, demersal trawlers.

#### Beam trawlers

German beam trawlers operate in the North Sea. Vessels up to 27 metres target almost exclusively brown shrimp. There are a few large beam trawlers over 27 metres targeting mainly flatfish. Thus, the beam trawler segment 24-40 metres contains both types of vessels.

The owners of the shrimp beam trawlers are usually also the skippers. They operate in coastal waters: smaller vessels with shallow draught can fish in the tide-ways and the Wadden area between the islands and the coast. These vessels depend on the tide and return to the port daily. These vessels usually do not fish in winter as the target species migrates to deeper areas. Larger vessels operate in greater depths and can also fish year-round. They stay at sea for several days.

Shrimp prices and fuel costs are the crucial elements for the economic performance of shrimp beam trawlers. 2019 was regarded disastrous: the weight of landings decreased considerably by 51% from an average level. Moreover, prices for brown shrimp dropped by 25%, thus revenues decreased by 63%. Fuel costs decreased considerably (-28%), but the net profit of beam trawlers up to 24 metres dropped substantially from about EUR 14.5 million in 2018 to EUR -7.9 million in 2019.

Six flatfish beam trawlers flying the German flag are owned and operated mainly by Dutch fishers. They target mainly sole, plaice, and turbot. All of them are equipped with pulse gear. The catch is landed exclusively in the Netherlands. In 2019, the value of landings was EUR 7.9 million for these vessels. The segment of beam trawlers above 24 metres (including two shrimp trawlers) experienced a gross profit of EUR 1.5 million and a net profit of EUR 0.7 million in 2019.

#### Demersal trawlers

The German demersal trawler fleet can be divided into high seas trawlers above 45m, large cutters between 23 and 45 metres and smaller cutters below 23 metres. The high seas trawlers target mainly Greenland halibut, cod and redfish in Eastern Arctic and Greenland waters, the large cutters target saithe, cod, hake and haddock, the ones around 24 metres (eurocutters) also fish *Nephrops*. These vessels fish almost exclusively in the North Sea and Skagerrak. Some eurocutters shift temporarily to shrimp beam trawling or pelagic trawling for herring. The vessels of 20 metres and below almost

exclusively fish in the Baltic Sea, targeting mainly cod, flatfish and – seasonally switching to pelagic gear – herring and sprat.

This indicates that the DCF length thresholds divide the demersal fleet into segments with heterogeneous fishing patterns. Thus the performance indicators in most cases represent a mixture of different fisheries. The net profit of demersal trawlers over 40 metres was estimated at EUR 1.7 million, the net profit of demersal trawlers between 24 and 40 metres was estimated at EUR 0.5 million.

The profit of the vessels >40m are partly estimated upon internal prices as the vessels are part of companies that also operate in fish processing. That means that the profit is not necessarily assigned to the vessels only, but may be made at an advanced stage of the value chain as well. One new high seas demersal trawler entered the fleet in 2015 and two more in 2017. Two newly built vessels slightly below 40 metres entered the fleet in 2019. These investment activities are a clear indication of long term profitable fisheries.

For the segments with medium sized demersal trawlers (18-24 metres) positive net profits were determined (EUR 2.8 million), but as described before, this is a mixture of North Sea and Baltic Sea vessels. For the vessels below 18 metres, net profits were estimated at EUR 387 000. In both cases, the poor status of Western Baltic cod had a negative impact on the profitability.

### **Vessels using fixed nets and other passive gear**

Larger fixed netters and potters (between 26 and 31 metres) operated almost exclusively in Western waters, targeting anglerfish or red crab. For the related segment a net loss of EUR -2.2 million was determined. Smaller vessels using passive gear almost exclusively operate in the coastal areas of the Baltic Sea. Main target species are cod, herring, and to some extent freshwater species in the brackish Bodden areas. The small segment of fixed netters 12-18m achieved net profits of EUR 538 000, net losses of -EUR 0.7 million were calculated for the 10-12m length class. The passive gear segment with vessels below 10m faced net losses of -EUR 2.1 million. All these vessels fishing in the Baltic Sea suffered from the decreasing TAC of Western Baltic cod and herring.

### **Drivers affecting the economic performance trends**

As the German fleet is dominated by trawlers, the fuel price always has a major impact on the overall economic performance. In 2019, fuel expenses decreased (about -10%) from 2018. However, the lower cost coincided with less effort and in particular less revenues.

Prices for brown shrimp have a significant influence on the performance of the national fleet, as it had been the most important species in terms of value until 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.

For all other species with major importance only minor price alterations could be observed.

The MSC certification gains importance for sales of fish. Certification results in stable or higher prices. In several cases it has become a prerequisite for sales due to market requirements. For the high seas fisheries, the most important pelagic fisheries (North Sea herring, Atlanto-Scandian herring, blue whiting), are MSC-certified. In March 2019, the mackerel certificate was suspended due to a lack of comprehensive international agreement on quotas, according to MSC. It has not yet been reinstated, even though the stock status was regarded healthy in September 2019. Cod, haddock and saithe fisheries in Norwegian waters and around Svalbard are certified as well as saithe fisheries in the North Sea. All annual audits were finalized successfully. The certification of cod, haddock and saithe fisheries in the Barents Sea was extended for five more years. The cutter fishery on brown shrimp was certified in 2017.

In 2019, audits for herring and blue whiting were successful. All demersal roundfish fisheries of the high seas fleet are MSC certified (cod, haddock, saithe in Norwegian waters, North Sea saithe). In 2019, certification of Greenland halibut was finalised. All 2020 audits were successfully finalised. 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. The Atlanto-Scandian herring catches account for about 50% of the total MSC-certified herring catches. Moreover, the North Sea cod certification was suspended in 2019 as the stock dropped below safe biological limit.

## Markets and Trade

Brown shrimp has been the most important species in previous years. 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, prices dropped considerably, even though the catch dropped as well. In summer 2019 there was a temporary closure of the shrimp fishery.

Overall, in 2019 only about 26% of the total catch was landed in German ports, corresponding to about 45% of the total value. Almost the entire catch of pelagic species, with high volume, but low price, is landed abroad, mainly in the Netherlands. About 48% of the catch was landed in the Netherlands, about 15% in Denmark, and about 8% 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

As in previous years, the predominant management measure was TAC.

The introduction of the LO could be implemented with little extra effort in the pelagic as well as in the saithe fisheries as these fisheries traditionally have had low bycatch rates. In the case of cod and flatfish fisheries serious problems have been reported. In the Baltic Sea high amounts of undersized cod were observed. According to the industry no technical measures are available to solve that problem.

In 2019 and 2020, the closure of fisheries due to choke species could be avoided by quota exchange, to a considerable amount with the UK. The current ban of quota exchange with the United Kingdom adds some uncertainty for fisheries especially in the North Sea.

## TACs and quotas, status of key stocks

Overall, 2019 was regarded positive by the high seas sector for demersal fisheries, while pelagic fisheries suffered from substantial quota cuts. Most stocks targeted by the German high seas fleet, e.g. Arctic and Greenland cod, Arctic haddock and saithe, are managed at MSY level.

High seas pelagic fisheries in European waters targeted herring, mackerel, horse mackerel and blue whiting in European waters as well as sardine and mackerel in Moroccan waters. For 2019, quota cuts for North Sea herring (-40%), mackerel (-20%) and blue whiting (-20%) alone resulted in an overall decrease of about 34 000 tonnes of quota. For the first time, fisheries made use of the option to over-exploit quota for herring and mackerel by 10%, taking into account the subsequent cut of the same amount for 2020.

As in previous years, horse mackerel catches dropped further, and the quota could not be fully exploited. Moreover, fisheries on blue whiting were less successful than in previous years, partly due to decreased CPUE. As the fisheries agreement with Morocco was renewed in 2019, one vessel could perform pelagic fishery in Moroccan waters.

In 2019, European fisheries in the South Pacific under an EU-wide quota pooling were performed without a German trawler. The pelagic industry is striving for EU membership in the North Pacific Fisheries Commission in order to complement fishing activities in the Southern Pacific with fishing activities in the Northern Pacific and thus increase the overall efficiency. The EU application was launched in 2018, the contract was finally concluded in spring 2021, suggesting extended catch opportunities for the high seas pelagic fleet in the future.

Once again high seas trawlers achieved positive results in the demersal fisheries in Norwegian waters, Svalbard and the Barents Sea. Targeted species were saithe, cod and haddock. Due to mediocre results in 2018 no directed fishery on saithe took place in the North Sea. As in previous years Greenland halibut fisheries in Eastern and Western Greenland waters were highly efficient, the quota could be fully exploited. The Greenland cod quota could also be fully exploited. The 2019 season of pelagic redfish fishery in the Irminger Sea as well as the demersal redfish fisheries in Eastern Greenland waters were regarded successful, too. Starting in July 2019, four vessels were involved in the pelagic redfish fishery in Eastern Arctic waters (ICES areas 1 and 2). Catches from this fishery were considerably lower than in 2018. According to the industry, fisheries agreements with Greenland and Norway remain a backbone of the performance of the German high seas demersal fleet.

As in previous years the LO was no major issue for the high seas fleet. The total weight of bycatch landed by the high seas fleet amounted to 209t in 2019, mainly mackerel and, to a lesser extent, saithe and cod.

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. In 2019 catches dropped by about 63%, while a 25% price drop even further aggravated the situation.

Most relevant North Sea stocks (herring, saithe, plaice, haddock, sole and *Nephrops*) are managed at MSY level. In 2019 North Sea herring quota was cut by 40% and North Sea cod quota by 35%. Plaice quota decreased by 12% while saithe quota increased by 1%. Plaice decreased by 12%. Mackerel quota decreased by 20% in 2019.

The quota for Eastern Baltic cod stock was cut by 15% in 2019, while the quota for Western Baltic cod stock was increased by 70%, though from a very low level (from about 1 200 tonnes to 2 030 tonnes). This stock has provided substantial amounts to the income of coastal fisheries and the continuing decline of quota over the last years caused a tense economic situation. 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 48% in 2019, thus aggravating the critical situation of the artisanal fishers. The quota for Eastern Baltic herring was also cut (-26%).

The Western Baltic cod quota was decreased by 60% for 2020 (about 800 tonnes) and is way below quota of 2014-2016 (3 600-2 700 tonnes). The Eastern Baltic cod quota was cut by 92% for 2020 and is to be used as bycatch quota only. For 2020 the Western Baltic herring quota was cut by another 65%, thus amounting to less than 1 800 tonnes, which is about 11% of the 2017 quota. The sprat quota remained almost unchanged in 2019 and decreased 22% in 2020. Baltic plaice quota increased 43% in 2019, but dropped again in 2020 by 32%, which means that the absolute quota in 2020 was even below the 2018 quota. Overall, the ongoing unfavourable development of the Baltic Sea stocks is seriously threatening the existence of commercial fisheries.

In 2017, management measures for the recreational cod fishery (western Baltic stock) were introduced in the Baltic Sea to share the burden of rebuilding the western Baltic cod stock. These included a bag limit of three cod per day and angler in the closed season (Feb + March) and five cod per day and angler during the rest of the year. For 2019 the bag limit was increased to seven per day, and for 2020 at five per day. Conditions for the closed season were kept constant. For 2021, the bag limit for Western cod was set at 5 fishes per day (two per day for February and March).

## Nowcasts for 2020-21 and beyond

### Model results

Landed weight decreased substantially by about 24% in 2020 compared to 2019, with a 10% decrease in landed value. Projections suggest that operating costs of the non-pelagic fleet decreased by 12% in 2020. The decrease in value of landings in 2020 could be compensated by lower costs. Thus, the gross value added dropped by 3%, but gross profit increased slightly (+5%) from a very low level (EUR 19 million), while net profit remained negative (-EUR 4 million).

Projection results, suggesting that the German fleet operated at a loss in 2020, are in line with recent statements from the industry. Negative economic developments can also be seen in performance indicators GVA to revenue (45% in 2020, after 60% in 2018 and 45% in 2019) and gross profit margins (-17% in 2020, after 33% in 2019).

Some performance drivers in 2020 can be explored in more detail. After three newly built high seas demersal trawlers had entered the German fleet between 2015 and 2017, two cutters of the 40 metres class entered the fleet in 2019, thus replacing four older vessels of similar size. One newly built 50m pelagic trawler, mainly operating in the Baltic Sea, entered the fleet in 2020, thus replacing an older vessel. The high level of investment activities that can be observed in the sector of larger demersal vessels is unprecedented in the recent past. Modernisation of on-board equipment was continued as in preceding years. Given the higher efficiency of new vessels an increase in profit can be expected in the near future. According to the industry investment in a new large pelagic trawler is postponed due to uncertainties of fishing opportunities in the Brexit context.

The main driver for a considerable decrease in profitability in 2020 was the decrease in catch and revenues, partly as consequence of the COVID-19 pandemic. This is due to an overall decrease in most of the main quota while both catch and prices for brown shrimp, the most important species for the cutter fleet, remained at a low level. Brown shrimp is shelled manually in Morocco. The shelling capacity was severely reduced due to the COVID-19 pandemic so that only low quantities could be

processed. Sales of fresh fish caught by the cutter fleet was severely hampered by the COVID-19 pandemic as restaurants and touristic facilities had to be closed due to the lockdown.

Fuel prices were stable at a relatively low level in 2020.

For 2021, the COVID-19 pandemic again is expected to have an impact also on the economic performance of the German cutter fleet as restaurants had to be kept close for a substantial part of the year. Supplies of brown shrimp from cold storage are expected to be low so that the landings are supposed to achieve reasonable prices. Parts of the fleet were suffering from uncertain fishing opportunities in British, Norwegian and Greenland waters as the fishing agreements were signed only in the second quarter. Some fisheries highly depend on quota exchange with the United Kingdom, which is not feasible under current circumstances.

## Outlook

### High seas fleet

Overall, 2020 was regarded negative by the high seas sector for both demersal and pelagic fisheries. Total landings dropped about 3% from 2019. COVID-19 related measures hampered the operation of vessels, but sales of fish suffered even more. Due to sales problems, including temporal export bans, limits of cold storage capacities were reached.

High seas demersal trawlers achieved positive results in the demersal fisheries in Norwegian waters, Svalbard and the Barents Sea. Targeted species were saithe, cod and haddock. As in preceding years no directed fishery on saithe took place in the North Sea. Again, Greenland halibut fisheries in Eastern and Western Greenland waters were highly efficient, the quota could be fully exploited. In 2020, the Greenland cod quota was exchanged for Greenland halibut. The 2019 season of pelagic redfish fishery in the Irminger Sea as well as the demersal redfish fisheries in Eastern Greenland waters were regarded successful as well. Starting in July 2020, three vessels were involved in the pelagic redfish fishery in Eastern Arctic waters (ICES areas 1 and 2). Catches from this fishery were slightly higher than in 2019. According to the industry, fisheries agreements with Greenland and Norway remain a backbone of the performance of the German high seas demersal fleet.

High seas pelagic fisheries in European waters targeted herring, mackerel, horse mackerel and blue whiting in European waters as well as sardine and mackerel in Moroccan waters. Quota for the important North Sea herring remained unchanged at a comparably low level, while mackerel quota was increased (+41%) and blue whiting remained almost unchanged (+2%). The horse mackerel quota decreased about 40% in 2020, but the quota was exploited by less than 20% only, resulting in a catch reduction from 9 000 tonnes in 2019 to about 1 000 tonnes in 2020. According to the industry, high seas pelagic catches in European waters decreased 6.4% in 2020.

In 2020, European fisheries in the South Pacific under an EU-wide quota pooling were performed without a German trawler. The pelagic industry is striving for EU membership in the North Pacific Fisheries Commission in order to complement fishing activities in the Southern Pacific with fishing activities in the Northern Pacific and thus increase the overall efficiency. The EU application was launched in 2018. The contract was finally concluded in February 2021.

As in previous years the LO was no major issue for the high seas fleet. The total weight of bycatch landed by the high seas fleet amounted to 299t in 2020.

At the beginning of 2020, pelagic fisheries on North Sea herring, Atlanto-scandian herring and blue whiting were MSC-certified. 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. All annual audits were finalized successfully. 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 2020, about 67% of the catch of the German high seas fleet in the Northern Atlantic was MSC certified.

Depending on the species, between 50 and 80% of the landings of German pelagic high seas trawlers is caught in UK waters, mainly herring. Thus the resulting quota cut as a consequence of Brexit will have a serious impact on German pelagic trawlers. Especially for herring there are no fishing grounds in EU waters which could be exploited by the same order of magnitude as the fishing grounds in UK waters.

### Cutter and small-scale fleet

After an already challenging year 2019 the cutter and small-scale fleet was facing economically severe circumstances in 2020 again. The COVID-19 pandemic grossly affected sales of fresh fish. Sales to the

restaurant and catering sector dropped severely as these facilities were closed for a long time. These losses could only partly be compensated by private consumption. The reduced demand from restaurants and catering companies resulted in price drops particularly for high-priced species like sole or turbot. Another consequence of the pandemic affected the brown shrimp fishery: The vast majority of the catch is shelled manually in Morocco. Due to the lockdown the shelling capacity decreased considerably, and the cold storage capacities reached their limits. 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. In 2020, the catch could be increased only slightly, but prices were decreased. Ultimately, the turnover was still only half of that in 2018.

The North Sea flat fish fishery was affected by decreasing prices. Sole fisheries were regarded satisfactory, nonetheless, while the demersal fishery targeting *Nephrops* was regarded mediocre due to sales problems. According to the industry, this was caused by increased Scottish exports in expectation of trade barriers in the context of the Brexit. As the German quota is very low it is based almost entirely on extensive quota exchange, especially with the United Kingdom. Flatfish beam trawlers are all equipped with pulse gear. The industry is concerned about the prospective expiration of pulse beam licences.

Baltic fisheries suffered from another year with severe quota cuts for all relevant species. In 2020, quota were reduced by about 65% and 60% for Western herring and Western cod. Eastern cod quota was reduced by 92%, thus resulting in a moratorium of targeted fishery. The quota was used for bycatch only. Plaice quota decreased by 32%, sprat quota decreased by 22%. Payments for temporary and permanent cessation have been carried out by the German authorities.

## Outlook for 2021

In general, the major factors influencing the profitability of the German fisheries are fuel price and revenues. With few exceptions (e.g. brown shrimp) fish prices do not fluctuate considerably. Thus the volume of catches is the main factor which determines the revenues. Most important species targeted by the German fleet are managed under a TAC regime. Fuel prices increased slightly in 2021 after a year 2020 with relatively low fuel prices. Unfavourable quota development and, in particular, the COVID-19 lockdown grossly affect the performance of the German fisheries also in 2021. Some fleets are affected also by quota reductions as a consequences of the Brexit.

Another issue for the German fleet is the current stop of quota exchange opportunities with the United Kingdom. These exchanges have been to mutual benefit in the past, and both parties are currently suffering from this lost opportunity. This might refer also to certain choke species.

## High seas fisheries

Most final quota for 2021 decreased considerably, e.g. 14% for North Sea herring, 22% for mackerel in the North-Eastern Atlantic, 10% for Arctic cod, 7% for redfish in Greenland waters. Greenland halibut quota was reduced by 5%. For some stocks the quota negotiations in context with the Brexit could not be finalised. In order to allow fishing, 25% of the 2020 quota have been rolled over for the first quarter of 2021 for these stocks.

The impact of COVID-19 measures on the high seas fleet has been limited thus far. Most of the landings are either frozen or serve as raw material for the processing industry. These markets have proven to be relatively robust in terms of demand. Nevertheless, sales of demersal species are hampered, and prices have decreased in some cases. According to the industry, exports to Africa and China, the main markets for certain pelagic species, can be hampered under the given circumstances. To some extent consequences of the lockdown can be buffered by cold storage. However, capacities are limited and have been extensively used in 2020.

## Cutter and small-scale fleet

The quotas for North Sea stocks relevant for the German cutter fishery underwent some changes in 2021. The North Sea haddock quota was increased by 39%, while North Sea cod quota dropped by another 20%. North Sea plaice quota decreased by 19%. The important saithe quota was decreased by 30%. 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 two detrimental years in a row, but a third year of that kind would result in numerous bankruptcies, according to the industry.

The substantial 50% drop of the quota for Western Baltic herring exacerbates the desperate economic situation for Baltic coastal fishers. Western Baltic cod quota remained almost unchanged (+5%) while

the quota for Eastern cod was further cut by 70%, i.e. to 54 tonnes, compared to 2 203 tonnes in 2019. The moratorium will stay in place, the quota is being used only for bycatch. Plaice (+5%) and sprat (+6%) increased slightly but cannot compensate for the ongoing losses for the main species herring and cod.

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. In addition, in 2020, the COVID-19 lockdown hampered severely sales to local markets and restaurants, so that prices dropped together with catches. This is likely to continue as long as lockdown conditions last.

## Data issues

### General remarks

Capacity, logbook and landings data are derived from sources which are covered by different legislations. All these data are available exhaustively. That means that all capacity, landings and effort data are represented at 100%.

The only exception is the group of vessels below 8 metres without logbook obligation. These vessels are sampled for effort data. The remaining variables (cost, employment, fuel consumption) are estimated based on results from an accountants' network and from surveys with questionnaires.

All data on the high seas fleet were collected exhaustively (100%).

The data basis for fleet segment level estimations has become broad over the years. All fleet segments with major contribution to the total catches of the German fleet have been sampled with satisfactory response rates. As segments are not necessarily homogeneous, the results can be quite variable which is reflected in higher coefficients of variation.

The German fishing fleet contains a small number of pelagic vessels which are owned mainly by one company and therefore, for confidentiality reasons, it is impossible to publish this data by segment. Clustering the pelagic vessels with other vessels is not feasible as the pelagic vessels have unique characteristics that would completely bias "pure" segments when clustered. Therefore, the only pelagic fleet data in this report is capacity and weight and value of landings data, which is public, so please consider this when interpreting national totals; the German pelagic fleet accounts for a substantial part of the national fleets' costs and earnings.

All data have been collected, also for the pelagic fleet. As in previous years, confidentiality of most of the data on pelagic vessels affects regional analyses. The pelagic fleet mainly operates in the North Sea and North Atlantic (herring, mackerel, blue whiting). Data on pelagic fisheries in the Baltic are hardly affected, as they are performed on a seasonal basis, and vessels are assigned to the DTS segment, which reflects their major activity during the year.

Vessels which targeted blue mussels were excluded from the analysis because they are defined as operating in the aquaculture sector. Not all of the participating vessels can be identified by the first gear entry in the fleet register as some vessels are using beam trawls. Instead, the relative catch of blue mussel was used, thus allowing an unambiguous identification of aquaculture vessels.

It has to be pointed out that German employment data follow the approach of minimum requirement of activity, i.e., a person that goes fishing for twenty days or less during the year is not accounted for one employed person. Fulltime equivalents are estimated with reference to the days-at-sea and the crew size. The total number of jobs is then derived by the ratio of total number vs. FTE as observed in panel data. Due to this approach the data correspond to official employment statistics. If one day at sea would qualify for counting a "person employed" figures would exceed official statistics by about 30%.

### Changes in respect to previous years

Due to decreasing response rates for certain fisheries the data collection framework was further advertised in fishing communities.

### Improvements achieved within 2018 data collection

Data for subsidies could be derived comprehensively from the issuing authorities.

**Problems identified**

An increasing reluctance of responding to questionnaires had to be observed. This applies in particular to vessels with foreign ownership, forming segments with few vessels only. In these cases estimation and raising procedures are based on few or even no response at all and are thus limited in robustness.

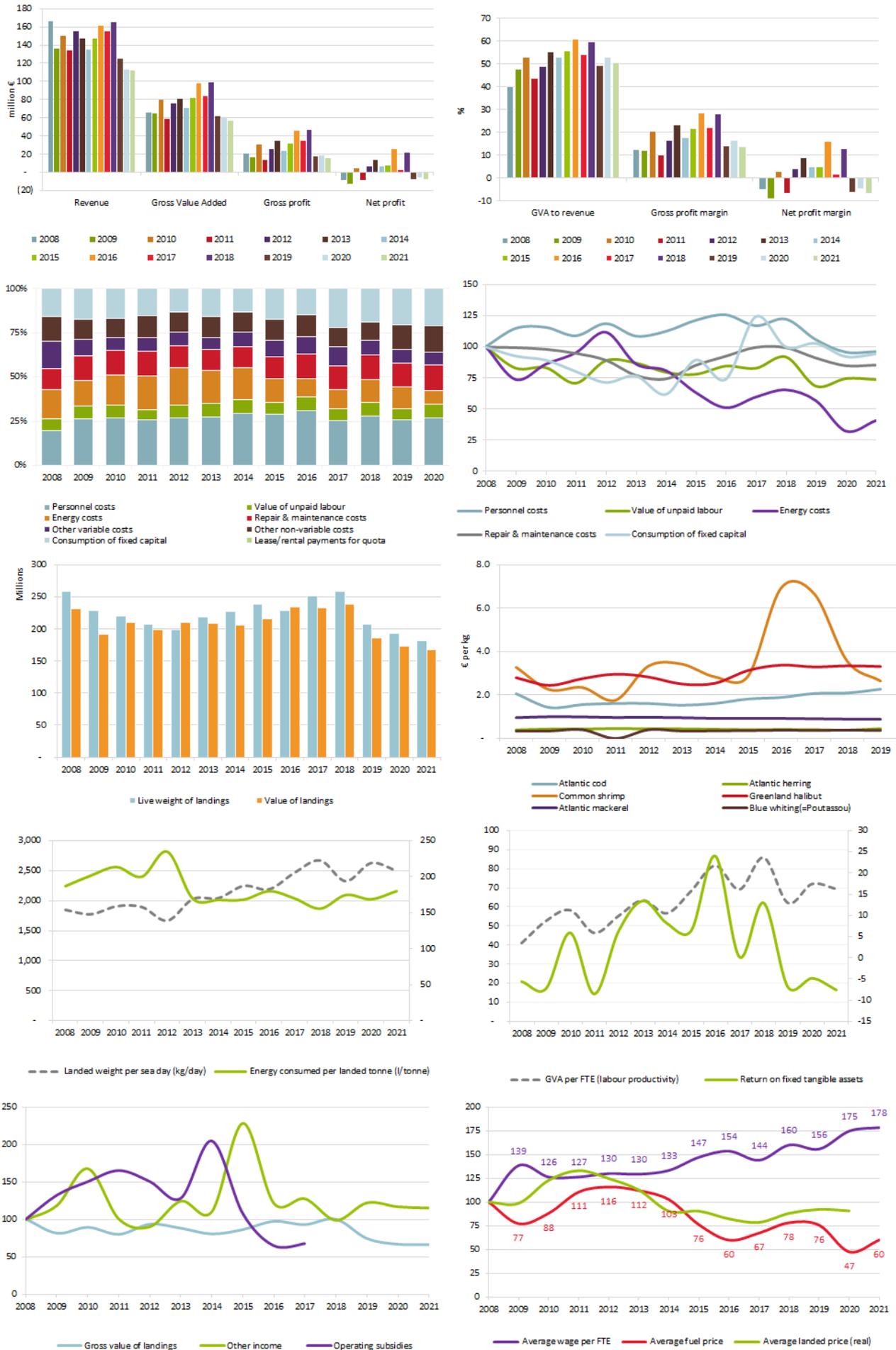


Figure 4.9 Germany: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators;

## landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

### 4.10 Greece

#### Short description of the national fleet

##### Fleet capacity

In 2020, the Greek fishing fleet consisted of 13 952 registered vessels with a combined gross tonnage of 66 254 GT and total power of 391 355 kW. The average vessel age is 32 years. The overall capacity of the Greek fleet has a falling trend between 2019 and the previous decade (average 2008-2018). The size of the Greek fishing fleet decreased, with the number of vessels falling by 7%, while total tonnage and power also decreased by 7% and 8%, respectively. The decreasing number of vessels stemmed from the reduction in the small-scale vessels. A significant reason is the ageing of the population without any attractive motive for successors to stay in business. Furthermore, in 2018, the Greek fishing fleet significantly decreased due to EMFF Measure 6.1.10 under the Union Priority 1 for permanent cessation (751 vessels decided to exclude from the registry). Finally, we have to mention the high inactivity (18%) that the Greek fleet faces, mainly concentrated on small-scale fisheries in 2019 compared to 2018.

##### Fleet structure

In 2019, the Greek fleet had 11 528 active vessels. The majority of the active vessels (10 712) were SSCF with a combined gross tonnage of 21 528 GT and total power of 198 465 kW. Additionally, there were 816 LSF with a combined GT of 36 912 and total power of 137 878 kW.

##### Employment

Employment was estimated at 18 983 jobs that correspond to 16 109 FTEs with a very low average annual wage per FTE and total employed (EUR 10 322 and EUR 7 774, respectively) in 2019. Employment in the sector faces a decreasing trend. Total jobs decreased by 9% and FTE by 12% in 2019 compared to 2018.

##### Effort

In 2019, the Greek fleet spent 1.8 million DaS of which the 7% refers to the LSF, and the 93% refers to the SSCF. The amount of energy consumed was estimated at 84 million litres and thus was slightly lower than in 2018 (5%). The average amount of energy consumption was 7 354 litres per vessel. Energy costs reduced, with a slight decrease from about EUR 68.8 million in 2018 to EUR 63.2 million in 2019. This decrease is probably due to the reduction of both the total number of vessels and active vessels. The fishing effort is concentrated mainly in Aegean (GSA 22), approximately 73%, Ionian (GSA 20) 23.5%, and Crete (GSA 23) 3.5%.

##### Production

The Greek fishing fleet targets a variety of species. The main Greek species regarding the landings weight are European anchovy, European pilchard, European hake, bogue, red mullet, surmullet, caramote prawn, common octopus and red porgy. The core Greek species regarding landings value are European hake, European anchovy, European pilchard, red mullet, surmullet, caramote prawn, red porgy, bogue and common octopus.

#### Economic results for 2019 and recent trends

##### National fleet performance

Total revenue (income from landings and other income) earned by the Greek fleet in 2019 was estimated at EUR 424 million. The total revenue of the Greek fleet was generated 50.5% (EUR 241 million) by the LSF and 49.5% (EUR 210 million) by the SSCF. Greek fishing vessels' primary source of income is the income from landings, while some segments also receive direct subsidies, stemming from duties refunds. No other source of income appears (e.g. income from fishing rights, recreational fishing, and tourism), however, it should be mentioned that the fishing tourism activities are fast-growing and next year's outcomes are expected to include and reflect this source of income. The income generated from landings was enough to cover all expenses for the Greek fleet. The amount of GVA, gross profit, and net profit generated by the fleet in 2019 were EUR 266 million, EUR 121 million,

and EUR 76 million, respectively. Overall, the Greek fleet made a net profit. Economic performance has improved in the last 5 years (AGRERI, 2021).

Moreover, the inclusion of the imputed value of unpaid labour provides the activity with a high positive income for fishers in 2019. As the majority of the Greek fishing vessels are mainly based on family labour, this figure provides a clearer picture of the sector's economic sustainability improvement. It is also important to emphasize that this figure is estimated as the opportunity cost of labour, using the average daily wage per fisher. However, in many cases, due to the lack of labour demand in local economies, which is even more intense due to the on-going financial recession, the opportunity cost of labour is lower or even zero.

The total expenses of the Greek fleet are EUR 344 million, which decreased compared to 2018. The main expenses of the fishing vessels are personnel costs (42%), more precisely wage and salaries (17%), and the imputed value of unpaid labour (26%). Energy costs and other variables costs follow with 18% share, respectively. Energy costs exceed a total of EUR 68 million, which means a decrease compared to 2018. Specifically, wages and salaries were equal to EUR 57 million, and they derive mainly from LSF. Imputed labour costs were estimated to EUR 88 million and derived mainly from small-scale vessels.

Other variable costs, including commercial costs and other operating costs, are also important, and they present an increase compared to the previous year. These costs were estimated at EUR 61 million. The non-variable costs were lower (EUR 8 million), representing only 2% of total expenses, while repairs and maintenance costs reached around EUR 25 million, revealing same levels compared to 2018. Finally, the annual depreciation costs accounted for 12% of total costs (EUR 41 million).

As far as the value of physical capital (depreciated replacement value) is concerned, it was equal to EUR 52 million. Moreover, the total investments in physical capital in 2019 were around EUR 21 million.

Overall, the cost structure has a slightly decreasing trend over recent years. Energy costs decreased mainly due to considerably lower fuel prices in the previous years and due to the decreasing trend of vessel number. Wages followed a decreasing trend, and unpaid labour focuses mostly on small-scale fisheries, revealed an increase due to the economic crisis that Greece faced in the previous period.

## Resource productivity and efficiency indicators

The fleet average Gross profit margin in 2019 was 28%, indicating a reasonable operating efficiency for the sector. The Net profit margin was estimated at 18%, following an increasing trend. The RoFTA was positive in 2019.

Labour productivity (GVA/FTE) for 2019 was estimated at EUR 16 540 per FTE, but the last three years revealed a slightly increasing trend. The average wage per FTE was estimated at EUR 9 023 following a slight increase in the previous four years.

Fuel consumption per landed tonne was estimated at 1 194 litres/tonne of landed fish in 2019, and it has followed an overall decreasing trend since 2014. This is maybe due to low fuel prices and their influence on fishers' behaviour. The landed weight per sea day was estimated at 38 kg/day.

## Performance by fishing activity

### Small-scale coastal fleet

In Greece, 93% of the vessels were SSCF. Specifically, there were 10 712 SSCF vessels with a combined 21 528 GT and total power of 198 465 kW in 2019. The number of SSCF vessels decreased by 10% from 2019 to the previous year, following the general trend of the Greek fishing fleet. In 2019, the value of landings of the SSCF was estimated at EUR 209 million, accounting for 49.5% of the Greek landings value.

In 2019, SSCF spent 93% of the Greek days at sea and consumed 31 million liters fuel, and the corresponding energy costs are high. The SSCF fishers due to their limited access to credit, do not have the flexibility to buy their fuel in advance; instead, they buy a limited amount to cover only very short-term needs. This is the main factor for increases in the energy cost because they do not gain from the reduced fuel price.

The income generated from landings was slightly more than the expenses for the SSCF fleet. Therefore, the Greek SSCF made a profit, and the economic performance has improved in the last 5 years (AGRERI, 2020). The amount of GVA and the gross profit generated by the SSCF fleet in 2019 were EUR 129 million and EUR 22 million, respectively. The resource productivity and efficiency

indicators are low compared to the same indicators calculated for all the Greek fleet. The labour productivity indicator (GVA/FTE) was EUR 10 237, half of the national average labour productivity, and the revenue per vessel was EUR 18 231.

The SSCF employs a total of 14 332 engaged crew, thus contributing to 75% of the total national employment of the sector. The majority of the engaged crew is unpaid labour, mainly members of the captains' family. This result refers to the significant contribution of the SSCF to local employment.

The SSCF mainly exploits the extensive Greek coastline, using polyvalent passive gears (mainly nets, longlines, pots, and traps). The vessels are primarily family-owned and characterized by low invested capital. Moreover, their landings are sold at higher prices than the LSF, and they are mainly directed to the market through very short supply-chains. Although the vessels of this segment are small, they are vital for the local economies regarding job opportunities and have strong ties to them. They usually offer income and employment to poor and isolated areas with very few alternative economic activities. Therefore, this segment highly contributes to the social and economic sustainability of the coastal communities.

## Large-scale fleet

The LSF remained in the same situation as in 2018. It contained 816 active vessels with a combined 36 912 GT and total power of 137 878 kW. As larger vessels have higher levels of engine power, they can conduct more fishing operations in deeper fishing grounds. These vessels mainly use active gears (bottom trawlers and purse seiners) and are characterized by high operating costs.

In 2019, LSF spent 7% of the Greek days at sea and consumed 53 million litres fuel. The income generated from landings was high enough to cover expenses for the LSF fleet. The amount of GVA, the gross profit, and net profit generated by the LSF fleet in 2019 were EUR 137 million, EUR 99 million, and EUR 76 million, respectively. Overall, the Greek LSF made a positive profit, and the economic performance has improved in the 5 five years (AGRERI, 2020). The resource productivity and efficiency indicators are positive. The labour productivity indicator (GVA/FTE) for LSF was EUR 39 629. The profitability measured in terms of net margin is higher for the fleet segments DTS24-40m, DTS18-24m, and PS24-40m and with a positive profitability also for PS12-18m.

## Performance results of selected fleet segments

The Greek fleet is highly diversified, with a broad range of vessel types targeting different species. The national fleet consisted of 16 (DCF) fleet segments and 11 528 active vessels in 2019. Overall, the Greek fleet had positive profitability. More specifically, four fleet segments had high profitability, four reasonable and eight weak profitability. The performance results of selected fleet segments is presented below.

### Netters 6-12m

This is the largest fleet segment of the Greek fishing fleet, containing 4 917 vessels. The total value of landings was EUR 124 million, having the first position with a 29% share of the Greek total landings value. DFN06-12m segment employed 6 906 FTEs, having the first rank in terms of employed persons, representing 43% of the Greek fishing fleet. The recent years DFN06-12m faced a decreasing trend in terms of the number of vessels and employed persons.

It is also important to mention that this segment produces the highest GVA among fleet segments, which is equal to EUR 80 million, a fact that reveals its substantial importance. Taking into consideration that the majority of these vessels are active in poor and isolated areas, with very few alternative economic activities, the importance of this sector to the local economies is even more apparent. The imputed value of unpaid labour is the main cost item (40% of total expenses) and represents the family contribution to labour. In 2019, the fleet segment of DFN0612 had reasonable profitability with a 13% net profit margin. The average wage is low at EUR 8 502. Moreover, the profit and the imputed value of labour provides a notable income to the families of many coastal areas.

### Netters <6m

It is the second most crucial fish segment in Greece regarding the number of vessels employed in 2 668 small vessels. These vessels target multi-species (e.g. *Mullus barbatus*, *Mullus surmuletus*, *Merluccius merluccius* and others). The total value of landings is EUR 28 million. This fleet segment employed 1 771 FTEs. Considering that the majority of these vessels are family owned, they usually utilize only family labour. The share of the segment in both the total national value of landings and the national contribution to employment indicates its high importance (6% and 11%, respectively).

Unlike large-scale fisheries, the main cost element is the imputed value of unpaid labour (48%), followed by labour cost (10%) and energy costs (14% 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 18 million) and provides livelihood and income for fishers with limited alternative employment. The economic performance is weak, while the net profit is positive, but it also has a social contribution to provide labour to the families of many coastal areas. The mean wage is very low, only EUR 8 802.

### Longliners 6-12m

Longliners' total fleet is made up mostly of small vessels less than 12 metres, around 2 895 vessels. This segment has a substantial contribution either to landings or employment. In total, it contributes with 3 909 FTEs representing 24% of the Greek fishing fleet. This figure highlights the major importance to the local rural economies. The imputed cost of labour is the primary type of cost, representing the family contribution to the labour. This has a significant effect due to limiting alternatives for jobs in some specific coastal areas.

HOK06-12m is the third largest fleet segment of the Greek fishing fleet with 1 688 vessels. The total value of landings were EUR 35 million, and the total FTEs employed in this fleet segment were 2 728, representing 17% 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 (32% of total expenses), and as in the previous segment, it represents the family contribution to the labour. Energy costs are also important, contributing by 17% of total costs. It is essential to mention that this segment a GVA of EUR 15 million, a fact that reveals its high importance to the rural economies. The economic results are weak and made losses in 2019. The labour productivity was only EUR 5 818.

### Bottom trawlers 24-40m

The bottom trawlers' fleet segment included 213 active vessels with a total value of landings of EUR 92 million and total employment that corresponds to 1 429 FTEs. Bottom trawlers have multi-species characteristics, captures 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, 208 DaS per year. Management regulations include seasonal (June 1-September 30) and spatial closures, as well as a minimum landing size. Overall, bottom trawlers had positive profitability and followed an improved economic development trend.

DTS 24-40m segment had 136 vessels, with a 18 106 GT and total power of 43 192 kW. The average age of these vessels is low (25 years), which is an indication of increased welfare. They spend, on average, 216 days-at-sea per year with a total value of landings of EUR 67 million. The total FTEs is 965, representing around 6% of the FTEs in the sector. The main expenses are energy cost (29%), wages and salaries (18%) and other variable costs (22%). As far as the value of physical capital is concerned, it represents 19% of the total national value of physical capital, while it represents 7% of the total national investment for 2019. Finally, it should be noted that this segment appears to have improved economic performance, mainly due to reduced energy costs. It has a high net profit margin (40.8%), and return on fixed tangible assets (92.5%), which provide high profitability for this fleet segment. The landings contributed 15.8% of this segment to the national economy and 16% to the total revenue. The labour productivity is very high (EUR 45 305). Overall, the DTS24-40m had an improved economic development.

### Purse seiners 18-24m

This segment includes 210 vessels operating predominately in areas Aegean (GSA 22) and Ionian GSA 20. Aegean has 85% of the fishing effort and Ionian 15%. Purse seiners fishery is the main fishing gear for small pelagic species, mainly European anchovy and European pilchard or that consist about 75% of the landings weight and volume. The purse seiners conduct daily trips, and each vessel is responsible for fish searching, catching, and transporting its catches to port. Fishing operations are carried out exclusively during night hours, with each vessel carrying around 8-10 persons. Each per seiner spends, on average, 202 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 (December-February), area closure, and fishing prohibitions within specific distances from the coast (100 m).

PS18-24m segment included 123 vessels with a value of landings equal to EUR 59 million (14% of the total national landings). Each vessel spends, on average, 197 DaS per year. The segment employs a total of 532 FTEs, and thus it contributes to 3.3% of the national total. Variable costs and wages and

salaries are the largest cost elements in this segment, together representing 64% of the total cost. The economic performance improved this year; it has from the highest net profit margin, among all the Greek fleet segments. Moreover, it also presented high labour productivity (EUR 75 209) and a high average wage/FTE, equal to EUR 19 538.

## Pots and Traps

This fleet included 321 vessels, with the majority of them (266 vessels) to be categorized in the 6-12m length class. It offers 362 FTEs representing 2.2% of the total FTEs of the Greek fishing sector. Pots and Traps have multi-species characteristics but almost 90% of landings stem from the capture of common octopus. Other species that this fishing gear targets are the common cuttlefish, Norway lobster, black seabream and picarel. The main characteristics of this segment are the high average vessel age (more than 30 years); the main cost element is the imputed value of unpaid labour, which mainly represents the family contribution to the labour. In 2019, both the FPO0612m segment and FPO 0006m segment faced reasonable profitability.

## Drivers affecting the economic performance trends

The main drivers affecting the economic performance of the Greek fishing sector involve the general economic environment and specific sector characteristics. Results show that the overall economic performance of the Greek fleet has an improving trend. This economic improvement coincides with overall reductions in fleet capacity, mainly SSCF, the high rate of inactivity, and low consumption and fuel use intensity which means that the Greek fleet has become more efficient. In addition, a recent scientific publication documented that the presence of women has a positive outcome on several social and economic indicators that reflect the wealth of both fishing households and employees (Liontakis et al., 2020).

There are many challenges ahead, like the cash flow shortage, the limited access to credit, the increasing social-security contributions, and taxation, together with the high value of inputs, which creates unfavourable conditions for fishers and their activities. Low prices of the main target species are also linked to the low spending power of Greek households despite the fact that the Greek economy has just got over a 10-year financial crisis.

Furthermore, one of the main problems fisher's reports concerns the damages of the fishing gears, caused by protected species like dolphins, seals, sea turtles, and seabirds. These damages increase the repair and maintenance costs of the vessels and negatively affect their overall economic performance, keeping in mind that fishers do not receive any compensation for their losses. Moreover, the invasion of alien species, such as *Lagocephalus sceleratus*, can cause damages in the fishing gears 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 is increased due to the competition of the Greek fishing vessels with vessels from other countries that do not have to follow EU legislation and restrictions, like Turkey. There is also a variety of vessels operating in the same fishing areas, and this can lead to conflicts. In particular, there is a strong conflict between the small-scale and large-scale fleets that were highlighted by fishers as a major factor impacting their financial performance. There is also a conflict between professional and recreational fishers who usually fish in coastal areas and illegally sell their catch at low prices.

## Markets and Trade

As far as the market structure is concerned, fishers reported that, on average, 50% of their catch is channelled to wholesalers and fish auctions while 45% involves direct sales to consumers. Direct sales refer mainly to small-scale vessels. However, if only large-scale vessels are considered (bottom trawlers and purse seiners), fishers report that about 80% of the catch is channelled to wholesalers and fish auctions.

In 2019, five main commercial species covered 64% and 54% of total first sales, respectively, in volume and value terms (EUMOFA, 2020). Precisely, 27% of the volume and 14.1% of the value correspond to sardine, 23% of the volume and 12.9% of the value correspond to anchovy, 5% of the volume and 11.2% of the value correspond to hake, 3% of the volume and 9.1% of the value correspond to red mullet, and 7% of the volume and 7.4% of the value correspond to deep-water rose shrimp (EUMOFA, 2020).

Analysing from the consumer's point of view, and specifically consumer preferences on purchasing channels, Greek consumers prefer to buy mainly from fishmongers, while at the EU level, consumers prefer to buy mainly from the grocery store, super, or hypermarket (EUMOFA, 2020). Regular consumers, namely those who eat fishery and aquaculture products at least once a month, mainly belong to age groups 40-54 and over 55 (EUMOFA, 2020). Young people (15-24) are less inclined to consume fish in Greece, as well as at the EU level (EUMOFA, 2020). However, regular consumers in this category cover 70% of the total, which is higher than at the EU level (67%) (EUMOFA, 2020). Greeks consume mainly fresh products; loose fish is much more frequently consumed (92%) than at the EU level (68%) (EUMOFA, 2020). Regarding the purchasing factors of fish, Greek consumers place more emphasis than other EU consumers on the factors: product's appearance, cost of the product, and origin of the product (EUMOFA, 2020). However, they give comparatively less emphasis on factors: brand or quality labels, how easy and quick it is to prepare and environmental, social, or ethical impact (EUMOFA, 2020).

### **Operational costs (external factors)**

In 2019, the overall economic performance of the Greek fleet seemed to be improved. This refers to a result of lower operating costs, particularly the low cost of fuel, the low wages, and the reduced value for the variable and non-variable costs. Moreover, in 2019, the number of inactive vessels increased, so the remained vessels improved their economic performance.

As already discussed above, the main costs of the Greek fishing vessels are the energy cost and wages and salaries of the crew. According to the data collected, energy cost had a small decrease (-8%) compared to 2018. The fuel price decreased even in the case of small-scale vessels. In addition, the Energy and Lubricant Price Index for the Greek primary sector confirmed the downward trend observed in the energy cost since the average annual rate for the period 2012-2019 is approximately -0.36% (Hellenic Statistical Authority).

The wages and salaries of the crew, which is also an important cost element, have decreased compared to the previous years. The same trend we had with unpaid labour. This was mainly due to COVID-19 effects with the specific restrictions for the limited activity of the fishers.

Another external factor that affects the costs of the fishing activity is damages caused to fishing gear, especially nets, from mammals like dolphins, but also sea turtles, crabs, and sea birds. These damages are frequent and reported by the majority of fishers, although currently, no compensation is received.

### **Innovation and Development**

The Greek fleet consists mainly of small-scale, family-owned vessels that use traditional fishing gears. Furthermore, investments are limited due to the economic crisis, while the average age of the vessels is increasing. This environment leaves little room for new and innovative techniques for small-scale fisheries and large vessels since the latter also faces high running costs. However, as mentioned above, the Greek Operational Programme for 2014-2020 aims at the modernization of the fisheries sector and its sustainability mainly through supporting the use of more selective fishing gear as well as other on-board investments and equipment, the modernization of infrastructures, and the improvement of fisheries monitoring and control.

As part of the Greek Operational Program for the period 2014-2020, 187 fishing vessels are funded for modernization through supportive investments, which 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 5.5 million.

Also, 158 fishing vessels are funded to enhance the added value and quality of fish products but also to rationally manage waste disposal through eligible investments on board, such as refrigeration equipment, fish waste and waste disposal equipment, quality management, etc. (Measure 3.1.22). The funding budget is around EUR 4.5 million.

At this point, it should be noted that in the framework of the National Fisheries Data Collection Program for the reference year 2019, the majority of fishing enterprises in the sample expressed a willingness to participate in measures related to the modernization of the vessels and fishing gears. Also, the majority of fishing enterprises showed significant interest in fishing education, stating that they would be interested in education through seminars such as sustainable fishing, sustainable fish stocks management, and new fishing technologies.

Under the previous Operational Program, Hellenic Center for Marine Research implemented a pilot project "Selectivity of the diamond and square mesh of the trawl codend, biological and economic

consequences and fish behavior comparative study-EPILEXIS". The objective of this project was to study the selectivity of diamond and square mesh of the codend in the bottom trawl, the biological and economic consequences of their implementation, and the behavior and condition of the retained fish and escapees (<https://imbrw.hcmr.gr/epilexis/>). According to the results, 40 mm square mesh on the codend of the trawl appears to be more effective than the diamond meshes considered (40 mm and 50 mm) in reducing discards, a fact intended in accordance with EU Regulation 1380/ 2013. The economic value of catches per hour of fishing did not appear to differ statistically significantly between the meshes under study. On a practical level, it seems that fishers have accepted the application of 40 mm square mesh on the codend of the trawl, since it is applied by the majority.

Furthermore, for successful management instruments and policies that can promote sustainability and the development of the fisheries sector, the Greek Fisheries Institute, the Hellenic Centre for Marine Research, and the Greek Agricultural Economics Research Institute are providing the necessary scientific knowledge.

## Nowcasts for 2020-21 and beyond

Nowcasts suggest a slight decrease in 2020 results compared to 2019. The outcome for 2020 is expected to deteriorate all the economic indicators due to the COVID-19 outbreak. However, the forecast still indicates positive net profit for the sector and a steady improvement compared to the difficult period that Greece had faced during the financial crisis.

## Effects of COVID-19 in Greek fisheries

Early indications suggest that the Greek fishery sector has faced significant negative effects by the COVID-19 pandemic, as demand has seen a sudden instability. The effects of COVID-19 on fishing are expected to be severe, especially on small-scale fishing of Greek islands, as its distribution network is linked to the tourism industry and includes local hotels, restaurants as well as individual tourists who buy directly from fishers. Due to the fact that the beginning of the tourist season coincided with the ban on travel for the treatment of COVID-19, it led to a significantly reduced demand for fish and, consequently, a reduction in fishing activity and income. Although the lifting of travel bans began in mid-June, a significant decrease in tourist arrivals appeared in the rest of the tourist season (July-August), which is considered the peak period for tourism in Greece. Therefore, a dramatic reduction in the incomes of small-scale fishers is expected, as a result of which the viability of fishing enterprises and their households is seriously endangered.

With regard to aid for the treatment of the financial consequences of COVID-19, the support from the General Directorate of Sustainable Fisheries-Greek Ministry of Rural Development and Food concerned the activation of de minimis aid in SSCF, according to decision Ref N. 94/165904 / 30.06.2020 for the granting of de minimis aid in the fisheries sector, with a budget of approximately EUR 15.25 million. A total of 11 113 applications were submitted, corresponding to 9 956 fishing vessels, for a total aid amount of approximately EUR 11.3 million.

In addition, under Measure 3.1.9 "Temporary cessation of fishing activities as a consequence of the epidemic outbreak of COVID-19" of Greek Operational Program 2014-2020, 689 vessels received an aid of approximately EUR 19.1 million. More specifically, 158 SSCF vessels were supported with roughly EUR 1.2 million, while the remaining 531 were LSF vessels which were supported with approximately EUR 17.9 million.

## Data issues

There have not been significant data issues in producing this chapter. The implementation of the National Programme has not faced difficulties for 2019 like the previous years, which had resulted in an interrupted time series on the economic data. The figures for costs come from a survey based on probability sampling, and the response rate was satisfactory for 2019.

## References

Agricultural Economics Research Institute (AGRERI), 2021. Greek Socio-Economic Survey for the Greek Fishing Fleet (the year 2019: under the Geek Data Collection Program). [in Greek]

Mantziaris S., Lontakis, A., Valakas, G. and Tzouramani, I. (2021). Family-run or business-oriented fisheries? Integrating socioeconomic and environmental aspects to assess the societal impact, *Marine Policy*. 131, 104591

<https://doi.org/10.1016/j.marpol.2021.104591>

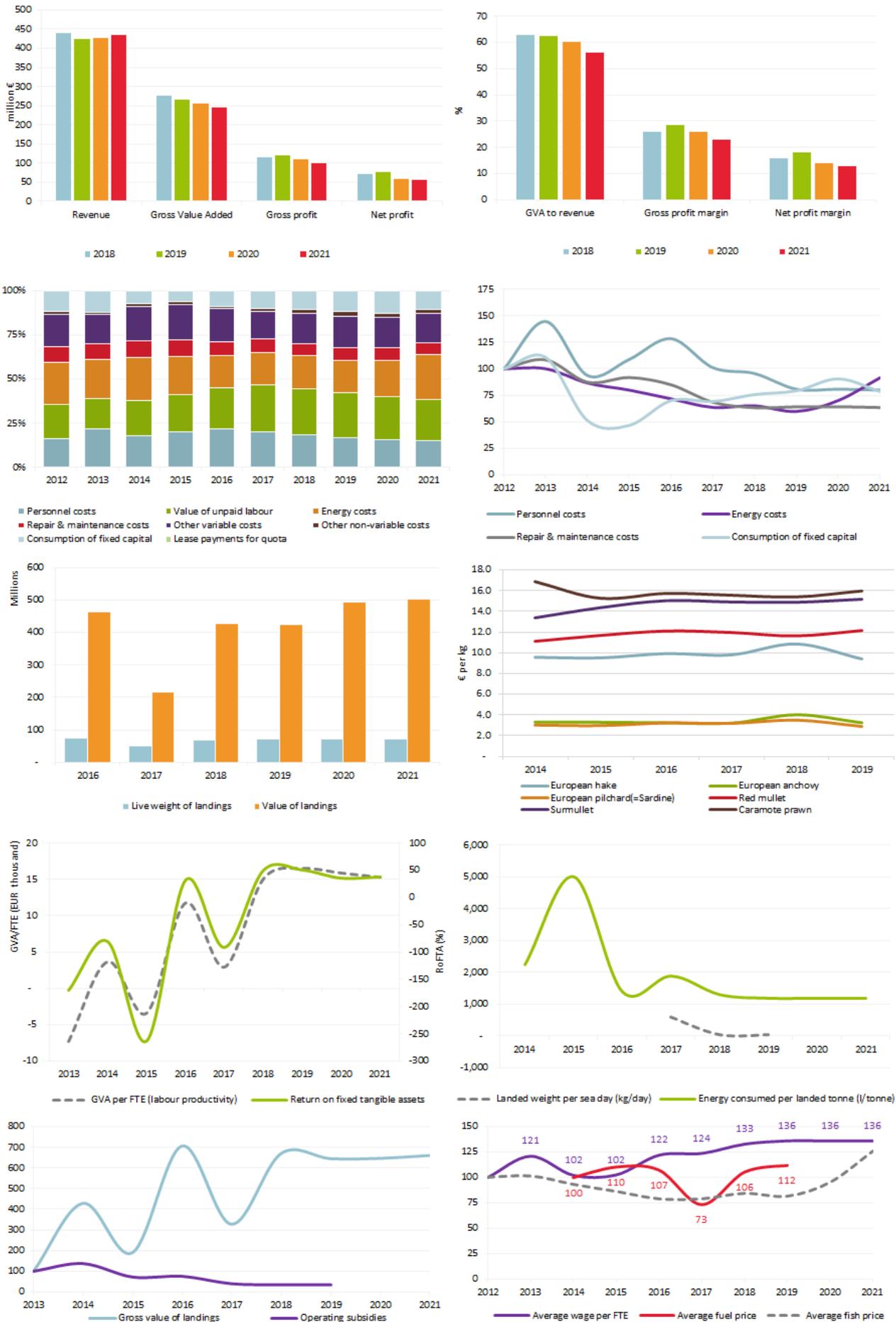
Lontakis, A.; Tzouramani, I.; Mantziaris, S.; Sintori, A. (2020). Unravelling the Role of Gender in Fisheries' Socio-Economic Performance: The Case of Greek Small-Scale Fisheries. *Sustainability*, 12, 5304.

<https://doi.org/10.3390/su12135304>

EUMOFA, 2020. European Market Observatory for fisheries and aquaculture products. Greece. Retrieved in June 2020 <https://www.eumofa.eu/documents/20178/61322/Greece.pdf>

Hellenic Statistical Authority, <https://www.statistics.gr/el/statistics/-/publication/DKT30/->

Tzanatos, E., Georgiadis, M., & Peristeraki, P. (2020). Small-Scale Fisheries in Greece: Status, Problems, and Management. In *Small-Scale Fisheries in Europe: Status, Resilience and Governance* (pp. 125-150). Springer, Cham.



**Figure 4.10 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 (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.11 Ireland

### Short description of the national fleet

#### Fleet capacity

The capacity of the national fleet has remained stable since 2008. In 2019, there were 1 946 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 60 574 GT and 184 922 kW. The estimated total number of inactive vessels in 2018 was 539, the majority of which, 81% are in the less than 10m segments. While inactivity for vessels over 10m LOA is known from logbook data, inactivity in the less than 10 metres LOA fleet has been estimated using data from equivalent (gear, target species etc.) fleets in the 10-12m segment and information from sales notes.

#### Fleet structure

National segmentation of the Irish fishing fleet does not match DCF segmentation in every case. For example, the polyvalent segment (see below) includes a variety of vessel lengths and fishing techniques. Nationally, the fishing fleet is divided into five segments:

1. Refrigerated Seawater (RSW) Pelagic Segment: This segment is engaged predominantly in fishing for pelagic species (herring, mackerel, horse mackerel, blue whiting, and boarfish).
2. Beam Trawler Segment: This contains vessels, dedicated to beam trawling, a simple trawling method used predominantly in Irish inshore waters except in the southeast, where it is used to catch flatfish such as megrim, sole and plaice as well as species such as anglerfish and rays.
3. Polyvalent Segment: This segment contains the vast majority of the fleet. These vessels are multi-purpose and include small inshore vessels (netters and potters), along with medium and large offshore vessels targeting whitefish, pelagic fish, crustacea and bivalve molluscs.
4. Specific Segment: This segment contains vessels which are permitted to fish for bivalve molluscs and aquaculture species.
5. Aquaculture Segment: These vessels are used exclusively in the management, development, and servicing of aquaculture areas. They collect spat from wild mussel stocks as part of a service to aquaculture installations. The aquaculture segment, while on the fleet register, is excluded from analysis in this report.

#### Employment

Fleet employment in 2019 was estimated at 2 944 jobs. This corresponds to 2 758 FTEs with an average of four and one FTE per vessel for the LSF and SSCF, respectively (excluding inactive vessels). Total engaged crew has shown a 11% decrease from 2018 but FTE has remained stable. Employment in the Irish fishing industry is particularly important to coastal communities.

Indicative figures from the national annual employment survey suggest that 26% of active fishers were aged 50 years and over in 2019. The majority, 55% of fishers are aged 30-50 years old with fishers ages 20-30 making up 17%. Younger fishers make up a small percentage of the total with 2% aged less than 20 years. Attracting young people to the industry remains a challenge.

Average crew wage for the entire fleet remains consistent at around EUR 32 000 per job and EUR 34 000 per FTE which is lower than the average national annual earnings of EUR 40 283 in 2019. However, there are variations in the average wage depending on the size and gear of the vessel and the systems of crew share.

#### Effort

The Irish fishing fleet operates primarily in the North Atlantic, Celtic and Irish Seas. In 2019, the national fleet spent 79 908 days at sea of which 85% were fishing days. Days at sea and fishing days increased by 6% and 7% respectively from 2018 to 2019. Energy consumption increased by 14% over the same period reflecting the increase in effort.

Note: Prior to 2015 effort was estimated using only data for the over 10m segment. The lack of logbook data for vessels under 10m has meant that the reporting of transversal, landings, activity and

true economic performance of this segment (which makes up a large proportion of the Irish fleet) is based solely on this limited results from the a sentinel vessel programme that collects daily effort and economic data from a small sample of the SSCF and sales notes data.

## Production

Landings by weight in 2019, decreased 5% from 220 000 tonnes (valued at EUR 277 million) in 2018 to 208 000 tonnes (valued at EUR 288 million). However, the overall value increased by 3% in the same time period owing to increased fish prices, particularly for mackerel and frozen *Nephrops*. Provisional figures for 2020 indicate that total landings will be 217 000 tonnes with an associated value of EUR 260 million.

Adjusting for price errors in the landings data and including improved estimates for income for the less than 10m segments, landing income for 2019 is estimated as EUR 302 million.

Production trends are highly influenced by quota changes for pelagic species, particularly mackerel. Indeed, many of the historical fluctuations in the value and weight of landings have been driven by mackerel, as mackerel quota accounts for approximately 34.4% of the total Irish quota from 2015 to 2019.

The 2016 mackerel quota, 76 000 tonnes, included an increase of 46 560 tonnes worth an estimated EUR 59 million. The 2017 mackerel quota, 86 000 tonnes, resulted in landings of 87 000 tonnes worth an estimated EUR 58 million. In 2018, the quota decreased to 69 000 tonnes worth an estimated EUR 47 million and was reduced again in 2019 to 55 000 tonnes. Mackerel has again topped the landed species by value in 2019 with estimated values of EUR 52 million. *Nephrops* are the second most landed species worth EUR 50 million with associated landings of 8 148 tonnes.

## Economic results for 2019 and recent trends

### National fleet performance

In 2019, the Irish fleet recorded a gross profit. GVA, gross profit, and net profit in 2019 were estimated at EUR 150 million, EUR 52 million and EUR 40 million, respectively. These all represent decreased since 2018 driven by reduced value of landings. Additionally limited returns from certain fleet segments may have effected the estimation of key variables in the calculations of GVA, gross profit and net profit.

It should be noted that these figures are, in particular, 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 reveue and profit due to the large volumes of their catches.

Total landed values for the SSCF and LSF have decreased by 3% and 2% with values of EUR 28.5 and EUR 254 million, respectively. It should be noted that the landings value for the inshore sectore is underpresented due to data dificinecies. Conservative estimated revenue for this fishing activity is EUR 40.7 million.

Overall the cost structure of the fleet in 2019 has remained relatively stable. While 2019 saw a decrease in all costs except energy the overall cost still increased. Operating costs totaled EUR 251 million in 2019, an increase of 2% from 2018. Energy costs increased by approximately 10%. When capital costs are included, the total cost of operating the national fleet rose to EUR 267 million.

### Resource productivity and efficiency indicators

The fleet average Gross profit margin in 2019 was 17% a decrease of 6% from 2018. The Net profit margin remained stable at 13%, and the RoFTA at 8%, was a decrease from 10% in 2017. The slight decrease from 2018 was influenced by decreased landings income and increased total costs.

In 2019, fuel consumption was estimated to be 590 litres per tonne landed; the corresponding figure for 2017 was 489. While fuel consumption has remained relatively stable from 2012 to 2014 there has been a steady increase in fuel consumption each year since then. Fuel consumption per tonne landed had followed an overall decreasing trend from 2008 when fuel prices reached an historic high. This may, in part, be indirectly due to low fuel prices and their influence on fishers behaviour: for example, when fuel prices are low fishers are more likely to incur increased time steaming to and from fishing grounds and/or time spent searching for fish or fishing.

There was an increase in energy consumption by 14% from 2018 (107 million litres) to 2019 (123 million litres). From 2018 and 2019, there was an increase of approximately 10% in the cost of fuel,

from 0.38 euro/litre to 0.47 euro/litre, respectively this couple with increased effort in 2019 resulted in increase fuel usage and energy costs.

Total average fleet landings (tonnes) per unit of effort (days-at-sea) have fluctuated since 2008. In 2018 the fleet LPUE averaged 3 tonnes/day; in 2019 the corresponding figure decreased by to 2.6 tonnes/day. This average fleet figure may mask performance in specific segments.

## Performance by fishing activity

### Small-scale coastal fleet

There were and estimated 902 active vessels registered in the SSCF in 2019. The number of active vessels in this fleet has seen an increase of approximately 3%, on average, from 2018. There are a number of vessels using active gears below 12 metres that are not included in the definition of SSCF. This results in discrepancies between the data presented in this report and how the fleet would be examined at a national level which examines all vessel under 12 metres irrespective of gear being active or passive.

Data for the under 10m segments can be deficient which impacts on the estimates of economic indicators for the SSCF. As survey returns for economic data for the small-scale increase there are better estimates of economic variables. This fleet activity recorded a GVA of EUR 27 million, gross profit of around EUR 13 million and net profit of EUR 1.47 million in 2019, demonstrating a decrease in these economic indicators from 2018 estimates. While the SSCF makes up nearly 14% of the total revenue of the Irish fleet, in 2019, its importance to local coastal communities should not be diminished.

SSCF offer employment in often deprived areas and bring much needed money into the local community and their hinterlands. The SSCF employs 1 065 fishers corresponding to 978 FTEs in 2019. This demonstrates a decrease of 9% in engaged crew and a 6% increase in FTE from 2018 to 2019. This increase is strongly correlated to the increase in the total number of active vessels. Total employment is based, in part, on the total number of active vessels in the SSCF, therefore as activity for the less than 10 metres is estimated from national expert knowledge and sales notes, the figures may be under/over estimated and as such employment figures when compared over years may not be comparable. An increase in data return from smaller vessels in 2019 may have influenced the estimate average total engaged crew.

### Performance results of selected fleet segments

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 and 27.7.

In 2019, the national fleet consisted of 21 (DCF) fleet segments, there were 11 segments (both clustered and un-clustered) that had sufficient data to calculate profitability. Of these, three demonstrated high profitability and six weak profitability (down from 10 in 2018) and two had reasonable profitability. Overall this shows a deteriorating economic development trends for the industry in 2019.

The fleet is dominated by the (nationally defined) polyvalent segment, a diverse group that includes small inshore vessels (netters and potters), along with medium and large offshore vessels targeting Nephrops, mixed whitefish, some pelagic species (including mackerel, herring and tuna) as well as a range of vessels, from small to large-scale, targeting bivalve molluscs and crustaceans.

The Refrigerated Seawater (RSW) pelagic segment targets exclusively pelagic species (mackerel, horse mackerel, herring, blue whiting and boarfish) and equated to the TM VL40XX DCF segmentation.

### Pelagic Trawl over 40m

Pelagic Trawlers over 40 metres (TM VL40XX) are part of the, nationally defined, RSW segment. Currently, there are 20 vessels classified as TM VL40XX and these are generally considered to be amongst the best performing components of the national fleet. These vessels land large quantities of pelagic fish (Atlantic mackerel, horse mackerel, herring, blue whiting, albacore tuna and boarfish) and operate mainly in ICES areas 6a and 7b,c,j,k. mackerel, horse mackerel, and blue whiting constitute 65%, 16% and 12%, respectively of the total value of landings in 2019. Ireland's pelagic fleet operates seasonally, reflecting both the annual distribution patterns of the target species as well as quota limitations.

The majority of the fleet operates out of Killybegs, county Donegal and Castletownbere, county Cork; both areas strongly dependent on the fishing sector. For example, in 2019 Killybegs and its hinterland was estimated that 27% of its economy can be attributed to the seafood sector and that it contributes to EURO 94 million in GVA each year. In 2019 landings (all species) by pelagic trawlers over 40m amounted to 107 950 tonnes (live weight), valued at EUR 63 million, an increase of 8% from 2018. This increase is in part due to increase TAC for horse mackerel and good prices for mackerel.

No survey data on this segment was received for 2019 so estimates has to be made from the 2018 cost structures. Therefore, the following data must be used with extreme caution.

- On-board employment comprised of 225 FTE in 2019 or almost 8% of total fleet employment nationally.
- GVA by the segment in 2019 was EUR 26 million generating a gross profit of EUR 3.8 million.
- Total Revenue for this segment was EUR 65 million accounting for 22% of the total revenue of the fleet.

### Demersal Trawl 18m-24m

Currently there are 65 polyvalent vessels classified as Demersal Trawlers 18-24m. They also target a wide variety of species including *Nephrops*, whiting, anglerfishes nei. In 2019, the total value of landings by demersal trawlers, 18-24m, was EUR 52.8 million with 394 FTEs employed, contributing 14% and 19% of the total income from landings and FTE generated by the Irish fishing fleet, respectively.

The value of landings predominantly comes from *Nephrops*, anglerfishes nei and whiting which constitute 50%, 12% and 4% of total landings value respectively. This fleet segment recorded a negative gross profit of EUR 2.9 million and net profit loss of EUR 5 million in 2019.

### Demersal Trawl 24m-40m

Currently there are 48 polyvalent vessels classified as Demersal Trawlers 24-40 metres. They likewise target a wide variety of species including *Nephrops*, Atlantic herring, whiting, European sprat. In 2019, the total value of landings was almost EUR 50 million with 361 FTEs employed, contributing 18% and 13% of the total income from landings and FTEs generated by the Irish fishing fleet, respectively.

The value of landings predominantly comes from *Nephrops*, anglerfish, haddock and hake which constitute 38%, 11%, 8% and 6% of total landings value, respectively. This fleet segment generated a gross profit of over EUR 12 million and net profit of EUR 7 million in 2019. This indicates an improved profitability for 2019 compared to 2018.

### Potters 0m-10m

Currently there are an estimated 580 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, whelk which collectively constitute nearly 80% of the landed value. In 2019, the total value of landings was almost EUR 10 million with 583 FTEs employed. While the total value seems low in reality, due to poor data on this segment, this value in reality is believed to be much higher. This fleet segment generated a gross profit of over EUR 12 million in 2019.

## Drivers affecting the economic performance trends

Fuel costs, higher average fish prices for some species, and the impact of capacity/effort reduction were the main driving forces behind an overall improvement in the economic performance of the Irish fleet.

### Brexit

In addition to the disruption that Brexit has brought to the markets, the UK's decision to leave the EU continued to bring uncertainty for the Irish seafood industry in 2020 with fears over loss of access to UK waters and difficulties in importing and exporting seafood to and from Ireland. While the Trade and Co-operation Agreement (TCA) guaranteed continued access to UK waters, it came at the price of transfer of significant quota from the EU to the UK over the period 2021 to 2026 onwards estimated around EUR 199 million based on 2020 quota levels. The aggregate final (2026) quota transfer by Ireland is estimated to be EUR 43 million which amounts to a 15% reduction compared to the overall value of the 2020 Irish quotas. These quota reductions are front-loaded in 2021 and this will increase

the pressure on the catching and processing sectors due to a reduction of raw material available. Additionally, with the UK no longer in the EU, there will be new requirements and increased documentation for seafood businesses exporting and importing to and from the UK, which will increase costs and make the logistics of transiting through the UK landbridge to mainland Europe much more difficult. It remains to be seen how the sector will adapt to the new challenges introduced by the TCA, combined with the continued disruption caused by the COVID-19 pandemic.

Following the TCA Ireland established a Seafood Sector Taskforce on 26 February 2021. The Taskforce was established to make recommendations to the Government on measures to mitigate the impacts of the fish quota share reductions, arising from the TCA, on the Irish Fishing industry and on the coastal communities that depend on fisheries.

The Task Force will examine the implications arising from the EU/UK TCA for the Irish Fishing industry and coastal communities particularly dependent upon it. It will, in particular, outline initiatives that could be taken to provide supports for development and restructuring so as to ensure a profitable and sustainable fishing fleet and to identify opportunities for jobs and economic activity in coastal communities dependent on fishing. The Task force will consider how all available funding streams could be used to address, to the extent possible, the initiatives identified and the state agencies to support those initiatives. The Task force will also consider and recommend constructive actions that would help to alleviate the inequitable relative contribution of quota share by Ireland in the EU/UK TCA.

## COVID-19

In May 2020 the Irish government announced a temporary voluntary fleet tie-up scheme for fishing vessels in the Polyvalent, Beam Trawl and Specific segments of the fishing fleet. Vessels which are eligible will be supported to voluntarily tie up for one or two of three months (June, July, August). The Scheme is implemented under Ireland's European Maritime and Fisheries Fund Operational Programme 2014-20, co-funded by the Government of Ireland and the EU. The Scheme is designed to complement the COVID-19 wage supports and loan arrangements already being provided by the Government to the fishing sector.

The purpose of this scheme was to reduce the volume of seafood entering the market which has been depressed by the COVID-19 pandemic, while at the same time keeping an adequate number of vessels fishing to maintain a food supply. The scheme contributed to the fixed costs incurred by fishing vessels while tied-up. The tie-up scheme was available to a maximum of 66% of the fishing fleet, in the different size categories, in any one month. The voluntary scheme will operate over the calendar months of June, July & August, to coincide with the monthly fisheries quota management periods, in order to adjust the supply of fish coming onto a currently depressed market and protect quota availability for later in the year. Any vessel not receiving support to tie-up in any particular month may continue to fish.

Vessels which have carried out fishing activities at sea for at least 120 days in total over the calendar years 2018 and 2019, and which have made total to a minimum value of EUR 5 000 in the calendar year 2019, by reference to the Irish Sales Note System administered by the Sea Fisheries Protection Authority were eligible to apply.

The Irish fishing industry is highly diversified meaning that the COVID-19 restrictions have affected the Industry differently depending on their fishing type, target species and geographical location. The industry was listed as an essential service provider under new public health guidelines and may remain open however, there was a sharp decline in the total number of active vessels and landings especially over the first couple of months of the restrictions. The COVID-19 crisis has impacted the fishing industry in many areas including:

- Market collapse. Irish Seafoods main export markets are to China, Spain, United Kingdom and France. Demand for seafood is low. While domestic consumption increase it is not enough to buffer the impact.
- Routes to markets have been severely impacted by reduced freight and increased transport costs. For those that still have a route to market freight costs have increased dramatically and are having a negative impact on profitability. There are concerns about re-opening these markets.
- Food service restrictions impeded the demand for produce and Ireland. Cost of freezer storage, transport and reduced freight have all had a negative impact on supply/demand chain.
- There are also concerns about social isolation. Fishing, for many coastal communities, is integral to the identity and activity in the community. This is now being drastically reduced or in some cases removed.
- Prices are sharply down at the first point of sale but, so far at least, this cut is not being passed down the line which means fishers are finding profit margins even tighter than usual.

- There are concerns about prices when normal fishing resumes due to any backlog of frozen product.
- The Irish COVID-19 Temporary Fleet Tie-up Scheme was launched in June 2020. Its aim is to reduce the volume of seafood entering the market that has been depressed as a result of the COVID-19 pandemic while ensuring an adequate number of vessels continue to fish to maintain a food supply.
- Overall fishing effort and landings decreased in 2020. While some of this decrease may be attributed to reduced TAC and quota it is assumed that this reduction was also due, in part, to COVID-19.

### Markets and Trade (including fish price)

During 2019 average prices remained relatively unchanged for many species. There were some notable exceptions and *Nephrops* (17% of total value of landings) fell from 7.7 euro/kg in 2018 to 6 euro/kg in 2019. Prices for pelagic species have a dramatic effect on the total income given the scale of the pelagic TAC. The average prices indicated from the national authority (SFPA) responsible for landings declarations indicate that the average prices of Atlantic mackerel (18% of total value of landings) was maintained at 0.6 euro/kg between 2016 and 2017 rose to 0.7 euro/kg in 2018 and to 0.9 euro/kg in 2019 which helped offset the reduced income as a result of the decrease in TAC.

### Management instruments and regulation (policy)

Fleet management tools include the sea-fishing boats licensing regime, gear, effort and vessel specific restrictions, as well as three separate decommissioning schemes completed between 2005 and 2008. Fishery management policy is developed through a transparent system that includes a quota management regime agreed with the Producer Organisations and other key stakeholders. Monthly allocation arrangements are designed to be responsive to criteria such as stock availability, remaining quota, market demand and other marketing initiatives.

The strengths of the fleet management system include a strict entry/exit regime that ensures the fleet remains within its prescribed reference levels. It also delivers a practical segmentation of the fleet along traditional fishing line and ensures that monthly vessel catch limits are respected.

### The Landing Obligation

Ireland maintains an active research capacity in the area of fishing gear technology and a variety of studies examining ways to avoid unwanted catches have been undertaken (all funded through the EMFF or the earlier EFF) in an effort to mitigate against negative impacts of the LO.

Economic data collected under the DCF for 2019 do not show any socioeconomic impacts that can be directly attributed to the landing obligation. Specific questions were included in the 2020 survey covering 2019 relating to the landing obligation but the questions were only sporadically answered and direct impacts were not reported. The economic indicators for the Irish fishing fleet show it to be relatively stable with most fleet segments recording both positive gross and a net profit so it is assumed the landing obligation is still not having any significant impact on the Irish fleet.

Ireland commissioned a study to develop a bioeconomic model to assess the impact of the LO in 2020. The model is designed to simulate the activity of the Irish fishing fleet and describe as accurately as possible the interactions between mixed and single fisheries in which they operate. The purpose of the model is to provide robust estimates of the impact (economic, technical and social) of proposed quota changes for stocks of relevance to the Irish fishing fleet. By simulating mixed fisheries, the model will account for the effect of choke species resulting from the implementation of the LO on distinct fleet segments. The model will also be able to incorporate information on gear selectivity trials or avoidance measures to simulate any potential improvement in terms of extending the fishing season of affected fleets. A prototype version of the model was completed for testing in Q4 of 2020. It is planned the model will be fully operational in 2021.

### Status of some key stocks

The Irish Marine Institute's 2020 stock book advises on 74 stocks. There is a higher number of sustainably fished stocks (33) and percentage (45%) in 2019 compared with 2018 stocks. There were 13 fishes stocks that are fished above  $F_{MSY}$  but there is a gradual progress towards a long-term sustainable use of the resource since 2012.

A snapshot analysis conducted by the Marine Institute on Good Environmental Status (GES) of commercial fish and shellfish stocks for all stocks exploited by the Irish fleet. It is based on whether

stocks are fished at or below a rate consistent with maximum sustainable yield and where their SSB is above the level that can produce MSY. The Marine Institute reports the following trends;

- Pelagic Stocks: three stocks (albacore tuna, swordfish and Irish Sea Herring) were found to have achieved GES, five stocks have not achieved GES and the environmental status of six stocks is currently unknown.
- Demersal Stocks: 10 stocks were found to have achieved GES. 18 stocks have not achieved GES and the environmental status of 18 stocks is unknown.
- Demersal Shellfish Stocks: 10 were found to have achieved GES. Four stocks have not achieved GES and the environmental status of eight stocks is unknown.

## Nowcasts for 2020-21 and beyond

It is important to note that the preliminary effort data for the less than 10m fleets were not complete with only partial effort data available for some under 10 metres segments, (FPO and DRB). As such, the results provided should be used with caution.

## Model results and Outlook

Data for 2020/21 demonstrate a decreasing revenue and profitability. While there is an increase in Live weight of landings 2019 to 2020 (5%) there is a decrease in value of -8%.

Data projections for 2020 indicate a deteriorating outcome with decreasing revenue (-9%) to EUR 274 million, GVA (-3%) to EUR 146 million. Gross profit is predicted to increase (3%) to EUR 54 million but with a decreasing net profit (-6%) to EUR 37 million.

Forecasts for 2021 suggest a lower economic performance compared to 2020 driven by decreases in landings weight and value as a result of Brexit and the TCA with all economic indicators decreasing except for gross profit driven by a predicted reduction in energy costs.

## Data issues

### Identify changes in respect to previous years

Values and figures may differ somewhat from those in previous annual economic reports as additional survey returns, received after last year's AER meeting, have improved the precisions of many of the variables and indicators. Equally there may be some segments that have negative estimations which may be an influence

### Improvements achieved within 2019 data collection

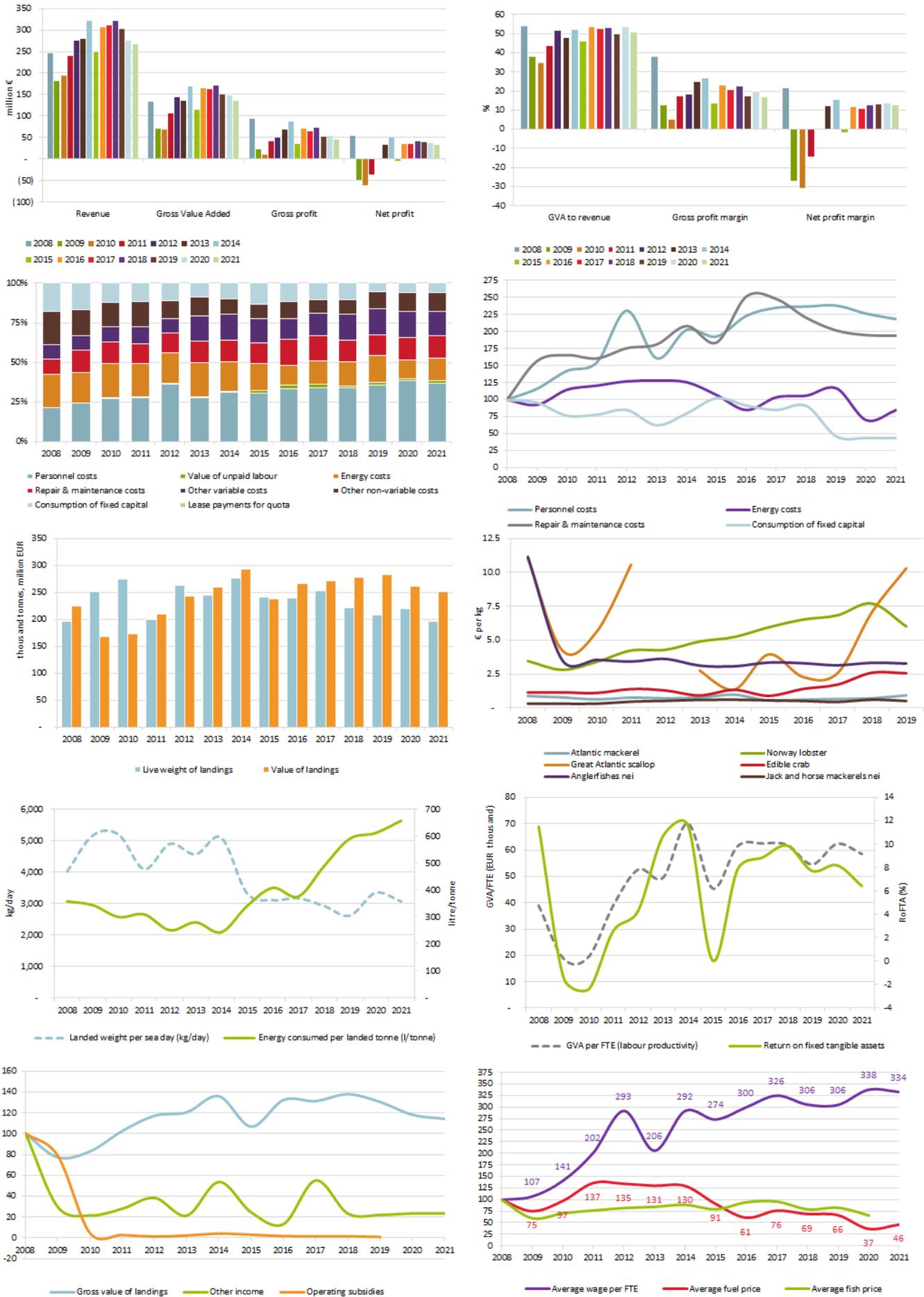
Effort has been made to improve data availability for the data poor SSCF segments. In 2020 all vessels under 10m were contacted to complete an economic survey to augment the usual data collection through a sentinel vessel programme. This resulted in more data for the under 10m segments.

### Remaining issues

For some small segments survey returns are low. In these cases data submission is not possible, or the variables have to be imputed based on known data for similar segmentations. In 2020 data for 2019 was not received from the important TM VL40XX segment. As this is a majorly important segment for the Irish fishing industry this was problematic. Data for 2019 was estimated using 2019 landings data and cost structures for 2018. The failure to comply with the survey is believed to be a direct result of the difficulties the industry are experiencing with COVID-19 and Brexit.

The effort data in the tables and graphs is not complete for some segments less than 10m. Specifically, from 2015 onwards, effort is only reported for less than 10m for the segments DRB and FPO. To report effort for these segments several assumptions had to be made mainly that a sale event for a vessel represents a day of fishing. Effort data for the remaining segments is not possible to estimate given the lack of logbook data for the less than 10m fleet.

The operational division of the fleet into 'small-scale' and 'large-scale' fisheries is not a satisfactory aggregation for the Irish Fleet. The exclusion of active gears from the small-scale fishery definition means that many segments for which there is data, for <10m vessels, are eschewed from this fishing activity and added to the large-scale fishery instead. Therefore, the definition of SSCF defined in this report excludes a large part of the Irish fleet in vessel numbers (around 250) as they are below 12m in length and use active gears and thereby excludes important economic data for the small-scale fishery which instead are added to the large-scale fishery.



**Figure 4.11 Ireland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.12 Italy

### Short description of the national fleet

#### Fleet structure

In 2019, Italian fishing fleet consisted of 12 005 vessels of which 10 874 were active. Fleet capacity decreased in 2019, with a reduction of 6% in the number of vessels compared to the average value 2008-2018. GT and kW have been reduced by 6% and 8%, respectively, over the same period. Inactive vessels represented 9.4% of the total fleet registered in 2019.

Decline in fleet capacity in 2019 was due to reduction of SSCF by 6% in number of vessels, 8% in GT and 10% in kW, compared to 2018.

The Italian fishing fleet is nationally divided into:

- A small-scale coastal fleet (63% of total active vessels, but 8% of the whole gross tonnage).
- A large-scale fleet (37% of total active vessels) which was mainly made up of vessels using active gears, especially demersal trawlers.
- A distant water fleet of eight active vessels: seven trawlers operating in in the Eastern Central Atlantic and one vessel operating as a purse seiner in the Indian Ocean.

In 2020, the number of fishing enterprises amounted to 7 764, with the vast majority (79%) owning a single vessel.

#### Fleet activity and production

In 2019, the fleet spent a total of around 1.245 million days-at-sea. Effort, in DaS, decreased by 19% between 2008 and 2019. In 2019, the average days-at-sea per vessel have been 114, the lowest level since 2008. The reduction in the DTS fleet segments is also linked to the entry into force of the National Management Plans for demersal fisheries and of the EU Multiannual Management Plan for the Western Mediterranean; both plans enforce an effort regime which aims reducing the fishing days for all the fishing areas concerned.

In 2019, the total volume of products landed decreased by 10% compared to the previous year. The deterioration in the productive performance was almost due to the SSCF, which worsened by 15% compared to 2018. The total value of landings slightly decreased by 7%.

European anchovy, common cuttlefish, deep-water rose shrimp, giant red shrimp, European hake and Norway lobster contributed more than a third of total production, both in volume and value.

#### Employment and average salaries

In 2019, Italian fishing sector employed 24 218 fishers, corresponding to 17 124 FTEs. 42% of the total jobs were employed in small-scale fishing operations. The total employment and the FTE decreased by 12% and 18%, respectively between 2008 and 2019, while the GVA per FTE increased by 11%.

### Economic performance results for 2019 and recent trends

#### National fleet performance

The economic performance of the Italian national fleet declined in 2019 and it is expected to worsen in 2020 because of the COVID-19 outbreak. After some years of positive economic performances (in particular over the period 2015-2018), all the economic indicators decreased.

The total amount of income generated by the national fleet in 2019 was EUR 881.0 million. This consisted of EUR 862.2 million landings value and around EUR 18.8 million in non-fishing income. Some vessels, mainly small-scale vessels, are involved in non-fishing activities, like "pescaturismo", in tourism-oriented coastal areas or in supporting the traditional aquaculture and capture fishing activities for the harvest of Philippine clams in coastal lagoons in the North Adriatic regions. Direct income subsidies accounted for less than EUR 3.3 million in 2019; they include the grants to vessel owners for temporary cessation of fishing activities (art.33 of Reg (UE) No 508/2014).

Total income decreased between 2018 and 2019 due to the strong reduction in fishing activity and thus in the landings.

The two major variable costs are labour and energy. In 2019, the costs for labour were EUR 250 million, while energy costs accounted for EUR 175 million. The labour costs decreased (-7% from 2018 to 2019); wages are linked to the total income from landings and showed a reduction of 7%. The energy costs decreased by 15%, as a result of lower effort in terms of days at sea.

In terms of the economic fleet performance, GVA, gross profit, and net profit generated by the national fleet in 2019 were EUR 545 million, EUR 295 million and EUR 138 million, respectively. This corresponded to decreases of 4%, 1% and 3%, compared to 2018.

In 2019, the Italian fleet had an estimated (depreciated) replacement value of EUR 575 million; compared to 2018, the estimated replacement value slightly decreased by 1%.

The negative trend in economic indicators affect mostly the SSCF, while LSF retained a stable trend in all the economic indicators (gross value added and gross profit) with the exception of net profit. The LSF has been characterized by an increasing trend in income and profitability until 2018, while a stagnation in economic performance was registered in 2019.

### Resource productivity and efficiency

The gross profit margin in 2019 was 34.0%, indicating an operating efficiency of the sector. This percentage increased yearly from 2011 (gross profit margin of 28%) till 2017; in the last two years this indicator was stable. Net profit margin was estimated at 17% and the Rate of Return on Fixed Tangible Assets (RoFTA) was at 25%.

Labour productivity (GVA/FTE) increased in 2019: EUR 32 000 per FTE. The reduction in FTE (-14%) has been proportionally greater than the reduction in GVA (-4%).

The Italian fleet become more fuel efficient when compared to the period 2008 to 2018; in 2019, fuel costs as a proportion of revenue, were estimated at 20% (22% in 2018); improvement in fleet performance can largely be attributed to lower fuel prices over the period; fuel prices decreased by an average of 0.71 euro/litre in the period 2008-2014 to an average of 0.54 euro/litre in the period 2005-2019.

Fuel intensity has declined since 2009; in 2019, amounted to 1 729 litres per landed tonne; the reduction is largely due to the decline of the days at sea rather than to an improvement in fuel efficiency.

### Drivers affecting the economic performance

Lower income from landings, which depends mainly on the lower fishing effort, was the main driving force behind the overall deteriorated trend observed. In the period 2008-2019, the number of active vessels reduced by 6%, while the days at sea by 19%.

The landings per unit of effort (LpuE) and fish prices remained rather stable in 2019 compared to 2018.

Fuel costs are the major cost item especially for the trawler fleet; fuel prices were at the lowest level since 2014; this partially compensated the negative trend in income.

### Markets and Trade (including first sale prices)

In 2019, the average price saw a slight decrease (2%); some of the most important target species (anchovy, giant red shrimp, deep-water rose shrimp) showed a positive trend, while average price of European hake and common cuttlefish decreased compared to 2018. Giant red shrimp and Norway lobster were the two species with the highest prices (23.39 euro/kg and 21.25 euro/kg, respectively).

In recent years, there have been many cases of local operators adopting quality brands, quality certification or undertaking direct sales activities in local markets. Nevertheless, the fishing sector is negatively affected by the structural problems related to the small size of the vessels and scarce ability to concentrate and promote production. There were still a highly fragmented sales channels dominated by regional wholesalers and traditional fishmongers with some exceptions in some fishing harbors in Northern Adriatic Sea and fishing techniques (TBB and TM). The role of Producers Organizations in supply concentration and marketing is increasing, especially in DRB and Hook fleet segments.

Regarding foreign trade, Italy is a net importer of fish and seafood; Italy has always been the Member State with the highest level of total seafood expenditure; in 2019, consumption totalled 319 488 tonnes, for a total value of EUR 3.21 billion (EUMOFA, 2020).

## 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 2008 and 2019. The incidence of labour costs on total operational costs increased from 27% to 34%, while the incidence of fuel costs decreased from 31% to 24%.

Average crew wage per FTE was EUR 14 600 in 2019; a slightly increased trend has been observed in the period 2008-2019; the crew share is strongly linked with fishing income and as the latter increased since 2015, the labour costs increased consequently until 2018. On the contrary, in 2019, the increase in the average crew wage per FTE was due to the huge reduction in the FTE.

The average fuel price in 2019 was 0.58 euro/litre; in relation to decrease in efforts, energy consumption declined by 13% and energy cost followed the declining trend of the energy consumption (-15%).

## 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 (FAO, 2020), while 75% of fish stocks remain subject to overfishing, this percentage fell by more than 10% between 2014 and 2018. Exploitation ratios were down by a similar proportion. Considering newly assessed stocks, the number of fish stocks with high relative biomass has doubled since 2018; important examples of improvement amongst priority stocks include European hake, which is displaying signs of recovery in the Mediterranean (FAO, 2020). 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, 2020-09). Biomass is increasing for hake and deep-water rose shrimp in GSA 9, GSA 10 and GSA 11, for red mullet in GSA 9, GSA 17 and GSA 18, for common cuttlefish in GSA 17 and GSA 18, for Norway lobster in GSA 17-18 and for deep-water rose shrimp in GSA 17, GSA 18 and GSA 19.

Three fisheries are 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 3.5%), and recreational fishing (0.5%). A TAC of 4 308 tonnes was set in 2019 (Council Regulation No 2019/124).
- 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; a TAC of 3 512 tonnes was set in 2019 (Council Regulation No 2019/124).
- Small pelagic species in Adriatic Sea: the catch limit for the EU concerning small pelagic species in the Adriatic Sea was set on 2019 (107 065 tonnes of anchovy plus sardine - Council Regulation 2019/124). Except the indication that the catch for Slovenia should not exceed 300 tonnes, the Council did not, however, define the share (quotas) of the total fishing opportunities between Croatia and Italy.

## Management instruments

The demersal fisheries in the western Mediterranean are regulated by the Multiannual Plan established by Regulation (EU) 2019/1022 entered into force on 16 July 2019. Fishing opportunities are expressed as maximum allowable fishing effort. For the first year of implementation of the plan (2020) the maximum allowable fishing effort shall be reduced by 10% compared to the baseline. For the second (2021) to the fifth year (2024) of the implementation of the plan, the maximum allowable fishing effort shall be reduced by a maximum of 30 % during that period.

In addition to the limitation of fishing effort, the WestMed Plan established a closure for trawls operating within six nautical miles from the coast for 3 months each year; in alternative, national administration decided to establish closure areas to protect juveniles of European hake. 10 Fishery Restricted Areas (FRAs) were implemented in the Ligurian and the Tyrrhenian Seas in order to reduce the catch of undersized hake (Ministerial Decree on Identification of areas prohibited for professional fishing pursuant to art. 11, paragraph 2 of Reg. (EU) No. 1022/2019).

Spatial management measures have been implemented in other two fishing areas:

- an area of the Pomo/Jabuka Pit in the Adriatic Sea - an important nursery area for European hake and hosts a resident population of Norway lobster—was closed to the trawl fishery (Ministerial Decree No 466 of 1 June 2017)
- three fisheries restricted areas in the Strait of Sicily (Reg. (UE) 2019/982)

An ad hoc discard plan was implemented for dredgers in Northern Adriatic in 2016 (Ministerial Decree 27 December 2016) and then updated in 2019 (Directorial Decree 9913 of 17/06/2019). The main elements of discard plan for the fisheries targeting Venus clams by hydraulic dredges in the Northern Adriatic Sea are the setting of a new MCRS and provisions for the re-stocking of undersized individuals caught alive. In addition, the plan established a derogation to the LO based on the survivability of Venus clams.

### **Innovation and Development (role of the EMFF)**

In 2019, investments decreased by 6% compared to 2018. The level of investment is very low (an average of 2 thousand euros per vessel in 2019) despite the large part of the fleet would need vessel modernisation (the average age of the vessels is 34 years). Large scale accounts for 70% 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.

To ensure compliance with the landing obligation, EMFF funds foresee measures for fishing fleet related with investments to the fishing gears to improve selectivity and for technical adjustments. Equipment for sifting small pelagic species have been financed by EMFF, in order to reduce the time needed to select the fish on board.

The Covid-19 pandemic has highlighted a number of criticalities affecting the fishing sector, e.g. the inefficiency of the sales system and inadequate logistics. At the same time, the fishers' efforts to deal with the crisis have prompted them to adopt a number of innovative commercial solutions; in some local harbours, new marketing approaches have been experimented: fish basket schemes or digital tools were used to inform directly their customers and to promote and sell their products (Sabatella, 2020).

### **Nowcasts for 2020-2021 and beyond**

#### **Outlook**

In 2020, a deterioration of economic performance is expected with lower Gross Profit and a significant increase in the number of fleet segments with net loss. The negative economic trend is mainly due to the COVID-19. Another important factor that could impact the performances of the Italian fisheries is the reduction in the fishing days for demersal trawlers in Tyrrhenian Sea and Adriatic Sea that was imposed by the entry in force of the new effort regimes. On this negative scenario, a decrease in operational costs may be expected as the fuel price dropped in 2020.

#### **Model results**

Overall, it is expected that 2020 and 2021 will be less profitable than in 2019. However, the forecast still indicates a positive and better outcome in 2020 compared to 2019, as a consequence of the decrease of fuel costs (-10% in 2020 compared to 2019). For 2021, the model forecasts a 8% decrease in gross profit and a 11% decrease in net profit compared to 2020. It is estimated GVA will reach EUR 537 million, gross profit EUR 282 million and net profit EUR 153 million.

#### **Impact of the COVID-19 outbreak**

The fishing sector has significantly been affected by the COVID-19. The lockdown restrictions, the closure of the HORECA sector and the difficulties in adopting the social distancing measures deeply affected the fishing activities. In March 2020, about 70% of vessels remained in port, reflecting deep uncertainty and a widespread difficulty in managing the emergency. After the lockdown imposed between March and June, fishing activities in some areas reverted to the average level of the period, whereas in others the stop lasted longer. Fishers adopted several actions to mitigate the adverse economic effects of the lockdown. Diversification of sales channels and changes in catch composition according to market demand were some of the initiatives adopted during the lockdown.

Financial measures to support fishers and fishing enterprises have been introduced at the national and regional levels. A daily allowance was payable to fishers whose vessels are not working (wages guarantee fund). The allowance was for fishers, including the self-employee and the owner on board. All fishing enterprises will receive financial compensation for days of inactivity due to the pandemic and a one-off contribution in relation to vessel size. Regional measures are also being approved.

### **Economic performance by fishing activity**

## Small-scale coastal fleet

The Italian SSCF with 6 875 active vessels covers almost 63% of active vessels. In 2019, the SSCF production was EUR 145 million accounting for 17% 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 10 248 engaged crew, thus contributing to 42% of the total national employment of the sector. Around half of the engaged crew is unpaid labour, in fact, the vast majority of the employees in the small-scale fishing are the owners themselves with no employees.

In 2019, the SSCF reported the worse economic performance over the last 10 years. In 2019, total activity expressed in sea days decreased by 15%; landings in volume and value substantially decreased (-15% and -14% respectively). These negative trends had an impact on the labour costs that decreased by 23%; the crew-share system, in which the labour cost is a fixed share of the gross profits, is used in the great part of the local fishing harbours to calculate the remuneration for the crew. Most of the fishers are also the owners' vessel and their remuneration is given by the revenue minus the operational costs.

Overall, the SSCF is profitable, generating a profit of EUR 31 million in 2019 but 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 19 000 in 2019 (the national average labour productivity was estimated at EUR 32 000) and the revenue per vessel about EUR 20 000.

## Large-scale fleet

Large-scale fleet segments, with 3 991 active vessels cover almost 37% of active vessels in 2019. As they are usually larger than SSCF vessels. They represent the major part of the active fleet regarding the gross tonnage (85%) and the engine power (75%). 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 (60%), while the pelagic fleet is prevalent in the Northern Adriatic (pelagic trawlers) and in the Tyrrhenian Sea (purse seiners). Employment was stable in 2019 (13 886 jobs); almost 19% of the employed persons were estimated as being unpaid labour (vessel owner's own labour, considered to be self-employed). The LSF decreased by 2% from 2008 to 2019; over the same period, a huge reduction in activity has been reported (-13% fishing days); DTS1218m and DTS1824m 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 recent national and European legal acts.

As a consequence of the effort reduction, both volume of landings and total income decreased by 8% and 6%, respectively compared to 2018. At the same time, energy costs which accounted for 30% of total LSF costs, decreased by 15% and this mitigated the impact of the reduction of income on the main economic performance indicators; GVA remained stable, while Gross Profit increased by 1%.

## Performance results of selected fleet segments

In 2019 the Italian fleet consisted of 23 fleet segments. Based on the net profit margin, seven fleet segments showed high profitability, six a reasonable profitability and ten a weak profitability. Net losses are registered for six segments (TBB1218m, HOK1824m, TBB1824m, PGP1824m, DTS0612m and DTS40XXm in OFR).

Both in terms of number of vessels and production value, the fleet is dominated by polyvalent passive segments, large demersal trawlers and dredgers. The performance of the polyvalent passive vessels is described in the section on the SSCF, which includes the fleet segments PGP0006m and PGP0612m.

## Demersal trawlers 12-18m

This segment included 1 180 active vessels with a total value of landings of EUR 169 million and total employment that corresponds to 3 063 FTEs. Demersal trawlers have multi-species characteristics,

captures numerous fish species, such as: Common cuttlefish, Norway lobster, deep-water rose shrimp, spottail mantis squillid, European squid, European hake, red mullet and horned octopus.

In 2019, this fleet contributed to the national landings in weight and value by 14% and 20%, respectively. Compared to 2018, the value of landings decreased by 28%, mainly because of a huge reduction of fishing activity, the entry in force of new management plans lead the trawlers to reduce their fishing effort.

The fleet segment registered a gross profit of EUR 52 million and a net profit of EUR 35 million.

In 2019, economic performance was lower than in 2018, however, the profitability of this fleet segment remained reasonable.

### Hooks 12-18m

222 vessels made up this segment in 2019 which operates predominantly in GSA 10 (Southern and Central Tyrrhenian Sea) and GSA 19 (Western Ionian Sea). This segment employed 844 jobs equivalent to 652 FTE during the same period. The fleet targets a variety of species; surface long-liners target mainly large pelagic species such as Atlantic bluefin tuna, swordfish and albacore, while bottom long-liners target demersal species such as hake and Atlantic chub mackerel.

The most important target species is the swordfish with a value of landing of EUR 6.8 million and average landed price of about 9.3 EUR/kg, stable in the last 3 years. Swordfishes are sold for domestic consumption and exported in other EU countries, mainly Spain. Mediterranean swordfish is subject to a multiannual recovery plan aimed at rebuilding the stock, adopted by ICCAT. The plan provides for a closure period (from 1 January to 31 March of each year), MCRS and technical characteristics of the fishing gear; a list of authorized vessels is updated every year.

Atlantic bluefin tuna is subject to quota; the value of landings for this species for the HOK1218, was EUR 1.3 million with an average landed price of 6.50 EUR/kg. The greatest part of the landed tuna was exported to Japan.

In 2019, the total value of landings was about EUR 15.4 million. The main expenses are wages and salaries (28%), energy cost (20%) and other variable costs (20%, mainly composed by hook and baits). In 2019, this segment recorded a net profit of EUR 838 361; 2019 profitability was deemed relatively weak with a stable economic trend.

### Dredges 12-18m

608 active vessels made up this segment in 2019 which operates predominantly in GSA 17 (Northern Adriatic Sea). Striped venus (*chamelea gallina*) is the target species accounting for around 90% of landings weight and for 80% of landings value of the segment. This fishing activity is traditionally managed by consortia which are responsible of the management measures (mainly, limitation of fishing days and the establishment of maximum daily fishing quantities). In 2019, the total value of landings was approximately EUR 48.5 million.

In 2019, profitability was estimated at high level thanks to an improvement in all indicators, as for income and GVA which increased by 12% and 8%, respectively. The derogation from minimum size rules (entered into force on 1 January 2017) has made possible to reduce the daily fishing hours with a positive effect on operating costs and, therefore, profitability.

## Data issues

### Identify changes in respect to previous years and improvements achieved within 2019 data collection.

The methodology for the estimation of unpaid employment and the imputed value of it has been improved. Since 2019 additional questions on the type of remuneration of owners working on-board has been added in the survey. The improvement of the methodology of estimation of unpaid labour is in line with the current discussion of STECF and PGECON about the need of improvements in the collection and estimation of social data.

As a result of these changes, estimates may differ from previous reports.

### Remaining issues

All fleet segments with major contribution to the total catches of the Italian fleet have been sampled with satisfactory response rates.

Except for capacity and weight of landings, no data for the OFR purse seiners segment 40 metres or larger could be published due to confidentiality issues (one vessel in 2019).

## References

EUMOFA (2020). The EU fish market, Publications Office of the European Union, Luxembourg, 2020 ISBN 978-92-76-15377-1 I, doi: 10.2771/664425

FAO. 2020. The State of Mediterranean and Black Sea Fisheries 2020. General Fisheries Commission for the Mediterranean. Rome. <https://doi.org/10.4060/cb2429en>

R.F. Sabatella, P. Accadia, M. Cozzolino, D. Pinello, M. Gambino, L. Malvarosa, E.C. Sabatella, 2021 - Impatto socioeconomico sulla piccola pesca dell'emergenza COVID-19 in QUADERNI DI ECONOMIA DEL LAVORO/111 Labour Economics Papers, FrancoAngeli edizioni, ISSN 0390-105X, ISSNe 1971-8470

Scientific, Technical and Economic Committee for Fisheries (STECF) – Stock Assessments: demersal stocks in the western Mediterranean Sea (STECF-20-09). EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27165-9, doi:10.2760/286667, JRC122993

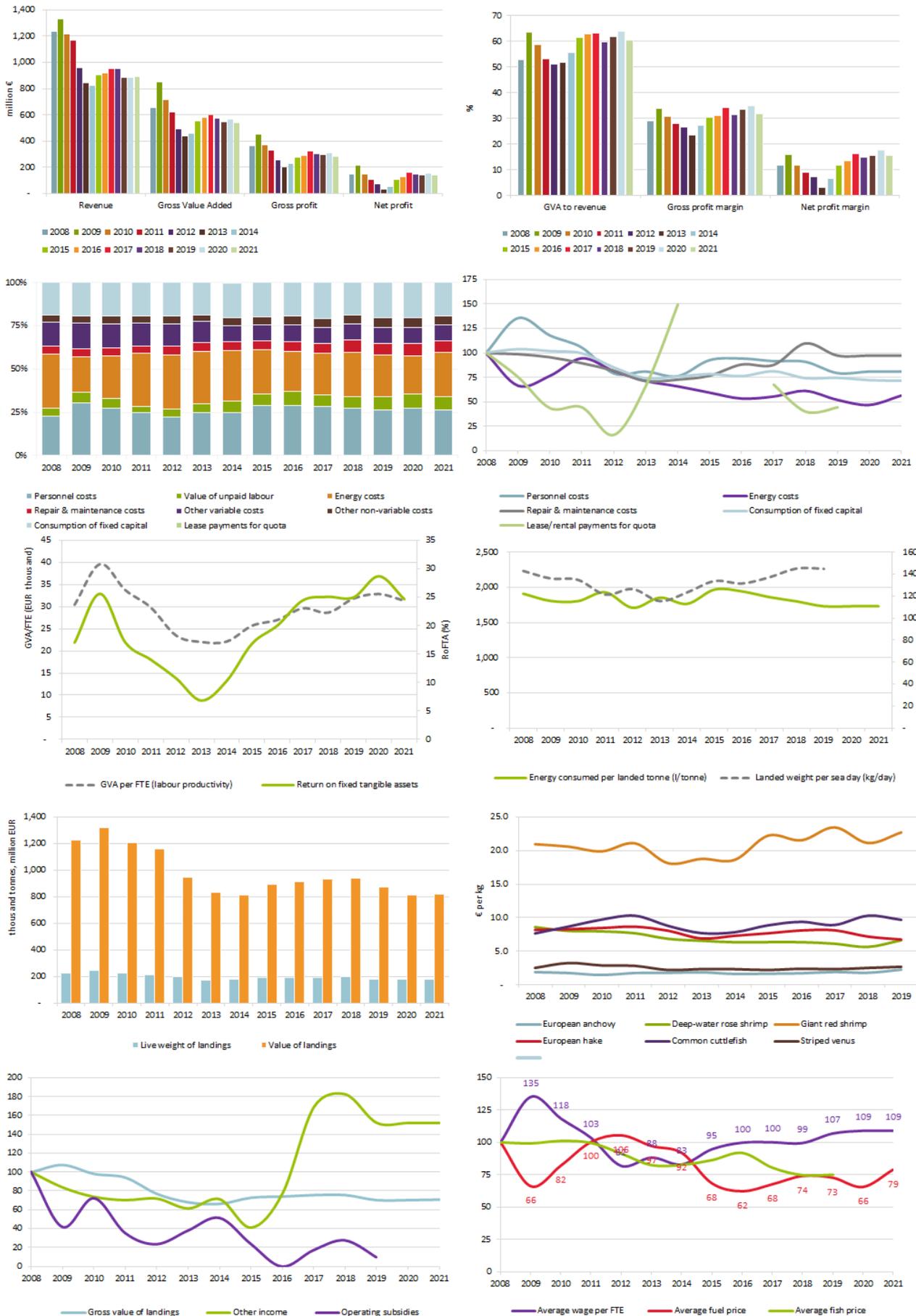


Figure 4.12 Italy: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

Data source: MS data submissions under the DCF 2021 Fleet Economic (MARE/A3/ASC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.13 Latvia

### A short description of the national fleet

#### Fleet capacity

In 2019, the Latvian Baltic Sea fishing fleet consisted of 324 registered vessels including 80 inactive vessels, with a combined 5 988 GT, a total engine power of 18 358 kW and an average age of 35 years. The size of the fleet followed a decreasing trend between 2008 and 2019. The gross tonnage declined by 31% while the total engine power of the fleet declined by 24% during the analysed period from 2008 to 2019. The reason for the changes was related to the vessels scrapping according to the multi-annual management plan aimed at achieving a better balance between fishing capacity and the available resources. The fishing vessels were "reassigned for activities outside fishing (by scrapping or selling)".

#### Fleet structure

The Latvian fleet is divided into several segments by length, fishing gear and operating area: the Baltic Sea fleet (segment trawlers VL2440 m), fleet operating predominantly in the Gulf of Riga (trawlers VL1218 m), the small coastal fleet operating in the coastal zone (segment with polyvalent fishing gears VL0010 m) and a distant water fleet (segment trawlers VL40XX m) operating in the Atlantic NEAFC Barents Sea (FAO fishing area 27) and CECAF Morocco and Mauritania (FAO fishing area 34) areas.

Differences in the number of vessels and in other related variables were observed between 2010 and 2011 when the fleet size decreased by 364 vessels or 53%. The major factor causing the fleet to decrease was the exclusion of a part of small coastal vessels less than 10 metres from the economic analysis. The excluded vessels have licenses and obligation to fill the coastal logbooks but fish only for self-consumption and are not involved in a commercial fishery. The excluded volume corresponds to 4% to gross tonnage and 6% to engine power in Latvian Baltic sea fleet in 2019. The exclusion of recreational vessels does not affect the total engine power of the fishing fleet and gross tonnage.

#### Employment

Fishers in the Baltic Sea vessels are usually local Latvia inhabitants. For the crew on board on distant water vessels there may also be invited residents of the developing countries.

The employment of the Baltic Sea fleet was estimated around 612 jobs; corresponding to 262 FTEs in 2019. The total employment and the FTE decreased by 34% and 36%, respectively between 2008 and 2019 while the GVA per FTE increased by 13%. Compared to other Member States, Latvia has a low wage per fisher. However, the average salary in the fishery sector was 32% higher than the average salary in Latvia in 2019. The average salary per FTE has increased by 41% between 2008 and 2019.

#### Effort

The Baltic fleet spent a total of around 14 686 days-at-sea in 2019 but total number of fishing days calculated for each gear were 15 603. The number of sea days has decrease by 11% and 12%, respectively between 2018 and 2019 while the live weight per sea day increased by 10%. The quantity of fuel consumed per landed tonne has a sharp decrease by 44% mainly connected with the changes in large scale fleet structure and was 42 litres per tonne in 2019. The trawlers VL1218 operating in the Gulf of Riga and trawlers VL2440 operating in the Baltic Sea used 81% and 66% respectively of their capacity in 2019 while the coastal segment VL0010 used only 28% from their gross tonnage in 2019.

#### Production

The total weight landed by the Baltic Sea fleet in 2019 was 69 615 tonnes of fish with a landed value of EUR 16.1 million. The total weight of landings decreased by 1% between 2018 and 2019 while the landed value decreased by 20% during the same period. The changes have occurred due to the slight decrease in average price for the target species. The average first market price for the European sprat has slight decrease by 0.03 euro/kg or 12% while the price for Atlantic herring by 0.02 euro/kg or 8%, respectively from 2018 to 2019. The sharp decrease was observed in the average price for Atlantic cod by 0.43 euro/kg or 27%. The decrease in price has occurs due to the reduction of the demand for fish products at the world market in 2019 and resulted the decline in average fish price.

In 2019, in terms of landings composition, European sprat and Atlantic herring were the most common species landed in weight – 38 711 tonnes and 25 598 tonnes, respectively. The sharp decline for Atlantic cod by 79% in weight and 85% in value, respectively is observed due to the reduction of TAC for Atlantic cod in 2019. The European sprat also achieved the highest landed value EUR 8.6 million for the national fleet followed by Atlantic herring EUR 5.9 million in 2019. European sprat and Atlantic herring accounted for 55% and 38%, respectively of the total landings value in 2019 and contributed to 56% and 37% to the total landed weight, respectively.

## Economic results for 2018 and recent trends

### National fleet performance

The economic performance for the Latvian fleet in 2019 deteriorated compared to 2018. The amount of revenue generated by the Latvian national fleet in 2019 was EUR 17.9 million including EUR 16.1 million of income from fish sales and EUR 1.8 million of non-fishing income. The revenue decreased by 18% compared to 2018.

The total operating costs decreased by 30% between 2018 and 2019, due to the sharp decrease in the items for other non-variable costs by 93%, variable costs by 73% and personal costs by 58%. In its turn, the increase in maintenance costs by 28% was observed in 2019.

In terms of profitability the total amount of GVA, gross profit and net profit generated by the Latvian national fleet in 2019 were around EUR 7.6 million, EUR 3.1 million and EUR 2.7 million, respectively. The GVA and gross profit decreased by 30% and 45%, respectively while net profit decreased by 47% between 2018 and 2019.

Towards the end of 2008 and 2009, the Latvian fishery sector was negatively affected by the global economic crisis which led to significant decrease of the net profit produced in 2009 and 2010. High values of net profit in 2008 were due to the negative values of the opportunity cost of capital (-EUR 5.19 million) caused by the negative real interest rates used to estimate this opportunity cost. The economic efficiency of the fleet started to improve in 2011 and reached the net profit maximum of EUR 6.2 million. However, the net profit declined by 72% between 2011 and 2013 due to the Russian ban for products trade from EU countries. Russian embargo was applied to beef, pork, fruit, vegetables, poultry, cheese, milk products and also fish and fish products, although the embargo list did not include sprat, canned meat and canned fish. The second reason which negatively influenced the fishery between 2015 and 2016 and deteriorated the profitability of the fishing sector was a temporary ban on the import of all fish and fish products from Latvia and Estonia by the Russian food safety authority Rosselkhoznadzor from the 4<sup>th</sup> June 2015. As a result, around 40 enterprises which exported their production to the Russian market suffered in Latvia. Despite the economic crisis and Russian ban which affected severely the profitability of the fishery enterprises, the Baltic Sea fleet in overall remained on the profit-making positions between 2009 and 2019.

### Resource productivity and efficiency indicators

The gross profit margin decreases by 33% in 2019 and was 18% indicating average operating efficiency of the sector. Net profit margin was estimated at 16% in 2019 (decline by 36%) and the share of GVA to revenue 42% (decline by 15%) in the same year. The labour productivity (GVA/FTE) decreased by 23% between 2018 and 2019 while the numbers of FTE decreased by 9%.

The tangible assets (replacement) had low values in 2019 and was around EUR 4.0 million. The major factors were a long service life of vessels (around 35 years) and obsolete equipment. The total assets value was EUR 14.0 million in 2019.

The following RoFTA values are indicated in 2019: 178, -408 and -41 for the segment Baltic Sea trawlers VL2440, trawlers VL1218 operating in the Gulf of Riga and coastal zone segment VL0010, respectively. The RoFTA positive and greater than low risk long term interest rate indicates the profitable fishery in the long-term only for the VL2440 segment.

The potential fleet capacity could be 20–30% higher than the current one for some vessels in segments such as VL1218 and VL2440. If intensity of fishing for some vessels in segments VL1218 and VL2440 increases, these segments could obtain a greater amount of catch and a higher revenue from sales which in turn can facilitate the profit growth. However, the main impact on the productivity of the Latvian fleet is exerted by the available fish stocks for the three target species: sprat, herring and cod.

From 2008 to 2019, the total number of vessels and total engine power decreased by 32% and 24%, respectively while the average engine power per vessel increased by 30%. The number of the fishing

days and days-at-sea per vessel increased by 13% and 12%, respectively between 2008 and 2019. The landings and weight per unit of effort (in days-at-sea) has had a sharp increase by 41% since 2008. The landed weight per vessel also had a sharp increase by 41% between 2008 and 2019 while the landed value per vessel increased by 53% during the same period. A sharp increase is observed in average wage per FTE by 57% between 2008 and 2019. The main factor which caused the increase in profitability of the Baltic Sea fleet was the decommissioning of the vessels from 2008 to 2017 and the increase of fishing intensity per vessel.

## Performance by fishing activity

### Small-scale coastal fleet

The number of the SSCF vessels was stable between 2018 and 2019. The vessels are included in the segment VL0010 m which use polyvalent or passive gears and target at Atlantic salmon, Atlantic cod, European flounder, European eel and other coastal species. The SSCF business is oriented to the local market. The usual fishing trip is less than 24 hours and the weather conditions as cold winters may highly influence the turnover of the segment. The coastal species achieved the highest average price per kilo EUR 1.64. Despite the high prices for coastal species, the amount in the total landing composition had negligible values 5% and 6%, respectively from the total weight and value of landings in 2019 and did not have remarkable influence for total fishing fleet economic performance. The landings weight and value for the SSCF decreased by 24% and 55%, respectively and was around 3 035 tonnes and EUR 1.0 million, respectively in 2019. The SSCF is important for employment in coastal regions which was estimated at 298 jobs, corresponding to 116 FTEs. The GVA and gross profit had a sharp decrease by 83% and 143%, respectively. Due to the sharp decrease in landed volume and value for the SSCF the segment from around half of million profit in 2018 switched to net loss – EUR 0.34 million in 2019.

### Large-scale fleet

The decreasing trend was observed for the LSF operating in the Baltic Sea and the Gulf of Riga. The LSF targets at European sprat, Atlantic herring and Atlantic cod and composed by 48 vessels included in two segments VL2440 and VL1218 metres. The segments contributed 93% to total revenue and 100% to Net profit in 2019. Employment was estimated at 314 jobs in 2019, corresponding to 146 FTEs. The total employment and FTEs decreased by 24% and 28%, respectively over the observed period followed by the decrease in vessel number and capacity by 34% and 24%, respectively. The income from landings decreased by 16% between 2018 and 2019 while the net profit had a sharp decrease during the same period by 35%. An important reason for that was the decrease in average price for target species European sprat and Atlantic herring by 12% and 8%, respectively between 2018 and 2019.

### Distant water fleet

There were four active distant water vessels which made up the segment of vessels over 40m with a combined 11 807 GT, a total engine power of 14 451 kW and an average age of 32 years owned by four Latvian companies in 2019. Two vessels with the average length of 60 metres were based predominantly in NEAFC area targeting beaked redfish and two with an average length of 100 m operated in the CECAF area and targeted Atlantic horse mackerel, Atlantic mackerel, Madeiran sardinella and sardine. In 2019, the main landing ports for these vessels were Cuxhaven, Tromsø, Båtsfjord, Dakhla and Nouadhibou. In 2019 the total weight for the Atlantic catches was 40 931 tonnes of fish with an estimated value of EUR 19.7 million and reported income from landings EUR 20.2 million.

## Performance results of selected fleet segments

The Baltic Sea fleet consisted of three active fleet segments in 2019. A short description for the segments is provided below.

### Pelagic trawl 24-40 metres

37 vessels made up this segment in 2019 and vessels operated predominantly in the Baltic Sea. These vessels target species such as European sprat, Atlantic herring and Atlantic cod. The total value of landings was EUR 12.9 million and around 110 FTEs were employed in the fleet segment in 2019

contributing 80% and 42% to the total income from landings generated and FTEs in the national fleet, respectively. The fleet segment was profitable with a reported gross profit of around EUR 4.5 million and a Net profit of around EUR 4.3 million in 2019.

### **Pelagic trawl 12-18 metres**

11 vessels made up this segment in 2019 and the vessels were operating predominantly in the Gulf of Riga. These vessels targeted at European sprat and Atlantic herring. The total value of landings was EUR 2.1 million and only 36 FTEs were supported in 2019 contributing 13% and 14% of the total income from landings generated and FTEs in the national fleet. The segment has loss in 2019, thus gross profit and net profit in 2019 were estimated at -EUR 1.1 million and -EUR 1.2 million, respectively.

### **Polyvalent or passive gears <10 metres**

196 vessels made up this segment in 2019 and the vessels were operating predominantly in the Baltic Sea and the coastal zone of the Gulf of Riga. These vessels targeted a variety of Atlantic cod, Atlantic salmon, European flounder, European eel, Atlantic herring and other coastal species. The total value of landings was EUR 1.0 million and 116 FTEs were supported in 2019 contributing to 6% and 44% of the total income from landings generated and FTEs in the national fleet, respectively. In case of profitability the segment gross profit and net profit were reported as -EUR 0.254 million gross loss and -EUR 0.340 million net loss in 2019, respectively.

## **Drivers affecting the trends of the economic performance**

### **Operational costs, including fuel prices**

The operational costs for the Latvian fleet in 2019 were EUR 15.2 million amounting to 85% of revenue. Overall, the operational cost structure stayed relatively stable between 2008 and 2019. The sharpest increase by 54% was observed for the repair & maintenance costs between 2018 and 2019. The other positions in operational costs such as energy costs, variable costs and personal costs decreased by 39%, 16% and 14% respectively during the same time period. The item with the largest cost in 2019 was personal costs contributed 27% to the total operational costs. The average fuel price per vessel in 2019 was 0.65 euro/litre, which increased by 9% from 2018 to 2019 while the average landed fish price decreased by 24%.

### **Markets and Trade**

The average price obtained for European sprat decreased by 12% while the Atlantic herring price decreased by 8%, between 2018 and 2019 and the price of the Atlantic cod decrease sharply by 27% during the same period.

The fishery sector in Latvia depends on the economic situation of external markets as well as on the turnover of the fish processing enterprises. The most important buyers of fresh fish are fish processing enterprises in Latvia and in neighbouring countries. The main produced product types are fresh or frozen fish and prepared or canned fish. The total exported value of the production to the EU countries decreased by 18% and was EUR 125.9 million in 2019 while exported volume of the production decreased by 22% or around 1.4 tonnes between 2018 and 2019. The increase in exports to the non-EU countries was observed by 30% or EUR 1.9 million from 2018 to 2019.

The Lithuania ranked in the first place in terms of the total exported Latvian production value (16%), followed by Denmark, Estonia and United Kingdom with the share of 14%, 10% and 8%, respectively in 2019. In terms of total exported Latvian production volume, the Ukraine, Lithuania, Denmark and Estonia were important with the share of 23%, 17%, 9% and 9%, respectively for the same observed period.

### **Management instruments**

The scrapping of seven vessels was implemented according to the "Action plan for 2015-2017 to reach the balance between the Latvian fishing fleet's capacity and the fish resources for fleet segment VL24-40 m netters targeting at Eastern Baltic Cod". The other two vessels which potentially may operate as netters for the economic analysis have been included in the segment trawlers VL2440m. The vessels decommissioning scheme was finalised in 2017. Nevertheless, due to the low stock biomass of cod the ship owners for several vessels in the segment VL2440 oriented to the cod fishery expressed interest in

a new decommissioning scheme in 2020. Therefore, due to bad stock status for cod the 10 vessels from the segment VL2440 with the total 1 150 GT of and 2 881 kW, are going to be scrapped in the nearest future.

The five vessels around 60 metres length for the distant water fleet were retrieved from the Fleet Register in 2019. The main reason was the discontinued fishing of Queen crabs in the Barents Sea in 2017 which was the target species of these vessels. Two vessels around 60 metres length from six vessels in the segment VL40XX were inactive in 2019. The two new vessels enter to the Fleet Register in 2020. One of them around 100 metres length is operating in the CECAF fishing region and the second one around 60 metres length in the NEAFC fishing region.

Due to come into force a new reg. 2020/1579 setting out the fishing opportunities in the Baltic Sea for 2021 and which for the second year in a row also provides a total ban on cod fishing in the eastern Baltic Sea, several measures continued to be applied for the cod fishery limitation. However, EU Regulation 2020/1579 allows a small by-catch of cod which is necessary in order not to endanger fishing opportunities for herring, sprat, flounder and other species in the Baltic Sea. In order to ensure bycatch quota (51 tonnes for Latvia) is not exceeded and does not have to suspend all fishing for Latvia, the Ministry of Agriculture in cooperation with the fishing industry has developed a number of additional fisheries regulation measures. Some of measures provide that commercial fishers fishing on the sea are required to submit data for cod by-catches every ten days from the beginning of the month. In addition to the measures mentioned above, those commercial fishers who fish in the coastal waters of Rucava, Nīca, Grobiņa and Pāvilosta counties and the city of Liepāja must carefully monitor the amount of cod caught as a by-catch in the catch of other species. If the bycatch of cod reaches 10% or more when the gear is removed, the next time the fisher shall deploy the gear no closer than two nautical miles from the location where the by-catch of cod was found or resume fishing at the same location no earlier than 72 hours after fishing operation. Additional requirements also set for fishing of herring and sprat in the Baltic Sea (except the Gulf of Riga) offshore. If the bycatches of cod exceed one percent of the total catch, next time the fishing operation should be made no closer than 10 nautical miles north of the point where the by-catch of cod occurs, or restart fishing activities in that place not earlier than 72 hours after the fishing operation. Taking into consideration that offshore and coastal fishery may have a cod bycatch and if cod by-catch quota (51 tonnes) be fully utilized before the end of 2021 Latvia will have to close all fisheries in the Baltic Sea and the Gulf of Riga in both offshore and in coastal zones.

Latvia has one multilateral agreement for data sampling in CECAF area. Starting in 2012 the sampling of pelagic fishery has been performed on the basis of multi-lateral agreement between Germany, Latvia, Lithuania, the Netherlands and Poland by local observers.

### TACs and quotas

The economic effectiveness of the Latvian fishing fleet is fully dependent on the quota received for the three target species. The fishing quota for the European sprat increase by 6% between 2020 and 2021 and was 30 845 tonnes. The quota for the Atlantic herring in the Gulf of Riga increased by 13% while in the central region of the Baltic Sea decreased by 36% compared to 2020. The fishing quota of the Atlantic herring in the Gulf of Riga and the central region of the Baltic Sea are 21 230 and 2 705 tonnes, respectively in 2021. The fishing quotas for the Atlantic salmon in the Baltic Sea are 12 455 by the number of individual fish. The fishing quota of the Atlantic cod continued been sharply reduced in the Eastern and Western part of the Baltic Sea by 16% and 63%, respectively compared to 2020. The fishing quotas of the Atlantic cod in the Western and Eastern part are 144 and 51 tonnes, respectively. Latvia fulfils the fishing quotas of the sprat and Baltic herring assigned thereto almost completely. The fishing quotas of the salmon are used in a very small-scale. However, the remaining salmon share is used in the international quotas for the exchange for sprat.

### Improvements and Development

For the elaboration of the national Fisheries Policy the Integrated Control and Information System (ICIS) was developed and improved during 2020. ICIS is used for general management of fishing licences, control and enforcement of fishing activities. The database contains information from the vessel electronic logbooks as well as information from the coastal logbooks for the SSCF. The improvements were applied for the ICIS coastal logbooks section in 2020. The changes include the opportunity for the fishers to submit the coastal logbooks to the ICIS database electronically. Development of the ICIS provides better collaboration between Latvian fishing fleet management institutions and improves work of the staff with the data base as well as simplifies the process of data validation and allows to make cross checks and reports automatically.

The new R script was developed in 2020 for the more precise procedure of days-at-sea and fishing days calculation for the coastal fishery. The new approach does not allow to the values for fishing days be higher than the values for days-at-sea. The algorithm is based on the following formulas:

- Day at Sea =  $1/\max\text{Gears}$ ;

Days-at-sea are counted per each boat (one day is divided proportionally between all fishing gear).

- Fishing day =  $1/\max\text{Vessels}$ .

Fishing Days are counted per each fishing gear (one day is divided proportionally among all boats).

## Nowcasts for 2020-21 and beyond

### Model results

Preliminary results for 2020 forecast demonstrate decrease in landed weight and value by a 12% and 12% respectively. Projections suggest operating costs decrease by 13%, most notably personal and energy costs which are estimated to decrease by 10% and 39%. In addition, the slight decrease by 13% in capital costs, fostered further economic performance deterioration in 2020: GVA (-10%), gross profit (-11%) and net profit (-14%).

Results indicate that the Latvian fleet operated at a profit in 2020: with an estimated gross and net profit of EUR 2.8 and EUR 2.4, respectively. The increase of economic developments can be seen in performance indicators GVA to FTE (+6%) estimated at EUR 73 073. However, the gross profit margin (-13%) and net profit margin (-25%) show deterioration in 2020.

Projection suggests that Latvian fleet will keep the profit-making position in 2020. However, the reliable economic data for 2020 will be received by questionnaires in 2021 and results provided in the current tables for 2020 and 2021 should be used with caution.

### Outlook

On March 12 the Latvian government decided to declare a state of emergency until June 9, 2020.

The list of measures proposed by the Latvian government to mitigate the negative impact from COVID-19 to the economic situation in Latvia. In the frame of these measures the following compensations were foreseen:

- compensation for the temporary cessation of fishing activities and aid for storage of fishery products.
- compensation to the aquaculture companies for the reduction in sales in aquaculture.
- compensation to the fish processing companies for the turnover reduction.

The compensation for temporary cessation of fishing activities due to the cod fishery deterioration was received in 2020 by 41 fishing vessels and 139 fishers, including 17 fishing vessels and 64 fishers which also received the compensation connected to COVID-19 restrictions.

Fishers continue to modernize fishing ports and fish landing sites - 15 projects have been implemented so far. As a result of the implementation of 16 projects, both specialized transport and special equipment, technological lines, treatment plants, extension of piers and other works that significantly improve the work of fishers have been purchased. Industry management hopes that there will be more applications in the future to produce competitive products.

## Data issues

### Identify changes in respect to previous years

The estimated values for the costs were used for 2015 and 2019. Restructuring of the costs between segments of the fleet was implemented for 2015 and 2019 in a relative proportion to the value of landings. The main reason for restructuring the costs is the data collected from the companies which own vessels included in different segments. In some of such cases value and volume of landings precisely correspond to the segment but expenditures are attributed to the biggest segment.

### Improvements achieved within 2019 data collection

All transversal data for 2008 to 2019 were obtained from the 'Integrated Control and Information System' for Latvian fisheries. The information system contains the logbook data and technical

parameters of the fishing vessels from the Vessel Register. The data is reported on a monthly basis and covers all members of the Latvian fishing vessel population. All economic variables for 2008 to 2019 were received from the Central Statistical Bureau of Latvia (CSB) after completing the state statistical questionnaire form "1-Fisheries" and other statistical sources of economic information based on the annual balance sheet. Primary economic information from the state statistical questionnaire "1-Fisheries" was received annually from the owners of fishing firms. Economic data covers all the members of population. Despite that economic data collection is based on questionnaire forms, participation of the respondents is obligatory according to the Latvian legislation. The achieved sample rate was 100%.

### **Problems identified**

The observed difference between 2010 and 2011 for the depreciated replacement value was caused by the necessary changes regarding data collection methodology implemented for more reliable data collection in 2010. The first data collected by the new approach was received for 2011. The data for 2008 and 2010 was imputed based on formulas for vessel scrapping. More reliable data for the depreciated replacement value was obtained by the questionnaire for 2011- 2017. For the variables Consumption of fixed capital and Value of physical capital PIM method is applied from 2018.

### **Remaining issues**

The data for the distant water fleet (segment VL40XX) operating in the Atlantic area 27 (NEAFC) and area 34 (CECAF) was collected but have not been submitted to ensure data confidentiality. In requested format, the data should be separated by supra regions and fishing technique. There were three segments which operated in the Atlantic in 2019: VL40XX TBB NEAFC AREA 27 (one vessel), VL40XX FPO NEAFC AREA 27 (one vessel) and VL40XX TM CECAF AREA 34 (two vessels). The economic data cannot be provided for an individual vessel or for the vessels belonging to different companies (three companies in 2019).

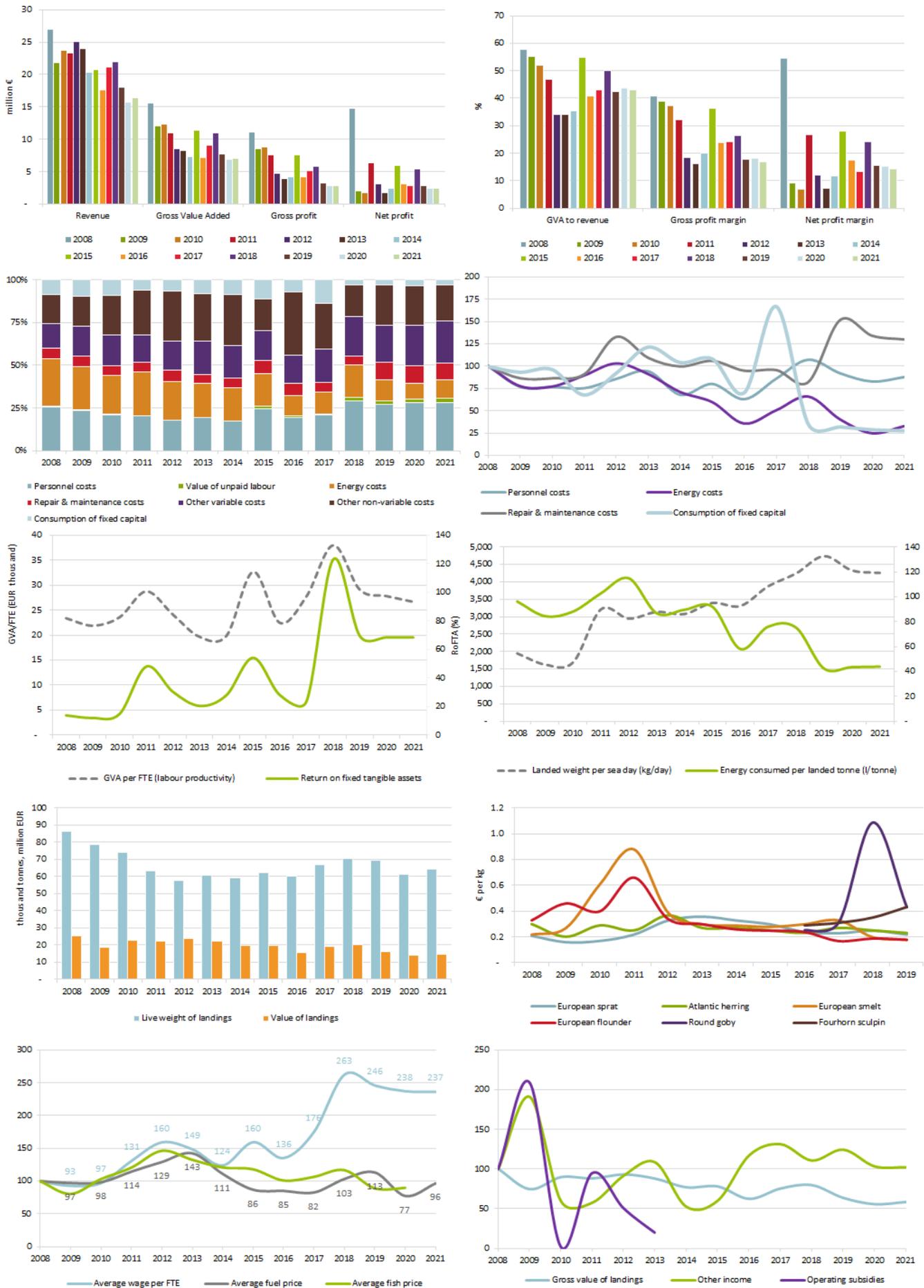


Figure 4.13 Latvia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

## 4.14 Lithuania

### Short description of the national fleet

#### Fleet capacity

In 2019, the Lithuanian fishing fleet consisted of 144 registered vessels a 2% decrease compared to 2018. In 2019 the national fleet used around 60% of the capacity corresponding to 87 active vessels. The total GT in 2019 decreased by 4% compared to 2018. Compared to the 2008-2018 average, total number of vessels and GTs decreased by 16% and 18%, respectively.

#### Fleet structure

Lithuanian fishing fleet consists of SSCF operating in the coastal area of the Baltic Sea (72% of number of active vessels and 1% of total GTs), LSF operating in the Baltic Sea (20% of number of active vessels and 9% of total GTs) and DWF (8% on number of active vessels and 90% of total GTs). SSCF consisted in three segments: coastal vessels under 10 metres length (60 vessels) fishing with passive gears, vessels 10-12 metres (four vessels) operating in coastal area and 24-40 metres netters fishing in Baltic Sea (two vessels). Due to confidentiality, two netters of 24 metres length are clustered with coastal fleet segments. In 2019 LSF was formed by clustered pelagic trawler segment operating in Baltic Sea. It contains 17 active vessels from which 13 had a high fishing effort for pelagic species and four demersal trawlers, due to confidentiality merged with the pelagic segment. These four demersal trawlers also have mixed fisheries, operating with pelagic and demersal gears, depending on the target species, but in 2019 it had a slightly higher effort for demersal species and under normal conditions had to be separated to the demersal trawler segment. DWF was dominant in terms of landings and capacity and consisted in demersal trawlers and/or demersal seiners over 40 metres (three vessels) and pelagic trawlers over 40 metres (four vessels).

#### Employment

In 2019 total number of jobs and FTE increased by 3% and 8%, respectively. However, employment in Lithuanian national fleet presents a decreasing trend since 2008 and in 2019 number of employees and FTE were 25% and 13% lower compared to the 2008-2018 average. However, number of FTE has shown a stabilization since 2016. Major decline was influenced by restructure of the DWF fleet to get adapted to the decreased fishing opportunities roughly from 2015 and in LSF particularly, demersal trawler segment due to the deteriorating Baltic cod fisheries. In 2019 Lithuanian fishing sector employed 473 fishers, corresponding to 396 FTE.

#### Effort

In 2019 national fleet had 7 432 days at sea of fishing effort and compared to 2018 decreased by 23%. Taking into account the long term trend of fishing efforts, number of days at sea in 2019 was 21% lower than in the 2008 to 2018 average, indicating a substantial decline of fishing opportunities mostly in the Baltic Sea. However, DWF in 2019 increased days at sea by 27% after renewal of fishing opportunities in Morocco, which agreement in 2018 was terminated. In 2019 amount of fuel per weight of landings decreased by 25% compare to 2018 indicating improved fuel consumption efficiency. Result was mostly driven by DWF fleet.

#### Production

In 2019 the Lithuanian fishing fleet landed 103 989 tonnes of seafood production, corresponding to EUR 79.9 million value. Compared to 2018, weight and value of landings increased by 48% and 40%, respectively, mainly as a result of the DWF effort. Value of landings increased to the highest level since 2015 and was 3% higher than the 2008-2018 average. DWF fisheries in 2019 covered 78% of the national total weight of landings. The structure of landings in DWF remained unchanged, with the largest share coming from small pelagic species (Pacific chub mackerel, Atlantic horse mackerel and Sardines) accounting for 65.6% (EUR 55.8 million) of the total national fleet landings. Northern prawn generated around 16% (EUR 14.1 million) of the total national value of landings.

Concerning LSF in the Baltic Sea (FAO subarea 27.3.d), weight of landings in 2019 decreased by 7% to 22 350 tonnes generating EUR 3.9 million. The largest share of LSF production value in 2019 was from Baltic sprat, corresponding to 70% (EUR 2.7 million) of the total value from Baltic Sea, followed by

Baltic herring with 31% (EUR 1.2 million). Value of landings of Baltic cod in 2019 dropped by 83% to EUR 112 219 and from 2020 cod fisheries in Baltic Sea were suspended.

In 2019 the SSCF landed 516 tonnes of seafood production, corresponding to EUR 0.52 million and compared to 2018, it decreased by 30% and 27%, respectively. Dominant species in terms of landings value were European smelt which accounted for 68% of the total value of production in the SSCF. Compared to 2018, value of the European smelt remained unchanged. Herring and round goby, together, accounted for 12% of the value of landings in SSCF.

## Economic results for 2019 and recent trends

### National fleet performance

As the economic indicators of the national fleet are strongly dependent on the activity of the DWF, factors that affect the performance of other fleet segments have a minor impact at national level. Around 93% of total national revenues were generated from the DWF in 2019. Total revenue improved by 27% compared to 2018. Taking into account DWF dominance in national fleet, economic performance will be provided separately by each segment and fishing area in further sections of the report.

The total amount of revenues in 2019, generated by the Lithuanian national fleet was EUR 77.7 million and consisted of 96% of fishing income and 4% of other income. GVA generated by the Lithuanian national fleet in 2019 was EUR 17.7 million. Gross profit was EUR 10.6 million in 2019, whereas multiannual 2008-2018 average was EUR 3.7 million. Value of physical capital of the active fleet in 2019 increased by 24% to EUR 111.7 million compared to 2018. In 2019 the national fleet generated EUR 3.4 million net profit.

### Resource productivity and efficiency indicators

In 2019, labour productivity of national fleet increased by 113% to EUR 44 600 per FTE and reached the highest level in the 2008-2019 period. National fleet efficiency indicators are highly dependent on the DWF economic performance and has a volatile pattern as well as huge difference between fisheries. For example, in 2019 DWF fleet increased GVA/FTE to EUR 51 700, LSF Baltic Sea fisheries increased GVA/FTE to EUR 30 400, whereas SSCF decreased to EUR 7 600.

In terms of capital productivity Lithuanian fleet has had negative returns since 2013, due to the low profitability of the DWF fisheries, however, in 2019 ROFTA increased to 1%.

Fishing efficiency in terms of landing weight per days at sea per active vessel (CPUE) in 2019 improved by 100% compared to 2018 and was 39% higher than in the 2008-2018 average.

In 2019 fuel efficiency in terms of landed weight of seafood per litter of fuel consumed, improved by 19% compared to the average of 2014-2018 period.

## Performance by fishing activity

### Small-scale coastal fleet

SSCF consisted of two fleet segments – NAO PG 0-10 and NAO DFN 10-12 which due to confidentiality reasons were clustered with two netters 24-40 m operating in the Baltic Sea. In 2019, SSCF consisted in 63 active vessels, a 5% decrease compared to 2018. Fishing effort declined by 30% to 4 554 days at sea. Compared to the 2008-2018 period, fishing effort was 10% lower. Decline in fishing effort resulted in a 30% drop of weight of landings and 27% down in revenues, compared to 2018. Economic indicators for this fleet are characterized by high annual volatility and they strongly depend on the vessels larger than 12 metres. In 2019, profitability indicators also had a decreasing. In 2019 GVA declined by 36% to EUR 292 000. Decline in fishing effort and profitability was related to the closure of cod fisheries in 2019 and afterwards. Cod is one of the main target species for DFN 10-12 and DFN 24-40 segments and significant decline in cod landings lead them to obtain net losses in 2019. SSCF fleet employed 126 fishers (crew and people on shore, related to fisheries) corresponding to 38 FTE. Compared to 2018 total jobs and FTE decreased by 12% and 17%, respectively.

### Large-scale fleets

In 2019 Lithuanian LSF fleet consisted in one clustered pelagic trawler segment mainly composed from the mixed fishery vessels 24-40 m, predominantly operating with pelagic gears but also having

demersal trawler effort depending on the target species. Due to confidentiality issues, in 2019 four vessels having predominant effort with demersal gears was merged to the pelagic trawler segment.

In 2019 LSF consisted in 17 active vessels with 3 309 GT and 6 964 kW capacity. Compared to 2018, GT and kW decreased by around 6%. In 2019, total number of days at sea decreased by 33%, resulting 7% decline in weight of landings to 22 350 tonnes. Value of landings decreased by 21% to EUR 3.9 million. In 2019, around 97% of landing value in LSF fleet came from pelagic species.

Concerning economic performance, in 2019 LSF generated EUR 1.6 million GVA with 21% decline compared to 2018. Gross profit increased to EUR 0.49 million whereas net profit improved to EUR 0.22 million (including opportunity costs of capital, which in 2019 were negative, therefore, increasing net profitability). Net profit margin was 5%. In 2019 LSF employed 92 fishers corresponding to 52 FTE and compare to 2018, total jobs and FTE declined by 19% and 34%, respectively. In comparison with the 2008-2018 average, 2019 total employment in LSF was 40% lower.

### **Distant water fleet**

In 2019, DWF consisted of seven active vessels corresponding to 32 934 GT and 32 546 kW and compared to 2018 it increased by 9% and 20% respectively. Fishing effort in terms of days at sea increased by 27% whereas fishing days grew by 37%. Lithuanian DWF are predominantly operating in CECAF (FAO area 34) and some vessels have efforts in NAFO and NEAFC. Main target species are small pelagic species, such as Atlantic horse mackerel, Chilean jack mackerel, Pacific chub mackerel and northern prawns. In 2019 weight of landings jumped by 78% following by 47% increase in value of landings. Total operating costs compared to 2018 increased by 12% when revenues improved by 32% leading to better profitability of DWF. GVA increased to EUR 15.8 million and EUR 10.1 million gross profit. Total number of crew members and FTE in 2019 increased by 26% and 27% respectively to 255 employees and 305 FTE. Due to DWF segment specificity, number of FTE is always higher than average number of employees.

### **Performance results of selected fleet segments**

In 2019 national fleet consisted from four main fleet segments, representing four type of fisheries, SSCF (two segments), LSF pelagic trawlers operating in the Baltic Sea and the DWF. From 2019 due to the closure of cod fisheries in Baltic Sea, demersal trawler segment DTS24-40 ceased fishing operations and is not presented in the analysis.

#### **Passive Gears (PG) <10m**

In 2019, 58 active vessels represented NAOPG00-10 segment and it operated entirely in coastal area of Baltic Sea with the passive gears. Segment represents 66% of total active vessels and 0.2 total GT in national fleet. Compared to 2018, capacity in GT decreased by 1.4% and was 8.7% lower than in the 2008-2018 average. The main species for this segment was European smelt corresponding to 68% of total share in value of landings. In 2019 total revenue declined by 11% to EUR 0.52 million, but was 53% higher than the 2008-2018 average. Total operating costs increased by 8% leading to decreased profitability. Net profit dropped by 51% to EUR 0.1 million with 18% of net profit margin. In 2019 the total number of jobs in this segment decreased by 6.8% to 112 employees.

#### **Pelagic Trawlers (TM) 24-40**

In 2019, pelagic trawler segment consisted from 17 active vessels, including four vessels from demersal trawler segment, merged due to confidentiality. This segment represents Baltic LSF and main economic indicators are presented under the section "Performance by fishing activity" under Large-scale fleet section.

#### **Pelagic Trawlers (TM) 40XX, 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.

### **Drivers affecting the economic performance trends**

## Markets and Trade

All Lithuanian fishing fleet segments supply fish production to relatively different markets. DWF, which operates in CECAF, NAFO and SPRFMO all production is landed in foreign ports. In 2019 around 88% of DWF catches, mainly small pelagic species, were landed in West African ports (Mauritania and Morocco). Other important export markets are Norway for northern prawns and other demersal species as well as the Netherlands for pelagic species. DWF do not land production in the national port since 2010, mainly because of insufficient capacity of processing industry for pelagic species in Lithuania. Redfish species are landed in Germany. In 2019 average landing prices for Atlantic horse mackerel declined by 10% to 1.03 euro/kg, whereas price for Pacific chub mackerel increased by 3.6% to 1.33 euro/kg. Average price for Northern prawn decreased by 20% to 3.27 euro/kg.

In 2019 total weight of landings from LSF consisted of 72.6% of sprat (16 225 tonnes), 26.7% Baltic herring (5 963 tonnes), 0.45% of Baltic cod (99.5 tonnes) and 0.25% of European flounder (55 tonnes), the rest are other species. Concerning market for the pelagic species caught in Baltic Sea, 99.8% of sprat and 94% of Baltic herring were exported. The main export market for sprat was Denmark, accounted for 73% of total sprat exports. The biggest market for Baltic herring was also Denmark with 61% of total Baltic herring export. Second largest market for herring was Latvia accounted for 13% of exports. Average price for sprat in comparison to 2018 increased by 9.8%, whereas average herring price slightly declined by 1%.

Baltic cod landings are predominantly sold in national port of Klaipeda, 49% of the total landings. Largest export market for Baltic cod is Poland with 38% of total landings in 2019. Average prices for cod increased by 8% to 1.02 euro/kg, compare to 2018.

SSCF allocates all production into the internal market. Main species as European smelt, turbot and Baltic cod are sold to local markets for direct consumption with insignificant amounts coming for processing. Market situation for fresh European smelt, from which highly depends SSCF's economic performance, remained stable in 2019, value of landings sustained the same as in 2018 at EUR 0.37 million. In 2019, average price of European smelt declined by 4%, mainly due to the record high supply in terms of weight in landings.

## Management instruments (policy)

In 2019 fishing rights to individual transferable quota (ITQ) were allocated to fishing companies, operating in coastal area of Baltic Sea, open Baltic Sea and long-distance fisheries. Duration of fishing rights is for 2020-2034 period. For coastal fleet, fishing rights were allocated to use certain commercial fishing gear in each coastal fishing bar. For Baltic large scale fleet fishing rights were allocated as opportunities to use ITQ during 2020-2034 for sprat, Baltic herring, Baltic cod and salmon.

## TACs and quotas

In the Baltic Sea, Lithuania has quotas for cod, herring, sprat and salmon. From quoted species, landings of sprat and herring are predominant. Cod fisheries during recent years had a remarkable decline in landings after decreased TAC's. In 2019 total cod quota declined by 9% to 1 580 tonnes and in 2020 cod fisheries were closed leaving only bycatch of 202 tonnes. In 2021 cod quota termination is prolonged, leaving 127 tonnes bycatch availability.

After a reaching a peak of Baltic herring quota in 2018 it started to decline till the lowest level since 2014. In 2019 herring quota in Baltic Sea for Lithuanian fleet decreased by 25% to 4 973 tonnes, in 2020 further declined to 4 478 (-10%) tonnes and in 2021 it dropped to 2 848 (-37%) tonnes.

Sprat quota in 2019 increased by 3% to 13 551 tonnes, but then declined by 22% in 2020. In 2021 sprat quota is up by 6% to 11 158 tonnes. As small pelagic species in the Baltic Sea is the main source of income to LSF fleet, such quota development is limiting the growth of the economic performance when additional capacity after closure of cod fisheries was transferred to the pelagic fish resources.

In Mauritania and Morocco, the Lithuanian fleet operates under EU fishery partnership bilateral agreements with third countries and quotas are set for every fishing year. The new agreement with Mauritania came into force at the very end of 2015 and for each year 57 600 tonnes of pelagic species were allocated to Lithuanian vessels. Such size of quota remained in 2021. Agreement with Morocco is valid from mid of 2014 and in 2017 year 20 700 tonnes were allocated. However, in 2018 pelagic quota was not attributed and only 1 600 tonnes left as quota residual resulting in significant decline of landings and effort for DWF. In 2019 quota for small pelagic species in Morocco renewed for 22 000 tonnes – 6% more than was allocated from 2014. In 2020 and 2021 Fishing opportunities in Morocco increased to 23 300 tonnes and 25 866 tonnes respectively.

Quota for small pelagic species in SPRFMO region in 2018 increased by 17% to 6 160 tonnes. In 2019 and 2020 it improved to 6 300 tonnes and 7 300 tonnes, respectively. In 2021 after quota swaps, quota of Chilean jack mackerel was 7 709 tonnes. Overall, for 2019-2021 period fishing opportunities for small pelagic species in CECAF and SPRFMO remains at reasonable level.

### Status of Key Stocks

For Baltic Sea fisheries, key stocks are Baltic cod, Baltic herring and Sprat. Based on the ICES advice for 2019 and 2020 there should be zero catch of eastern Baltic cod in 2020 and 2021, respectively. This advice applies to all catches from the stock in subdivisions 24-32. The poor status of the Eastern Baltic cod is largely driven by biological changes in the stock during the last decades. Growth, condition (weight at length), and size at maturation have substantially declined. These developments indicate that the stock is distressed and is expected to have reduced reproductive potential. Natural mortality has increased, and is estimated to be considerably higher than the fishing mortality in recent years.

ICES advise for sprat in Baltic Sea indicates that when the EU multiannual plan for the Baltic Sea is applied, maximum catches in 2020 are around 25% lower than in 2019, whereas 2020 advice indicates in 2021 maximum catches corresponding to the MSY level are higher by 10% compared to 2020. ICES recommends that a spatial management plan is considered for the fisheries that catch sprat, with the aim to improve the condition of cod stocks. Condition of cod stocks is considered to be limited by food availability.

ICES advise for Baltic herring in subdivisions 25-29 and 32, excluding the Gulf of Riga (central Baltic Sea) indicates that the EU multiannual plan for the Baltic Sea is applied, maximum catches corresponding to MSY level in 2020 were 12% higher than in 2019, whereas in 2021 they remarkably declined by 36% compared to 2020.

### Operational costs (external factors)

In 2019 total operating costs incurred by Lithuanian fleet were EUR 67.15 million and compared to 2018 it increased by 9%, whereas fishing effort and revenues increased by 23% and 27%, respectively. Energy costs accounted for the 21% of total operating cost, other variable cost for 25%. Compared to 2018, energy product prices decreased by 9%. Recently recorded rise in labour costs, during 2019 decreased by 18% in terms of personnel costs per FTE. The downtrend of energy cost and expenditures on wages had a positive impact on profitability indicators and fleet economic performance. Variable costs in 2019 increased in line with fishing effort by 24% compared to 2018. The most remarkable increase in 2019 operational costs was observed in the group of non-variable costs. Compared to 2018 it surged by 39% and was accounted for 33% of total operational costs. Group of non-variable costs due to confidentiality issues includes cost of quota and fishing right, which occurs periodically and overstate non-variable costs, mainly in long distance fisheries, where purchases of quotas and other fishing rights are considerably high in the total cost structure. Another noticeable recent trend concerning non-variable cost group is a significantly increase of expenditures as vessel lease. According to national legislation, quotas and fishing rights are allocated to companies, not individual vessels. Therefore, the increase of vessel lease in the companies which hold fishing rights, but do not own vessels have been recently observed.

Operating cost structure is specific for each type of fisheries. For example, in 2019 for the LSF non-variable costs (including fishing right costs) and personnel costs took the largest share in operational cost structure with 30% and 26%, respectively. In 2019 energy costs contributed by 23% in the total operation cost structure. Increase in non-variable costs by 40% was due to the growth of vessel lease expenditures and costs on fishing rights.

In SSCF fleet largest share of operational costs was for wages and salaries – 49%, following by non-variable costs (including fishing right costs) – 26% and energy costs of 10% in total share. Compared to 2018, SSCF personnel costs decreased by 22%. Total energy costs in 2019 declined by 44%, mostly due to the decline in fuel price and 30% lower fishing effort.

In 2019 other non-variable costs including expenditures on quota and other fishing rights were predominant in total operating costs with 33% of total share. Other variable costs and energy costs contributed by 26% and 21% to total share, respectively. In 2019 total operating costs in DWF increased by 11.6%, whereas fishing effort increased by 27%, showing better cost efficiency in the DWF compare to 2018.

## Socioeconomic impact

During recent years, wages in Lithuanian fisheries have had a tendency to increase following the overall industry trends. However, development of wages in fishery sector was mixed. For example, in 2019, DWF salaries decreased by 25% to EUR 18 670 per FTE per year. Significant decline of wages in this segment was more related to the bad economic performance in previous years, when this segment was operating with net losses. LSF operating in Baltic sea paid 3% higher salaries in 2019 reaching EUR 20 956 per FTE and year. In the SSCF segments, compared to the national fleet, wages were significantly lower than in the DWF and LSF segments. NAO PG 00-10 in 2019 had annual salaries around 6 406 euro/FTE a 9% increase compared to 2018, whereas segment NAO DFN10-12 decreased wages by 10% to 10 144 euro/FTE per year. For comparison, in 2019 the average annual gross salary in Lithuania was EUR 15 552, a 41% annual increase compared to 2018. Furthermore, in 2020, annual gross salary further increased by 10% to EUR 17 052.

## Nowcasts for 2019-20 and beyond

### Model results

#### Outlook

In 2020 national fleet resulted in 88 000 tonnes of landed seafood production corresponding to value of EUR 62 million with 16% and 22% increase compare to 2019 respectively. Fishing effort in days at sea declined by 12% in 2020. Due to the Baltic cod management policy, landings for eastern Baltic cod in 2020-2021 remained closed, resulting in considerable losses for demersal trawlers. Considerable decline of quota of Baltic herring in Baltic Sea for 2020-2021 period will have a negative impact on revenues for pelagic fleet. According to the nowcast model estimates, pelagic fleet, operating in Baltic Sea in 2020 decreased value of landings by 4% and further declined by 8% in 2021. In 2020 decline of fuel price despite the decreased income is expected to increase GVA. Based on the nowcast estimates, LSF pelagic fleet from Baltic Sea will generate around EUR 1.8 million GVA in 2020 (17% increase), but down by 23% in 2021 to EUR 1.4 million. Employment in LSF pelagic fleet will decrease by 6% in 2020 and 8% in 2021 to 49 FTE and 45 FTE, respectively. Economic performance of SSCF fleet is expected to decline further as fishing opportunities in Baltic Sea and coastal area remains uncertain and has declining trend whereas fixed costs will have a pressure on profitability together with increasing energy and other related variable costs from 2020 onwards. According to the estimates, in 2020 SSCF main segment NAO PG 0010 is expected to generate 20% lower revenues compare to 2019 and further decline by 3% in 2021. GVA is foreseen to decline by 26% in 2020 to EUR 253 000 and by 11% in 2021 to EUR 225 000. Employment in SSCF is expected to decrease by 18% in 2020 and stabilize in 2021. Based on preliminary DWF results, GVA and gross profit in 2020 is expected to increase to EUR 19 million (12%) and EUR 13 million (20%), respectively.

### COVID-19

During pandemic COVID19 crisis The Lithuanian government initially declared quarantine from 16 March to 30 March of 2020. Lockdown due to the quarantine affected all economic sectors including fisheries. However, decline of landings in 2020 and decreased profitability for large scale fleet operating in the Baltic Sea and its coastal area was related not only to COVID-19, but with larger part from the sharp decline of fishing opportunities for sprat and herring in Baltic Sea and closure of cod fisheries. Small scale fleet was more affected by COVID-19 as closure of local markets and the restriction of the movement of buyers had a strong impact on the sales of products of local fishers. Although the sale of food products was not banned by measures of pandemic control, the closure of local markets significantly reduced access for buyers to marketed seafood products. Later on, when the movement between municipalities was restricted, the sales of products in smaller settlements were affected by the lack of passing buyers, tourists. Excluding the effect of cod fisheries closure in 2020, SSCF had a decline in revenues by 23% compare to 2019. In 2020 long distance fleet decreased value of landings by around 20% compared to 2019 taking into account that fishing opportunities for DWF was in good status.

## Data issues

### Improvements achieved within 2018 data collection

In 2019, variable "value of quota and other fishing rights", was estimated according to the established

and tested applicable methodology. For estimation of variable modified Discounted Cash Flow method was used, using LAFPMIS, FDIS, Fleet register and other data sources. New methodology is prepared in accordance with PGECON 2019 Recommendations 1.1 and 1.4 as well as conclusions on TOR 4 from PGECON WS on Capital value estimations (Salerno, 2019).

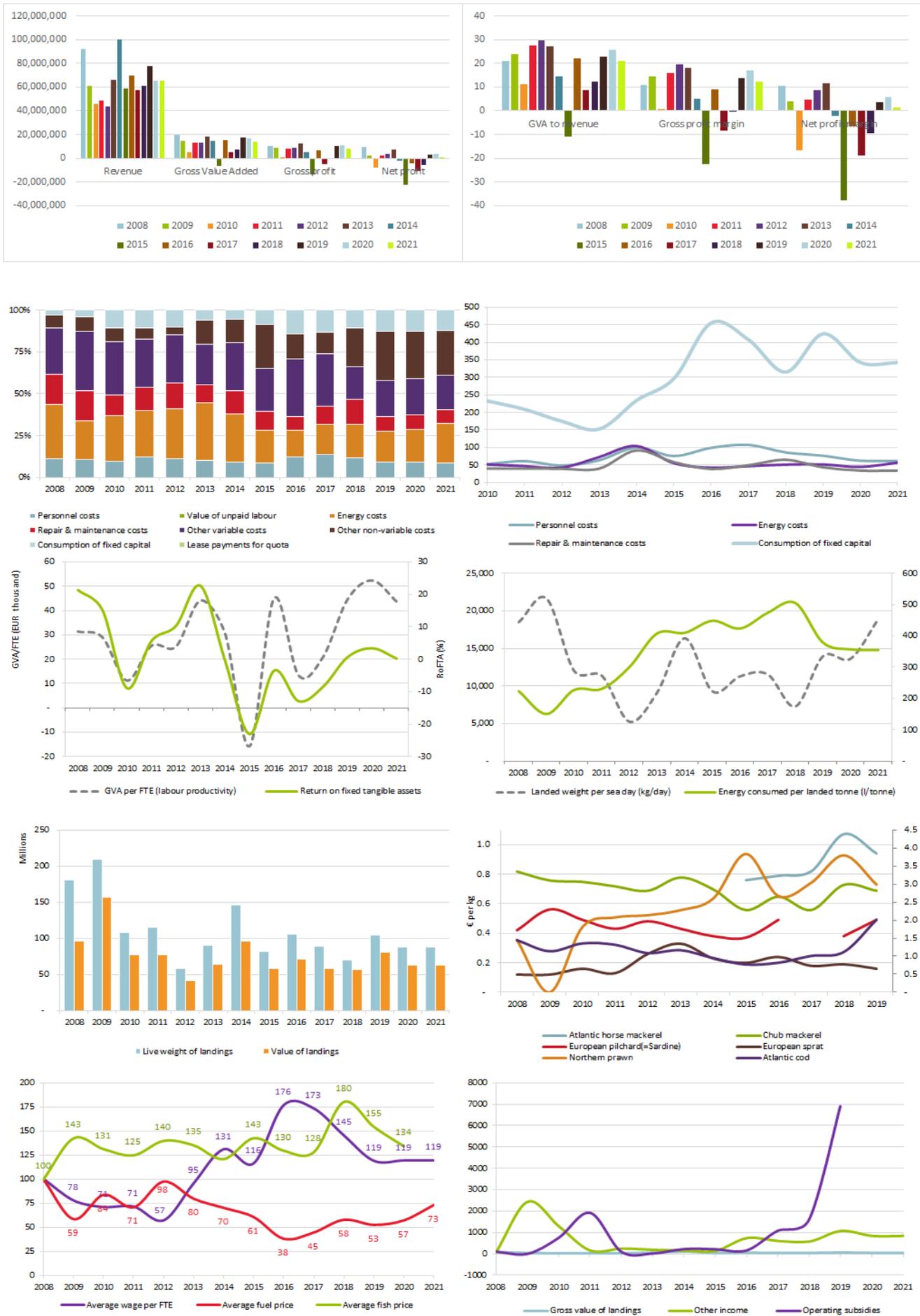
### **Problems identified**

No problems were identified.

### **Remaining issues**

Under DCF, revenues from landings reported from two distinct data sources (total value of landings as transversal variable and total income from landings as economic indicator). In Lithuania, income from landings together with other socio-economic indicators, such as expenditure, employment and capital value are collected through census with a one-year lag whereas transversal variables are collected one year prior to economic data.

Depreciation costs of capital and capital value at Member State level is recalculated for the total data set 2008-2017 after PIM method was revised and updated, whereas at fleet segment level data for capital depreciation costs and capital value from 2008 to 2016 left unchanged. The reason to leave previous data is because historic data were used for the fleet management with respectively addressed management measures.



**Figure 4.14 Lithuania: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.15 Malta

### Short description of the national fleet

#### Fleet Structure

The Maltese fishing sector is relatively small and is comprised mostly of typical Mediterranean artisanal fisheries. 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. The vast majority of the Maltese active fishing fleet is composed of SSCF vessels with an engine power of 37 234 kW and a combined 1 446 GT.

The total number of fishing enterprises in the Maltese fleet was 714 in 2020, 5.9% less than in 2019 (759 enterprises). The majority of fishing enterprises in 2020, 81.6% owned single vessels, 18.1% of enterprises owned two to five fishing vessels while only 0.3% of the fishing enterprises owned six or more fishing vessels.

During 2020, the Maltese fishing fleet consisted of 900 registered vessels, 288 of which were inactive, having a combined 6 468 GT, engine power of 72 140 kW and an average age of 31 years. Out of the vessel power and tonnage registered in the fleet, 34% (2 194 GT) and 30% (21 706 Kw) pertained to the inactive vessels. The vast majority of the inactive vessels are below 12 metres. In 2020, the number of vessels in the fleet decreased by 12 from 2019, furthermore the number of inactive vessels increased implying that the number of active fishing operations in the sector has decreased compared to the previous year. In fact, in 2020 612 vessels were active compared to the 681 recorded in 2019. The Maltese Fishing Vessel Register (FVR) did not open for new registrations during 2020, though registrations were accepted for recreational vessels. Furthermore, due to a storm in February 2019, a number of vessels were severely damaged, meaning that the fluctuations in total vessels could probably derive from vessel replacement and/or vessels still onshore being repaired.

The declining trend in the Maltese fishing fleet's overall capacity continue, with the number of vessels in 2020 being 14% less than 2008 to 2019 average; the fishing capacity, in terms of GT and kW has also been showing the same trend, being 6% and 1% respectively lower

The overall capacity of the Maltese fishing fleet has been showing a declining trend since 2008, with the number of vessels in 2019 being 14% less than the 2008 and 2018 average; the fishing capacity, in terms of GT and kW has also been showing the same trend, being 21% and 7% respectively lower, for the same comparison.

#### Fishing Activity and Production

The Maltese fleet spent a total of around 19 776 days-at-sea in 2020, 17 700 of which were fishing days. The total number of days-at-sea increased by 5.5% between 2019 and 2020, whereas fishing days increased by 5.9% over the same period. Since 2008 the total number of DaS has decreased by 41%.

The quantity of fuel consumed in 2019 totalled around 3.5 million litres. Considering that in 2019, the number of active vessels, days-at-sea and number of trips decreased by 6%, 18% and 23% respectively from 2018, fuel consumption would be expected to follow a similar flow, in fact over the same period fuel consumption decreased by 8%. Energy costs did not significantly change between 2018 and 2019, primarily due to the fact that fuel price has increased by 10% over this period.

The total weight landed by the Maltese fleet in 2019 was 2 400 tonnes, with a landed value of EUR 12.1 million, a 10% decrease on 2018. The average weight of landings per vessel has also decreased (5%) during the period analysed.

Provisional data for 2020 is showing that the total weight landed by the Maltese fleet was around 2.1 million kilos, with a landed value of around EUR 9.6 million. This means an 12% and 21% decrease in landings weight and value respectively on 2019. This landings data, both in terms of value and weight is 20% and 14% below the 2008-2019 average.

The main exploited species include swordfish, common dolphinfish, Atlantic bluefin tuna, mackerel, silver scabbardfish, a number of demersal and small pelagic species, and a number of additional species some of which although caught in smaller quantities, have a high commercial value such as the giant red shrimps and red scorpion fish.

In 2019 the real landed prices of key species such as swordfish, Atlantic bluefin tuna, and common dolphinfish saw decreases over 2018, by 7%, 23%, and 29% respectively. On the other hand, key species such as giant red shrimp, silver scabbardfish, red scorpionfish, red porgy, and surmullet all recorded increases by 10%, 14%, 2%, 4%, and 10% respectively.

In 2019, Swordfish produced the highest landed real value (EUR 3.2 million), followed by Atlantic bluefin tuna (EUR 2.3 million), Common Dolphinfish (EUR 1.4 million), and Giant red shrimp (EUR 0.9 million). From 2018, these species' real landed value fluctuated by approximately 23%, -15%, -30%, and 52%, respectively, which is expected given the fluctuation in their respective real landed prices and landed weight. These aforementioned species contribute to 64% of the total value of landings for the fleet. In terms of landings weight for these species, swordfish landings amounted to 407 tonnes, Atlantic bluefin tuna to 336 tonnes, common dolphinfish to 414 tonnes, and giant red shrimp to 41 tonnes. Compared to 2018, these species recorded 32%, 10%, -2%, and 38% changes in the live weight of landings.

Throughout 2019, the most valued species (based on the average real landed price per kilo) were; blue and red shrimp (29.25 euro/kg), giant red shrimp (22.63 euro/kg), Red Porgy (17.22 euro/kg), John Dory (15.64 euro/kg), and Axillary Seabream (14.84 euro/kg). Giant red shrimp, red porgy, red scorpionfish, surmullet, common octopus, and swordfish attained the highest prices amongst top species landed by the Maltese fishing fleet.

## Employment

Employment in 2019 has decreased by 9% over 2018, from 1 144 to 1 039. The FTE of the industry is that of 564 or 0.83 per vessel. 73% of the total jobs were employed in small-scale fishing, implying this sector's fundamental importance to the social and economic environment of the Maltese Fishing Fleet. It is important to note that the decrease in total employment within the industry derived from the SSCF, as it recorded a 16% decrease over 2018, from 902 to 762. This being the lowest number of employment since 2011. On the other hand employment has increased in the LSF from 242 to 277, a 14% increase.

Data shows that the average wage across all wage indicators (including per vessel, per FTE etc.) decreased over 2018.

## Economic results for 2019 and recent trends

### National fleet performance

The Maltese national fleet in 2019 continued improving on the positive turnaround registered in 2018. Net profit amounted to EUR 2.2 million, a 328% increase from 2018. This positive result was driven by the fact that total costs decreased by 14% from 2018 whilst total income remained relatively constant.

The total amount of income generated by the Maltese national fleet in 2019 was EUR 15.3 million, a 1.4% decrease from the previous year. This change derived from a 10% decrease in the total landing income (EUR 12.2 million) and a 22% increase in other income (EUR 1.2 million). When adding also the income generated in the sector, from leasing out fishing rights (EUR 1.84 million) and the income received from operating subsidies (EUR 0.1 million), total income amounts to EUR 15.3 million.

The operating costs in 2018 amounted to EUR 9.9 million. In terms of total costs, Crew costs, energy costs and repair & maintenance costs were the three major expenditure items (EUR 4.2 million, EUR 2.3 million, and EUR 1.8 million, respectively). However, EUR 1.8 million of crew costs were estimated for unpaid labour which remained in the hands of the fishers as working capital. Between 2018 and 2019, operating costs decreased by 14% as labour, capital, and other variable costs showed significant deductions whilst non-variable, and repair & maintenance expenditure increased. Energy costs remained quite stable as it only increased by 0.4%. Due to the decrease in costs incurred, in particular significant changes in key operating costs, gross profit increased by 34% (EUR 3.5 million) from 2018.

Economic performance indicators such as gross profit and net profit continued to improve over 2018. The total amount of GVA, was estimated at EUR 7.6 million. Between 2018 and 2019, the GVA of the industry decreased by 10%. This indicates that the economic situation of the Maltese fishing fleet has slightly declined when compared to the positive turn around recorded in 2018, still such figures are 55% better when compared to the 2008-2018 average.

In 2019, the Maltese fishing fleet had an estimated (depreciated) replacement value of EUR 26.1 million and invested EUR 1.6 million in capital, a 69% increase compared to 2018. Investment increased both in the SSCF (10%) and the LSF (160%).

## Resource productivity and efficiency

In 2019, the Maltese fleet had a gross profit margin was 26%, implying further improvement in the operating efficiency levels for the sector from the 18% recorded in the previous year. This is also observed in the net profit margin for 2019 (17%) which increased by 362% over 2018 (4%).

The RoFTA was 8%, in 2019, an improvement (477%) when compared to the previous year. Labour productivity (GVA/FTE) has decreased by 5% between 2018 and 2019, which is still 93% better than the indicator result over the last 11 years. This decrease in labour productivity is driven from the fact that both GVA and FTE decreased in 2019.

Fuel consumption per landed tonne has followed an overall decreasing trend since 2008. In 2019, it is estimated at an average of 1 411 litres per tonne landed. This is a standard consumption for a typical fishing vessel in the Mediterranean. Fuel efficiency has increased to 19% from 17% in 2018.

Landings in weight per unit of effort (in days-at-sea) followed an increasing trend since 2008. In 2019, this indicator reported an increase (8%) to 129kg per sea day. It is important to note that both days-at-sea and live weight of landings' rate of change decreased, from 2018. This may imply that between the 2018 and 2019 the Maltese fishing fleet operation continued improving its efficient.

## Drivers affecting the economic performance trends

Between 2018 and 2019, there was an 11% decrease in the weight of landings and Fluctuations, both positive and negative, in key species landed have overall decreased total landings income by 10%. Expenditure amongst the fleet has decreased by 14%, mainly due to significant decreases in labour costs, other variable costs, and depreciation. The improved efficiency and the reduction in costs, both variable and fixed, have been clearly the main driving source behind the improvement in the economic performance between 2018 and 2019. Although overall the fleet showed a turnaround in its performance, some segments have still showed signs of weak profitability and even deterioration in their economic trend. Positive profitability positions are present only in the large-scale fishery, profitability in SCF is still weak, although it continued improving over the positive signs showed in 2018.

## Markets and Trade (including fish price)

Fishing in Malta is mainly a traditional artisanal activity which operates on a small-scale. The majority of the fish landed is sold in the local market. In recent years, the status of the fish stock may have potentially reduced, consequently leading to responses and fluctuations in the prices for some of the key species. In 2018 Malta consumed approximately 86 kg per capita, the largest domestic market for seafood per capita in the EU. EUMOFA (2020) states that the significant per capita consumption growth from 2017 to 2018 was largely driven by increased imports. 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. EUMOFA's remark with respect to imports should also be considered an important factor, as obviously imports can hinder the local fishing operations.

Blue and red shrimp (ARA), giant red shrimp (ARS), red porgy (RPG), red scorpionfish (RSE), European Squid (SQR), Mottled Grouper (MKU) and surmullet (MUR) attained the highest prices amongst all species landed by the Maltese fishing fleet. This is due to the fact that these species are characterised by a high demand both locally and abroad. In the latter case the main export markets for giant red shrimp is in Europe while Japan is the main export market for Atlantic bluefin tuna.

## Management instruments and regulation (policy)

Currently there are three management plans in place within the 25nM FMZ. These were developed in line with Article 19 of Council Regulation 1967/2006 and include: lampara purse seine fishery, bottom otter trawler fishery and lampuki FAD fisheries. The main objectives of management plans are to ensure the sustainability of stocks through better monitoring and to ensure financial stability for fishers.

Lampara fishery targets mainly small pelagic species, including chub mackerel (*Scomber japonicus*) and round sardinella (*Sardinella aurita*). The objectives of the lampara fishery management plan are to ensure that stocks are fished at sustainable levels, ensuring financial stability for fishers and safeguarding artisanal fishing activity. Following this management plan, the lampara vessel activities are monitored by a tracking system and catch logbooks and the fishing capacity in terms of GT and

dimensions of the gear is frozen. In addition, the lampara management plans established that an implementation of a 20% reduction, in line with the precautionary approach, on the current lampara capacity in terms of number of vessels is to be carried out until the end of 2015. This action was then extended up until 2017.

The bottom otter trawl fishery main targets are shared stocks including red shrimps (*Aristaeomorpha foliacea*), red mullets (*Mullus* spp.) and deep water rose shrimp (*Parapenaeus longirostris*). The status of the latter stock together with that of European hake (*Merluccius merluccius*) is monitored annually at a regional level. The statuses of both stocks are in overexploitation. This management plan target to aid in the recovery of the stocks whilst at the same time ensuring economic returns and financial stability of fishers. The plan implemented a 20% capacity reduction, together with a temporal reduction in effort of 10%, via a one month cessation (closed season), up until the end of 2017.

The lampuki fish aggregating device (FAD) fishery targets juvenile species of *Coryphaena hippurus*. Lampuki is a highly migratory species and stocks are shared between diverse Mediterranean countries. The management plan for this fishery affects Maltese fishing fleet licensed to fish for the lampuki using FADs inside and outside the 25nM FMZ. The number of fishing vessels authorised to fish in the FAD fishery are frozen at 130 vessels. Following this management plan, the activities of all these vessels are monitored by means of tracking system and catch logbook. Moreover, the management plan stated that the Department of Fisheries and Aquaculture will continue to enhance data collection and research on the stock. This policy tool is expected to be reviewed in 2018.

The multiannual management plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSA12 to 16) targets:

- Exploitation at MSY for the species in discussion by 2020;
- protection of nursery areas and essential fish habitats important for the stocks of species in discussion in the strait of Sicily;
- gradual elimination of discards, by avoiding and reducing unwanted catches and ensuring that catches are landed;
- implementation of measures to adjust fishing capacity of fleets to levels of fishing mortalities consistent with the MSY, whilst maintaining economic sustainability of fleets without overexploiting marine biological resources.

The plan establishes that up until three years; target fishing mortality rates to be achieved and maintained by 2020 and onwards, fisheries restricted areas in three areas of the Strait of Sicily, temporary cessation of fishing effort, that the contracting and co-operating non-contracting parties (CPCs) are to implement monitoring and management procedures, that CPCs have to establish designated ports in which landings of European hake and deep-water rose shrimp from the Strait of Sicily may take place and implement an observation and inspection programme to ensure compliance with the measures in the management plan. The plan also states that the CPCs are to carry out scientific monitoring, and ongoing adaptation and revision of the plan.

## Stock status

The status of some of the fish stocks in the Mediterranean are overexploited with 90% of the fish stocks being overfished.  $F$  and  $F_{MSY}$  or  $F_{0.1}$  are unavailable for most of the fish stocks for Malta. In 2021, the joint stock assessments for European hake and deep-water pink shrimp in GSAs 12-16 were updated by Maltese, Tunisian and Italian scientists, combining data collected throughout the Central Mediterranean. The stock assessments were conducted under the auspices of the MedSudMed project, and were finalised at the 2021 GFCM demersal working group. The assessments showed that hake was in overexploitation and overexploited, and the deep water rose shrimp was considered in intermediate overfishing status and relative intermediate biomass

One of the main problems of the economic performance of the Maltese national fleet is the status of fish stocks in the Mediterranean that have been declining for many years.

## TACs and quotas

The bluefin tuna fishery in Malta has been managed under an IQ system. In 2009, the transferability of quotas was allowed and the system changed from IQ to ITQ. In 2015, for the first time since the establishment of the bluefin tuna recovery plan in 2006, there was an increase in the quota, as the EU is allowed to fish over 9 372 tonnes. The annual increase in quota of 20% over three years (2015-2017) is due to the progressive recovery of the stock, as demonstrated by scientific evidence. As a result, Malta has benefitted and obtained an increase in the TACs of bluefin tuna.

In 2019, bluefin tuna represented the fourth most landed species for Maltese fleets in terms of landings (336 tonnes in 2019), just after swordfish and common dolphinfish, and the second most important

species in terms of income generated from landings (EUR 2.3 million). In 2019, bluefin tuna recorded an average first-sale price of 6.8 euro/kg in 2019, a 23% decrease from 2018. This decrease in price was the main driver towards the 15% decrease in landings income recorded from the specie, as landed weight had increased by 10% in the same period.

The established quota on swordfish has been in place since 2017. This catch limit, has impacted the landings of swordfish both in 2017 and 2018, as Malta recorded a 19% drop in 2017 since 2016, and a further 6.6% drop in 2018. Although the revenue earned from this specie dropped in 2017, it fluctuated back to pre-quota levels in 2018.

### Operational costs (external factors)

In 2019, both the small and large-scale fishing vessels in Malta experienced an overall decrease in their operating costs, by 19% and 14% respectively over 2018. Major decreases were recorded particularly in crew costs (both paid and unpaid labour) and other variable costs.

The number of days-at-sea has decreased for both small and large-scale vessels over 2018. However, the decrease was much more significant for the SSCF (22%) than the LSF (2%). Fishing days in the SSCF also decreased by 20% though interestingly the fishing days for the LSF increased by 45%.

The increase in efficiency by the fleet in terms of fuel, landed weight per sea day and energy consumed per landed tonne were drivers that contributed to the improving the level by which the overall economic performance of the Maltese fishing fleet improved.

### Innovation and Development

A number of projects, co-financed by the EFF, involving upgrading of landing facilities in Gozo and designated ports in the southern regions of Malta were completed in 2016 with the aim to help fishers become more cost efficient.

A number of high standard training courses are being provided to all interested registered fishers. This investment was completed by the end of 2018 and involved courses with the aim of improving the knowledge and skills of those working in the local fishing industry, with the ultimate aim being that of increasing the overall standard of the local fishing industry. Another training course is expected to be launched in 2019.

A publicity campaign "Nesploraw Flimkien it-Teżori tal-Baħar!" was launched and completed by the end October 2018. This publicity campaign's main aim was to communicate the importance of staying aware on the state of the local fish stocks, sustainable fish consumption, and the role of each individual in assisting conservation efforts.

A scientific study was also currently carried out to improve trawl gear selectivity so as to reduce discards of *Merluccius merluccius* and *Parapenaeus longirostris*. This study's recommendations can assist the Maltese otter board trawling fleet to be more sustainable and economically efficient.

Such innovations and developments will support coastal communities in diversifying their economies and improve economic performance.

### Socioeconomic impact

Although the Maltese fishing fleet is benefiting from a number of young people who voluntarily help their family whilst at sea, on a seasonal basis, the Maltese fishing industry is experiencing the challenge to obtain the young generation into the profession of fishing. Fishing in Malta is mainly seasonal and as a consequence some of the full-time fishers own at least one small and one large vessel which enable them to practice off-shore fishing during the milder seasons and coastal activities during the winter months. Additionally, extra hands are sometimes recruited for bluefin tuna seines and common dolphinfish seasons.

Circa 90% of the active fishing vessels are small-scale fishers who fish more or less a quarter of the total catches. These jobs are at risk as fish stocks in the Mediterranean are depleting. Food security, livelihoods, and regional stability and security are all under threat.

Although the Maltese fisheries contribute a small percentage to Malta's GDP, the sector and the coastal communities contribute to other industries of the blue economy, mainly tourism and catering.

### Nowcasts for 2020-21 and beyond

## Model results

Malta is expected to have a severe decrease in all the main economic in the year 2020 and 2021 compared to 2019, which in fact makes that in 2021 is projected to have negative gross profits.

## Landing Obligation

Commission Delegated Regulation (EU) 2018/161 of 23 October 2017 established a de minimis exemption to the landing obligation in the small pelagic mid-water trawl and purse seines fisheries for certain small pelagic species in the Mediterranean Sea until 31 December 2020. In conjunction, Commission Delegated Regulation (EU) 2018/2036 of 18 October 2018 established a discard plan for certain demersal fisheries in the Mediterranean Sea.

## COVID-19

Although Malta did not go under strict lockdown, this pandemic has left its effect on multiple industries, including fisheries. Overall, the main impact on the sector and on fishers was that the supply chain was interrupted. This implies that export channels for species such as the silver scabbardfish was interrupted, restaurants and hotels were partially or fully closed meaning that demand dropped significantly, traditional village markets were done open, and the remaining channels to sell the catch was either through the fish market or directly to households. The drop in demand created a problem of excess supply causing prices of species to drop significantly. This in turn has created a reluctance by fishers to operate and fish for normally targeted species.

Whilst small-scale vessel which are generally operated by the owner or few individuals had the possibility to still operate large vessels which require a crew of approximately four individuals or more could not operate due to safety regulations issued by the Health Authorities. In particular those large vessels that engage foreign crew, as most of these crew members returned back to their home country.

Considering that by May, many COVID-19 related measures started to be eased out, the impact on the sector, although existing, will hopefully be recovered in the upcoming months. Especially when considering that the bluefin tuna season was not significantly impacted and in August Common dolphinfish season opened and fishers were allowed to operate normally.

The Department of Fisheries and Aquaculture is expected to issue a COVID-19 Compensation scheme via EMFF 2014-2020 where fishers will be given a subsidy on income based on the period on which they didn't operate.

## Other

In February 2019, Malta was hit by a storm, the worst since October 1982. This storm caused considerable amount of damage to the country. The fishing and aquaculture sector where also negatively impacted by this storm. Specifically, a number of fishers had their vessel severely damaged and where left inoperable for the remainder of the year. Since then a damage compensation scheme was launched to assist the impacted fishers and assist them in restarting their fishing operation once more.

## Performance by fishing activity

### Small-scale coastal fleet (SSCF)

In 2019, there were 612 active vessels categorised under SSCF. This represents circa 90% of active fishing fleet.

Fisheries in Malta are 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. There are no inland fisheries in Malta.

The Maltese national fishing fleet is mainly divided into two categories: The professional full-time fishing vessels and the part-time fishing vessels. 43% of the small-scale fishing vessels work on a full-time basis in the fishing industry whilst 57% fish on a part time basis.

In 2019, 73% (762 employees) of the total 1 039 employed in the Maltese fishing industry worked on small-scale fishing vessels. This corresponds to 317 FTEs. In 2019, there was 16% decrease in the total jobs of the small-scale fishing vessels. It is important to note that the FTE is rather low compared to the total jobs potentially due to seasonal employment in 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 2019, crew expenditure amounted to EUR 670 200 while the unpaid labour cost amounted to EUR 1.34 million. The vast 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 decreased by 22% from 2018 to 2019. In terms of profitability, in 2019, the economic performance of the small-scale fishery improved since its registered improvements in net loss, as it improved by 7% over 2018 from EUR 0.9 million to EUR 0.8 million. On the other hand gross loss decreased 24%. This implies that net profit mainly improved due to increases in other sources of revenue, such as lease payments for quotas and other income not related to fishing. Given that in 2019, some vessels receive subsidies on their operation, if this variable is considered, net profit improves by 13% to EUR 0.76 million. Although, overall, the SSCF improved, segments within the SSCF segment have still shown weak profitability in 2019, though it is important to mention that the same data shows an improving economic development trend. In 2019, the SSCF contributed to 20% of the GVA of the fishing industry.

### Large-scale fleet (LSF)

The large-scale fishing vessels that were active during 2019 amounted to 69. This represents approximately 10% of the active Maltese fishing vessels. All large-scale fishing vessels work on a full-time basis in the fishing industry.

In 2019, 27% of the total jobs (277 employees) in the Maltese fishing industry worked with the large-scale fishing vessels. This corresponds to 247 FTEs. In 2019, there was 8% increase in the total jobs of the LSF.

The landings value of the large-scale fishing vessels decreased slightly by 2% over 2018. In 2019 this fleet category contributed to 70% to total income from fishing activity. In 2019, the LSF reported a net profit of EUR 2.9 million. In terms of profitability, GVA, gross profit, and net profit increased by 4%, 33% and 57%, respectively, over 2018.

These results indicate that the economic performance of the large-scale fishery continued to improve upon on the previous year.

### Performance results of selected fleet segments

The Maltese fishing fleet is highly diversified with a broad range of vessel types targeting different species in the Mediterranean. The Maltese national fleet consisted of 19 active (DCF) fleet segments in 2019, which were clustered into 10 fleet segments and five inactive fleet segments. These vessels are classed as inactive if they do not record at least one day at sea during the reference year.

All of five large-scale clustered fishing segments generated a net profit during 2019, although one of them recorded weak profitability still. On the other hand, out of five small-scale fishing segments, one made a net profit in 2019. This shows that the overall economic performance of the fleet segments of the small-scale fishery is still rather weak though overall, it appears that the economic development trend is consistently improving. Further analysis on the performance of the fleet segments of the small-scale and large-scale fishery is provided below.

It is important to note that since for 2017 segments where clustered, economic development trend is currently covering a 3 year period.

### Vessels using other active gears 06-12m

16 vessels made up this segment in 2019, which operates predominantly in the Mediterranean. This segment employed 59 jobs corresponding to 46 FTEs during the same period. The fleet targets mainly common dolphinfish by using FADs. In 2019, the total value of landings was about EUR 0.38 million; the segment generated 3% of the fleet's total revenue. In the same year, this segment generated a net loss of EUR 0.1 million or an average net loss of EUR 6 747 per vessel. The net profit margin is 52% over the 2008-2018 average, this the best recorded performance of the segment over this time series. Losses were driven by the decrease in landing volume which subsequently resulted in a

decreases in landings income and an overall reduction in the price per kg of targeted landed species. This increase in income maintained positive profits even though costs for this segment increased.

### **Vessels using active and passive gears 06-12m**

127 vessels made up this segment in 2019, which operates predominantly in the Mediterranean and represents 19% of the small-scale fishery in Malta. This segment employed 167 jobs which are equivalent to 95 FTE during the same period. 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. In 2019, the total value of landings was about EUR 1.1 million and generated a net loss of -EUR 0.4 million. Although recording significant losses, the net profit margin for this segment is still 52% over the 2008-2018 average, and has shown improvements in the economic development trends since 2017. The segment is still in a weak position in terms of profitability.

### **Vessels using polyvalent passive gears only 06-12m**

154 vessels made up this clustered segment in 2019, which operates predominantly in the Mediterranean and represents 25% of the small-scale fishery in Malta. This segment employed 214 jobs equivalent to 105 FTEs during the same period. This fleet segment uses different métiers. The net profit, gross profit and GVA amounted to -EUR 0.1 million, EUR 44 376 and EUR 1.1 million, respectively.

### **Vessels using hooks 18-24m**

18 vessels made up this segment in 2019, which operates predominantly in the Mediterranean. This segment employed 71 jobs equivalent to 70 FTEs during the same period. The fleet targets a variety of species mainly by using surface and bottom long-liners. Surface long-liners target mainly large pelagic species such as Atlantic bluefin tuna, swordfish, and common dolphinfish while bottom long-liners target demersal species such as bluntnose sixgill shark, red scorpion fish, silver scabbardfish species, among others. In 2019, the total value of landings was about EUR 2.5 million. This segment recorded a net profit of EUR 0.8 million. Profit increased due to increases in landings weight and income and improvements in the efficiency of the segment, this is evident as gross profit increased significantly over 2018. 2019 profitability was high relatively weak especially when compared to 2018 and continued showing an improving economic trend.

### **Demersal trawlers 24-40m**

13 vessels made up this clustered segment in 2019, which operates predominantly in the Mediterranean. This segment employed 42 jobs/FTE in 2019. 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 2019, the total value of landings was approximately EUR 1.9 million. The segment reported a gross profit of around EUR 0.6 million and recorded a net profit of EUR 0.2 million. This still indicates a weak profitability for the year, though it is significant improvement upon previous year. The main driver behind this weak profitability is the high costs incurred relative to the income earned.

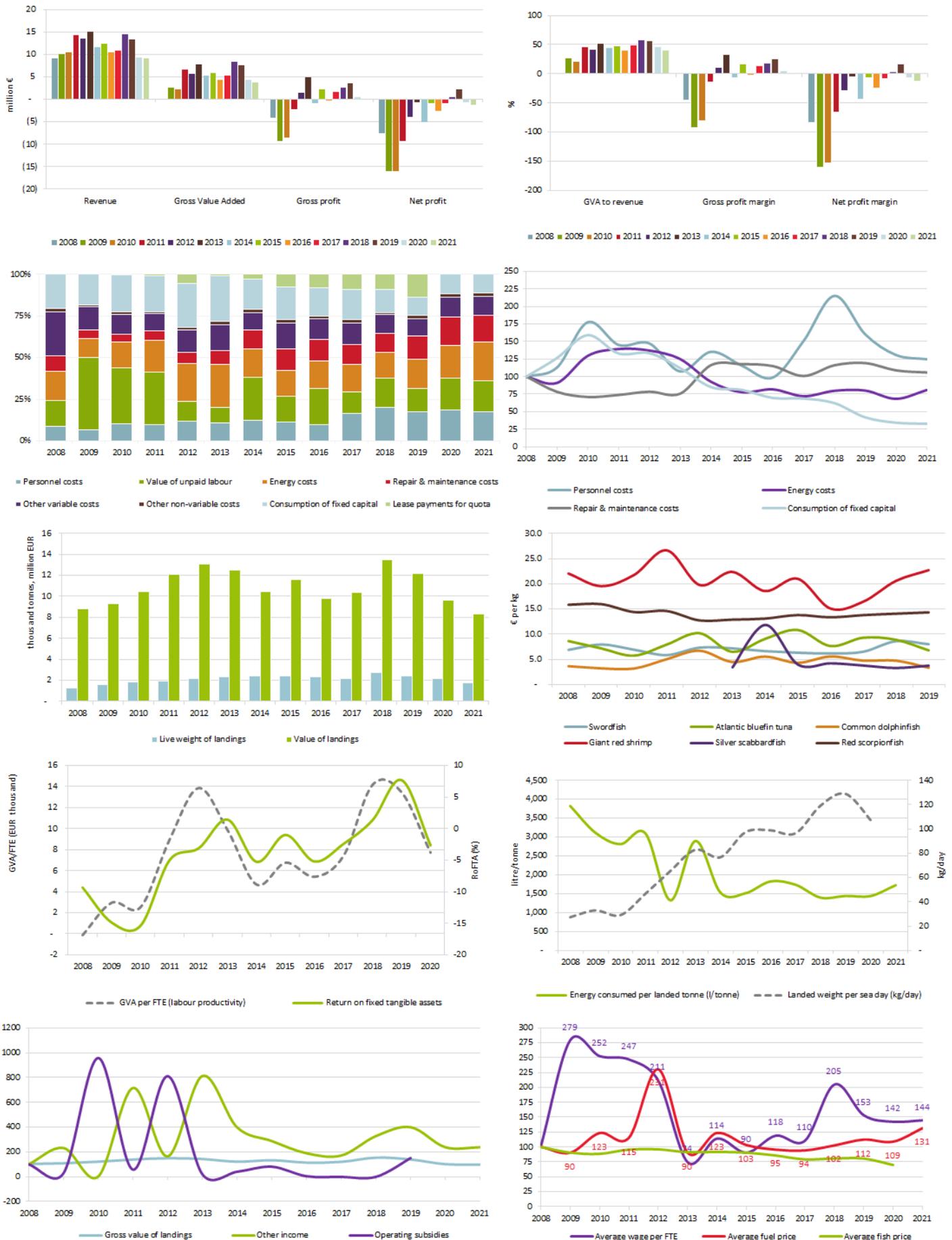
### **Purse seiners 18-24m**

Four vessels made up this clustered segment in 2019, which operates predominantly in the Mediterranean. This segment employed 30 jobs corresponding to 23 FTEs in 2019. The fleet targets mainly Atlantic bluefin tuna, Atlantic mackerel and chub mackerel. In 2019, the total value of landings was about EUR 2.1 million. This fleet segment was profitable in 2019, with a reported gross profit of around EUR 1.9 million and a net profit of EUR 1.8 million. This indicates high profitability for 2019, driven by the high efficiency of the fleet's performance and the fact that its key species, Atlantic bluefin tuna generates high turnover.

## **Data issues**

Although no major issues were detected given that the Maltese fishing fleet is mainly composed of small-scale fisheries, it is very challenging to collect precise and complete data from the fishers. The reason being that the majority of small-scale fishery do not engage an accountant and thus they do not have professional bookkeeping. Having said this, Malta does its best to enhance the quality of the data at data collection level and also at analysis level.





**Figure 4.15 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 (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.16 Netherlands

### Short description of the national fleet

#### Fleet capacity

In 2019, the Dutch fishing fleet consisted of 724 registered vessels. Compared to 2018 this was almost similar fleet size (721 vessels). Within the last 10 years the size of the fishing fleet fluctuated between 712 to 740 vessels. The mean age per vessel has slightly increased by the years from 27 years (2008) to 32 years (2019). Of all registered vessels 72% (518) was active which is comparable to last year. However, the employment decreased with 7% (to 1 969 total jobs) and -3% in FTE (1 673) between 2018-2019. The total vessel power of the decreased with 1% (to ca. 244 080 kW) as total tonnage -5% (to ca. 98 800 GT) last year.

In 2019, the number of fishing enterprises totalled 566, with the vast majority (81%), owning a single vessel. Around 19% of the enterprises owned two to five fishing vessels and only a single enterprise owned more than five vessels.

In 2019 the active fleet has the similar division (in percentages) as 2018, with 34% SSCF (175 vessels) and 66% LSF (343 vessels). Both SSCF (-3%) and LSF (-7%) diminished compared to the years from 2008 on. In particular, the number of pelagic freezer trawlers (TM40XX) strongly decreased through the years (-57%). In 2008 there were 14 pelagic (freezer) trawlers, in 2019 only six left among the Dutch flag. Most of them were and are operative among foreign flag, often to better utilize EU pelagic species quota owned by other Member States.

The mean length of SSCF was 7 metres, where this was 27 metres for the LSF between the period 2008 to 2019. The largest share of the LSF consists of cutters targeting Common shrimp (max. 221 kW) and cutters targeting flat fish (max. 1 468 kW). Both cutter segments fish often with beam trawl (TBB). Since last 4 years multiple new building orders were given of modern vessels often with a combination of demersal trawl and Danish/Scottish seines (DTS2440) (so called fly shoot or purse seine). Some single orders were given for conventional beam trawl (TBB40XX) with flat fish (plaice or common Sole) as target species.

#### Fishing activity

In 2019, the Dutch fleet spent a total of 44 386 days-at-sea (DaS), a decrease of 12% from 2018. These less DaS could be mainly clarified by the lower fishing effort (-30%) from shrimp cutters (TBB1824). Compared with 2008-2018 the average of effort (DaS) by the Dutch fleet decreased as well by 12% in 2019. The number of fishing days decreased (-12%) to a total of 38 794 from 2018-2019. Since the decreased effort in 2019, the quantity of fuel consumed was estimated around 159 million litres, a decrease of 1% from 2018 and a decrease of 13% compared with the mean of time series 2008-2018. The major factors causing the overall decrease in fuel consumption over this period include:

- A decrease of overall effort (DaS and fishing days) by the fleet.
- The results of implementation of alternative or innovative fishing techniques. For instance, pulse, purse seine and twin rig techniques. For pulse technique, there was a 40-50% less fuel consumption used per vessel per day at sea (Oostenbrugge et al, 2018<sup>39</sup>) compared to the conventional beam trawl technique. It is expected that the total fuel consumption will increase in the next few years due to the ban on pulse fishing. Most of these pulse vessels will switch to the traditional beam trawl technique (with tickler chains).
- A lower average engine power per vessel. In order to save fuel costs, new or refitted vessels contains more energy saving engines and hulls. The average kW per vessels decreased with 10%, from 416 (2008) to 337 (2019).

#### Production

Compared to 2018, the total live weight of landings decreased by 22% as landed value decreased by 23% in 2019. The total live weight of fish and shellfish landed by the Dutch fleet in 2019 was 316 284 tonnes, with a value of EUR 333 million. The decrease in weight is caused by less landed volumes for multiple top species in 2019 compared to the previous year:

<sup>39</sup> Oostenbrugge et al, 2018. Economic aspects of pulse fisheries. Wageningen Economic Research, [https://www.wur.nl/upload\\_mm/b/f/8/c5e084a5-250e-4f90-8bf1-2e92edb16030\\_Economische%20aspecten%20pulsvisserij.pdf](https://www.wur.nl/upload_mm/b/f/8/c5e084a5-250e-4f90-8bf1-2e92edb16030_Economische%20aspecten%20pulsvisserij.pdf)

- Common shrimp (-41%), due to a surplus of frozen stored shrimps landed in the large catch volumes of 2018. In order to avoid severe landing price drops, the shrimp fleet (TBB1824) decreased their effort (-30%).
- Blue whiting (-35%) and herring (-25%), due to lower quota (TAC) for the pelagic freezer trawlers.
- Common sole (-20%) and European plaice (-11%). Not clear for what reason(s) the landed volume was lower. According to ICES the biomass of sole and plaice should be above sustainable levels.

The average weight landings per sea day for the Dutch large-scale fisheries was estimated around 7.5 tonne per day at sea in 2019, a decrease of 11% compared to 2018. This drop in landings was in particular a result of the decreased caught volumes of demersal (shrimps and flat fish) and pelagic species. The average LPUE for the pelagic trawler fleet (TM40XX) amounted 149 tonnes per DaS in 2019 compared to 168 tonnes per DaS (2018).

The demersal fleet targets mainly flatfish and common shrimp. In terms of economic value, the top landed flatfish species were in 2019:

1. Common sole (EUR 72 million)
2. European plaice (EUR 48 million)
3. Common shrimp (EUR 35 million)
4. Turbot (EUR 16 million)

The pelagic freezer trawler fleet (TM40XX) has landed the following pelagic species ranked as most important in terms of economic value:

1. Atlantic herring (EUR 33 million)
2. Blue whiting (=Poutassou) (EUR 23 million)
3. Atlantic mackerel (EUR 17 million)
4. Atlantic horse mackerel (EUR 16 million)

### **Employment and average salaries**

Around 18% of the jobs come from the SSCF, whereas the rest comes from the LSF (66% from demersal cutter fleet and 16% from the pelagic trawler fleet). If expressed in FTE, the contribution of the small coastal fleet is much lower: about 5% of the total. The trend from 2008-2015 was downward for employment mainly due to decreasing number of vessels characterized by years of economic losses or small profits (up to ca. EUR 30 million for the total fleet). In 2016 there was a kind of renewed hope by high profits which resulted into new investments (e.g. new vessels) and therefore (re)entering of crew into the fleet. From 2016 the number of pelagic freezer trawlers was decreasing which clarifies the again drop of engaged crew in the fleet.

## Economic performance results for 2019 and recent trends

### National fleet performance

The economic performance of the Dutch national fleet decreased in 2019 compared to 2016-2018. In 2019 the net economic result (profit) was still positive however a strong decrease (-52%) compared to the previous year.

After years of economic losses (before 2014) the profits increased between 2014 and 2016. This latter was a year with relatively high landing prices and high live weight landings for the largest part of the Dutch fleet, which is demersal (mainly shrimp and flat fish). From 2017 the weight of landings decreased more and more by year.

In 2019, the total amount of income generated by the Dutch national fleet decreased with 21%. This consisted of EUR 341 million landings value and around EUR 3 million in non-fishing income. When including income from leasing fishing rights and direct income subsidies (EUR 1.3 million), total income amounted to EUR 345 million.

Total costs in 2019 were EUR 320 million. A decrease of 14% from 2018. In particular, labour costs (crew wages) decreased with 19% due to lower economic results. Labour and energy costs, normally the two major fishing expenses, amounted to EUR 87 and EUR 70 million, respectively in 2019.

In 2019, GVA, gross profit and net profit generated decreased for the Dutch national fleet. Respectively -31%, -49% and -55% compared with the previous year. In similar order, these parameters were estimated at EUR 146 million, EUR 44 million and EUR 27 million.

For 2019, the Dutch fleet had a (depreciated) replacement value of EUR 213 million, which was 11% lower than the year before. The value of fishing rights was unknown, but it was expected to decrease. Main cause is an annually lower uptake of quota for the major species: plaice and common sole. Fishing rights and quota are transferable in the Netherlands. Selling/buying and leasing these rights are quite common and prices fluctuate substantially from year to year, depending on market availability (e.g. quota for sole or plaice available or not). Since the introduction of the pulse (high selectivity for sole) sole prices grew substantially (average lease prices of around EUR 3.35 per kg in 2015) but dropped again in 2016 due to a higher TAC and a lower uptake in 2017-2019. Investments amounted to EUR 21 million in 2019 and were 6% higher compared to one year ago.

Dutch vessels are becoming older: the average age was 32 years despite multiple new build vessels has been introduced in 2019. The improved economic performance stimulates further fleet renewal in the cutter fleet last years. New flyshoot (purse seiner), twinrig (DTS) and shrimp vessels (TBB) are built or ordered since 2016. Uncertainties like Brexit, multi-use of the North Sea (offshore windmill parks for instance), the landing obligation, ban for pulse fishery and the capacity at shipbuilding companies to build new vessels have an inhibiting effect on the speed of the fleet renewal.

### Resource productivity and efficiency indicators

The gross profit margin in 2019 was 13%, a minus of 35% operating efficiency of the sector. This percentage fluctuated although increased yearly from 2011 (gross profit margin of 6%) till 2016 (27%). From 2017 it annually decreased, mainly by lower landings value of the demersal fleet. Net profit margin was estimated at 8%, a strong decrease (-43%) from 2018 (profit margin of 19%). The Rate of Return on Fixed Tangible Assets (RoFTA) decreased in comparison with 56% (2018) but it still positive with 10% in contrary to negative ratios in 2011-2013.

Labour productivity (GVA/FTE) decreased in 2019 with 28% from previous year: EUR 87 800 per FTE. GVA (-30%) decreased more than FTE (-3%), therefore, the labour productivity deteriorated by its inefficiency. In 2019, fuel consumption per landed tonne increased with 27% compared to 2018 and amounted 504 litres per tonne landed in 2019.

### Small-scale coastal fleet

In 2019, the SSCF had a lower productivity relative to 2018. This fleet generated EUR 2 million of GVA (-41%). Similarly, a gross profit of EUR 2 million (-41%) and EUR 1 million of net profit (-35%). This decreased performance could be mainly clarified by the less gross value of landings (-26%) by the SSCF.

## Large-scale fleet

The LSF had a decreased productivity compared to previous year. In 2019, the segment generated EUR 144 million of GVA (-30%), EUR 42 million of gross profit (-47%) and EUR 25 million of net profit (-54%).

## Drivers affecting the economic performance trends

There were several driving forces behind the strong decreased (relative to 2018) but still profitable economic performance in 2019 by the Dutch fleet. Main reason for this decreased economic performance by the Dutch fleet were lower landed weight (-22%) and landed value (-23%). Despite diminished landed weight of common shrimp, common sole and European plaice, the average first sales prices for these target species were lower: -26%, -1% and -5%, respectively. In particular, the low prices per kilogram for shrimps was noteworthy. Often, when the landed volumes are decreasing this will be in favour of higher first sales prices. There was a decreased landed weight of shrimps (-41%) in 2019 compared to 2018.

The average fuel price (EUR 0.44/litre) was slightly lower than in 2018 (EUR 0.46/litre). For instance, in 2012 the fuel prices were at a much higher level (EUR 0.64/litre). With regarding to energy consumption and fuel prices there are concerns by the Dutch fishing fleet about further decreasing performances when all exemptions for pulse fishing technique are no longer valid (2020/2021). This innovative fishing technique is known by its fuel efficiency with 40-50% less fuel consumption compared to the conventional beam trawling technique. Pulse fishing technique was available under scientific observation via exemptions. The Dutch demersal fishing fleet is dominated by beam trawlers and demersal trawlers. As trawling is typically fuel intensive, fluctuations in fuel consumption and fuel prices are therefore, key drivers of the fleet's profitability.

## Markets and Trade (including first sale prices)

The main challenge for the Dutch fisheries in 2017-2019 was to meet the demanded raw materials (in volume) from market. Due to decreasing landed weight for flatfish species after 2016, it was difficult for the processing and trade industry to keep their customers if they were not able to deliver the demanded quantities for seasons. European plaice generally competes with other (non-) European flatfish species. However, they also compete with whitefish species on the same international market in and outside Europe. An increased dollar exchange rate could help this flatfish to become more competitive, where comparable non-European whitefish species becomes less competitive due to relatively higher import prices. On the other hand, the total availability of (non-) European flatfish species and substitutes for these species dropped in previous years. Due to pending contracts from last year high prices are 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 in order to perform the supply contracts with their customers (wholesalers and retailers etc.).

More and more originally plaice processors are diversifying to other species, like salmon often imported from aquaculture in Norway. Multiple Dutch processors were forced to introduce new salmon processing machinery (e.g. filleting and packaging) in order to remain profitable and to optimize utilisation of production and labour capacity. However, due to the growing international market demand of salmon this species has become more important in sales value and production volume than plaice for many Dutch fish processors. However, processing and trade of North Sea fish species still remains the core business for many Dutch processing and wholesale companies.

Most flatfish caught by the Dutch fishing sector is consumed in southern Europe in countries like Italy, Spain and France. In northern Europe, Germany is an important country for the consumption of flat fish fillets and Belgium for the peeled common shrimp (*Crangon crangon*).

In 2019 the first sales prices for common shrimp decreased. Where in 2017 there was the challenge of losing markets for common shrimps due to supply shortage, it was the opposite in 2018. Landing volumes in the Netherlands doubled in 2018. In 2018 common shrimp landings prices decreased explosively by 50% due to a growing unbalance between demand and supply. Many landed shrimps were frozen and stored by traders/processors. It resulted into POs' schemes for shrimp fishers to reduce their fishing effort to avoid a further unbalance between supply and demand. In 2019 these high volumes in the cold stores of Dutch companies resulted into lower first sales prices for the fisheries.

## Status of key stocks, changes in TACs and quotas

Most of the imported stocks fished by the Dutch fleet such as sole and plaice in the North Sea are fished at sustainable levels, below or at MSY. Some other stocks (like cod) are still vulnerable in terms of a biomass below sustainable yields. These species (like cod) are caught as bycatch or a target for only a couple of vessels.

The Dutch quota for sole which is important as a valuable target species for the Dutch fleet, decreased by 19% (including top up for the purpose of the landing obligation) to 9 857 tonnes in 2019. The Dutch quota for European plaice from ICES area 4, union waters of Area 2a and area 3 (excluding Skagerrak and Kattegat) decreased as well with 10% (including top up for the purpose of the landing obligation), on 38 170 tonnes.

The Netherlands conducts quota swaps with other Member States. This, together with the transferable quota from 2018 to 2019, allowed for a sufficient amount of quota for important fish species like sole, plaice and Norwegian lobster (nephrops) in 2019. In total sole quota increased in 2019 by 8%, amounting to a total of 10 611 tonnes. For European plaice this amounted to a total of 47 831 tonnes (+25%).

In 2019, lease prices for sole were on average 0.25 euro/kg. Sole and plaice quota were not fully utilised in 2019. This fact and uncertainty about extension or not of pulse exemptions brought back the lease price for sole the last 5 years. In 2015 the lease quota prices for sole were more than 3 euro/kg.

## Operating costs (external factors)

Next to important internal factors (wages and salaries, repair and maintenance, depreciation, fishing gear, quota etc.) there are multiple external factors for the operating costs. A regular impactful factor is global fuel prices (23% of total costs in 2019). Another relevant external factor for the operating cost is steel prices, in particular in case of renovation or newly built vessels. Most of the Dutch fleet consist of vessels with hulls older than 30 years. These vessels are vulnerable for necessarily repairment or renewing costs for broken engine or replacing of the entire vessel by new to build one.

Quota prices are another external factor which could hardly be influenced by an individual company in a market with many actors. The last 5 years quota lease prices have decreased for many target species (e.g. sole and plaice), however in other times it was especially for starting fishing companies with sufficient quota difficult to lease or purchase quota by high market prices.

## Management instruments

The Dutch fleet is managed mainly through ITQs for the most important species, together with a range of input controls.

In the context of the recovery of cod stocks, a number of effort measures (including real time closures) were implemented depending on the fishing gear in the North Sea, the Irish Sea, Skagerrak and west of Scotland. Many additional yearly restrictions exist, depending on the fleet segment, the species and area. In 2015, the North Sea cod management plan was discontinued and limits on days-at-sea in the North Sea stopped.

Due to Natura 2000, demersal trawl fisheries are facing many area closures. Besides that, other activities in the North Sea such as windmill parks claim more and more space. As a result, fisheries are forced to change their fishing grounds.

The EU Green Deal is in short term another challenge that faces the fisheries fleet. In this EU plan a closure for fishing activity to 30% of EU waters is planned, in order to safeguard the biodiversity of these envisaged marine protected area. This ambition is valid for the entire EU fisheries fleet.

Specifically for the Dutch coastal fleet (e.g. shrimp and mussel cutters) there is a more strict nitrogen emission regulation in place. The fisheries vessels operate in Natura 2000 waters where a nature protection permit is required. These permits are only (bi)annually obtained if nitrogen emissions are not exceeding the minimum level. In 2019 the current permits were still valid but for next years it is expected that the emission levels will be exceeded by the vessels their fuel usage. If no solutions are found it could result into no extension of the nature protection permits which means no allowance to fish in the Dutch Natura 2000 waters.

## Landing Obligation

In the Netherlands a *de minimis* exemption was set for multiple quota species between 2016 and 2019 in the North Sea. For instance, for species as plaice, common sole, Norwegian lobster (nephrops), turbot, ray and common shrimps.

Different projects, partly funded by the EMFF, are started in the Netherlands for finding solutions for a workable LO. The projects mainly focus on increasing survivability of quoted unwanted fish species and improving selectivity of nets. By increasing survivability species like sole and turbot could be excluded from the LO. Improving selectivity will reduce the amount of unwanted bycatch. Especially in Norwegian lobster (nephrops) fisheries net adjustments improved selectivity. The new developed SEPNEP, a net with two cod ends that separate the nephrops from the other fish, reduces unwanted bycatch up to 65% (unwanted plaice and dab by -69% and -78% respectively) without losing (too much) marketable fish.

Another project started to monitor discards, named Fully Documentary Fisheries. Around 5-10 fisheries vessels have camera on board to monitor the enforcement of the LO by the European fleet.

Dutch fishers fear that the discard ban will not be workable. Beside of the extra costs and the need of additional crew, the most important concern is related to choke species<sup>40</sup>, i.e. losing catches of species where quota are still available. Discards are highly variable depending on the fishery in terms of quantity and composition. It is expected that a quota uplift may not be sufficient in some fisheries to prevent a "choke". In such a situation, the fishing activities are halted regardless of the available quota for other species. Particularly in a mixed fishery where the stocks and quotas of the target species are high, this could be an issue as many species are caught at the same time and multiple choke species may occur. Rays, turbot and brill are potential choke species candidates in mixed demersal fisheries.

## Assessment of the economic performance for 2020 and 2021 (nowcasts)

### Expected TACs and quotas 2020 and 2021

Total initial available quota (based on TACs) for the Dutch fleet are 257 000 tonnes for the most important demersal and pelagic species cumulative in 2020. This is a small decrease (-2%) from 2019. For many species, quota is managed through ITQs. For following commercial target species for the Dutch fleet there were developments in TACs from 2019-2020:

- Common sole (+32%) to a total of 13 609 tonnes.
- Plaice (-3%) to a total of 37 114 tonnes.
- Herring (-1%) to a total of 74 685 tonnes.
- Mackerel (+41%) to a total of 35 989 tonnes.

For 2021 it is expected that a Brexit deal will give a delay to determine the final TACs due to negotiations by the EU with the third countries United Kingdom and Norway. The United Kingdom will require a large share for multiple commercial fish species by a transfer from the EU in return for allowance to maintain access to British waters by the EU fishing fleet. This will complicate not only the determination of TACs but also the swapping of quota during the year between Member States, Norway and United Kingdom. At least for the first year after the Brexit deal, since a new situation shall be in place with possibly large impact to species for which the catches are higher than available quota. Following preliminary TACs are agreed for the Dutch fleet from 2020-2021 based on the nowcast:

- Common sole (unknown as many other species).
- Plaice (-19%) to a total of 29 987 tonnes.
- Herring (-10%) to a total of 67 419 tonnes.
- Mackerel (-35%) to a total of 23 393 tonnes.

### Innovation and development (role of the EMFF)

In 2020 EMFF is utilized as support scheme for Dutch demersal fisheries due to the COVID-19 outbreak. The fishery sector has been particularly hard hit by the market disruption generated by a significant drop in demand. The closure of sales venues, markets, outlets and distribution channels has seen prices and volumes drop substantially. The drop in demand and prices combined with the vulnerability and complexity of the supply chain (perishable products, important need of workforce) made the operations of fishing fleets and seafood production loss-making. Consequently, fishers are forced to stay in port. In 2020, a temporary aid scheme<sup>41</sup> is used from the EMFF by Dutch demersal fisheries to mitigate the impact of the COVID-19 outbreak in the fishery, by financially compensate fisheries for temporarily staying in harbour.

<sup>40</sup> A choke species is a species for which available quota is insufficient to cover catches.

<sup>41</sup> Regulation (EU) No 1379/2013 and Regulation (EU) No 508/2014

With regarding to innovation, around 80 commercial vessels have used using pulse technique via the obtained exemptions in three tranches since the beginning of last decade. By using the pulse technique fuel consumption could be reduced up to 40-50%. Most of these vessels target flatfish (in particular, sole). A few, targeted shrimps. The European Parliament voted against the pulse fishing technique in European waters since 16 April 2019. This mean that the legal exemptions will be revoked. In June and by the end of December 2019 exemptions that were approved from 2014 for a 5 year period will not be prolonged. The other exemptions for an infinite period will be revoked from July 2021 when there is a total ban on pulse fisheries in the EU. Especially the Dutch fleet has a large pulse fishing fleet. In 2019 almost 30% of the active cutters applies this technique. The topic of pulse fishing is highly controversial at the moment, due to discussion about the ecological effect. In the beginning of 2020, the research program about these ecological effect of pulse fishing finished. ICES advised based on the latest scientific research that that the change from conventional beam trawling to pulse trawling when exploiting the total allowable catch of North Sea sole contributes to reducing the ecosystem/environmental impacts of the sole fishery<sup>42</sup>. Single Dutch fishers are testing alternative fishing techniques in case the pulse fisheries ban will be maintained for the nearby future. An alternative technique which currently is test, is the called water spray technique. Witch limited water sprays to bottom of the seabed, flatfish is stimulated to swim upwards into the fishing net. This technique needs more scientific validation in order to evaluate the ecological impact and economic feasibility.

Another development is new types of vessels that have lower fuel usage. Within the innovation programme 'Master plan sustainable fisheries' (in Dutch MDV) multiple vessels were build<sup>43</sup>. Subsequently, several French fishers have ordered similar Dutch designed vessels as well.

New projects focus more on the fisheries' selectivity approaching landing obligation and innovative fishing gear (less energy consumption). The Dutch fisheries and scientific research are exploring opportunities for zero emission fisheries vessels. However, this will be a long-term innovation ambition as many technical and economic hurdles need to be overcome before it its marketable.

### Fuel prices, -efficiency, market and trade determinants

Based on the now casts the average annual fuel prices for the Dutch fleet will decrease (-36%) from EUR 0.44/litre in 2019 to EUR 0.28/litre in 2020. This could likely compensate (partly) the projected decreased fish landings prices. This 'partly' compensation could be explained by a lower fuel efficiency as this is projected to be at 14% which is a relative decrease (-32%) from 2019 (21% of fuel efficiency).

For the main commercial species there were lower landings prices expected due to closed restaurants in order to avoid expansion the COVID-19 virus. Common sole prices will be decreased (-11%) from EUR 11.13/kilo (2019) to EUR 9.91/kilo. For Plaice the prices will drop (-13%) from EUR 2.33/kilo (2019) to EUR 2.02/kilo (2020). With regarding to Turbot a decreased price (-22%) is expected as in 2019 the price was EUR 9.89/kilo and in 2020 it is expected to be EUR 7.68/kilo. For Common shrimp (Crangon crangon) a price increase (+27%) will be expected from EUR 2.60/kilo to EUR 3.39/kilo from 2019-2020. Main reason for this expected price increase could be partly clarified by the volume scarcity to EU retail as peeling capacity in Marocco was limited by the 1.5 metres distance between peeling employees in the companies.

The fish processing and trade companies were negatively impacted by COVID-19 pandemic as the food service and restaurants cancelled many orders by the lockdowns in EU. Despite an increase demand for fish products (mainly frozen or canned) by the EU retail, this was not compensating the lacking product orders by the out-of-home market. Another determinant was international competition for sea container freight. Prices for this transport were sometimes five times higher due to scarcity. Another foreseen market development that could have a negative impact on fish prices is the surplus of frozen stored fish. Due to the expected drop in demand during the pandemic many fish processing and trade companies are freezing their high priced fish. When all these fish are sold at the time of re-opened restaurants (after lockdowns) a surplus is expected that will result into lower prices for the fishing industry. Also frozen fish are perishable after a certain time of frozen storage. As quality deterioration is expected after many months of lockdowns, the market will value this frozen fish with lower prices or even not accept these fish from food safety or taste perception.

<sup>42</sup> ICES Advice 2020 – sr.2020.03 – <https://doi.org/10.17895/ices.advice.6020>

<sup>43</sup> Veenstra F (2017) Multicriteria Fishing Vessel Design Methodology. J Fish Aqua Dev: JFAD- 127. DOI:10.29011/JFAD-127/100027

## Model results

The figures of 2019 can be used to make a forecast for 2020. That forecast gives a calculated 4% decrease in landed weight, with a 7% decrease in landed value. Projections suggest that despite the expected decrease in value of landings, the economic performance will slightly increase in 2020: GVA (+2%), gross profit (+20%) and net profit (+25%). GVA is estimated at EUR 149 million, gross profit at EUR 53 million and net profit at EUR 33 million in 2020. Projection results suggest that the Dutch fleet will operate at a profit in 2020: with an estimated gross- and net profit margin of 17% and 11%, respectively.

This projected increase of economic performance despite lower landed weight and value, could be explained by decreased fuel costs as fuel prices decreased (-36%). Furthermore, the projections are likely based on expected higher landing prices per species as landed weight will decrease. The expected drop in demand by COVID-19 pandemic (with closed restaurants and food service) is not fully taken into account in these models. Therefore, the positive improvements of projections could be minimized or even turn out to negative economic performance after the COVID-19 effects are known for the economic results of the EU fishing fleet for 2020.

For 2021 the expectation is the projected economic performance will decrease with a net profit estimated at EUR 16 million. This is a forecasted decrease of 40% from 2019 (net profit: EUR 27 million). Lower value of landings (-6%) and higher fuel prices (+26%) from previous year (2020) are expected to determine the forecasted lower economic performance in 2021. The nowcast predicts an even higher decrease of -12% in landed value in 2021 compared to 2019. However, an increase of 6% for weight of landings is forecasted compared this period. Main reason is the higher volume (+7%) of pelagic landings (live weight) in 2021 compared to 2019.

## Outlook

There are four main drivers that could impact the performances of the Dutch fisheries in the nearby future. Firstly, due to multiple *de minimis* exemptions in certain Member States including the Netherlands, the impact of the 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 adaptations the extra costs for demersal trawlers targeting common sole and Nephrops will range between EUR 6 and EUR 28 million per year<sup>44</sup>. Another important factor that will determine the performance of the Dutch fleet is the outcome of the Brexit. In general, up to 60% of the weight in landings by demersal trawlers and pelagic freezer trawlers (TM40XX) are caught in British waters<sup>46</sup>. The impact of Brexit is high for the Dutch fisheries and entire fish industry. Thirdly, the COVID-19 pandemic in 2020 and 2021 is impactful which caused a fall in demand from especially food service within Europe. Also exports (to third countries) were restricted by lockdowns. At almost all Dutch fish auctions, fish prices dropped by 10-30% from March 2020. Fourthly, more and more areas of the North Sea are closed or to be closed because of marine nature protection or due to offshore wind farms. Most of these closed areas do contain important fishing spots for Dutch vessels. This will limit their operations to a certain extent and therefore likely their performance (e.g. landings). The Dutch government is aiming for a multi-stakeholder agreement about the future spatial planning for the Dutch waters of the North Sea. This so called 'North Sea Agreement' is in a preliminary phase in order to be signed by all users of the North Sea like green energy (offshore wind parks) and oil companies, nature and environmental protection (including animal like bird protection) organizations, marine navy (defence), Merchant navy and fisheries. In 2020 the majority of the POs of Dutch fisheries was not willing to sign the agreement due to lacking future perspective (e.g. space to fish at sea) according to these fishers. It is expected that the North Sea Agreement with establishing spatial plans will continue with or without the approval of the Dutch fisheries.

## Performance results of selected fleet segments

<sup>44</sup> Buisman et al, 2013. Economic effects of Landing Obligation for Dutch fisheries. LEI Wageningen UR. <https://edepot.wur.nl/283011>

<sup>45</sup> Exploring economic impact Landing Obligation for Dutch cutter fisheries, 2015. <https://www.vissersbond.nl/wp-content/uploads/2014/04/Eindrappontage-Flynth-LEI-Verkenning-economische-impact-aanlandplicht-op-de-Nederlandse-kottervloot.pdf>

<sup>46</sup> Turenhout et al, 2017. Brexit and the Dutch Fishing industry. Eurochoices 16 (2): p.24-25: <https://onlinelibrary.wiley.com/doi/full/10.1111/1746-692X.12159>

The Dutch fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the North Sea (demersal fleet) and North East Atlantic Ocean (pelagic fleet), around the UK and Ireland. Besides that, a small part of the pelagic fleet operates in African waters and in the Pacific.

The national fleet consisted of 11 (DCF) fleet segments in 2019. Next to TBB0010 (-EUR 0.07 million), three other segments DTS1824 (-EUR 0.09 million), TBB1824 (-EUR 5 million) and TBB2440 (-EUR 0.9 million) had a negative net profit (loss giving) in 2019. Annex 2 provides a breakdown of key performance indicators for all 11 fleet segments in 2019. A short description of the five most important segments in terms of total value of landings is provided below.

### **Beam trawl over 40m**

In 2019, 61 vessels made up this segment which operates predominantly in the North Sea. The fleet targets a variety of species but in particular flatfish, such as sole, plaice and turbot. Compared to a year ago in 2018 the total value of landings was over EUR 111 million (-16%) and around 447 FTEs (+8%) were employed in this fleet segment, contributing to 34% and 27% of the total income from landings and FTEs generated by the Dutch fishing fleet, respectively. There was a decreased Net Value Added per FTE as less value was landed with more FTE. However, more costs were made therefore average crew wage per FTE decreased with 12% (to a total of EUR 66 984). This fleet segment was profitable in 2019, with a reported GVA, gross profit and net profit of EUR 48.9 million (-30%), EUR 18.9 million (-42%) and EUR 16.3 million (-44%), respectively.

Due to stable fuel prices (compared to 2018), decreased live weight of landings and slightly lower flatfish prices, this TBB40XX segment made still profits in 2019. The main fishing gears of this segment are conventional beam-, SumWing and pulse trawl.

### **Pelagic trawl over 40m**

In 2019, six vessels (one less than in 2018) made up this segment which operated predominantly in the North East Atlantic Ocean and to a lesser extent in the North Sea. The fleet targeted pelagic species, particularly herring, mackerel, horse mackerel and blue whiting. The total estimated value of landings was over EUR 88.9 million (-23%) and around 318 FTEs (-16%) were employed in this fleet segment, representing 27% of the total Dutch value of landings and 19% of the FTEs of the Dutch fishing fleet. This fleet segment was profitable in 2019, with a reported GVA, gross profit and net profit of EUR 44.0 million (-18%), EUR 14.7 million (-28%) and EUR 8.0 million (-14%), respectively.

It should be noted that the prices used to calculate the value of landings of the pelagic trawlers are obtained from the pelagic sector (see data issues). They are internal prices used to calculate the wage of the crew of the fishing vessel. The integrated companies cover the whole production chain from fishing to the consumer and there are no real ex-vessel prices available. Therefore, information about the economic performance of the overall companies with cost allocations is not available, so it is complex to evaluate whether those profits resemble reality.

### **Beam trawl 18-24m**

Compared to 2018, a year later there were 148 vessels (-8%) within this segment which operated predominantly in the North Sea and in the coastal zone. The fleet mainly targeted common shrimp and some vessels targeted Norwegian lobster (nephrops) seasonally and flatfish, such as sole, plaice and turbot. In 2019, the total value of landings was around EUR 41.4 million (-53%) and around 369 FTEs (-15%) were employed in this fleet segment, contributing 13% and 22%, respectively of the total income from landings and FTEs generated by the Dutch fishing fleet.

This fleet segment reported a GVA, gross profit and net profit of EUR 14.6 million (-70%), EUR 1.3 million (-108%) and EUR 5.4 million (-57%), respectively.

### **Demersal trawls and seiners 24-40m**

With four more vessels than one year ago, in 2019 a total of 32 vessels made up this segment which operated both in the northern part of the North Sea and the British Channel. The fleet targeted a variety of species like mullet, gurnard, squid and sea bass (mainly fly shoot method) but also flatfish, such as plaice and turbot (during summer seasons). In 2019, the total value of landings was EUR 36.6 million (+21%) and around 178 FTEs (+12%) were employed in this fleet segment, contributing to 11% of the total income from landings and 11% of FTEs generated by the Dutch fishing fleet, respectively.

This fleet segment reported a positive GVA, gross profit and net profit of EUR 15.6 million (+31%), EUR 3.8 million (+36%) and EUR 1.7 million (+754%), respectively. The large improvement in

percentages (+754%) is due to this fleet segment had a negative (loss giving) net profit in 2018 (-EUR 0.03 million)

### **Beam trawl 24-40m**

In 2019 a total of 28 vessels (-11% compared to 2018) in this segment which operated predominantly in the North Sea. The fleet targeted flatfish such as sole, plaice and turbot. In 2019, the total value of landings was over EUR 21.3 million (-32%) and around 117 FTEs (-13%) were employed in this fleet segment, contributed to 7% of the total income from landings and 7% of FTEs generated by the Dutch fishing fleet.

This fleet segment was obtaining losses in 2019 (contrary to previous year) with a reported GVA, gross profit and net profit of EUR 5.9 million (-57%), -EUR 0.4 million (-109%) and -EUR 0.9 million (-126%) respectively. A major reason of the decreased profitability was lower landed value and weight and higher fuel costs (by forced quitting pulse fishing and reintroducing conventional beam trawling for many vessels).

### **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.

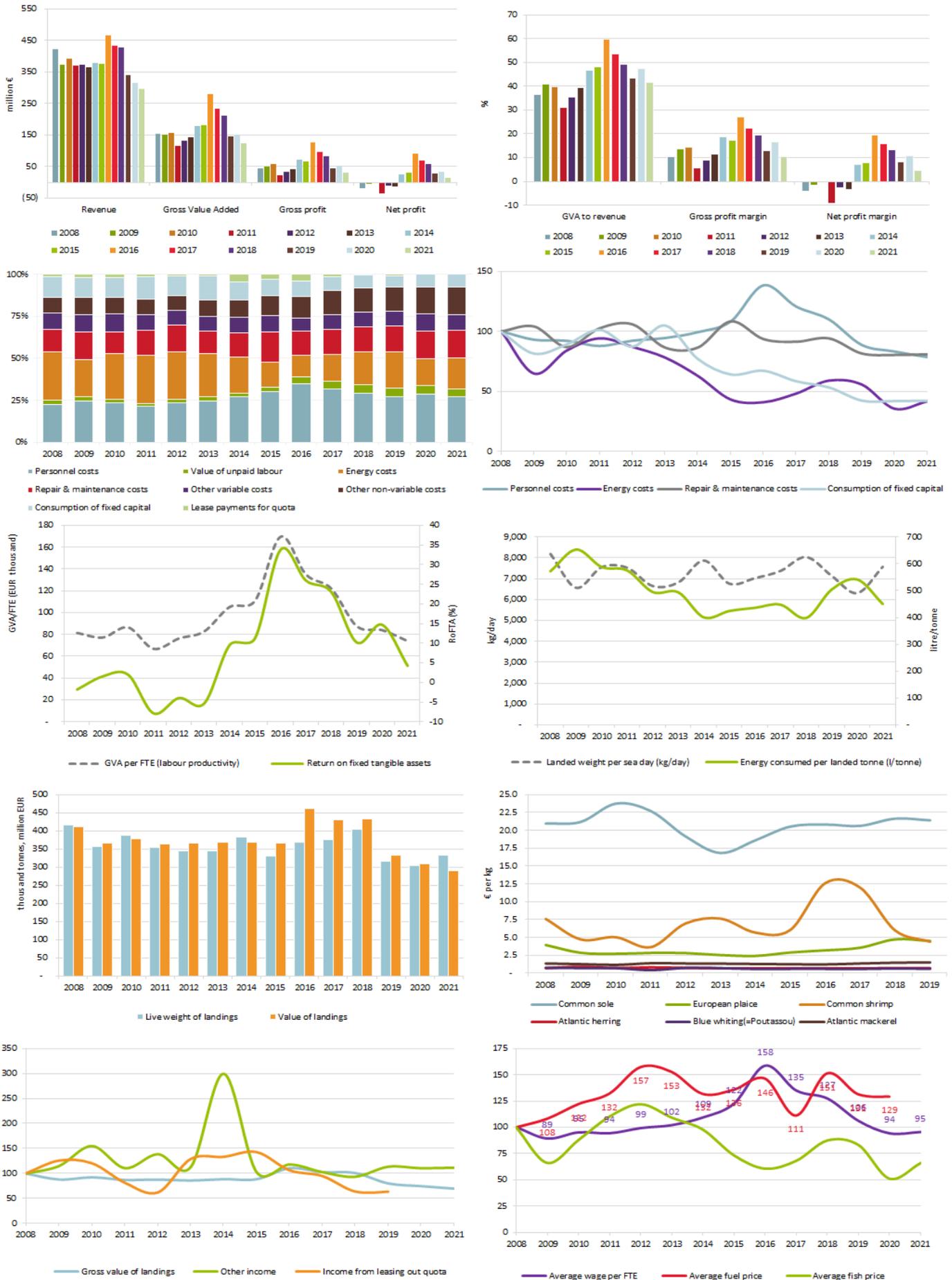
Because of low response rates for the data collection in the segments above in 2016, clusters were combined to estimate the economic parameters: Demersal trawlers and/or demersal seiners 0-< 10 m, Beam trawlers 0-< 10 m and Beam trawlers 12-< 18 m were combined and Dredgers 24-< 40 m and Drift and/or 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**

The 2015 renovation costs for pelagic trawler(s) have been accounted 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 4.16 Netherlands: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

Data source: MS data submissions under the DCF 2021 Fleet Economic (MARE/A3/ASC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.17 Poland

### Short description of the national fleet

#### Fleet capacity

In 2019 the number of Polish fishing vessels remained unchanged, with a total of 830 however, engine power and capacity decreased by 6% and 19%, respectively as a consequence of withdrawal of a distant water vessel. The number of vessels in 2019 compared to total time series (2008-2018) remained unchanged, engine power and capacity decreased by 7% and 9%. The decrease was caused again by changes in the number of distant fleet vessels. There were 41 inactive vessels in the fleet (5% of the total fleet). The number of inactive vessels decreased by 16% (eight vessels) and the majority of them belonged to two smallest length classes (<10m, and 10-12m).

#### Fleet structure

In 2019, the Polish LSF fleet (length >12m) consisted of 166 vessels (+2% compared to 2018), whereas 638 vessels (1% increase) were accounted for the SSCF. Relative changes compared to total time series for these two groups of vessels were -16% and 9%. The reduction in LSF was caused by the decommissioning program addressed for these vessels in the previous years (not in place in 2019).

**Employment** decreased in 2019 by 7% or 6% compared to total time series in terms of total number of people employed or decreased by 4% and 8%, respectively for FTE.

**Effort**, estimated in days-at-sea or fishing days practically did not change in 2019 compared to 2018 and compared to the period 2008-2018 increased slightly (+2-3%). The PG0010 segment was the only one that increased effort compared to 2018 (+9%).

**Total Production** in 2019 decreased compared to 2018, with a weight of landings of 203 146 tonnes (205 800 tonnes in 2018). The main Baltic species landed in 2019 were European sprat (-7% compared to 2018), Atlantic herring (-20%), European flounder (+29%) and Atlantic cod (-36%). Landed value decreased from EUR 47.3 million in 2018 to EUR 41.9 million in 2019 (-11%). Baltic cod collapse was the main effect in terms of the reduction of the value of fisheries production.

### Economic results for 2019 and recent trends

#### National fleet performance

Economic performance of the fleet had gradually deteriorated since 2012 to 2014, improved in 2015 remained good in 2016 and worsened afterwards. This was mainly caused by the poor condition of Baltic cod stock. In the mid of 2019, the cod fishery was closed.

Revenue, estimated at EUR 42.3 million in 2019 (EUR 47.5 million in 2018), decreased by 11% and compared the period 2008-2018 by 12%.

When excluding opportunity capital costs, total expenditures amounted to EUR 38 million, a 13% decrease compared to 2018 but not exceeding total revenue and generating a gross profit of EUR 6.4 million (+7% compared to 2018). Personnel costs (-15%) and energy costs (-23%) contributed the most to the decrease of operating costs.

GVA in 2018 were estimated at EUR 23.2 million (compared to EUR 25.7 million in 2018), a decrease of 10%. According to the estimation for 2020, this indicator will further deteriorate (by 40%) as a consequence of landings value decrease.

In 2019 investments again increased by 39% and amounted to EUR 1.9 million (EUR 1.4 million in 2018). EFF/EMFF for vessels modernisation contributed to the increase (EUR 4.2 million EMFF subsidies were allocate to fishers for investments directed to adding value to fishery products or innovative investments on board improving fish products quality).

Generally, the cost structure has remained relatively constant over the years. In 2019 however, fuel costs contribution to the total costs decreased by 2 percentage points (fuel costs followed the decrease in fishing effort of the fleet segments belonging to LSF). Non-variable costs share in total costs increase by 2 percentage points.

## Resource productivity and efficiency indicators

The gross profit margin deteriorated in 2019 compared to 2008-2018 but improved compared to 2018 from 13% to 15%.

GVA/revenue indicator slightly improved in 2019 (by 1 percentage point) and was 3 percentage points higher than total time series average.

After an overall improved development trend since 2014 in GVA/revenue, this indicator decreased in 2018 compared to 2016 by six percentage points. Net profit margin increased to 9.5% in 2019 compared to 2018 to . GVA per FTE deteriorated by 6%

## Performance results of selected fleet segments

### Pelagic trawlers (24-40)

Pelagic trawlers 24-40 metres length is the most important segment in terms of economic output, operating exclusively in the Baltic Sea. In 2019, 43 vessels make up this segment (no change compared to 2018). Employment in the segment increased compared to 2018 by 4% (+3% in 2018). In 2019, the segment contribution to the total value and volume of landings generated by the Polish Baltic fishing fleet amounted respectively to 45% and 64%. The vessels belonging to the segment target pelagic species, such as sprat (60%) (landed mostly for reduction to fishmeal) and herring (31%).

In 2019, the total value of landings of the segment was EUR 19.7 million (7% less compared to 2018). The decrease was caused by lower sprat prices but mainly smaller herring quota.

Sprat quota allocated in 2019 to the segment did not change compared to 2018 (57 000 tonnes) however, available herring quota was 21% lower than in 2018. Fishing opportunities deteriorated further in 2020 following cuts in the TAC for Baltic pelagic species. Available for 2440 TM segment herring quota was again 21% smaller in 2020 compared to 2019. In 2020 the segment was also affected by the 35% sprat quota reduction. Total landings of the segment were in 2020 17% lower than in 2019.

The economic performance of the segment, despite decreased landings value, improved. This can be explained by increased production efficiency. In 2019 fuel and personnel costs decreased by 35% and 20%, respectively. The reason behind this was the lower effort deployed in 2019 compared to 2018 (number of fishing days decreased by 10%).

In 2019 this fleet segment was profitable, with a reported gross profit of EUR 6.7 million compared to EUR 5.2 million in 2018 (+27%) and produced a net profit of EUR 5.9 million (49% increase compared to 2018). The profitability indicator of the segment was at "high" level. Net profit margin was positive (31.32%).

### Passive gears <10 m

The passive gears <10 m segment constituted of 517 in 2019 (in 2018, 510 vessels) operating in the Baltic Sea including lagoon brackish waters. The segment is the most important in Poland from the social point of view. In 2019 there was 1 208 (1 036 FTE) people employed on board (50% of the total employment) of 517 vessels belonging to the segment.

The fleet targets a variety of saltwater species: Atlantic herring, European flounder, Atlantic cod and a variety of freshwater species, such as freshwater bream, pike perch, perch and pike. In 2019, the total volume of landings were 7 000 tonnes (+20% compared to 2018) worth EUR 8.0 million (26% increase compared to 2018). In 2019 the segment benefited improved condition of perch and pike perch stocks. Catches of these two most important in terms of landings value increased by 55% and 118%, respectively or 61% and 80% in terms of landings value.

The gross result of the segment improved in 2019 and amounted to -EUR 1.3 million (-EUR 3.2 million in 2018). Net profit margin was highly negative -62% compared to 22% in 2018. The profitability indicator of the segment was at "weak" level and economic development trend continued to be "deteriorated". Net profit margin compared to long time average (2008-2018) was highly negative.

The segment remained affected by the poor stock status of the Eastern Baltic cod which used to be the most important species in terms of landings value before 2012. In 2019 cod landings dropped by 54% (51% in value).

Except for higher landings value, improved economic condition of the segment in 2019 was caused by decreased unpaid personnel costs (-26%). Repair and maintenance costs as well as energy costs increased (by 65% and 9%) following increased effort (+11% fishing days).

The PG0010 has been highly subsidised from EMFF. In 2019 the fleet received EUR 7.9 million (EUR 4.2 million in 2018) direct subsidies mostly in a form of compensation for a temporary cessation of fishing activities.

## Drivers affecting the economic performance trends

Bad stock status of Eastern cod (poor recruitment) caused that the European Commission decided to close the fishery at the end of July 2019 and prolonged the constraints to 2020 and 2021. It negatively influenced the performance of the demersal fleet segments targeting cod (i.e. DTS, DFN, HOK and PG1012). Additionally, the SSCF is 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 was the Central Baltic herring quota cut (-26%). This resulted in 20% lower herring landings compared to 2018.

In 2018 the industry received EUR 12.4 million of operating subsidies paid for temporary cessation of fishing activity. This might contribute to decreased fishing effort observed for vessels belonging to the LSF.

## Markets and Trade

Fish and fish products consumption in Poland amounted to 13.11 kg per capita (live weight), a 0.7% increase compared to 2018. Atlantic herring (2.64 kg) following by Alaska Pollock (2.03 kg) and Atlantic mackerel (1.33 kg) were three the most important consumed species.

The Polish fish processing production continued an upward trend. In 2019, the production volume amounted to 556 000 tonnes (+10% compared to 2018). Canned and marinated products dominated the production. Both product categories are based on species caught by Polish fleet (sprat and herring) as well as imported raw material (herring and mackerel).

The domestic market is strongly dependant on imported products. In 2019 import of fish products amounted to 936 000 tonnes (live weight) compared to about 90-100 tonnes of national catches placed on domestic market. Atlantic salmon (imported mostly from Norway) dominated in the species structure of imported fish followed by the Atlantic herring, Atlantic mackerel and Alaska Pollock.

Retail prices of fish and fish products index in 2019 was 102.3 year to year compared to 101.4 of the index of consumption goods and services. The price index for fish and fish products was 103.9 in 2019 compared to 101.4 in 2018. Price increases primarily for frozen fish (+6.1%), mostly due to continued growth of demand on groundfish and price increase on world markets.

## 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 2019/2020 the quota system did not change – cod, sprat and Central Baltic herring quotas are 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.

The regulation prohibiting individual catch or days quota exchange implemented in 2017, was relaxed in 2019. The former regulation limited the possibility to exchange quotas to vessels belonging to the same fishing operator. The revised regulation enabled the quota exchanges. However, the Ministry can set exchange coefficients for TAC regulated species.

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 had neutral impact on the industry. 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).

Taking into account the critical condition of the two cod stocks, the Commission announced emergency measures for eastern Baltic cod on 23 July, 2019. Emergency measures banned, with immediate effect, commercial fishing for cod in most of the Baltic Sea until 31 December 2019. The decision affected all fishing vessels and applied in all areas of the Baltic Sea where the largest part of the stock is present (i.e. subdivisions 24-26), except for some specific targeted derogations.

In 2020 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).<sup>47</sup>

## TACs and quotas

The 2019 quotas allocated to Poland on the Baltic Sea amounted to 136 664 tonnes (-10% compared to 2018). In 2019, available quotas for all limited species except for plaice (negligible catches) were lower than in 2018. Atlantic herring quotas decreased by 22%, Atlantic cod by 13%, Atlantic salmon by 15% and sprat by 1% (changes include swaps). The 2020 TAC allocated to Poland for Baltic species (adjusted for swaps) decreased by 20% compared to 2019. Reductions affected all regulated species: sprat -17%, herring - 9%, cod - 88% salmon - 35% and plaice - 31%. Initial TAC for Baltic species for 2021 is 16% lower compared to 2020. The highest reduction affected Atlantic cod (-50%) following by Atlantic herring (-43%) and Atlantic salmon (-33%). Sprat quota was set 3% higher compared 2020.

## Performance by fishing activity

### Small-scale coastal fleet

Number of vessels assigned to the SSCF increased in 2019 by 1% (623 units) compared to 2018 or 9% compared to total time series. The fleet operates exclusively in the Baltic Sea and two adjacent brackish water lagoons, targeting mainly flounder (44%), herring (20%) and various freshwater species like freshwater bream (8%), roach (6%), perch (6%) and others. In 2019 the fleet landings decreased by 2% compared to 2018 or 6% compared to 2008-2018 period. Value of landings (EUR 10.5 million) remained unchanged. SSCF is affected by Baltic cod resources crisis. This species contributed in 2018 to 22% of total landings revenue in 2019 to 10% and in 2020 to 1.8% only. In 2019 cod were replaced by herring and freshwater species catches. Herring volume and value landings increased by 23% and 37%, respectively. The fleet benefited also improved perch and pike perch catches that increased by 54% and 117% respectively in terms of volume or 61% and 80% in terms of value landed. In 2020 the coastal fleet catches collapsed as a consequence of continued bad cod resources condition, ban on direct cod catches (bycatches allowed) and subsidies paid out for temporary cessation of fishing activity (related to COVID-19 outbreak), collecting of lost nets as well as bycatch of birds observations.

In 2019 GVA of the fleet decreased 5% or 13% compared to 2008-2018 (mainly as a consequence of lower crew wages). The SSCF produced negative gross and net profit of EUR 1.6 million and EUR 2 million respectively, 41% and 48% improvement compared to 2018. Net profit subsidised was highly positive - EUR 7.7 million compared to EUR 1.2 million in 2018. The number of people working in the fleet decreased by 10% compared to 2018 but remained 7% higher compared to 2008-2018 long time average.

### Large-scale fleet

In 2019, 166 active vessels were assigned to the large-scale fleet 2% more compared to 2018 or 16% less compared to long time average (2008-2018). The vessels operate in the Baltic Sea or in the North Atlantic (no combined activity). The Baltic vessels target mainly sprats and herring. The vessels fishing outside Baltic Sea harvest demersal species (cod, saithe, haddock) mainly in Svalbard zone or pelagic species (herring, mackerel, blue whiting) in East Atlantic international or EU waters. In 2019 the Baltic LSF landed 135 000 fish worth EUR 32 million (decrease -7% and -13% respectively compared to 2018). 21% Baltic herring TAC cut was the main reason for lower landings.

Profitability of the Baltic LSF deteriorated by 8% (gross profit) or improved 12% (net profit). Long term changes of profitability was negative for gross profit (-9%) and positive for net profit (+38%). The fleet generated EUR 17.0 million GVA (-11% compared to 2018 or -5% long term change). In

<sup>47</sup> COUNCIL REGULATION (EU) 2019/1838 of 30 October 2019 fixing for 2020 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Baltic Sea and amending Regulation (EU) 2019/124 as regards certain fishing opportunities in other waters

2019 energy costs were as much as 25% lower compared to 2018 (24% decrease in fuel consumption). The vessels belonging to the fleet fishing in the Baltic spent in 2019 14% less days at sea compared to 2018. The economic performance of the Baltic vessels may deteriorate in 2020 following sharp decline in value of cod landings from EUR 4 million to EUR 0.6 million (-84%).

## Nowcasts for 2020-21 and beyond

### Model results

According to nowcast estimations landings volume and value decreased by 9% and 29% respectively in 2020. Cod (-76%), sprat (-19%) and flounder (-13%) contributed the most to the landings decline. Landings value of these three species decreased by 86%, 11% and 23%, respectively. Except for TM1824 (+77%) and TM2440 (-11%) value of landings slumped for all other segments by 40% to 80%. Emergency restrictions implemented to protect Baltic cod were main reason of the decline. Volume and value downward trend is expected to be continued in 2021. Decrease of energy and personnel costs (-58% and -30% respectively) caused that gross profit in 2020 was only 1% lower than in 2019. Effort decline (-44%) contributed the most to energy costs savings. Due to negative capital and opportunity costs estimated net profit in 2020 (EUR 6.5 million) was as much as 57% higher compared to 2019. GVA decreased 25% and is expected to deteriorate in 2021 (-39% compared to 2019).

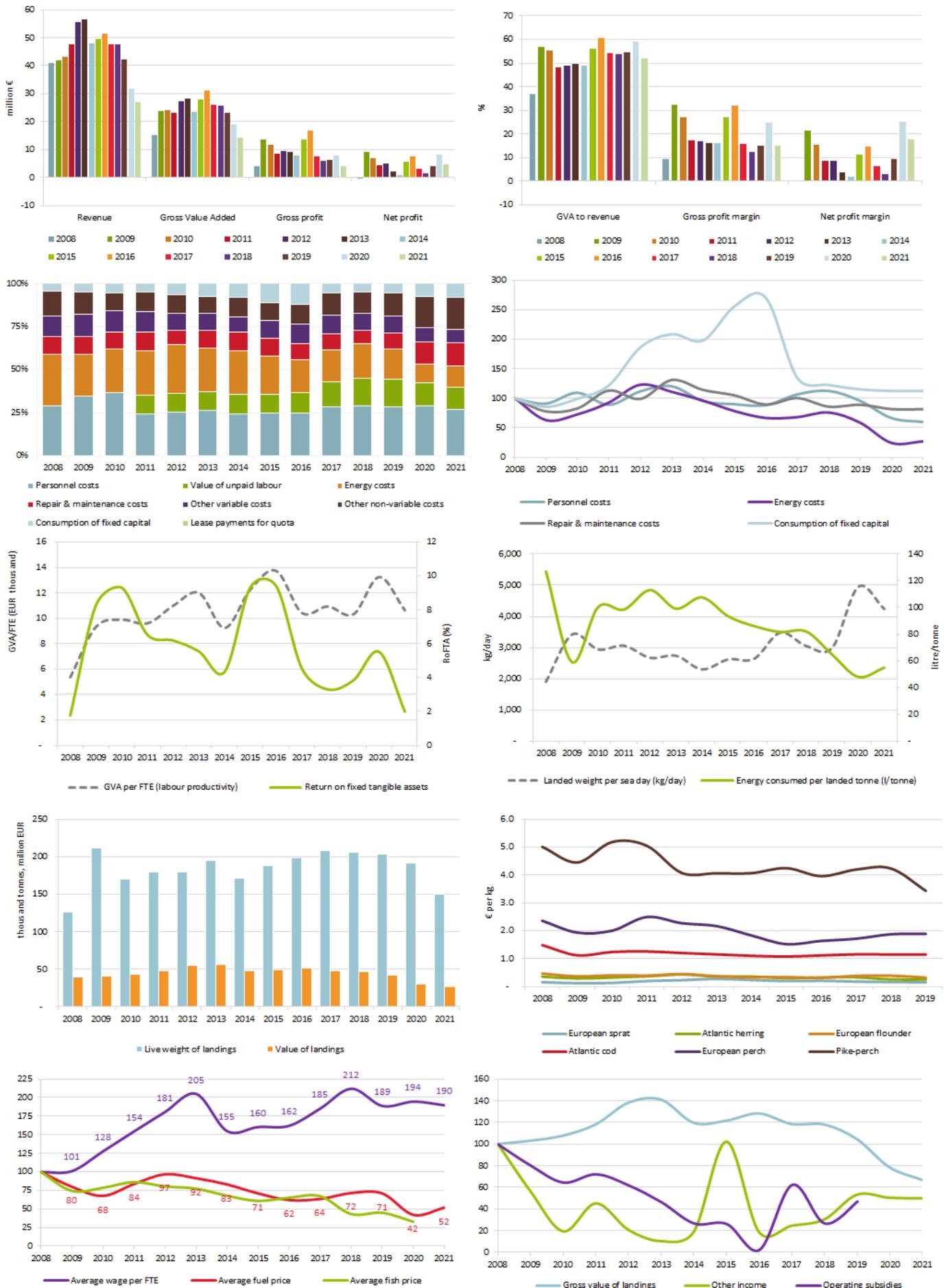
### Outlook

It is not expected that the LO neither the Brexit will negatively influence the sector. Value of Polish fish products exported in 2019 to the United Kingdom amounted to EUR 88 million (19 000 tonnes) and constituted mostly goods processed from imported fish raw material. The Baltic fisheries rely mostly on species that are directed on local not United Kingdom markets. There is one distant water vessel operating in the United Kingdom EEZ in the Polish fleet which can be affected by possible changes in fishing grounds access.

No remarkable negative COVID-19 effects on fisheries were observed in 2020 except for salmon and sea trout which prices were affected by decreased HORECA demand (decrease of -8% and -21%, respectively). This, however, had limited negative influence since both species do not contribute much to the sector's economy.

### Data issues

Due to confidentiality reasons, distant water fleet (vessels over 40 metres fishing outside Baltic Sea) were excluded from the economic analysis. However, transversal data (except for value of landings) and employment data were provided for all fleet segments. In order to ensure consistency with data provided for previous years, premiums paid by government for scrapped vessels were taken into account when calculating invested capital (not the PIM method). Because change in methodology of reporting capacity, 2017 onwards figures are not fully comparable with the earlier years.



**Figure 4.17 Poland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.18 Portugal

### Short description of the national fleet

#### Fleet capacity

In 2019, the national fleet capacity was composed by 7 907 vessels, having a combined gross tonnage (GT) of 90 166 tonnes and engine power of 352 476 kW, distributed by Mainland Fleet, Azores and Madeira. In 2019, 64 vessels entered the Portuguese fleet, while 44 were withdrawn.

The active fleet represents 46% of the national fleet and is characterized by a prevalence of small fishing vessels, with length of less than 12 metres representing 85% of the all fleet in number of vessels and 12% of GT. The average length is 9 metres and the age of the active fleet is 25 years.

#### Fleet structure

The Portuguese fishing fleet includes the Mainland fleet, Azores and Madeira, developing the respective fisheries in accordance with the operating areas and gears. The national fleet contains vessels from the small-scale, large-scale and vessels which operate in distant waters and are grouped into 11 major segments (DFN, DRB, DTS, FPO, HOK, MGO, PS, TBB, MGP, PGP and PMP). The most important segments in terms of value from landings are: DTS40XX, DTS2440, PGP0010 and PS1824 that together represents 42% in value landings.

#### Employment

Employment was estimated at 13 670 jobs (7 408 FTEs) with average of 2.0 FTE per active vessel (5% decrease compared to 2018). The average wage per FTE reaches the maximum value over the 2008-2019 period with a 10.4% increase compared to 2018 reaching a value of EUR 19 606. The Portuguese official statistics reports three different age-classes to classify the age of the fishers: below 35 (23%), between 35 and 55 (56.2%) and over 55 (20.8%).

#### Effort

After the decreased trend of the period 2008-15 (24% decrease over the period) effort in fishing days remains relatively stable with a decrease of 2.6% compared to 2018 reaching the lower value of the period. The average days-at-sea per vessel also shows the same trend: 2014 achieved the lowest value of 85 days of activity per vessel. In 2019 the observed value was 89. Landed weight per sea day at 533 kg/sea day, it was 9% higher than the 2018 value. The energy consumption decreased 1.8% compared to 2018

Vessels operate mainly in the Northwest Atlantic, NAFO and Savlbard/Irminger areas (demersal trawlers), Indian and Pacific oceans (surface longliners) and in the coastal waters of Madeira.

#### Production

In 2019 the landings increased 6% compared to 2018 and decreased 4% with the average (2008-2018). The landing value decreased 1% compared to 2018 and also with the average (2008-2018).

The mean price of fish reached the value of 2.18 EUR/kg decreased 6.75% compared to 2018.

In terms of landed weight, chub mackerel is the most representative species 31.5% of total catches followed by Atlantic horse mackerel (11.8%). Due to the limitations imposed by the Iberian sardine management plan, catches of this species reached the volume of 10 225 tonnes (6.9%) representing a decrease of 68% between 2008 and 2018. This strong reduction affected in an important manner not only the fleet segments that catch this species but also the processing industry. To overcome the strong reduction in the European pilchard catches, the importations of these species strongly increased between 2010 and 2019.

The average price of the European pilchard increases from 0.7 euro/kg in 2008 to a value in 2014-2016 of 2.0 euro/kg (in 2015 the price reached the maximum value of 2.2 euro/kg). In 2017 a reduction of the European pilchard price was observed (1.6 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 2.1 euro/kg. In 2019 the behaviour of the market was similar to 2017 and the price dropped again to 1.8 euro/kg. The fish stock shows some recuperation and new values for the Portuguese catches limitation are expect in near future which will appoint to a good direction to the

optimal values in terms of sustainability/economics and necessary catches to feed the internal consumption and industry needs. These three species represent 50% of the total Portuguese landings.

## Economic results for 2018 and recent trends

### National fleet performance

In 2019, the Portuguese national fleet worsened its economic performance compared to 2018 by 32%. The reason for that, was the increase of several costs by 3.3% when compared with 2018 and the 1% decrease of revenue: In terms of value, the increase of personnel costs represented 37% of the total increased value of these three costs, followed by depreciated costs (16%) and repair and maintenance costs (15%).

Other non-variable costs increased could be not corrected for 2019 due to incorrect interpretation of the new inquires scheme.

Revenue, decreased 1% compared with 2018 and from the average of (2008-2017), confirms the stability of this parameter over the period.

GVA in 2019 decreased 4% and 3%, respectively compared with 2018 and over the 2008 to 2018 period, gross profit decreased 13% and 9%, respectively.

### Resource productivity and efficiency indicators

The gross profit margin in 2018 was 24%, indicating a satisfactory operating efficiency of the sector.

The RoFTA has been improving since 2012, where it achieved a minimum of 6.8% due to drop of landings revenue and high fuel prices. Since then, decreasing operational costs have been observed, due to the reduction of fuel prices. This decreasing has contributed to a better economic performance of the fishing fleet reaching the maximum values in 2016 and 2017 of over 20%. Due to changes in the estimation of the consumption of fixed capital in 2018, the value of RoFTA drops to 13.4%. In 2019 RoFTA reached 9.1%.

Labour productivity (GVA/FTE) increased in 2019 to EUR 31 900 (+3.0% in comparison with the previous year).

Fuel consumption was 490 litres per tonne landed (-8.0% in comparison with the previous year). Landings in weight per unit of effort (in days at sea) were 533 kg/day (+3.0% in comparison with the previous year).

## Performance by fishing activity

### Small-scale coastal fleet

In 2019, SSCF comprised 2 888 vessels, GT of 6 998 and total power of 101 318 kW. The majority of SSCF, up to 51.4%, operated along the coast 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 41% of SSCF value of landings. Pelagic and Demersal species like chub mackerel and conger are, in weight, the following species that with cephalopods represents 45% of SSCF landings. FTE correspond of 33% of the FTE national. The average fleet activity in 2019 reached a value of 72 days at sea/vessel.

Landings in weight decreased 5% and 2% in value compared to 2018. When compared with the period (2008-2018) the live weight of landings decreased 7% but the value increased 8% following the trend of improved fish prices this fleet segment. In 2019, landings from the SSCF represented 11% in weight and 24% 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 GVA decreased 3% and gross profit generated by the SSCF in 2019 decreased 8%. The performance of the fleet has improved consistently since 2012 to 2018 but suffered a deterioration in 2019. It is important to notice that this part of the national fleet contributes significantly to the economic and social sustainability of local fishing communities. Projections for 2020, suggest that the SSCF continued to decrease in capacity (number of vessels, GT and kW) but an improvement is expected in terms of economic performance.

The cost structure of the fleet remained stable over the period 2008-19, with wages and salaries of the crew being the major cost and highly linked to the income from landings.

## Large-scale Fleet

The LSF comprised 735 vessels and it represents 20% of the active Portuguese fleet. The majority of the LSF use mobile gears (purse seine, demersal trawl and dredges). FTE correspond of 63% of the FTE national. In 2019, the activity increased 10% in landings weight, but the total value remained almost the same as the previous year. The economic performance (GVA, gross and net profit) deteriorated when compared to 2018 (-4%, -17% and -31%, respectively).

## Distant water fleet

The distant water fleet comprised 17 surface longliners, two less than the previous year. In 2019, the fleet generated 268 FTE. In terms of economic performance, the fleet showed an increase of GVA and gross profit of 1% and 12%, respectively.

## Outermost region fleets

### Madeira

The Madeiran fleet consisted of 87 active vessels in 2019, GT of 1 616 and an engine power of 9 102 kW. Most of this fleet belongs to SSCF (89%). The Madeiran fleet develops its activity mainly in Subarea 2 ZEE-Madeira, with vessels operating in certain seasons of the year in Azorean. Most of the active vessels operated with long-lines and the most representative species are black scabbardfish and tunas, representing 53.2% and 35.7% of total landings, respectively.

### Azores

In 2019, the fleet of Azores consisted of 539 active vessels, 6 195 GT and an engine power of 38 165 kW, 83.7% of this fleet belongs to SSCF. The Azorean fleet develops its activity mainly in the Azores EEZ and operates mostly with longliners (81.3%) and polyvalent passive gears (9.8%). The most representative species are: tunas (30.7%), veined squid (22.7%) and blackspot seabream (15.5%).

## Other fishing regions

### NAFO

The fleet operated in NAFO waters is composed by nine vessels (DTS40XX) with a total capacity 17 770 GT and 19 222 kW. In 2019 the average effort in this region was 229 fishing days per vessel and the catches for each fishing day were around 7.8 tonnes. The most representative species are Atlantic redfish (50.8%), Atlantic cod (32.6%) and Greenland halibut (12.8%). In terms of operation seven vessels operated exclusively on NAFO area and the other two also operated in NEAFC.

### NEAFC

In 2019, Portugal had three vessels targeting Atlantic cod and redfish in the NEAFC regulatory area. This fleet belongs to the DTS40XX segment and had a total capacity of 5 752 GT and 6 678 kW. In 2019 the average effort in this region was 91 fishing days per vessel and the catches for each fishing day were around 9.0 tonnes. The most representative species are Atlantic cod (62.2%). Atlantic redfish (34.8%). Only one vessel operated exclusively on NEAFC.

### ICCAT

All the regions of the Portuguese fleet (outermost and mainland) operate in ICCAT zone and catches species assessed by this organization.

The main species and stocks regulated by ICCAT targeted by the EU vessels are:

- Tuna (major sp.) - 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 sp.) - Atlantic and Mediterranean swordfish (SWO), blue marlin (BUM), Atlantic white marlin (WHM), Atlantic sailfish (SAI)
- Sharks (major sp.) – 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)

Based on what was decided in the EWG 21-08 EWG, the ICCAT fleet is obtained using the following criteria: vessels over 18m in length where the value of ICCAT main species represents at least 20% of the total value of landings. This fleet is composed by 68 vessels (23 from Azores, 38 from mainland and seven from Madeira) with 12 281 GT and 28 098 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 full assessed by ICCAT, represent 8.6% of the Portuguese landings, 10.5% in landing value. The main species in value by this fleet are: blue shark (33.5%), swordfish (25.2%) albacore (15.5%), bigeye tuna (12.3%) and skipjack (4.5%).

### IATTC

In 2019, Portugal had four vessels targeting big pelagic species in the Pacific Ocean, in the area regulated by the Inter-American Tropical Tuna Commission. Two of these vessels operated only in this region while the others also fished in the ICCAT regulated area. This fleet belongs to the HOK40XX and HOK2440 segments and has a total capacity of 1 718 GT and 2 745 kW. In 2019 the average effort in this region was 188 fishing days per vessel and the catches for each fishing day were around 2.1 tonnes. The most representative species are swordfish (53.8%) and blue shark (30.8%).

### IOTC

In 2019, Portugal had three vessels targeting big pelagic species in the Pacific Ocean, in the area regulated by the Inter-American Tropical Tuna Commission. This fleet, composed of longliners up to 24 metres, is exclusively affected to the IOTTC area and has a total capacity of 1 009 GT and 1 502 kW. In 2019 the average effort in this region was 293 fishing days per vessel and the catches for each fishing day were around 1.2 tonnes. The most representative species are swordfish (47.7%) and blue shark (37.1%).

## Performance results of selected fleet segments

The Portuguese fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Portuguese Exclusive Economic Zone (27.IX.a for the mainland fleet, 27.X for the Azores's fleet and CECAF 34.1.2 for the Madeira's fleet). The national fleet consisted of 53 (DCF) fleet segments in 2019 and six inactive length classes. A short description of the most important segments is provided below.

**DTS40XX IWE (mainland fleet)** – 10 vessels made up this segment which operates predominantly in Area 27 and 21 (NAFO, Norway, Banana hole and Irminger). The fleet targets a variety of species, in particular, Atlantic redfish (45.5%), Atlantic cod (36.3%) and Greenland halibut (11.2%) of the total value of landings. In 2019, the value of landings represents 12.9% of the total landing value and the FTE 2.9% of the national value. This fleet segment shows a significant improvement in the economic performance in 2008-2017 period where the net profit margin reaches to a maximum of 31%. In 2019 the net profit margin profit decreases to 13% (-54% by comparison with the previous year).

**DTS2440 (mainland fleet)** – 56 vessels made up this segment in 2019, which operates predominantly in Area 27 (27.IX.a and 27.VIII.c); the fleet targets a variety of species but in particular Atlantic horse mackerel (21.1%), deep water rose shrimp (13.5%), blue whiting (12.6%) and Atlantic mackerel (11.9%). In 2019, the value of landings represented 11.6% of the total landings value and the FTE 6.7% of the national value. The fleet segment reported a negative net profit 2.53% (-114% by comparison with the previous years).

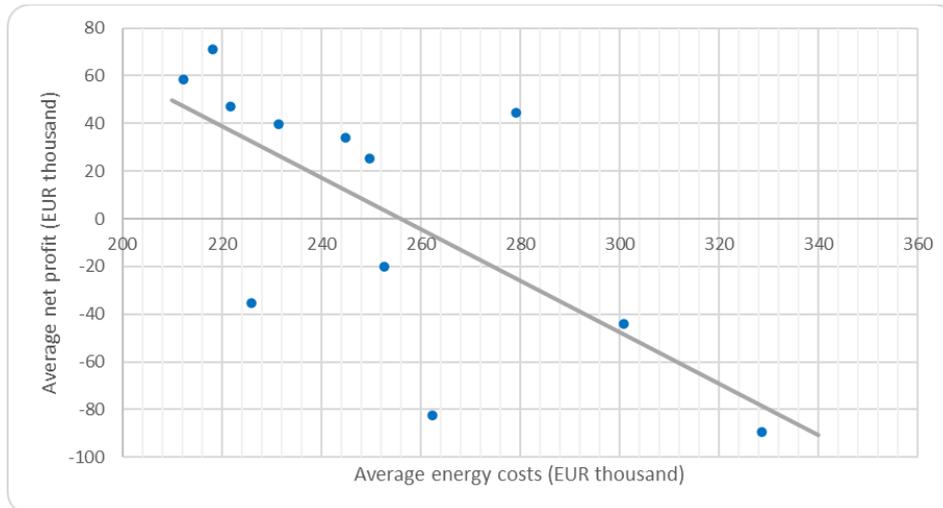
**PGP0010 (mainland fleet)** – This fleet segment represents the major one with 1 423 vessels. The fleet targets a large variety of species, such as common octopus (14.8%), common cuttlefish (13.6%), European seabass (10.2%) and meagre (6.1%). In 2019, the value of landings represented 9.3% of the total landings value and the FTE 14.3% of the national value. Net profit margin reached 24.7% (+28% by comparison with the previous years). The average price per kg continued its upward trend in 2019, contributing to the stability of the segment.

**PS1824 (mainland fleet)** – 52 vessels made up this segment in 2019. The fleet targets small pelagic fishes, such as Atlantic pilchard (28.4%), chub mackerel (26.8%), European anchovy (26.5%) and Atlantic horse mackerel (14.9%). In 2019, the value of landings represented 8.1% of the total landings value and the FTE 8.2% of the national value. Net profit margin reached 12.3% (+41% by comparison with the previous year).

**Hooks 24-40m IWE (mainland fleet)** – 13 vessels made up this segment in 2019, operating in Areas 27, 34, 41, 47, 51, 57, 77 and 87 (ICCAT, IOTC, IATTC) catching large pelagic species. Blue shark (52.2%), swordfish (30.2%), shortfin mako (5.7%) and yellowfin tuna (4.4%) represented the major species in value of landings. In 2019, the value of landings represented 4.2% of the total landings value and the FTE 2.5% of the national value.

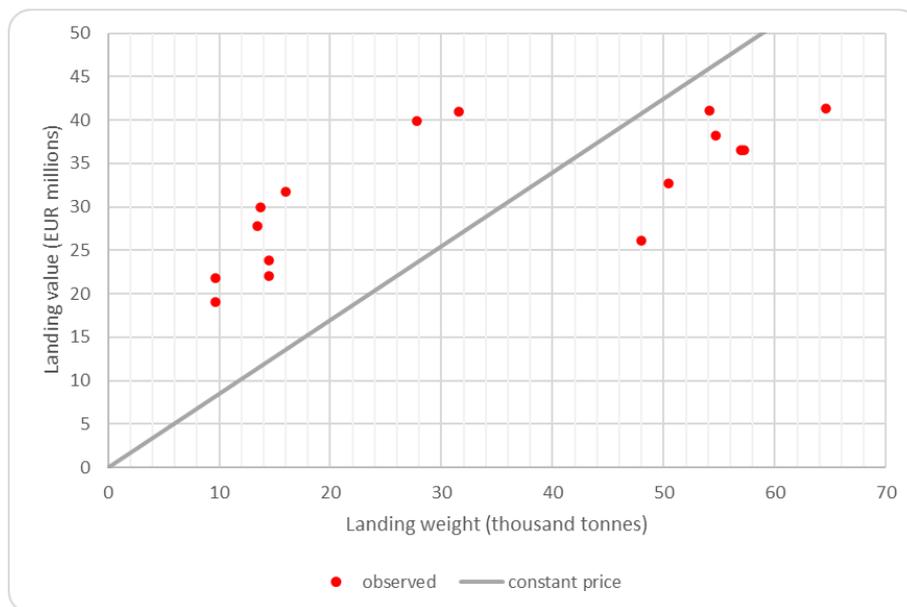
## Drivers affecting the economic performance trends

Fish prices, fuel costs and effort are the main driving forces behind the overall fleet performance. Historical correlation between fuel costs and net profit can be found in DTS and HOK LLS (surface long lines) fleet segments.



**Figure 4.18. DTS2440 – Relation between fuel costs and net profit (2010-2019)**

In general, the increase in the average prices was a consequence of the lower availability of fish (supply and demand). The strong decrease of sardine landings, traditionally the most caught species in Portugal, did not affect, in the same manner, the landings value. In fact, the landings value for 30 000 and 60 000 tonnes were similar.



**Figure 4.19. DTS2440 – Relation between landing weight and value for the Iberian sardine (2010-2019)**

## Markets and Trade

Landings in foreign harbours represents around 13% of the total landings. The most important countries are: Spain (71.2%), Cape Vert (6.8%), Germany (5.5%) and Uruguay (5.2%).

The number of recognized Producers organizations is 17 (one more than in 2018), in which 14 are based on mainland. These organizations account 47% of total active vessels. Purse seiners are the most represented segment in those structures and sardine, horse mackerel and chub mackerel the main species landed. Around 96% of sardine, 87% of horse mackerel and 83% of chub mackerel landed in Portugal were accounted to producer's organizations.

The average price of fresh fish landed in 2018 in national harbours decreased 5.3% in relation to 2017, from 2.20 euro/kg to 2.08 euro/kg.

## Management instruments

As in previous years, the Portuguese Administration applied a variety of tools to manage national fisheries and to respect international fishing agreements and partnerships. The overarching objective

of the policies followed is to achieve the MSY in all fisheries where Portugal maintains commercial interests, either within or outside the borders of the EU.

Therefore, year after year, the trend in the number of licenses follows a decreasing trajectory even when momentary pending commitments require the restitution of some fishing permissions that had previously been suspended. This policy, however, is not draconian, in the sense that under specific circumstances, the administration allows gear transfers between vessels, providing that both economic viability and general health and safety of those aboard the vessels are improved, without any increase in the deployed effort.

In general, the condition of most EU stocks has been improving, much in response to the firm management commitments, which have allowed the concomitant improvement in fishing opportunities and the reinforcement of the profitability of the commercial operations.

In 2019, the following measures and management plans / adjustment of fishing effort or capacity control schemes were in force:

- In 2019 the Recovery plan for Southern hake and Norway lobster stocks in the Cantabrian Sea and South Western Iberian waters was revoked and in its substitution came into force a multiannual plan for stocks caught in western and adjacent waters, which applies to demersal stocks (hake, Norway lobster, seabass, megrim, anglerfish and common sole) and deep-sea stocks (black scabbardfish and Red seabream). The plan, implemented on an ecosystem-approach to fisheries management, aims to maintain these stocks above levels which can produce MSY.
- Fishing permit limitations were issued for all vessels operating in deep waters (in compliance with the EU Regulation 2016/2336), in different capacities depending on the individual history of recorded catches, resulting in a limitation of the species and quantities allowed, having nonetheless not changed the total number of licenses.
- Several modifications and various tuning decrees were published throughout the year, aiming to adjust the fishing effort to new rules of management and permitting a rapid response management plan to further promote the recovery of the Iberian sardine stock. After an assessment conducted by ICES revealed that the former management plan was not likely to fulfil the objectives, new rules had to be introduced even before a new plan could be evaluated;
- Adjustment of fishing effort for surface longline vessels targeting swordfish in the north Atlantic with the aim to maintain the sustainability of the fishery. A capacity reduction objective still exists, aiming to allow an adequate balance between fishing effort and available quotas;
- Eel management plan, including fishing gear restrictions, limited catching seasons and a complete ban on recreational fishing.

## TACs and quotas

Fishing opportunities were kept mostly unaltered in 2019. The stock of horse mackerel was in excellent condition, providing very significant fishing opportunities and having become the dominant stock in Portuguese TACs, accounting for more than 50% of all fishing opportunities. This implies that this stock accounts for most of fluctuations in global opportunities. As it is being managed at MSY, any small fluctuations in the MSY reference level could have large implications to the overall Portuguese fishing opportunities.

The reference period for the TAC for anchovy changed in 2018, and a quota was established from 1 of January of 2018 to 30 of June 2019, and forward from 1 of July to 30 of June of each year. So comparing the same period of time, in general the reduction was about 29%, which was a big problem for the purse seine fleet that has been the most affected by the condition of the Iberian sardine stock, one of the few stocks as yet to be sustainably managed.

Skates and rays in 2018 showed a significant recovery, having allowed an increase of 10% of the fishing opportunities for 2019. Of particular relevance is the condition of the stock of Norway Lobster in Portugal, one of the areas where functional units of the stocks of this species are no longer overfished. In response to this management success, the quota went up by 5%. Similarly, the condition of the megrim stocks has improved substantially, resulting in an increase of 25% in the fishing opportunities.

In the opposite direction, the perception of the condition of the stock of hake has remained poor, albeit based on questionable assumptions, despite that Portugal manage to have a rollover of the fishing opportunity.

For deep sea species fishing opportunities there was a reduction for almost all stocks (black scabbardfish 6%, alfonsinos 10% and red seabream (FAO 27.9) 9%) and an increase of 7% of the quota of red seabream caught in area 10. This decrease in deep sea species quota is related with the need to protect these vulnerable stocks in order to maintain a sustainable fishing effort.

The state of exploitation of the resources captured by the Portuguese fleet in national waters continues to show a positive evolution, with fluctuations more compatible with the natural evolution of living stocks managed at MSY.

As is commonly done, during 2019 there were several fishing opportunity swaps with other Member States sharing the same management units. The quotas available for undulate ray, megrim, anglerfish, red seabream (FAO 27.9) and swordfish (Atlantic Ocean, north of 5° N) were increased through the mechanism of exchange quotas between Member States, as provided for in Article 16(8) of the Regulation (EC) No 1380/2013. An additional increase in quotas was also possible for anglerfish, black-scabbard fish, herring, , hake, horse mackerel (FAO 27.8c and 27.9), megrims, mackerel, red seabream (FAO 27.9 and FAO 27.10) and blue whiting, from the quantities initially allocated, through the mechanism provided for in Article 4 (2) of Regulation (EC) No 847/96, allowing the transfer to the following year up to 10% of the allocated and unused quota of units subject to an analytical assessment.

Portugal also has fishing possibilities under the regional fisheries agreements in the field of international waters and the fishing protocols annexed to the partnership agreements of the European Union and third countries for exclusive economic zones. In the case of Regional Fisheries Management Organizations (RFMO), the activity of the national fleet is traditionally carried out in the areas of NAFO, NEAFC, ICCAT, IOTC, and IATTC. Under the Sustainable Fisheries Partnership Agreements (SFPAs), between the European Union (EU) and third countries, in 2019, fishing opportunities were used only on the West African coast under the protocol of Morocco.

As for ICCAT managed resources, in 2019 we highlight the increase in the Bluefin tuna Portuguese quota (from 470 tonnes to 520 tonnes) and a 20% decrease in the swordfish south national quota (from 508 tonnes to 417 tonnes). Swordfish and blue shark remain the main targeted species for the surface longline segment, while tropical and northern albacore is the main targeted species for the bait boat segment from Azores and Madeira and considering the flexibility introduced by a recommendation in 2018 the vessels from those Portuguese Archipelagos operating with bait boats are allowed to fish Bluefin tuna directly in 2019. During the 2019 annual meeting, ICCAT agreed for the first time on a TAC for the North Atlantic blue shark caught in association with ICCAT fisheries as well on the allocation key. No relevant changes occurred in the tropical group of species, where bigeye and skipjack are the two main species for the bait boat and artisanal/small-scale fisheries of Azores and Madeira. Nevertheless, it is worth mentioning that was adopted a new recommendation for the conservation and management of tropical tunas that leverage a reduction in the Portuguese quota due to the new allocation scheme because of the state of the bigeye tuna stock.

As for IATTC managed resources, in 2018 we have to mention the entrance in force of a recommendation for the conservation measures for yellowfin tuna, bigeye tuna, and skipjack for 2018 to 2020. Four vessels were actively operated in the IATTC area during 2019.

In the IOTC Area of Competence, three vessels were actively operated in 2019.

In the Northwest Atlantic, there was an increase, during 2019, of 6355 tonnes on the NAFO 3M cod which is one of the most important species caught in that area. Overall, the remaining NAFO species observed certain stability concerning the established figures.

Regarding Northeast Atlantic, there was a reduction of 500 tonnes in the TAC for redfish in the Irminger Sea, during 2019, which meant a reduction from 129 tonnes to 118 tonnes compared to the previous year, maintaining the descending trend. In general, the species regulated by NEAFC remained stable.

Concerning the other stocks, there was a decrease in quantities, specifically on the Norwegian and Svalbard cod, which observed a decrease of 1 490 tonnes and 1 885 tonnes, respectively.

As regards partnership agreements with third countries, there has been a further decrease in licensing since last year.

With regard to the Fisheries Protocol with Morocco, in 2019, it was possible to license only one Portuguese longliner vessel for Moroccan waters, (one less than in 2018).

## Nowcasts for 2020-21 and beyond

### Model results

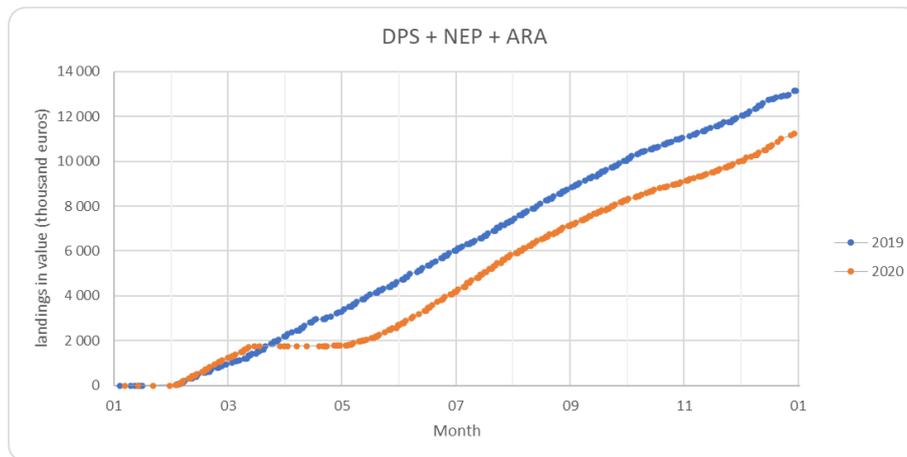
Preliminary results for 2020 forecast that landings in weight increased slightly compared to 2019 (+0.7%) while the value of landings remains almost the same (+0.2%). In relating to costs for 2020, a 4.2% decrease is expected for the main cost's items (labour and fuel). Estimates suggest that the economic performance of the fleet was better off than in 2019, with improved GVA (+7.7%) and gross profit (+20%).

Nowcasts for 2021 suggest that a decrease in the weight and value of landings (-3.1% and -1.5%, respectively), will lead to a worsening of the economic performance.

### COVID-19

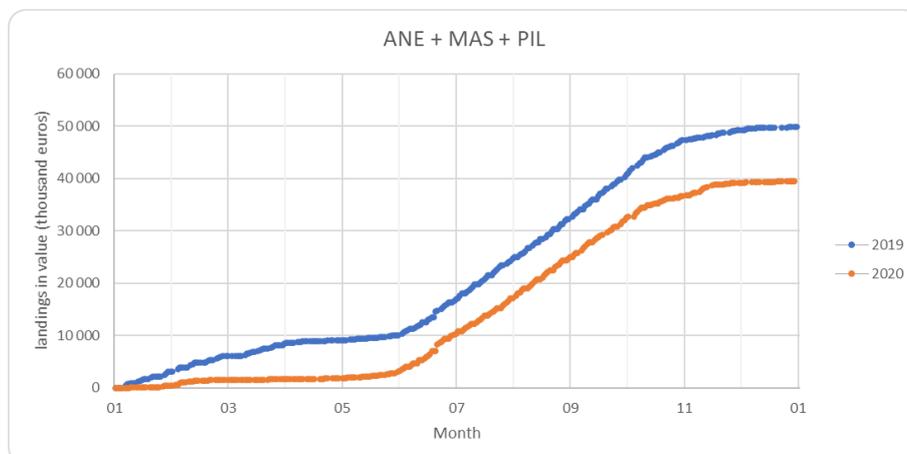
In 2020 two different aspects affects fishing activity related to COVID-19: market and health. One of the major fleet segments affected by this epidemic concerning to market reasons was the DTS catching crustaceans (DPS-Deep-water rose shrimp, NEP-Norway lobster and ARA- Red shrimp are the main target species).

This fleet operates mainly in south of Portugal (Algarve) and the main market is Portugal and Spain for fresh consumption, mainly for restaurants. The prices for all species just drop in the beginning of the pandemic crisis in Portugal and all fleet stops in middle of march. Few vessels return to activity in the end of march, but the major fleet only started to operate in beginning of May. The next figure illustrates accumulated landing values for the most important species (source: first sales in Portuguese ports).



Accumulated landing value DPS + NEP + ARA

Landing and revenues in 2020 for this fleet segment were affected by the drop of fish prices due to the observed lack of demand for these species and cessation of activity. In 2020 the landing value for these three species decreased by 15% when compared with 2019.



Accumulated landing value ANE + MAS + PIL

Another reason for the cessation of activities was the health care of the fishers. Keeping the social distance in fishing vessels is a difficult task. This aspect is particularly relevant in the purse seine fleet

segment where the number of crew is high, the crew area is small and normally the fishers stay in the sea overnight. Almost all the purse seine fleet only start activity in beginning of June.

The previous figure illustrates time history of accumulated landing value of the most important species targeted by purse seiner fleet segments for 2019 and 2020: Anchovy, chub mackerel and Iberian pilchard. In 2020 the landing value for these three species decreased 20% when compared with 2019.

The remaining coastal fleet was also affected by the COVID-19 pandemic. According to the provisional Portuguese statistics for 2020 the landings in fresh fish in national ports, which normally represents 75% of the overall in weight, decreased 24.4% in weight and 12.5% in value (EUR 32 million) when compared to 2019.

Provisional data for landings in foreign ports and frozen fish in national ports reveals a decrease in landings of 4.5% when compared to 2019.

Despite the economic performance could not be so affected since lower fuel and labour costs are expected, the pandemic caused a social and economic issues for the national fleet, especially for the coastal fleet.

## **Landing obligation**

The socioeconomic impacts of the landing obligation were not yet evaluated. However, the feedback from the sector reports difficulties of improving selectivity in mixed fisheries without economic losses for fishers. In fact, commercial losses generated by selective devices that allow the greatest escape from unwanted catches are not always compatible with the economic balance of the fleets. There are studies indicating that those technical devices may generate a forecast turnover below the economic profitability limit of the companies.

## **Fleet structure**

Since 2005 (year when the public support to new vessel construction stops) the investment costs with new vessels construction are very close to zero, since the fleet renewal represents only 0.1% of the total capacity (GT and kW) per year.

Maintaining the renewal indicators in the observed levels for the period 2005 to 2019 can compromise all the fishing activity in the future.

The main factors related to that are: the instability for the TACs and quotas for the future, the problems with the past financial sector in Portugal and the difficulty of new investors enter in this activity, since if a new investor wants get in this business with a new production unit (new vessel), first she/he has to buy an old equivalent one and after that scrap the vessel, which will represent a large investment.

It is observed also that the ship owners tend to keep the vessel to an over age limit, doing only some repairs, since they have size constrains for the new vessel, which represents a large investment that for one unit that will be equivalent in terms of GT to the one they own.

## **Data issues**

### **Identify changes in respect to previous years.**

Some works were be done to improve the data, using cross check tools between the several sources of information.

### **Improvements achieved within 2019 data collection.**

Efforts were made to increase the number of inquiries response achieving 39% of the total active fleet plus the vessels with at least one valid licensed int the last ten years (26% in 2019).

The number of responses could have been bigger as shipowners tend to rely on accountants and associations in the sector and the restrictions imposed by COVID-19 probably has hindered or prevent contact with these agents.

### **Problems identified.**

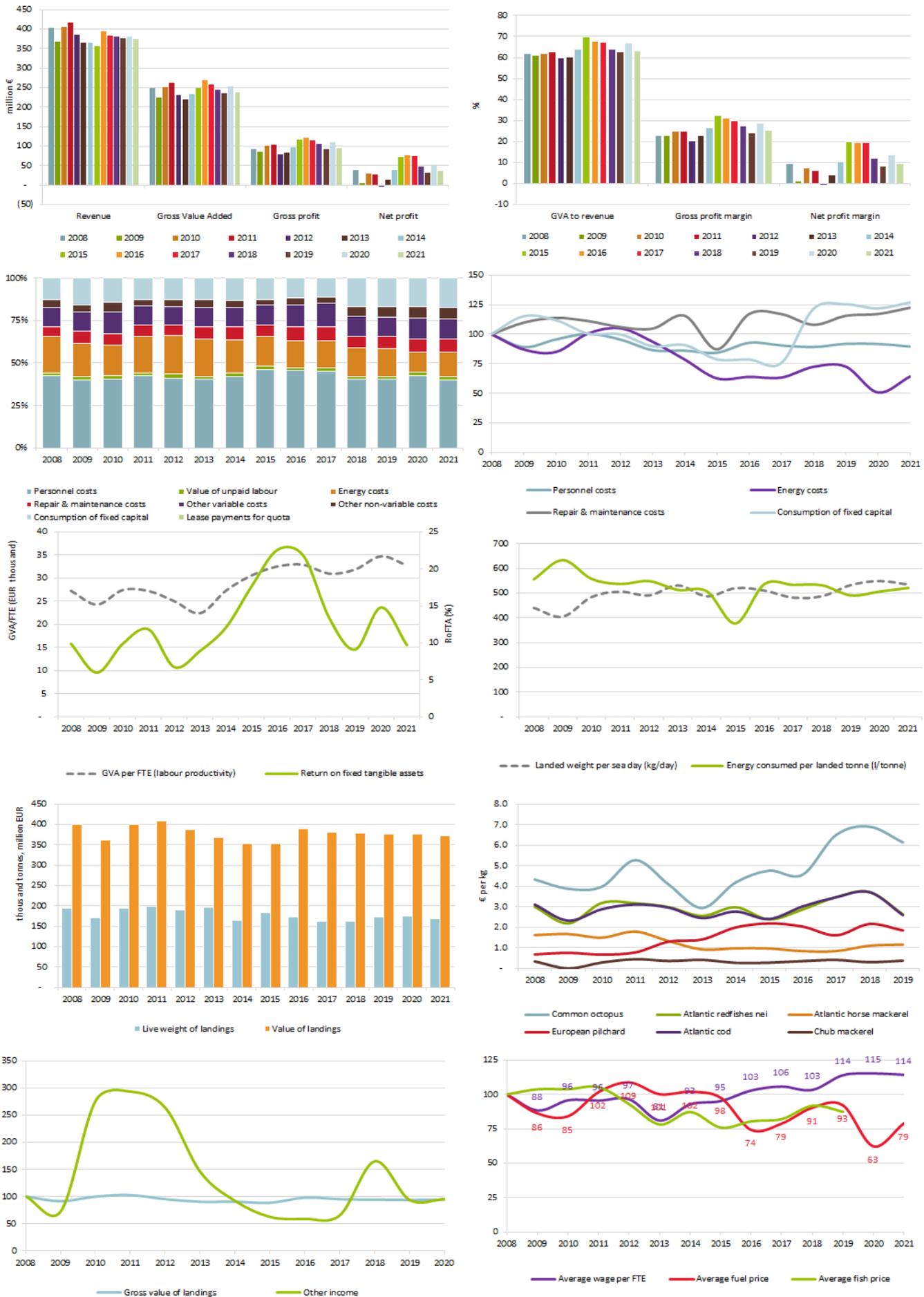
It was planned to implement some improvements in data collection through the cooperation of associations and auction houses, but it couldn't be done due to the difficulties in holding meetings with externals in the COVID-19 context.

One of the difficulties encountered is linked to the fact that in many cases the surveys are answered by accountants who, in many cases, biases the answers because they have a different view from that of economists.

### **Remaining issues**

In 2021 efforts will be done to migrate and analyse the data only in the new platform. Portugal has now legislation that will make mandatory the response to the questionnaires.

It is intended to change the survey so that it is adapted according to the vessel's fleet segment and thereby obtain better answers.



**Figure 4.20 Portugal: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.19 Romania

### Short description of the national fleet

#### Fleet capacity

In 2020, the Romanian fishing fleet consisted of 175 registered vessels, with a combined gross tonnage of 1 620 GT (+ 60 GT compared to 2019) and a total power of 6 278 kW (-43 kW compared with 2019), 130 active vessels and 45 inactive vessels, 25.71% from the total; 74.29% of vessels in the FFR were active. The size of the Romanian fishing fleet continues decreasing between 2008 and 2020, by 226 vessels, a decrease of 60%, due to the scrapping vessels, mainly. Total engine power decreased in the same period registering in 2020 a total GT 1 620, comparing with level of GT 2 340 in 2008, a decreased percentage of 31%, and 6 278 kW, a decrease comparing with 2018 -8 717 kW, of 28 %. The number of passive vessels is still high – 25.71%, and 45 as number due to the seasonal activity of vessels in SSCF segment, and an inconstant fishing activity of fishes on this segment, direct linked with the decline of economic interest due to the less demand of the market for pelagic fish species; the market is facing high competition from supermarket chains, and, not secondary, other cause is the 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 fishing plan, annual and multiannual for the stabilisation of the sector as a whole; also, the representativeness in the Black Sea Advisory Council is not strong, not at parity level with Bulgarian members.

Should be underline the unsatisfactory fishing infrastructure, not a spatialized fishing port in Romania, due to the incapacity of management authority on European fishery fund implementation in the past, nowadays a project for modernization of the existing fable facilities on Midia port, North part of Romanian fishing area in the EEZ waters, is still under preliminary phase of implementation, hopping to become operational in 2022/2023. The fishery infrastructure on the onshore is defined by landing points located really, on the beach, 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.

#### Fleet structure

The fishing fleet in 2020 is composed by a small-scale fleet segment up to 12m length (small boats with or without engine) 104 active vessels, as number, that represents 59.43%, that can be considered as the main segment of the fleet SSCF. The segment SSCF is for 1 618.19 kW, and 300 GT. The difference of 40.57% are for other fleet segment – large scale fishery LSF - 12-40m, comprising in only 26 vessels as number, but counting for 4 452.38 kW and 1 241 GT.

The number of fishing vessels has considerably decreased by removing inactive vessels (the reason being: poor technical condition, no annual frequent activities, orientation to other activities, like: tourism, commercial fishing in continental waters, even owning some restaurants, etc., starting in the year 2012.

The general objective of Romanian authorities is to have a fishing fleet, as “minimum vitalis” level, due to the ceiling capacity imposed by the CFP Regulation EC no. 1378/2013, annex 2.

A large number of poorly equipped small-scale fishers, inadaptability of large-scale fisher, along with the discordance among fishing, producing and marketing capabilities brought the sector to a dependency observed by the decrease of total landings, both in volume and value, that will be analysed in the next chapters.

#### Employment

Total engaged crew in 2019 totalized 416 jobs, higher number than in 2018 – 405, a plus of 11 jobs, increase by all most 3%; the same number of jobs is foreseen in 2020 that could be evaluated as a stability of the fishery, as a whole. The level of employment decreased, between 2008 and 2019, from 875 jobs in 2018 till 416 jobs in 2019 and 2020, employment decrease achieving a rate of around 56%.

In SSCF segment total employment in 2020 was estimated at 300 jobs, corresponding to 17 FTEs. The level of employment decreased between 2008 and 2019, from 790 jobs in 2018 till 301 jobs in 2019, employment decrease achieving a rate of around 62%, and FTEs by 29%. For 2020, actual number of

fishers authorised for fishing activities totalise 300 engaged crew, that's include a number of scuba-divers on Rapa whelk fishery, corresponding to a number of 17 as FTE.

The average wage, based on total personnel costs (total crew) and value of unpaid labour, amounting EUR 419 224, is EUR1 398/per capita in 2019, and in 2020, the figures are: total personnel cost EUR 316 224, average wage EUR 1 054/per capita. Should be emphasize that the total revenue accounting only from value landings (no other income or subsidies declared/reported) and it is causing a significant reduction of average wage by 25% in 2020 comparing with 2019.

It is also a negative impact on less demand encountered on the market, as significant issue, especially for Rapa whelk and Turbot species, due to the COVID-19. Also, total landings as volume and value decreased in 2020, comparing by 2019, as above mentioned.

For LSF segment, total employment in 2020 was estimated at 117 jobs, corresponding to 22 FTEs. The level of employment increased between 2008 and 2020, from 85 jobs in 2008, till 95 in 2018, 115 in 2019 and 117 jobs in 2020, employment increase achieving a rate of around 112%, and FTEs by around 182% versus 2008. For 2020, actual number of engaged crew for fishing activities totalise 117, that's reflect the strategic target of national authorities to consolidate the segment.

The average wage in LSF fishery, as per the data provided, total personnel costs (total crew) and value of unpaid labour, amounting EUR 407 141, is EUR 3 540/per capita in 2019, and in 2020, the figures are: total personnel cost EUR 244 625, average wage EUR 2 091/per capita. Should be underline that the total revenue accounting only from value landings, as in LSF segment, caused a big decrease by around 41%, revealing the huge dependency of this fleet segment on Rapa whelk and Turbot species catches.

Also, the negative impact due to less demand encountered issue on the market, for both mentioned species, as in LSF segment, is observed because of COVID-19. Also, total landings as volume and value decreased in 2020, comparing with 2019, as mentioned above, by around 38% as volume and by around 41% as landings value.

Despite the COVID-19 the employment in LSF wasn't affected.

## Effort

The Romanian fleet spent around 5 619 days at sea in 2019, corresponding to a decrease of 31 days at sea comparing with 5 650 days at sea in 2018, a reduction of around 1%, totally insignificant. Comparing with the days at sea in 2018 of 3 728, an increase by 46% is observed. The decrease is comparable with the total landings reported by fleet. Also, similarity is encountered analysing the fishing days over the analysed period, namely in 2008, 3 651 total fishing days were reported, versus 4 907 total fishing days in 2019, the same trend is estimated for 2020 for around 3 957 total fishing days.

As in the previous report statement, the major factor causing this evolution is the number of days at sea spend by fishers manually catching Rapa whelk as scuba-divers, as well as trips for bigger vessels fishing Rapa whelk who is migrating to the North part of Romanian waters fishing area. The main characteristic of the vessels catching Rapa whelk, who counts for the most catches of this species in total fleet catches, is the use of PMP gears on the North part of the Romanian littoral waters, but not exceeding 24 hrs/day fishing operations. The SSCF is also catching Rapa whelk by scuba-divers, mainly, as well by FTO.

Both fleet segments reported small catches of pelagic species, comparing with Rapa whelk species catches, due to the market constant demand of Rapa whelk and the opportunities of this stock status relative stability, and limitations of turbot EU TACs, imposed in order to ensure the positive trend on increased biomass value of the stock in the area of the Romanian Black Sea waters. In 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 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.

## Production

The total weight of landings of the Romanian fleet in 2019 was 7 149 tonnes of fish and sea foods, comparing with 2018 (7 745 tonnes), and a total value of million EUR 4 025 in 2019, versus million EUR 3 998 in 2018. The decrease is explained mainly by the reduced quantities of Rapa whelk species landings. The current status of fishing in Romania is similar to 2017 and 2018. Fishing activities are being carried out only in the waters of the Black Sea under Romania jurisdiction. There are no fishing activities in other regions or catches of other species than in the area of Romania Black Sea coast. A

total of 25 different species were landed in 2019 counting for catches. Trends in landings were stable over time, with small pelagic species having a reduce percentage in the total landings' composition. Small pelagic species constituting as significant species in terms of volume, are represented by: sprat and anchovy - 0.12%, 1.21% in total landings, also horse mackerel and other pelagic species in small quantities.

The main landed catches as shared in total landings recorded, with major importance are: Rapa whelk - in 2019 year - 95.32%, catches increased over 2018 year - 94.65%, followed by Mediterranean mussels 2.22% in 2019 catches decreased over 2018 year - 2.97%, turbot - 0.75% in 2019 comparing with 0.74% in 2018 year, under approved TACs.

The vessels operate up to 30 - 35 marine miles out of shore. The climate conditions have a big influence on the presence of living aquatic resources in the area. Fishing activity is seasonal because of the strict dependence of the 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 stocks abundance 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 national jurisdiction of Romania, due to the limited capacity for navigation of the vessels. The quantity of fuel consumed in 2019 was around 218 000 litres, a decrease of 60% from 2008. The major factor causing this decrease includes the scrapping of several vessels in the fleet, including two of the largest vessels.

The average prices for the five key species are relatively stable for the years 2017 and 2018, except for turbot. This stock registered an increasing trend in price in the last five years achieving the highest value in 2016 (10.6 EUR/kg). In 2018, with a price by 7.6 EUR/kg, turbot represents the most valuable stock among the five key stocks exploited by the Romanian fleets. While the other four fish species have less level of prices, i.e., horse mackerel 2.4 EUR/kg, Mediterranean mussels -2.4 EUR/kg, European anchovy 1.1 EUR/kg and European sprat 0.7 EUR/kg, but the recorded quantities are very small. Should be mentioned that sea foods, like Rapa whelk for which is an increasing demand market fresh, whole, and counting more and more in total landings volume have just the level of 0.51 EUR/kg, as first sale prices.

## Economic results for 2019 and recent trends

### National fleet performance

In 2019 the amount of income from landings generated by the Romanian national fleet was around EUR 4 million. There is not any source of income from activities other than fishing. The total income of the Romanian fleet decreased by 11.5% between 2018 and 2017. Due to the reduced landings, Romanian fishers are looking for the opportunity to generate earnings in other industries, such as tourism. Total expenditure accounted by the fleet in 2018 equated to EUR 2.5 million. Personnel and energy costs, the two major fishing expenses represented together the 63% of total expenditures. Between 2008 and 2018, total operating costs increased by 252%, from EUR 1 million in 2008, up to EUR 2.5 million in 2018, largely due to increase of the fishing effort. In the last few years, starting in 2013, Romanian fisheries sector records an increasing landings value. The results of changes in landings are also increased depreciation costs, personnel costs, repair and maintenance costs (from 2013 to 2018), as well as total income.

Between 2008 and 2018, GVA recorded an increase of 455%, while gross profit and net profit increased by 38% and 86% from losses - 2008, to EUR 2 445, and EUR 1 948, respectively. Although the Romanian fleet is in weak economic condition because of old and poorly equipped fleet and reduced catches, still records positive trends on economic indicators. The explanation for the positive trend is, primarily, because of gross income from landings, and lack of other sources, as subsidies - i.e. In 2018, the physical capital value totalized EUR 8.9 million, and the investments amounted EUR 0.8 million.

GVA, gross profit and net profit generated by the Romanian national fleet in 2019 were estimated at levels of EUR 2.9 million, EUR 2.07 million and EUR 1.78 million, respectively.

### Resource productivity and efficiency indicators

The gross profit margin and net profit margin increased in 2019 compared to the 2008-2018 average for 56% and 143%, respectively.

Labour productivity (GVA/FTE) recorded an increase in the period 2008-2018 by 38%: GVA increased by 80% while the number of FTE increased only by 40% in the analysed period. The GVS/FTE reached the level of EUR 49 000.

The landed weight per sea day increased significantly for more than 1 069% from 2008 to 2018 reaching the amount of all most EUR 1 272 kg/day. One of the reasons for that is the increase of total landings of vessel fleet with high volume of landings and, subsequently, positive changes in the fleet composition by segments and its importance. Greater volume 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 a huge importance in total catches.

In 2019 RoFTA, amounting to 21%, increased comparing to the previous year, and increased by 61% comparing to the average 2008-2018.

The fuel consumption over the analysed period 2008 – 2019 status the evolution from a total fuel consumption in 2008 of 110 619 litters, to a total fuel consumption of 839 800 litters in 2018, and a total fuel consumption of 990 579 litters in 2019 and estimated total fuel consumption of 556 528 litters in 2020. The fuel consumption is explained based on direct proportionality between total landings in each analysed year evolution, that meant from a total live weight landings volume of around 444 tonnes in 2008, 7 745 tonnes in 2018, 7 149 tonnes in 2019 and estimated 4 463 tonnes in 2020, also consumption indicator was determined by the technical status of the engines of the vessels. In the next chapters the developed analyses will be provided for each fleet segment.

### **Social impact**

In Romania the marine fishing sector is very small and has a reduced importance as percentage on national GDP. However, it is still considered to have a social impact on just on the coastal region in terms of employment. Besides, this activity is also important for maritime identity and tradition. It is directly influenced by the seasonality of the tourism season. As said before, the value and volume of landings, as key drivers to have affect only on fishers, and also to the people on local communities. The local fish processing industry is less influenced by national fisheries because most of the raw materials are imported from other countries, mostly EU countries.

As FTE there is an increase by 7%, from 42 in 2008, till 60 in 2019. For 2020, actual number of fishers authorized for fishing activities totalise 416 engaged crew, corresponding to a number of 39 as FTE. Unpaid labour in 2020 was encountered, as a result of COVID-19 influence, a reduction of partly jobs.

In 2020, the number of fishing enterprises totalled 83 as number, with the majority around 69 %, owning a single vessel; around 30% of the enterprises owned two to five fishing vessels and just one owned six or more vessels. The number of enterprises owing one fishing vessel in the segments 00-12m represent the majority part of national marine fishing enterprises.

### **Performance by fishing activity**

The fishing fleet has totalized a number of 167 vessels in 2019, out of which 136 active and 31 inactive vessels and targeting different species only in the Black Sea EEZ waters of Romania.

#### **Small-scale coastal fleet**

In 2019, there were 113 active vessels classified in SSCF, representing 83% from the total number active vessels. The amount of income totalized by Romanian SSCF in 2019 was EUR 1.65 million, no other income was reported by fishers, as total income. Landings' income increased by 49% on the average level 2008-2018. In terms of economic performance, the amounts of GVA, gross profit and net profit generated by the SSCF were EUR 1.19 million, EUR 0.77 million and EUR 0.72 million, respectively. Compared to the average 2008-2018, GVA and gross profit increased by 63% and 109%, respectively, while net profit increased by 141%. It should be mentioned that in this fleet segment, the scuba divers collecting Rapa whelk manually are included. The increase of the gross profit and net profit, by 23% and 28%, respectively is mainly due to the decreasing personnel costs.

The most important factor with a positive impact on the improvement in economic performance in the period analysed included increases in the landing income in 2019 comparing with the period 2008-2018.

#### **Large-scale fleet**

In 2019 for the LSF fleet counted a number of 27 active vessels (20% from the total active vessels), with a total crew of 115 fishers an increase from 2018. In 2019, the income, as total revenue, generated was EUR 2.37 million, an increase of 100% compared to the average 2008-2018, but only

an increase of 6% compared to 2018. The main explanation is that in 2019 the total landings of 4 701 tonnes decreased, from 4 967 tonnes in 2018. The GVA amounted EUR 1 552 million in 2019, a substantial decrease over 2018, EUR 2 156 million, due to the decrease of total catches, as above mentioned. The gross profit in 2019 amounted EUR 1 295 million, a slash increase comparing by 2018 – EUR 1 190 million, counting for 9% increase. The net profit was EUR 1.056 million in 2019 and EUR 972 000 in 2018, an increase of 9% due to the diminished total landings as above mentioned, the decrease of Rapa whelk especially. The trends are for the same evolution over the analysed period 2008-2018, with small significant values and percentages, due to the high increase of total landings for both fleet segments, keeping the proportionality.

Due to the COVID-19 crisis the expectations are in decreasing profile and, also, to the decline in Rapa whelk total catches, the entire fleet being dependent from this stock species and catches.

## Performance results of selected fleet segments

In 2019 the entire active Romanian fleet generated a gross profit of EUR 2.07 million. The national fleet is characterised by four fleet segments and all of them made profits in 2019.

### Vessels using passive gears only for vessels 00-12m

The both fleet segments PG VL0612 totalised 51 active vessels in 2019 and the analyses is done considering the similarity of the both segments, the single difference between them being just the length of vessels. The value of landings was 2 448 tonnes and EUR 1.6 million, representing around 40% of the national fleet. This fleet registered a gross profit of EUR 0.77 million and a net profit of EUR 0.66 million in 2019. These vessels use passive gears (mainly traps) and include also fishers who catch Rapa whelk manually – scuba divers. The segment was encountered difficulties in the sale of fish catches, each crew acting on its own, mainly, due to the fact the enterprises are for one to five vessels. Both segments increased its landing values, in weight and value, conducting to a GVA EUR 1.79 million, gross profit EUR 773 million and net profit EUR 725 million; the catches are represented by small pelagic species: gobies, sprat, mugilidae, anchovy, and accidentally as not target species - turbot. The segments are used also for Rapa whelk fishery including the manual harvest of it by scuba-divers.

### Vessels using polyvalent fishing gears PMP 1218m

23 vessels operating in the Romanian coastal areas of Black Sea EEZ are targeting turbot, mainly with gill nets, and Rapa whelk using beam trawlers. In 2019 the landings in volume are for 3 615 tonnes and EUR 1.8 million and FTE is for 30, counting for 51% from total fleet FTEs. In 2019 this fleet segment made a gross profit of EUR 1 036 million, a net profit of EUR 0.855 million, around 50% gross profit, and around 48% net profit from total fishing fleet.

### Vessels PMP gears belonging to the segments 24-40m

The fourth segment of Romanian fishing fleet is PMP VL2440 – four vessels, as component, having the total value of landings totalizing EUR 1 055 tonnes, 15% of the total landings, and EUR 513 000 as value, 13% of the total fleet. These vessels target demersal species such as turbot and Rapa whelk. This segment includes mainly vessels using GNS for catching turbot, and beam trawlers for Rapa whelk. They are not specialized by gear types, switching from one gear to other pending on the abundance of both stocks during the year, and the market request.

For both fleet segments should be underlined the fact the catches are oriented mainly to Rapa whelk, and the small pelagic species representing small quantities in total catches.

## Drivers affecting the economic performance trends

The Romania catches in 2019 decreased compared to 2018 (-8%), while in 2008 the total catches were 444 tonnes. 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, who is leading to a dependency of the whole fleet of Rapa whelk catches. Also, the most valuable fish species caught, turbot, is subject to TACs limitation under EU Regulations, and this is resulting in a very limited money amounts earned by fishers.

## Markets and Trade

The trade balance in Romania for fish and sea food is negative. First of all, due to the small dimensions of the fleet and therefore, total catches, and also, due to the huge quantities imported by the super market chains. In 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 by the Romanian consumers for ocean fish species and other fish species not available in the Black Sea waters.

## Management instruments

In Romania, fisheries are the responsibility of the Ministry of Agriculture and Rural Development, having in subordination National Agency for Fisheries and Aquaculture, which implements the specific legislation for fisheries, as well as for the aquaculture sector. The Agency is in the way to implement the contract for a new information system and centralized data base of the agency, including – in a new component of the contract data collection data base, in order to connect data on marine species, landings, register of fishing fleet, and socio-economic data, as well as all other data covered by the DCF. The data will be available for each fishing vessel and enable assessment of the status in marine fisheries. It is the aim of this data base to be used for the improvement of management implementing aims such as, for adopting measures for sustainable development and for the CFP implementation strengthen.

Fisheries management is designed based on EU regulations/decisions who introduced capacity limitations and temporal restrictions (in the fishing seasons for turbot. i.e.). Romania's fleet capacity is very small comparing with the other riparian countries' fleets, in terms of total GT and kW. Should be mentioned that no modern fishing port is available, although, there is a new project for the modernization port of Midia in the next future. From 2019, the GFCM adopted rules for the monitoring of turbot fishery, introducing annually, catch limits for this stock, establishing a maximum number fishing days for targeting turbot and restricting the number of fishing vessels licenses.

## TACs and quotas

Romania has TACs for turbot and sprat, 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 days at sea and fishing days are adopted. From the provisional data available in 2020 year, the value of landings is decreased by 38%, in 2020 compared to 2019, as well as in value of landings. This is a result of limited fishing possibilities and COVID-19 effects.

## Operating costs

In the analysed period 2008-2019, the total costs of the fleet increased by 185%, due to changes in the fleet structure and due to the more than 10 times increase in total catches in this period. Personnel costs and energy costs, are the major expenditure items, with a 35% and 29% share of the total expenditures, respectively. This could be explained by the increased level of salaries during this period and also by the increased number of total weight landings.

## Nowcasts for 2020-21

Considering the estimated figures for 2020, the number of total vessels was diminished by eight vessels as number, but no significant increases in for total GT and kW are foreseen. These figures would no implicate changes, in terms of total jobs, but with a significant decrease as FTE, from a total of 59 in 2019 to a 39 in 2020, by 34% decrease, due to the COVID-19.

## Landing obligation

Landing obligation has a small impact due to the fact that the bulk of the fleet is composed by the SSCF. Its catches have no individuals caught under minimum conservation reference size required to be retained on board. Only, in the Rapa whelk fishery, the catches of under sized turbot individuals are subject to derogation granted for this fishery. Due to the very low catches, especially for the small pelagic species, for fishers is too costly to separate, store and land very small quantities (very often less than one kg), for vessels below 12m; this is representing a huge disproportioned burden, with implications on the financial costs and technical issues that are to be addressed, especially, by the fishers from SSCF, that occurred additional storage space and labour needs. These vessels are not suitable for investments allowing the execution of these operations.

## COVID-19

Starting in the beginning of March until middle of May, 2020 Romania declared the COVID-19 emergency situation. In the first 20-15 days, fishers were blocked in ports, and after that period the activity started again, but very slowly. Comparing the records received/collected by NAFA inspectors, the volume of landings was very small. Comparing the same period 2019/2020, quantities are around the same level, due to the fact that in this period of the fishing season the weather conditions are not so different. Additionally, the weather conditions are influencing the level of fishing activities; these activities depend mainly by the seasonality of touristic activity among the littoral, and the season is opening, usually, after 1 of June. This year opening was delayed to end June, but the influence hasn't importance for fishery due to the low level of catches, allowed under TACs limitations. Meantime the level of fishers engaged on, is relatively low, and decreased as FTEs in 2020, this situation conducted to less interest for authorities to adopt specific measures. Prices of some species increased in period March-May 2020 according to period March-May 2019, i.e. for turbot by 5%, but more influenced by the closure period of fishing starting with half of April. For fisheries no specific measures were adopted to balance the impact of COVID-19 crisis, due to small dimensions of the sector, and the bigger importance for agriculture issues and huge dimensions of super market chains importing and large quantities of fish and fish products, which includes fish species not present in the Black Sea area.

## National Fleet

During the analysed period 2008-2019, the fleet decreased by 279 in vessel numbers, by 26% in GT and by 21% in kW.

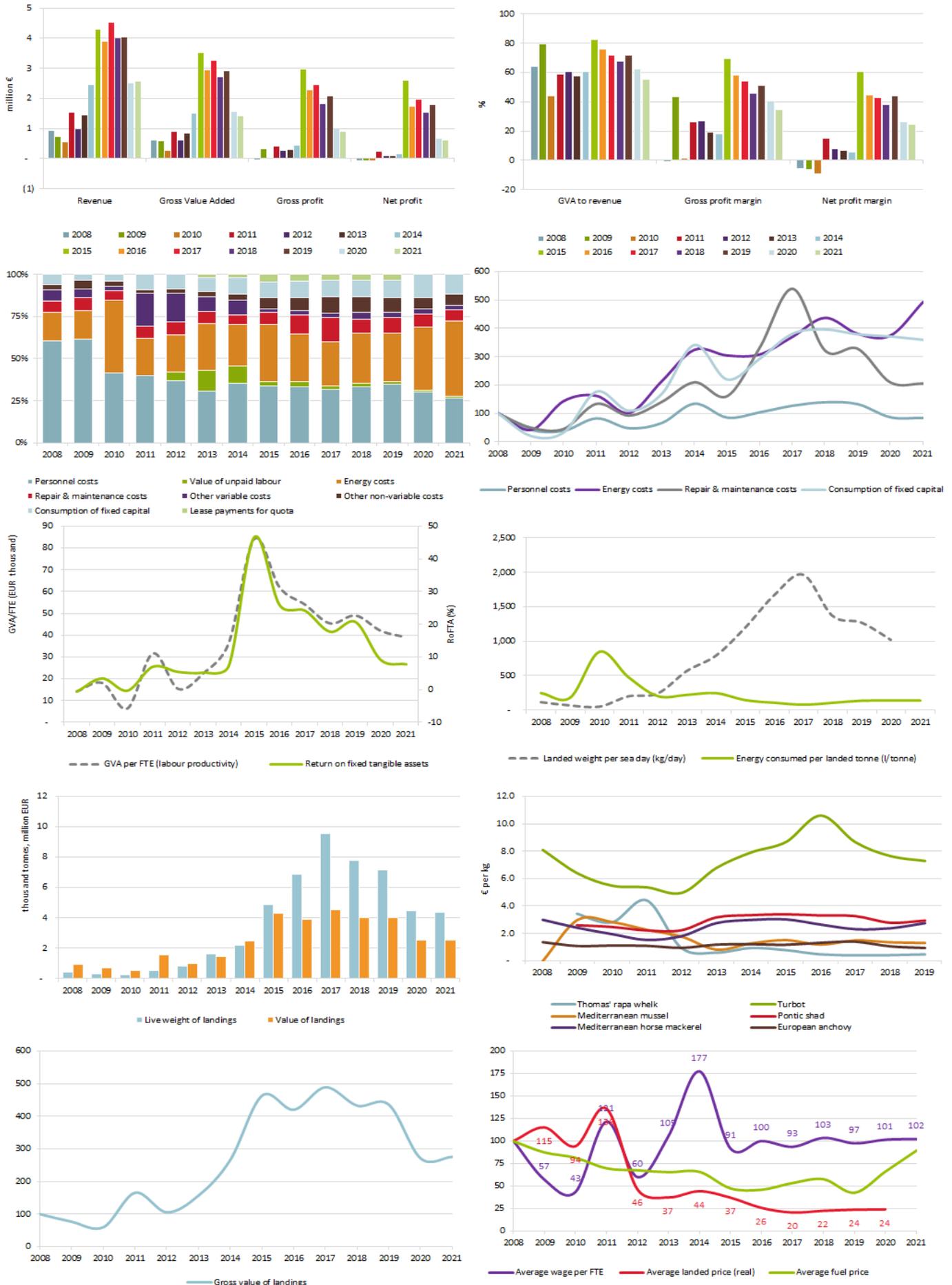
Should be underlined that, despite the percentage of the SSCF is still high around 83%, although the importance in total landings actually counts for just the 43%, because the captures of Rapa whelk species, mainly, performed intensively by the LSF segment, counting for 57% in total catches in 2019. This trend is foreseen also for 2020. In 2019 the positive trend regarding volume of landings cannot be expected. The landings volume and value, which depend on the status of fish stocks, are the main drivers for the Romanian fishing fleet. Also, the catches of small pelagic species are a main driver for fishers and authorities. The fleet is relatively old and poor equipped and in the next future no better results would be achieved, while the costs for repair and maintenance will remain high. They have the effect on all others economic and social indicators.

## Small-scale coastal fleet

The same aspects related to age and equipment of the fleet are the main constraints for the SSCF. This fleet depends mainly on volume of landings, and the fishing capacity for small pelagic fishes which is foreseen to don't be improved in 2019 and 2020. The variety of natural factors, mainly, the sea temperature, strong winds, especially on spring time and winter seasons, are limitations for this fleet segment. The segment is dependent on Rapa whelk stocks, as the whole fleet, and this issue should be addressed by the both national authority and fishers.

## Data issues

No specific issues were detected on the data submitted, considering the previous last annual report. It should be noted that the establishment/implementation of a centralized data base of national agency for Fisheries and Aquaculture will allow the increase in the process of collection, storage and cross-checking, and in general the quality of data. Due to the importance of data validation at national level, the member state is to improve the methods used in order to get better results, and having the capacity to obtain dynamic reports on further data analysis.



**Figure 4.21 Romania: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

Data source: MS data submissions under the DCF 2021 Fleet Economic (MARE/A3/ASC(2021)); All monetary values have been adjusted for inflation; constant prices (2015).

## 4.20 Slovenia

### Short description of the national fleet

#### Fleet capacity

In 2020, the Slovenian fishing fleet consisted of 136 registered vessels (a decrease of 1, 5% compared to 2019), with a combined 671 GT (-1% compared to 2019), a total power of 8 845 kW (-1% compared to 2019) and an average age of 43.5 years. The average length of the fishing vessels was 9 metres in the same year. The size of the fleet decreased between 2008 and 2020; the number of vessels by 25% and GT and kW by 32% and 17%, respectively. The major factor causing the fleet to decrease was the scrapping of vessels, including two of the largest vessels in Slovenian fishing fleet. A decrease of 22% in number of vessels is recorded in 2018 regarding 2017. In 2018, Slovenia updated the register of fishing vessels. All inactive vessels, with no fishing license, were, with the permission of the owner, deleted from the registry.

In 2020, there were 70 active vessels which represent 51% of all fishing vessels. The number of all active vessel increase by 7% from 2008-2015, while a decrease of 20% was recorded in 2020 to 2015. One of the reasons for the increased number of active vessels (2008-2015) is scrapping of some large vessels. Many fishers lose their jobs and decided to start fishing on his own. Also the economic crisis over the past few years had the similar effect on increased number of active vessels. One of the reasons for the drop from 2016 to 2020 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. Regardless of the increased number of active vessels, the number of passive vessels is still high. The case is complex and there are several reasons for this situation. One of the reasons is the high age of these vessels. Many vessels are very old and they are no longer suitable for fishing. Also many owners cannot fish anymore because they are retired but they do not have a successor to continue with the fishing activity. In many cases, fishers found a new job, because they could no longer earn a living from fishing, but still own the fishing vessel.

#### Fleet structure

The Slovenian fishing fleet nationally divided into SSCF (87% of all active vessels in 2020) with an engine power of 3 400 kW (-13% compared to 2019) and a LSF segment (13% of all active vessels in 2020) with an engine power of 1 700 kW (same value as in 2019). The number of vessels in the SSCF has increased almost 2% from 2008-2020, while the number of LSF vessels have decreased in 64% in the same period. Scrapping is the major factor for the decreased LSF. Additionally, those fishers who lost their jobs because of scrapping, starts to fish on their own, which results in a higher, number of small-scale vessels.

The Slovenian national economy is not influenced by the marine fisheries sector. However, the sector has a social impact in terms of employment. The watershed moment for Slovenian marine fisheries began with Slovenian independency in the year 1991. The period after the independency marked a decrease in the extent of fishing regions and a substantial loss of market for fish products. A large number of poorly equipped small-scale fishers, inadaptability of large-scale fisher, along with the discordance among fishing, producing and marketing capabilities brought the sector into crisis. Landings of almost 6 000 tonnes in 1990 decreased to less than 200 tonnes in 2020.

The existence of two sea fishery reserves where all fishing activities are banned (Portorož and Strunjan fishery reserves) further limit the reduced Slovenian fishing area. Moreover, there is an important industrial port in the Gulf of Koper. Due to safety and international rules, a common routing system and traffic separation scheme was established in the Northern Adriatic, which impacted fisheries. For the last few years, this has had a negative impact, particularly on those fishers who are engaged only in small-scale coastal fishing.

#### Employment and average salaries

In 2019, the number of fishing enterprises totalled 69, with the majority (74%), owning a single vessel. 26% of the enterprises owned two to five fishing vessels and none of the enterprises owned six or more vessels. Total employment in 2019 was estimated at 101 jobs, corresponding to 56 FTEs. The level of employment decreased between 2008 and 2019, with total employed decreasing by 10%, while the number of FTEs decreased by 25 %.

In 2019 the average wage per FTE was EUR 6 965 and it was below the average Slovenian salary in 2019, which amounted to EUR 20 788. Furthermore, the average wage per FTE was also below the Slovenian minimum wage in 2019 (EUR 10 165). The minimum wage threshold was exceeded only in the segment Demersal trawlers and demersal seiners 12-18m with the average wage of EUR 12 999. This segment also had the lowest value of other income in total income (EUR 20 996 in 2019). Data on wages point to the fact that Slovenian fishers earn only 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 six metres long represent a typical Slovenian fishing enterprise.

### Fishing activity

In 2019, the fleet spent a total of around 6 100 days-at-sea. Effort, in days-at-sea, increased 29% between 2008 and 2015, while in the period 2016 to 2019 decreased for almost 30%, compared to 2015. The fisheries in the Adriatic Sea is very intense, consequently most of the fish stocks are overexploited. Although small, Slovenian fisheries have a negligible effect on fish stocks, feels the effects of intensive fishing, which resulting in lower landings and increased effort. Furthermore, the fisheries sector, particularly the SSCF, is affected by the limited size of marine fishing area. Most of the fleet is poorly equipped and unable to operate in international waters. One of the reasons for increased days-at-sea, in the period 2008 – 2015, is also the high price of fuel in these years, which encouraged the fishers to do shorter but more frequent trips. Additionally, the reason for the declined fishing days after 2015 can be attributed to the crisis in purse seiners sector and reduced effort in DFN 00-06m segment. Fluctuation in number of vessels and number of fishing days in small-scale sector is mainly related with activity of occasional fisher, i.e., those whom fishing is not the only source of income. During the economic crises, when incomes were lower, they went to the sea more often to earn some additional income. Also effort increase when the season for fishing of some "high market price" species, i.e. sole, turbot, is very good.

The quantity of fuel consumed in 2019 was around 240 000 litres, a decrease of 60% from 2008. The major factor causing this decrease is the scrapping of several vessels in the fleet, including two of the largest vessels.

The system of fuel price subsidies for fishers in Slovenia is quite complex. Tax incentives for the purchase of fuel are thus claimed only by larger fishing vessels, i.e. those with higher fuel consumption (mainly trawlers). The average final price of diesel fuel in 2019 was EUR 1.25 per litre, while the price without excise duty was EUR 0.86 per litre in the same year. The share of excise duty in the final price of fuel thus amounted to more than 30%.

### Production

The total weight of seafood landed in 2019 was around 120 tonnes, with a landed value of EUR 0.88 million. The total weight and value of landings decreased by 70% and 45%, respectively, over the period analysed. In 2009, the national fleet generated the highest landed value (EUR 2.4 million), followed by 2008 (EUR 2.3 million). In terms of landings weight, in 2009 the fleet landed around 866 tonnes, 2010 (764 tonnes) and 2011 (719 tonnes). The major factor causing the decrease in landed weight and value, especially for European anchovy and sardine, include scrapping of fishing vessels. In the last quarter of 2011, Slovenia sent the two largest ships to be scrapped (pelagic trawlers 24-40m); those vessels targeted mainly sardine and anchovy and represented around 50% of the Slovenian landed weight. The climate changes could be also one of the reason for reduce landings. The Northern Adriatic Sea was very warm over the past few years, which could be the reason for the reduced presence of certain fish species, e.g. whiting. The landings volume of whiting decreased from 2012 to 2018 for 70%.

Prices obtained for the key species targeted by the fleet generally remain stable between 2008 and 2019. 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 2019 recorded a negligible catch – less than 1% in landing value. Gilthead sea bream and common sole records increased value of landings from 2008-2019 for 155% and 70%, respectively. Consequently, the price for species mentioned decreased – for gilthead sea bream by 29% and for common sole by 15% (period 2009 – 2019).

Slovenia, in the last period, invested a large amount of money in marine aquaculture, especially in shellfish farming. Increased production of shellfish could be one of the reasons for more frequent

occurrence of gilthead sea bream in the Slovenian sea since it is mainly fed with shellfish. Damage on shellfish farms caused by sea bream is estimated at 550 tonnes per year which represent around 60% of Slovenian shellfish sales volume in 2019.

## Economic results for 2019 and recent trends

### National fleet performance

The amount of income generated by the Slovenian national fleet in 2019 was EUR 2.64 million. This consisted of EUR 0.88 million in landings value, EUR 1.43 million in non-fishing income and EUR 0.33 in subsidies. The Slovenian fleet's landings income decreased for 45% between 2008 and 2019, while other income more than doubled in value during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

Large increase in subsidies was recorded in 2015. The reason for this were payments to fishers implemented by Slovenia through the "Socio-economic compensation for the management of the Community fishing fleet in the framework of OP EFF 2007-2013" measure which was a consequence of Croatia's accession to the EU. Through Croatia's Accession Treaty which entered into force on 1 July 2013, the provision became applicable in EU legal order that Slovenia may finance a scheme of individual premiums for fishers who would benefit from the access regime laid down in Part 11 of Annex I to Regulation (EC) No 2371/2002 (this access regime is now provided for in point 8 of Annex I to Regulation (EU) No 1380/2013) as amended by the Act of Accession of Croatia. The scheme may only apply during the period 2014 to 2015 or, if this occurs earlier, up until the date of the full implementation of the arbitration award resulting from the Arbitration Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Croatia, signed in Stockholm on 4 November 2009.

Total operating costs incurred by the fleet in 2019 equated to EUR 0.90 million 34% of total income. Personnel and energy costs, the two major fishing expenses, represented 41% and 25% of total operating costs, respectively. Between 2008 and 2019, total operating costs decreased 62%, 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 also increased depreciation costs (period 2013-2015) and other income.

Between 2008 and 2019, GVA decreased by 8%, while gross profit and net profit increased 39% and 83%, respectively. Although the Slovenian fishing fleet was in a poor economic condition because of old and poorly equipped fleet and reduced catches, still records positive trend of economic indicators. The reason for the positive trend is primarily because of higher revenues from other sources.

In 2019, the Slovenian fleet had an estimated (depreciated) replacement value of EUR 3.7 million. Investments by the fleet amounted to EUR 0.11 million in 2019.

### Resource productivity and efficiency indicators

The gross profit margin and net profit margin also increased from 2008 to 2019 for 62% and 110%, respectively.

Labour productivity (GVA/FTE) also record increase in period 2008- 2019 for 22%: GVA decreased for 8% while the number of FTE decreased by 25% in the period analysed.

Labour productivity of the Slovenian fishing fleet was EUR 37 253 in 2019, which is below the GVA per employee average in the entire Slovenian agricultural sector (EUR 39 005) and also below the Slovenian GVA/employee average, which amounted to EUR 48 013 in 2019 (Source; [SiStat Database](#)). Regarding labour productivity of fishing segments, only Drift and fixed netters <6m was above Slovenian GVA/employee average in 2019 with EUR 58 713. This segment also had the highest value of other income, which explains the high labour productivity. On the other hand, the segment Drift and fixed netters <6m had the lowest average wage per FTE, which, in 2019, amounted to EUR 3 819. This points to the fact that fishers in this segment get most of their wages from other income.

Fuel consumption per landed tonne has followed an overall increasing trend since 2008 and amounted 1 998 litres per tonne landed in 2019 (an increase of more than 120% from 2008). The landed weight per sea day decreased significantly for more than 80% from 2008 to 2019 and amounted 20kg per sea day in 2019. One of the reasons for that is scrapping of some large vessels with high volume of landings and, subsequently, changed composition of the fleet consisting now in majority of smaller vessels with lower landed weight per sea day. Lower volume of landings of purse seiners segment in

last few years than in previous ones also affected the productivity and efficiency indicators since this segment has the best ratio between the weight of catches and fuel consumption.

## Social impact

Although the marine fishing sector is numerically small and has no influence on national economy, it is still considered to have a strong social impact on the Slovene coastal region in terms of employment. Besides, this activity is also important for maritime identity and tourism. In addition to directly creating employment opportunities, it is linked to the economy of the entire region, especially to tourism and catering. As said before, the value and volume of landings, as key drivers do not have affect only on fishers but also to the people on shore. Slovenian fish processing industry, on the other hand, less depends on Slovenian fisheries because most of the raw materials are imported from another, mostly EU, countries. However, the crisis in purse seiners segment had negative impact on some smaller processors which produce salted fillets of anchovies.

## Performance by fishing activity

The Slovenian fleet has a range of vessel types targeting different species predominantly in the Adriatic Sea. The fleet consisted of seven (DCF) fleet segments in 2019, with four inactive length classes consisting of 65 vessels. Two of active segments (DFN VL00-06, DFN VL06-12) belongs to SSCF and one (DTS VL12-18) belongs to the LSF.

### Small-scale coastal fleet

In 2019, there were 73 active vessels of which 88% are classified as small-scale (a decrease of 6% from 2008). The majority of these vessels operate in the coastal waters of Slovenia.

The amount of income generated by the Slovenian SSCF in 2019 was EUR 1.97 million or 75% of all income in 2019. Landings' income increased 18% between 2008 and 2019, while other income increased for more than 500% during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc.

Between 2008 and 2019, GVA, gross profit and net profit following the positive trend (although the substantial fall was recorded in 2015). The major factors causing the improvement in economic performance in period analysed included increases in landing income and income from other sources. Operation costs remained relative stabile during the period analysed. In 2019, the SSCF had an estimated (depreciated) replacement value of EUR 1.64 million. Investments by the fleet amounted EUR 0.08 million in 2019.

### Large-scale fleet

Nine vessels (12% of all active vessels) represents Slovenian large-scale sector in 2019. The majority of these vessels operate in the coastal waters of Slovenia.

The income generated by the Slovenian LSF in 2019 was EUR 0.52 million (25% of all income). Landings' income decreased 60% between 2008 and 2019. 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 2008 and 2019, GVA, gross profit and net profit decreased 79%, 99% and 106%, respectively. The major factor causing for decreasing in economic performance is a crisis in the purse seine sector and scrapping of some vessels. In 2019, the LSF had an estimated (depreciated) replacement value of EUR 1.00 million. Investments by the fleet amounted to EUR 0.03 million in 2019.

## Performance results of selected fleet segments

The entire active fleet made an overall profit in 2019. All SSCF segments improved their economic performance in 2019, while LSF segments pursued a negative trend in the same year.

### Demersal trawlers and demersal seiners 12-18m

Nine 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 0.43 million and 14 FTEs were employed in this fleet segment in 2019, contributing to 49% and 25% of the

total income from landings and FTEs generated by the Member State's fishing fleet, respectively. This fleet segment made a loss in 2019.

### **Drift and fixed netters <6m**

26 vessels operating in the Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as Sole, Sea bass and Sea bream. The total value of landings was EUR 0.12 million and 18 FTEs were employed in this fleet segment in 2019, contributing 14% and 32% of the total income from landings and FTEs generated by the national fleet, respectively. This fleet segment made a profit in 2019.

### **Drift and fixed netters 6-12m**

38 vessels operating in the Slovenian coastal areas of the Adriatic. These vessels target demersal species, such as sole, European hake, common pandora and sea bream. The total value of landings was EUR 0.33 million and 23 FTEs were employed in this fleet segment in 2019, contributing 37% and 43% of the total income from landings and FTEs generated by the national fleet, respectively. This fleet segment made a profit in 2019.

## **Drivers affecting the economic performance trends**

Although lower income from landings were observed (which depends, mainly, on the status of fish stocks), reduced operating costs and higher income from other sources were the main driving forces behind the overall improved trend.

The Slovenian fleet's landings income decreased for 45% between 2008 and 2019, while other income more than doubled in value during the same period. Due to reduced landings, Slovenian fishers are looking for the opportunity to generate earnings in other industries, such as tourism, aquaculture etc. In the last few years, especially in 2012 and 2013, Slovenian fisheries sector records an increased value of direct income subsidies. It has been intended primarily to diversify their activities.

## **Markets and Trade**

The Slovenian seafood trade balance is relatively stable over the years and it presents a negative balance. Slovenia is a net importer of fish and fish products. In 2019, imports were approximately five times larger than export and amounted to 14 071 tonnes (EUR 75 million) of fish and other fish product (source; <https://pxweb.stat.si/SiStatData/pxweb/sl/Data/-/2490101S.px>). On the other hand, exports amounted to 2 732 tonnes (EUR 14 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 Austria, Croatia and Bosnia and Herzegovina.

The Slovenian volume of landings for 2019 amounted around 120 tonnes. In the same year Slovenian aquaculture sector has produced 2 138 tonnes of fish and shellfish. Slovenian market for marine products is fragmented and disorganized. A large number of producers and dealers are unorganized and acting individually. Most of the catches are sold directly to known customers. Part of landed catches is sold also on the fish market in Trieste, Italy.

Prices obtained for the key species targeted by the fleet generally remain stable between 2008 and 2019. Slight annual variations of the prices are the results of increased or decreased volume of landings in the period.

## **Management instruments**

In Slovenia the field of fisheries, together with the relevant legislation and management, is currently the responsibility of the Fisheries Sector at the Ministry of Agriculture, Forestry and Food (MAFF). The ministry developed a new information system (InfoRib) which collects data on marine species, landings, register of fishing vessels and socio-economic data. The data are linked to each fishing vessel and enable assessment of the socio-economic status in marine fisheries. Those data provide the basis for adopting measures in favour of sustainable development and for the common European fisheries policy.

Fisheries management is regulated mostly by capacity limitations and spatial restrictions. Capacity limitation is related to increase of vessel power and GT in terms of total national fleet capacity. Spatial restrictions are related with the existence of two sea fishery reserves where all fishing activities are banned (Portorož and Strunjan fishery reserves). Moreover, there is an important industrial port in the

Gulf of Koper. Due to the safety and international rules, a common routing system and traffic separation scheme was established in the Northern Adriatic, which also has an important impact on fisheries.

From 2014 GFCM management plan for small pelagic fish in GSA 17 has been in force. By the provisions of this plan maximum number of fishing days for targeting sardine and anchovy has been set, as well as temporal closure period.

## TACs and quotas

Slovenia does not have any TACs and/or quotas.

## Status of Key Stocks

According to the GFCM Working Group on Stock Assessment of Small Pelagic Species (WGSASP) held in 2018, anchovy in the Adriatic Sea (GSA17-18 combined) was considered as overfished with relative high biomass, and sardine in the Adriatic Sea (GSA17-18 combined) was considered overexploited with relative intermediate biomass.

According to the GFCM Working Group on Stock Assessment of Demersal Species (WGSAD) held on November 2017, out of the 37 stock assessments validated by the WGSAD, seven were found in a state of sustainable exploitation and 30 were assessed as being overexploited.

According to the preliminary results of GFCM Working Group on Stock Assessment (WGSA) held in January, 2021, three stocks were considered sustainably exploited (anchovy in GSA 20, anchovy and sardine in GSA 09), 11 overexploited or in overexploitation, two remained uncertain and one was deemed ecologically unbalanced (20 stocks of small pelagic species were analysed). In addition, 54 stocks of demersal species, including fish, crustaceans and cephalopods, were analysed. Four stocks (red mullet in GSAs 15, 22 and 24 and Norway lobster in GSA 09) were considered sustainably exploited while 50 indicated some level of overexploitation.

## Operating costs

Between 2008 and 2019, total operating costs decreased 62%, 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 20% of total operating costs in 2019. In the future an increase in the value of repair & maintenance costs is expected because of old fleet. Energy costs are one of the key drivers only for demersal trawlers and demersal seiners 12-18m segment. Increased energy costs in 2019, because of higher prices of fuel, were one of the main reasons for the poor economic performance of this sector in 2019.

## Innovation and Development

Slovenia has a derogation regards the minimum distance from coast and the minimum sea depth for the 'volantina' trawlers; Article 13(1) of Regulation (EC) No 1967/2006 shall not apply in territorial waters of Slovenia, irrespective of the depth, between 1.5 and 3 nautical miles from the coast, to 'volantina' trawlers which are used by vessels:

- (a) bearing the registration number mentioned in the Slovenian management plan;
- (b) having a track record in the fishery of more than five years and not involving any future increase in the fishing effort deployed;
- (c) holding a fishing authorisation and operating under the management plan adopted by Slovenia in accordance with Article 19(2) of Regulation (EC) No 1967/2006.

The derogation shall apply until 27 March 2020.

For this purpose, Slovenia will have to implement a study in order to display the structure of catch with 'volantina' trawlers in the zone between 1.5 and 3 nautical miles from the coast.

## Nowcasts for 2020-21 and beyond

## Model results

Preliminary results for 2020-21 forecast an increasing landed weight and value for Slovenian fishing fleet, while a decrease in number of vessels is expected. Projections suggest total job in general will slightly decrease, while an increased number of FTE can be expected for all of the fleet in 2020-21. Economic performance results in 2020-21: GVA, gross profit and net profit will increase. An increase of GVA per FTE is also expected for Slovenian fishing fleet for the forecasted period.'

## Outlook

### Landing obligation

Slovenia estimates that the LO won't have any effect on fisheries as Slovenia is enforcing specific the *de minimis* exemption.

Slovenian fisheries have been subject to the following scheme in terms of the LO:

- from 2015: LO for small pelagic species in the Mediterranean, namely anchovy, sardine, mackerel and horse mackerel;
- from 2019: LO for all species subject to minimum sizes in the Mediterranean as defined in Annex III to Regulation (EC) No 1967/2006 (now Annex IX of Regulation (EU) 2019/1241 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures) other than small pelagic species.

The *de minimis* exemptions in North Adriatic Sea on the basis of the relevant Commission Delegated Regulations have been crucial for Slovenian fisheries, as Slovenian fishers ceased targeting small pelagic species in 2019, while the catches of all species decreased – in 2019, the catches of Slovenian commercial marine fishers were the lowest in history, amounting to only about 120 tonnes. Due to the extremely low catches, the obligation for Slovenian fishers to separately store and land a few kilograms of discards, which would need to be taken care of (separately, due to hygiene Regulations in the area of food safety), would represent a disproportionate burden.

Safety on board in Slovenian fishing vessels was not an issue due to the *de minimis* exemptions in the Adriatic Sea as provided for in the relevant Commission Delegated Regulations. If there were no exemptions, safety on board fishing vessels might have been compromised, as Slovenian fishing vessels are predominantly old (more than 30 years on average) and most of them are smaller than 15 metres of length (only five active fishing vessels were of more than 15 metres of length) and implementation of the LO would demand additional storage space as well as additional labour.

### COVID – 19

Slovenia declared the epidemic on 12 March, 2020. In the first 7-10 days after the declaration of the epidemic, fishers remained mostly in ports. Loss of market was mainly due to closure in touristic sector and closure of fish market in Trieste. Later, however, there were more fishing trips than usual at this time of year, when the availability of fishes is low. Part of the reason for this is the fact that quite a few fishers who are otherwise employed elsewhere were at home and used their spare time to fish. At the same time fishers established new sales channels; they informed customers about the daily catch through various means of information (Facebook, SMS, local media...).

Volume of landings in period March – May 2020, increased by 56% compared to the same period in 2019. The largest increase in volume of landings (+111%) was recorded in DTS VL1218 segment. The increase was mainly due to higher catches of whiting (+134% regarding March – May 2019), which is one of targeting species in DTS segments. One of the reasons for the increased landings could be, the reduced fishing effort of Italy and Croatia fishing fleets.

In terms of effort, fishing days increased by 3% in this period. This increase was mainly due to increased fishing days in DTS segments (+29%).

Prices of most important species increased in the period March-May 2020 compared to the period March-May 2019. The price of whiting increased by 33%, gilthead seabream by 8%, common sole by 11%, musky octopus by 44%, European squid by 6% and European seabass by 12%. The reason for increased prices was in direct sales to customers where fishers could achieve a higher selling price than by selling to fish markets or restaurants.

Due to the COVID-19 outbreak, Slovenia implemented various measures to help businesses face these challenging times. The public support took the form of direct grants, wage subsidies, exemption from paying social security contributions, reduction of certain taxes and water fees, bank guarantees, deferred payment of certain credits and compensatory payments.

## National Fleet

Due to scrapping, the fleet decreased between 2008 and 2019; the number of vessels by 20% and GT and kW by 11% and 6%, respectively. Because of that, and also due to the poor landings volume of the purse seiners segment, the weight of landings decrease in 2019 more than 70% compared to 2008. Landings volume and income, which depends on the status of fish stocks, are the main drivers in Slovenian fishing fleet. They have the effect on all others economic and social indicators. If the fish stocks in the Adriatic Sea will recover in the future, we can expect also an increased trend in economic and social situation of the sector.

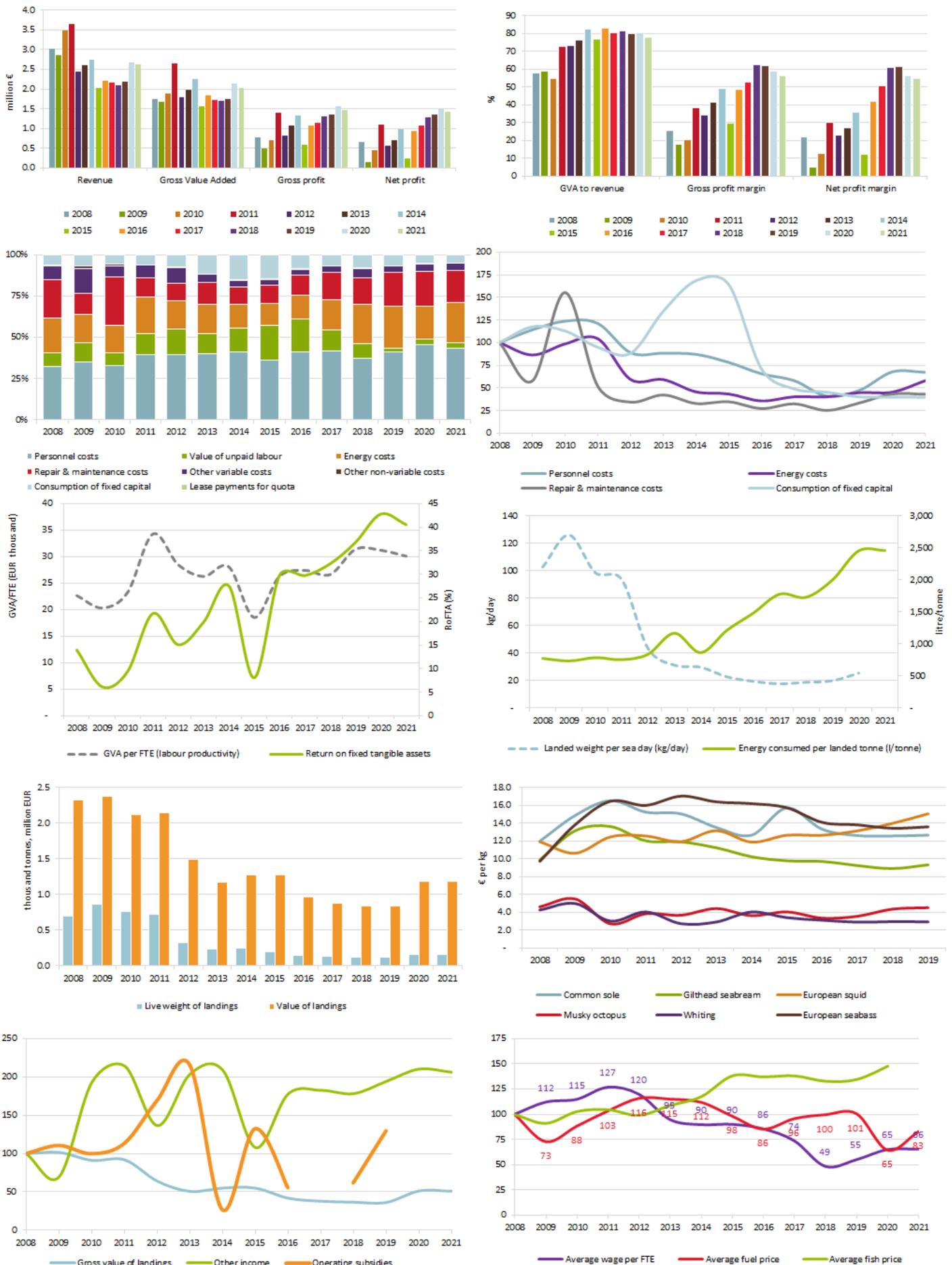
As the fleet is generally old and poorly equipped, it can be expected that repair and maintenance costs will continue to increase in the future. Furthermore, because of old age of the fleet, an increase in inactive vessels can also be expected.

## 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 migratory species, such as sole, sea bream, turbot or European flounder so it is very difficult to predict the volume of landings. It depends on a variety of factors, such as sea temperature, other climatic factors, condition of the stock, fishing effort in neighbouring countries etc. Based on current data, the volume of landings decrease in 2020 for 4% regarding 2019, mostly because of decreased landings of sea bream and sole.

## Data issues

No major issues detected. The economic data on the fishing sector were collected mostly from accounting records – AJPES, from data base 'InfoRib', through questionnaires and sales notes. In the monitoring programme all fishing vessels were included. The data collected from all sources were combined in such a way that a complete set of accounting items is compared for each business enterprise. The target population was all the fishing sector of Slovenia. There were approximately 100 fishing companies. In March 2020 the questionnaires for 2019 were sent to all users of fishing vessels in Slovenia. Where the questionnaire was the only source used, the response rate was around 95% (100% in active vessels). Where the data from annual accounts of business enterprises was used the response rate was 100%, because there are economic reports for all investigated companies or fishers.



**Figure 4.22 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 (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.21 Spain

### Short description of the national fleet

#### Fleet capacity

In 2019, the Spanish fishing fleet consisted of 9 014 registered vessels, with a combined GT of 337 000 tonnes and an engine power of 788 000 kW.

The Spanish fishing fleet has decreased by 30% the number of vessels, engine power and GT from 2008, in order to bring fishing capacity in balance with fishing opportunities and to remove vessels from those fleet segments that for biological, economical or technical reasons were not in balance.

In 2019, 11.7% of the Spanish fleet was inactive (looking back to 2008, the restructuring of the Spanish fleet sector is evident since 25% of the Spanish fleet was inactive); almost 90% of these inactive vessels are small coastal vessels less than 12 metres in length.

The 66.67% of the active fleet are vessels with more than 90 fishing days, which can be consider real professional vessels.

#### Fleet structure

The Spanish fleet, is one of the largest EU fleet, and the one that carries out fishing activities in more fishing zones.

More than 71% of the active Spanish fleet are vessels under 12 metres LOA (with activity always in national waters, of Atlantic, Mediterranean, and Canary Island Waters. The Spanish SSCF is the largest in number of vessels, and the activity of this type of vessel is carried out on trips that last less than one day.

Around 95% of the 8 007 active vessels carried out the fishing activity on Spanish waters (FAO 27.8, 27.99.a, 37.1, and the Canary Island waters 34.1.2), with a combined gross tonnage of 36% of the total of the Spanish GTs, and 61% of the total engine power in kW.

The classification presented in this report, shows a distorted image for the Spanish fleet, as the activity of this fleet is complex, fishing in very different fishing grounds. Also, as the data are aggregated at a supra region level, this report is giving for the North Atlantic area the same profitability for the NAFO drift and/or fix netters as the ICES drift and/or fix netters, or for the drift and/or fix netter vessels that fish in national waters which have different target species, different fuel consumption, and therefore, incomes, costs and profitability. In that sense the economical results do not completely reflect the reality of the Spanish fleet, as the data are aggregated on big boxes and cover very different types of activities, making the analysis of the real economic situation complex.

Also, it has to be taken into account that with the data uploaded to the Fleet Economic Data Call (based on six length sections, main gears, and three supra regions) the fleet is reclassified as:

- Small-scale coastal fleet (SSCF) - includes all vessels under 12 metres using static gears.
- Large-scale fleet (LSF) - segment includes all vessels using towed gears, and vessels over 12 metres using static gears operating in EU fishing regions.
- And distant water fleet (DWF) - includes EU registered vessels over 24 metres operating in 'other fishing regions' including EU outermost regions.

According to this definition, 1 667 Spanish dredges (towed gear which are under 12 metres in length) with coastal activity in Spanish waters should be classified as SSCF and instead of that, they are evaluated at the LSF group, which results as a distortion on the data analysis. These dredges are shellfish catchers who use a small dredger towed by a small vessel for the capture of oyster, prawn, crabs and other species.

The number of fishing enterprises reached 8 286 in 2019. If we look back to 2008, we can see that the small enterprises "oneves" decreased by 31.7%

#### Employment

Total employment in the Spanish fishing fleet for 2019 was estimated at 30 917 jobs, corresponding to 26 549 FTEs, with an average wage per FTE of EUR 22 748, almost 6% less than in 2018. However, the value of unpaid labour increased by 4%.

## Effort

2019 is the second year that effort has been calculated with Ferc Effort. In 2019, the Spanish fleet spent 977 879 days-at-sea and 1 011 677 fishing days (similar to last year, +1% and +3%, respectively). These values are consistent with the quantity of fuel consumed (+3%). The value of fuel consumed is also similar to that in 2018, being the fuel price EUR 0.43 per litre. Overall, the fuel expenditure represented in 2019 a 16.6% of the total expenditures.

## Production

Production in 2019 in terms of weight of landings decreased by 4% compared to 2018, and also the value of landings (-3%). In terms of live weight and value of landings, the main species for the Spanish fleet were: skipjack tuna, yellowfin tuna, European hake, Argentine hake, swordfish and European anchovy.

## Economic results for 2018 and recent trends

### National fleet performance

In 2019, the economic performance of the Spanish fleet worsened compared to 2018. Income from landings (total value of landings) decreased by 3%. Revenue was estimated at EUR 1 732 billion (-5%).

GVA, gross profit and net profit for the Spanish fleet in 2018 were estimated at EUR 855 million (-9%), EUR 223 million (-23%) and EUR 125 million (-29%), respectively. These figures show a worse profitability of the sector (RoFTA) than in 2018. Total operational costs decreased barely 2%.

### Resource productivity and efficiency indicators

The gross profit margin in 2019 was 12.86%, showing a decrease on profitability of -18% compared to 2018. Similarly, net profit margin was estimated at 7.2% (-25%), mainly due to a decrease of the revenue (income of landings decreased by almost 5% and other incomes by 11%).

Labour productivity (GVA/FTE) decreased in 2019 and it is estimated at EUR 30 766 (-11% than in 2018).

Fuel intensity was estimated at 663 litres/tonne in 2019 (+8% compared to 2018). In the same way, fuel efficiency was 14.62% in 2019, 2.68% higher than 2018. Despite the fuel average price was lower than 2018 (EUR 0.43 vs EUR 0.45 per litre), the worse results can be explained by the fact that revenue decreased by 5%, and the fuel consumed increased by 3.3%. It is important to say that in Spain, one of the main characteristic is the variety between maritime districts, so the price varies between EUR 1.20 per litre in Baleares to EUR 0.42 per litre in Galicia, affecting the profitability of the segments. Furthermore, there are other causes that can explain the increase of litres/tonne such as the motor's power or the screw's cleanliness, aspects that should be studied in order to make a robust conclusion.

### 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, 88 segments clustered in 59 fleet segments in order to keep the statistical secret.

The SSCF represents almost 50% of the total fleet. 47.7% of the fleet belong to the LSF and the remaining 2.5% are covered by the DWF.

Despite this fact, the live weight of landings, are higher for the vessels belonging to the DWF segment (56%) and LSF (41%), than for the SSCF (3%) and the incomes from landings follow the same structure, LSF segment (50%), DWF (42%) and SSCF (8%).

### Small-scale coastal fleet

In 2019, 3 962 vessels were covered by the fishing activity SSCF in accordance with the European definition. However, as it has been remarked, this classification differs from the Spanish national classification that includes on this fishing activity the mobile gears of 12 metres (mainly DRB). However, the analysis of this fleet is carried out according to the European definition.

Economic data need to be treated with caution, as almost the 50% of this fleet carried out their activity on partial time (less than 90 days/year). In 2019, the decrease in the number of vessels, power and capacity continued by 1% compared to 2018. However, the number of days-at-sea increased by 3%. In the same way, the weight of landings and the value of landing increased by 9% and 12%, respectively.

This segment suffered a decrease in total employed (-4 %) and FTE (-5%) compared to 2018; generated 8 171 jobs (25,5% of the total jobs generated for fisheries). However, personal cost increased by 8%. In the SSCF it has to be considered that 32% of the jobs are unpaid labour.

Regarding energy cost, it has increased just by 3%, however the fuel consumption increased by 12% compared to 2018.

This is an economically profitable segment, GVA and NVA have increased 3% and 5% respectively compared to 2018, however, Gross profit decreased by 9%.

### Large-scale fleet

In 2019, 3 840 vessels were included on the LSF segment; according to the European definition (1 658 DRB vessels are included in this fishing activity). Just 11 vessels less than 2018.

The number of days-at-sea is similar to those in 2018, however, the weight of landings, and value of landing decreased by -11% and -9%, respectively.

Regarding the employment, the number of jobs is similar than previous year, however, the personal costs decreased by 7%. This drop is counteracted by the value of unpaid labour, that increased by 8%.

Other costs also decreased such as repair costs and other variable costs by 4% and 7%, respectively. In spite of this, GVA decreased by 6%, Gross profit by 9% and Net profit by 13%, respect to 2018. The main reason can be the drop on the value of landings and other incomes.

Regarding energy costs and energy consumption, it decreased by 4% compared to 2018.

### Distant water fleet

In 2019, 205 vessels were included on the DWF, which has a high participation on the Spanish fleet. The number of vessels increased by 6% compared to 2018, breaking the trend of drop. However if we compare the number of vessels to 2008, it has decreased by 30%.

Days-at-sea, increased by 10% compared to 2018, however, the weight and the value of landings is similar than in 2018. In this way, fuel consumption also increased by 11%.

In terms of costs, value of unpaid labour decreased by 70%, but it is similar than 2016 and previous years. Therefore, it can be said that the value in 2017 and 2018 can be wrong and no comparisons should be made on this basis. Other costs have also decreased such as repair costs and other no variable costs by 2% and 7%, but fuel costs and other costs have also increased.

As a result, GVA, Gross profit and Net profit decreased by 19%, 40% and 67%, respectively compared to 2018.

### Outermost regions (Canarias)

The Spanish outermost region, Canary Islands' fleet (FAO 34.1.2) had the following main characteristics: the number of vessels reached to 733 vessels, 574 of them active during 2019. This is the Spanish fleet with the highest average vessel age (35 years); mainly small vessels, 550 vessels below 12 metres LOA, 64.46% of the active vessels carried out their fishing activity for less than 90 days/year. These vessels carry out a polyvalent fishing activity (polyvalent gears, targeting more than one species).

The main problem for this fleet is the inactivity; fisheries are partial time and complementary activity. 21.7% of the Canary Island fleet is inactive.

### Performance results of selected fleet segments

Taking into account the catches made in 2019 in the context of the SFPAs and RFMO's. the total volume of fish fished by this whole international fleet was almost the 60% of the total volume of catches in 2019 made by Spanish fleet, what shows the importance of this fleet for the Spanish sector. The trawlers, the drifting longliners and the purse seiners are three of the most significant fleets in the international context.

## OFR PS 40XX

This segment is comprised by 27 active vessels (all of them with more than 90 days of activity). This segment represents the 19.8% of the total revenue of the Spanish fleet. It also represents the 29% of total weight of landings and the 21% of total value of landings in Spanish fleet.

This segment shows worse results than in 2018 as a consequence of the decrease in the revenues. So GVA, Gross profit and Net profit have decreased by 30%, 47% and 77%, respectively.

### Drifting longliners fleet

As the Spanish drifting longlines fleet is so particular, the Spanish authorities consider that the information of this fleet should be split from the information of the rest of the hooks, and so decided to add the gear indicator LLD.

The management of this fishery is carried out by national regulation that covers the drifting longline fleet for highly migratory species (mainly swordfish, tunas and pelagic sharks). A unified census of drifting longline is developed. In this census the right to carry out the fishing activity is set down, for each vessel and fishery area, also the percentage of quota for those areas subject to TACs (South and North Atlantic swordfish) for each of the seven zones in which this fishery is split:

Zone 1: Mediterranean

Zone 2: waters covered by the sovereignty or jurisdiction of Spain till 80 miles on Atlantic

Zone 3: Waters of the Atlantic Ocean north of latitude 5° N and outside sovereignty or jurisdiction of Spain till 80 miles of base lines.

Zone 4: Waters of the Atlantic Ocean south of latitude 5° N.

Zone 5: Waters of the Indian Ocean (IOTC)

Zone 6: Waters of the Pacific Ocean (IATTC)

Zone 7: Western & Central Pacific Ocean (WCPFC)

We are highlighting Drifting Longliners 24-40 in OFR (OFR HOK 2440 LLD).

In this segment there are 64 active vessels, 62 with more than 90 days of activity. This segment represents almost 5% of the total revenue of the Spanish fleet. It also represents the 5% of total weight and value of landings in Spanish fleet. In 2019 weight of landings and value of landing increased by 14% and 4%, respectively and compared to 2018.

The results of the performance indicators in 2019 show an improvement compared to 2018, therefore, GVA, Gross profit and Net profit have improved by 9.8%, 2.7% and 11%, respectively.

## Drivers affecting the economic performance trends

### Markets and Trade

During 2019, the Spanish fleet had presence in the next Sustainable Fisheries Partnerships Agreements (SPFA):

Morocco, Mauritania, Gambia, Guinea Bissau, Ivory Coast, Cabo Verde, Senegal, Cook Islands, Liberia, Sao Tomé y Príncipe Seychelles, and Mauritius.

The most remarkable SFPAs in social and economic terms were:

- Mauritania, the main SFPAs and the major receiver of EU funds. It is a key agreement for shellfish species and the demersal species, specially hake. The main fleet fishing there is the trawl fleet.
- Morocco, with 93 possible licences, key for the artisanal fleet of Canary Islands and the Gulf of Cádiz, otherwise with very few alternative fisheries accesses. In it should be underlined the importance of the artisanal fleet.
- Seychelles, with 14 active licences in 2019, being the main SFPAs in 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 really representative of the purse seiners fleet, which in economic terms is one of the most relevant fleet for Spain.

Furthermore, there were three Northern Agreements in 2019 (Greenland, Norway and Faroe Islands), relevant for the demersal (cod, hake and other species) fishing.

About the Regional Fisheries Management Organizations, Spain participated in 2019 in the following RFMOs:

- Tuna and tuna-like species RFMO's:
  - IOTC, 32 active domestic vessels reported in 2019;
  - WCPFC, five vessels were reported to have fished in the area in 2019;
  - IATTC, 36 vessels reported catches during 2019;
  - ICCAT, 604 active vessels in 2019, taking into account the gross number of these vessels are small scale vessels;
  - CCSBT, no Spanish vessel reported catches in this area in 2019.
- Demersal RFMO's:
  - SIOFA, two vessels have presence in SIOFA in 2019;
  - SEAFO, one vessel fishing in the area in 2019;
  - NAFO over 10 vessels reported to have presence in the NAFO area;
  - NEAFC three vessels reported presence in this area in 2019.

In 2019, 1.7 million tonnes of processed, preserved and seaweed fishery products were imported, with a value of EUR 7 167 million, mainly cuttlefish, frozen squid, prawns, salmon and hake, and prepared and preserved tuna. 73% of them came from third countries, mainly, Argentina, Peru, Ecuador, Morocco, China and Chile, and among those from the EU, Denmark, Portugal, Sweden, France, and Italy. Imports from United Kingdom were also significant.

Around 1.1 million tonnes were exported, with a value of EUR 4 095 million, mainly frozen skipjack and octopus and tuna preparations and preserves. The main destination was the EU market (64.2%), with the main demand coming from, Italy, France, Portugal, and the Netherlands. Regarding third countries, United Kingdom, Ecuador, Morocco, Egypt, Mauritius and the United Arab Emirates were the most important.

Foreign trade in fishery products ended with a balance deficit of EUR 3 072 million. The coverage rate of the balance stood at 63.5%. If foreign trade with third countries is considered, the coverage rate is 31.3%. Regarding commercial exchanges with the rest of the EU, the coverage rate is 148.6%.

## Management instruments, Regulation Policy

The Spanish fleet is managed through several management tools, such as fishing licenses, engine power limitations, time at sea, TACs and quotas related to the area and fishing stock. Under national regulations, there are managements plans set down; each plan covers species, gears allowed for the fisheries, additional prohibited days, and technical requirements (such as power, vessel tonnage and length). In several cases, the management or recovery plans have also a reduction objective that is funded by the EMFF.

## TACs and quotas, Status of Key stocks

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.

In the case of RFMOS, the fishing possibilities (and allowed fishing effort) are negotiated by the EU in the framework of each organization, having had the advice of the relevant scientific advisory body. This is the case of NAFO, NEAFC, ICCAT, GFCM, IOTC, CIAT, CCSBT, CCAMLR and WCPFC. As for the SFPA, the harvest activity is limited to the surplus in the specific area, which is also under scientific revision, according to the provisions of each agreement signed.

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 (accounting the small-scale fisheries, including those vessels of less than 12 metres trawlers and dredges of this length

included<sup>48</sup>). 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 EU Regulation 1380/2013<sup>49</sup>, on the CFP.

Regarding the fishing possibilities, in a wide generalization, we have the Mediterranean with no quotas but, as it was previously expressed, given the delicate situation of most important fishing stocks, with a number of measures driven to recovery the stock status, such as effort limitation, area closures or size limits.

In the case of the Atlantic, the fishing possibilities are set according to the scientific recommendations made by the International Council for the Exploration of the Seas (ICES), and subject to negotiations during the December Council of Ministers that conclude with the adoption of the fishing possibilities for the following year (the "TAC and quota regulation"). Spanish TACs and quotas are distributed among fishing grounds and fishing gears. In several segments of this area, TACs and quotas are also distributed among individual vessels.

The recovery plan for the Iberian sardine that is being implemented for Portugal and Spain jointly, was approved in 2018. In that plan recovery of the Iberian sardine stock is expected by 2023 although the current data shows a bigger recovery of the stock than expected, which can leave to an eventual revision of the strategy in the coming months in the light of the scientific information. According to the stock management measures; fishing activities are limited for a maximum of 6 months.

### Status of Key stocks

As it has already been presented and for the sake of clarity and efficiency, it will be reviewed under this chapter the status of the most important stocks in terms of its impact in the fleet.

Spain, as all Member States, totally 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. But it cannot be forgotten that sustainability has also another pillar; socio-economic sustainability.

The adequate standard of living for the fisheries sector is therefore, one of the main goals to prosecute. The CFP itself, requests for the collection of data to facilitate the adoption of the best management measures. Although the fisheries sector does not contribute in a significant percentage to the economic macro magnitudes, it is essential in some small-scale economies, determining the survival of small and medium populations along the coast.

As for the Southern hake stock, one of the most important species in terms of value, social appreciation and impact on specific fleet segments. The stock-size indicator is variable, although it shows a historical upward trend. It has decreased slightly in recent years. The stock status relative to candidate reference points is unknown; therefore, the precautionary buffer was applied to the ICES 2020 advice. This situation regarding the assessment led to ICES to put this stock into Category 3 in its report of 2020. It is necessary to seek for a balance that supports the permanence in the coastal zones by means of the maintenance of the activity and the employment, avoiding its disappearance.

Regarding jack mackerel, it is important for purse seiners and trawlers that fish in the Northwest Coast (mainly vessels that catch in area 8c) This quota has decreased during the last two years as a consequence of its biological status. That is why it is being launched a recovery program which goal is that the stock returns to MSY levels for 2028.

### Operational costs (external factors)

As in 2018, wages and salaries represented the most important operational costs (39% in 2019). The historical trend is maintained, as this item has been the most important operational cost during the last years.

---

<sup>48</sup> For the sake of coherence, it is mentioned that this is not the definition included under the arrangements to build the data call whose data are explained in this report.

<sup>49</sup> Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC

The second most important issue of the operational cost has been Other Variable Costs which represented a 22.6% of the total costs of the Spanish fleet. Finally, energy costs represented a 15.47%.

The costs have decreased by 2% compared to 2018.

## Innovation and Development

In the field of technological development and innovation in the Spanish fishing sector, new projects are being developed with a specific target. It is important to highlight in gender equality matters, the Spanish Network of Women in Fisheries (REMSP) of the General Secretariat of Fisheries in order to help the society to have a better knowledge of the women activities in fisheries, more visibility, and to promote the women entrepreneurship, associations and leadership.

Traditionally, women have played a prominent role in the fishing sector, although their work has not always been visible. Today, they are characterised by their modernizing and entrepreneurial vision to respond to new needs, combining profitability and research, development and innovation in all activities of the value chain and demonstrating their commitment to social and environmental sustainability. All this makes them true engines of growth and competitiveness in the sector. In this sense, there are many innovative business initiatives led by women in the sector. There are outstanding examples in the two books on "Good entrepreneurial practices promoted by women in fisheries and aquaculture" published by the REMSP in recent years, and which can be downloaded at this link:

<https://www.mapa.gob.es/es/pesca/temas/red-mujeres/buenas-practicas.aspx>

Spain adopted the so-called Strategic Plan for Innovation and Technological Development in Fisheries and Aquaculture, covering the period from 2014 to 2020. Its main objective is to increase the competitiveness of the Spanish fisheries and aquaculture sectors through innovation and technological development, optimizing resources in the EU context and considering economic, social, environmental and health requirements.

Regarding fishing technologies, priorities and specific strategic objectives were established, highlighting priority. Among all of them, the following are highlighted:

Innovation in more selective gear to avoid bycatches, reducing the environmental impact of fishing, capture reduction of sensitive species and bycatch, promotion of energy audits, to promote energy savings, design of energy efficient fishing gear, automation of fishing practices and adaptation of fuel cells for marine use (fuel cells are an energy alternative that should be raised in the medium term).

Complementarily, it has been established other priorities in the field of marine resources:

Quantification of socioeconomic exploitation of fisheries and integration in all studies on the state of resources and exploitation models, conservation of marine and coastal ecosystems, study of profitability of the fleet, genetic characterization of biodiversity, determination of the impact of aquaculture on the marine environment and recovery of discards and new species.

## Socioeconomic impact

The entry into force of several agreements that have the main objective of improve the labour conditions of fishers could be one of the challenges for the following years, better conditions is a must if the Spanish fleet wants to maintain their fishery activities, as a lack of professionals is increasing. However, more space for fishers may led to less room for storage, as the EU regulation establishes limits on capacity, so the improvement on labour conditions could reduce vessels' income, and so the profitability could be worsened.

## Nowcasts for 2020-21 and beyond

Preliminary results for 2020 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 8 937 vessels, 7 852 were active during 2020. Most of the inactive vessels (87% of them) belong to vessels below 12 metres LOA.

In 2020 there will be a drop in the weight and the value of landing because of the COVID since so many vessels stopped in the middle of March after the declaration of the state of alarm. However, it seems that in 2021 it will return to normal.

Regarding the operating costs, projections suggest that in 2020, energy costs will be lower than in 2019 (-10%) higher, but that it will reverse in 2021 (20% increase compared to 2020). In Spain one of

the main problems is the variety between maritime districts, but it is expected that the average price reaches EUR 0.5 per litre in 2021.

## Outlook

### Landing Obligation

Despite of LO affect to all Spanish fleets, it can be highlighted the impact on bottom trawls in Mediterranean Sea, NWW and SWW, where the use of the *de minimis* is so important to comply with the LO. The return of species of high survival are also important in bottom trawls in Mediterranean Sea, skates and rays (Rajiformes) caught by any fishing gear in the NWW and to red seabream (*Pagellus bogaraveo*) caught with hooks and lines in the SWW.

### COVID-19

The COVID-19 outbreak is having growing impacts on the fishing sector. It has produced the standstill of fishing activity for many vessels in Spain during 2020. In 2020, 12.14% of the Spanish fleet was inactive, this suppose an increase of 8.6% from last year. In the same way, the number of vessels which fish more than 90 days have also decreased by 9% due to so many vessels didn't work from March to June. The main inactive vessels belong to small scale vessels with engine using passive and active gears in the CNW.

In this evaluation, it has been estimated a drop of 10% of fishing days and 10% of weight landing in 2020 compared to 2019. The fleet segments where the drop of fishing days have been higher than 10% have been drifting longliners, small vessels using passive and active gears and fixed netters in CNW; and purse seiners in the Mediterranean area.

It is calculated that the volume of sales has decreased by 7% and the value of sales by 10% compared to 2019, mainly due to the drop on the average prices. The main drop happened from March to May when the country suffered from a lockdown.

The main affected species have been blue whiting, sardine and blue shark which prices decreased around 40%.

By fishing grounds, it should be noted that the Mediterranean and the Northwest coasts have been the most affected.

The Mediterranean fishing ground registered a fall of approximately 40% in sales volume from the start of the state of alarm until the end of May, estimating losses of around EUR 34 million, with a drop in the first-sale price of 37%. Except the anchovy and sardine, the rest of the main species such as hake, monkfish or Norway lobster have registered significant losses.

For its part, the North West Spanish fishing ground was affected to a greater extent than the Mediterranean because the state of alarm coincided with the development of important seasonal fisheries such as mackerel and anchovy. The imbalances in supply and demand, especially in hake, mackerel and anchovy, generated a 31% drop in revenue compared to 2019.

### Support measures.

Spain published a Royal Decree on aid for the fishing fleet, pursuant to article 33.1.d) of the European Maritime and Fisheries Fund, to alleviate the extraordinary stoppage days derived from the COVID-19 pandemic.

In addition, it provides support to producer organizations in application of Articles 66 and 67 of the FEMP to increase the percentage of advances to the preparation of production and marketing plans above 50%, increasing the support to a maximum of 12% of the average annual value of the production of that organization during the preceding three calendar years and support the reactivation of the storage mechanism. All this in order to alleviate the consequences of COVID-19.

## BREXIT

Following the agreement reached with the United Kingdom, the main stock affected by 2026 will be the northern hake for which its TAC will be reduced by 1.02%, john dory for which its TAC will be reduced by 2.5% in ICES area 7 and 2.2% in ICES area 6 and for monkfish for which its TAC will be reduced between 0.24% and 0.76%.

Regarding southern stocks, with species so important for the activity of the Spanish fleet such as mackerel, horse mackerel and blue whiting, they will not suffer any modification and the fishing possibilities for the Spanish fleet will be maintained.

Finally, there are not any changes in deep-water species, such as sea bream, alfonsinos, black scabbardfish and grenadiers.

## **REGULATION POLICY**

Regarding Mediterranean, the multiannual plan for demersal species regulated by Regulation 2019/1022 is currently in force. This plan foresees the recovery of some of the main demersal stocks, hake, red mullet, Norway lobster, red shrimp, deep-water shrimp and Moray shrimp. Their goal is that in 2025 they can be exploited according to the MSY criteria.

In order to achieve this goal, the reduction of effort (fishing days) could reach a maximum of 40% by the end of 2025. In addition to this, the possibility of determining closed areas for the protection of juvenile fish is contemplated.

At the internal level, the Order APA/423/2020 has been approved, which regulates the criteria for the allocation of the days available to Spanish fleet for each year.

## **Data issues**

### **Identify changes in respect to previous years**

The main change in 2019 has been the variability in the income variables, so operating subsidies and other income from leasing quota have increased compared to 2018 by 18% and 81%, respectively. However, revenue and expenditures are similar to 2018.

FTE has increased this year, however, the expenditure on personal costs has decreased, breaking the trend observed from several years.

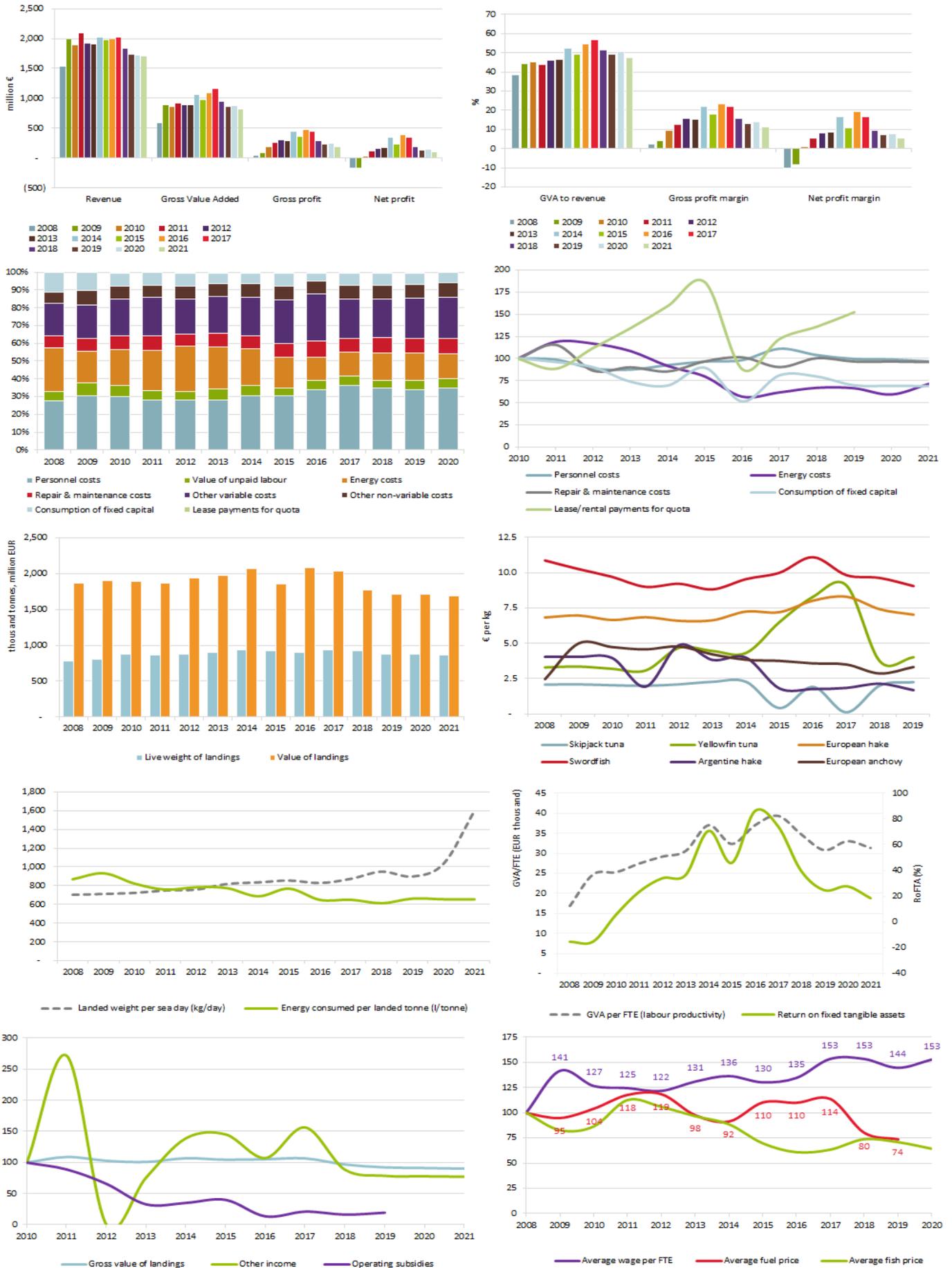
### **Improvements achieved within 2019 data collection**

This year, we have not found problems with the data uploaded, it means that our system of algorithms (called DORI) for the data's compilation works well.

### **Remaining issues**

The economic data collection on the Spanish fleet is carried out by statistical sampling. The main problem is that sampling does not differentiate the fleet according to the days of activity, so the sampling can include vessels with few days of activity. When these results are raised for the total of the fleet segment, the profitability of the segment can be influenced, obtaining worse results than the reality and vice versa. That's why, we have important differences between incomes of landing and value of landing in some segments. The first is obtained from statistical sampling, so the result of not many vessels are raised for the total of the fleet segment. However, the value of landing is obtained by the sales notes which have been declared from the vessel's owner.

Finally, boat dredges under 12 metres are considered LSF, however, they should be considered as a SSCF because they develop a traditional work that has nothing to do with mechanised dredges such as suction dredge.



**Figure 4.23 Spain: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.**

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

## 4.22 Sweden

### Short description of the national fleet

#### Fleet capacity

In 2019, there were 1 136 vessels, 279 of these were inactive whereas in 2018 were 1 175 vessels, 288 where inactive. The capacity decreased by 39 vessels compared to 2018 and the general trend of the Swedish fleet is still that the number of vessels is decreasing. In 2020, the number of vessels were 1 042. The fleet in 2019 had a combined GT of 27 775 tonnes and engine power of 153 154 kW.

#### Fleet structure

The Swedish fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. The national fleet consisted of 10 fleet segments in 2008-2019 including seven clustered active length classes and three un-clustered inactive length classes.

#### Employment

In 2019 the fleet employed a total of 1 391 workers, including owners, which corresponds to approximately 729 FTE or an average of 0.85 FTE per active vessel. The level of employment follows the same decreasing trend as the overall capacity. Total number of employees has decreased by 20 percent since 2008 and is projected to continue this negative trend in 2020. FTE follows the same trend but has decreased by 1 % compared to 2% decrease in total jobs between 2018 and 2019. The higher decrease in FTE compared to the decrease in total jobs indicate that the share of part-time fishers is increasing in Sweden.

In 2019 there were on average 0.52 FTE per employed. The average wage per employed and per FTE has increased over the period 2008 to 2018, 8% and 12%, respectively. Compared to 2018, the average wage per employed and per FTE in 2018 decreased by 3% and 2%, respectively.

#### Effort

An estimated 60 400 days were spent at sea during 2019, a decrease by 6 % compared to 2018. The amount of energy consumed increased in 2019, which is a shift in the trend from 2008. The LSF have an increasing trend in fuel consumption and it has increased by 24 % since 2008. Whereas the SSCF has a decreasing trend and has decreased its consumption by 6 % since 2008.

#### Production

The total weight landed in 2019 was 177 000 tonnes of seafood (171 000 tonnes in 2020), with a landed value of EUR 117 million (EUR 115 million in 2020). The total weight and the value of landings vary over the period analysed due to quotas, prices and exchange rate, especially the pelagic fleet. In 2012 for example, the catch was exceptionally low due to low quotas. The exchange rate between SEK and EUR has continued to be weak even during 2020, as in 2019.

The Swedish fishing fleet targets both pelagic and demersal species, with herring remaining the dominant species, generating the highest landed value with EUR 43.6 million, which represented approximately 37% of the total landings value in 2019. Other important species in value in 2019 were Norway lobster EUR 19.9 million, Northern prawn EUR 12.4 million, European sprat EUR 13.7 million and cod EUR 5.2 million.

### Economic results for 2019 and recent trends

#### National fleet performance

The revenue of the Swedish national fleet decreased in 2019 by 2%. This was mainly due to the lower net profit in the LSF that has previous years covering the losses in the SSCF. In 2019 the LSF revenue decreased compared to 2018 by 2% which also can be a result of weak national currency and decreased landings.

Revenue in 2019, estimated at EUR 117 million due to a 2% decrease in landings income and an increase in other income (EUR 690 000) by 10%. Total operating costs decreased between 2018 and 2019. Personnel costs decreased by 1.6% and unpaid labour decreased by 9.2% since 2018. Energy cost increased by 9 % since 2018 and repair & maintenance costs increased by 7%. Other variable costs increased by 3% since 2018; in contrast, other non-variable costs decreased by 4%. Total operational costs amounted to approximately EUR 75 million. When including capital costs, total costs amounted to EUR 101 million, and when deducted from total revenue it generated a net profit of EUR 17 million.

GVA, gross profit and net profit in 2019 were estimated to EUR 58.6 million, EUR 34.3 million and EUR 17 million, respectively. Compared to 2018 GVA a 1% decrease is observed . Gross profit increased by 1%.

The (depreciated) replacement value of the Swedish fleet was estimated at EUR 92 million, a decrease by almost 1% compared to 2018. Investments amounted to EUR 5.6 million in 2018, which is lower than in 2018.

## Resource productivity and efficiency indicators

The gross profit margin in 2019 was 29%, increasing from 2% since 2018. Net profit margin was estimated at 15%, an increase since 2018.

An overall improved development trend can be seen in some indicators for 2019. Labour productivity (GVA/FTE) increased in 2019 a 1%; GVA decreased by 1.4% while the number of FTE decreased by 2%.

The energy consumption of the Swedish fleet has increased a 21.3 % since 2008. 2019 had the second highest consumption since 2008, around 59 million-litre fuel. Which can be an effect from the main part of the landed weight and value of the total fleet coming from vessels using active gears. The energy consumption also increased with 20.7 % from 2018 to 2019. Concerning the efficiency, the fuel consumption per landed tonne has increased since 2008 and in 2019 it was at 333 litres per tonne landed. Landings in weight per unit of effort (in days-at-sea) has been stable since 2008 at around 2.5 tonnes per day. In recent years it increased due to less demersal species landings in relation to pelagic fishing and it amounted to 2.9 tonnes per day in 2018. During 2019, it ended at 3.0 tonnes per day and in 2020 it stayed at similar level.

## Performance by fishing activity

### Small-scale coastal fleet

The number of SSCF vessels decreased from 852 in 2008 to 633 in 2019 (609 in 2020), a decrease of 26%, following the general trend of the Swedish fishing fleet.

The numbers employed and FTE in the SSCF followed the same decreasing trend as overall national fleet in over the period 2008-2019, 14% and 17%, respectively. Vessel tonnage as well as engine power has decreased during 2019, 4% and 1%, respectively.

Overall, the SSCF is not profitable, generating a net loss of EUR 2.9 million in 2019. GVA is positive but relatively low per FTE at EUR 25 300. As tangible assets are, in most cases, probably paid off, these vessels can afford to continue fishing. Low GVA is a signal that there are other reasons for fishing than just profit, such as part-time employment or a way of life. Fishers 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 income, 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 during the year (not permanent), yet the system for demersal fisheries are still missing transferability like a proper ITQ system

### Large-scale fleet

For the LSF, the number of vessels decreased from 344 in 2008 to 224 in 2018 (207 in 2020), a decrease of 34%. More than half of this decrease stems from vessels with their main income coming from the Norway lobster fishery. The Swedish authorities have promoted fishing Norway lobster with

passive gears and as cod populations are in bad conditions, mixed fisheries with cod and lobster are no longer a profitable option. Vessels fishing for cod as main source of income have also decreased.

The number of fishers employed in the LSF decreased by 1% in 2019 and follows the same decreasing trend as the overall Swedish fleet. The decrease in FTE is somewhat at 2%, indicating a decreasing portion of part-time fishers, meaning less fishers doing more fishing. In 2019 Vessel tonnage increased by 1% and power stayed at similar level as in 2018, 87 400 kW.

The weight and value of landings for the LSF vessels from 2008 to 2019 were more dependent on quotas than the SSCF. The landings weight decreased substantially in the first half of the period. Although, with recent increase in quotas over the later period the landings weight is higher and almost back at the same level as in 2008. Yet, it is probable that due to the decrease in quotas between 2018 and 2019 the landings decreased by 18% in 2019. The landing values follow the same trend but with more variation due to changes in fish prices and the exchange rate EUR/SEK. Despite, the LSF seems to perform fairly well the variation of this performance is large. Vessels fishing pelagic species and those that fish in the north Baltic for vendace rom are performing well while those fishing for cod are performing poorly.

The LSF decreased their operational costs (6%), mainly due to a decrease in repair & maintenance costs. Increasing total incomes is the main reason for the LSF to maintain its overall high net profit. Overall, the LSF is profitable and faced an increase of 2% in 2019 in net profit compared to 2018. It generates a net profit of EUR 20.2 million in 2019. GVA per FTE is at EUR 112 000, similar level as in 2018.

## Performance results of selected fleet segments

The Swedish fleet is highly diversified with a broad range of vessel types targeting different species predominantly in the Baltic Sea, Skagerrak, and Kattegat regions. None of the four fleet segments using active gear made losses in 2019 in comparison to the passive gear segments who had historically low profits. It can further be observed that the vessels with active gears accounted for the main part of the landed value and weight. During the 2008-2018 period, vessels with active gears annually accounted for 96-98% of the total catch measured in weight, and 85 to 89% of the total catch value. Thus, the vessels with passive gears only accounts for 2-4% of the total catch measured in weight, and 11-15% measured in value. A short description of the two most important segments in terms of total value of landings is provided below.

### Demersal trawl seine 18-24 metres

In 2019, 39 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 2019, the total value of landings was EUR 7.3 million and around 116 FTEs in this fleet segment, contributing 10% of the total income from landings and 16% of the FTEs in the Swedish fishing fleet. This fleet segment was profitable, with a reported net profit of around EUR 2.9 million in 2019. There are some differences in performance within the segment. The vessels in the segment fishing Northern prawn and vessels fishing pelagic species have the highest profit of all the national fleet, while the vessels fishing for cod have low profit in this segment.

### Demersal trawl seine 24-40 metres

Composed by 30 vessels in 2019, the segment also contains 17 vessels using pelagic trawlers (nine of the pelagic trawlers are over 40 metres). This segment is operating in the Baltic Sea, Kattegat, Skagerrak, and North Sea. The fleet targets a variety of species, in particular pelagic species such as herring and sprat but also demersal species such as cod and Northern prawn to a small extent. In 2019, the total value of landings was EUR 57 million and around 204 FTEs in this fleet segment, contributing to 69% and 28% of the total income from landings and FTEs in the Swedish fishing fleet, respectively. This segment dominates the Swedish fishing fleet with 89% of the total landings in weight.

This fleet segment was profitable, with a reported gross profit of around EUR 22.9 million and a net profit of EUR 13.8 million in 2019. There is a distinction in performance within the segment. The profit is generated by vessels fishing mainly pelagic species. Vessels with more than 50% cod in landings value are making losses while the Northern prawn vessels are profitable in aggregated terms.

## Drivers affecting the economic performance trends

Higher quotas for pelagic species than demersal species were still the main driving force behind profitability and the continued trend in 2019, it was the same as in 2018. 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.

## Markets and Trade

Good economic performance for the Swedish fishing fleet is highly dependent on fish prices for pelagic species as well as a strong national currency. High prices but more importantly, stable prices are key to good economic performance. Furthermore, changes in seasonal fishing, e.g. shorter fishing period for certain species, can have an effect on the fish price. The regulation of shortening fishing periods can produce a sudden supply shock on the market. One example of this is the vendace fishing in northern Baltic sea. The access to the resource is limited to a few vessels but the price elasticity is quite high. Therefore, 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.

## Management instruments

A major challenge regarding fleet management is the adjustment to the 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.

## 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 2019, Sweden had a total quota of 230 000 tonnes, compared to 289 000 tonnes in 2018, a 20.4% decrease.

Herring and sprat is especially important for the Swedish fleet. The quota for herring decreased by 26.5% compared to 2018 in Skagerrak, Kattegat, and the North Sea, while the quota for sprat decreased by 6.9%.

In 2019, the important quota for cod in the Baltic continued to decrease. The total quota decreased by 14% in the western stock and increased by 71% in the eastern stock, resulting in an overall 5.4% decrease. Total available cod quota for the Swedish Baltic fleet in 2019 in eastern and western stocks was 6 365 tonnes and 1 483 tonnes, respectively (in 2018; 7 434 tonnes and 867 tonnes, respectively). 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. Another consequence of the ban on commercial fishing for cod was that the utilisation of the cod quota decreased.

## Innovation and Development

Towards the end of 2009, Sweden introduced a tradable fishing right system for pelagic quotas running for a 10-year period. The system made the pelagic fishing 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 subareas 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.

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.

In the Northern prawn and Norway lobster fisheries, research for new and more sustainable fishing techniques is on-going. In general, transition towards the implementation of these new techniques in the sector is slow as fishers are hesitant due to high investments, the uncertainty of the impact of the techniques and the possible market effects.

## Nowcasts for 2020-21 and beyond

### Outlook

Preliminary results for 2020 suggest an annual decrease of 3.8% in landed weight, matched by 5% decrease in value. Projections for 2020 suggest a decrease in personnel costs, energy costs, repair and maintenance costs, variable costs and non-variable costs. A larger decrease in costs than in income will make performance in 2019 and 2020 better than in 2019; with GVA increasing 19%. The prospects of gross and net profits also increase for 2020 while slightly decreasing in 2021. These projections are also reflected in the performance indicators GVA to revenue, GVA per FTE and gross and net profit margins that are predicted to increase in 2019 but slightly decrease in 2021.

In mid-2019, it was decided to close the commercial fishing for cod in parts of the Baltic Sea which affected approximately 160 vessels. They were offered financial support from the government or encouraged to focus their landing on other species. The commission decided to continue protecting the cod in the Baltic Sea during 2020, resulting in continuing ban on commercial fishing for cod in certain areas of the Baltic Sea, which have negative economic consequences for small-scale fisheries.

The general trend since the beginning of the 2000s is a decrease in Swedish fleet capacity, i.e. in the number of vessels that also reflects reduction of total engine power and gross tonnage. This is partly due to management efforts directed at decreasing fleet size in order to bring it in balance with the fishing possibilities. The analysis of economic performance shows that all Swedish segments with vessels using active gear are making positive net profits while the one passive segments are negative net profits, this changes however during 2019 where only 00- 10 metres vessels using passive gear showed negative net profit.

There is also a crew recruitment problem as working on board fishing vessels is not a particularly attractive job for young people; this is due to low wages and relatively poor working conditions compared to other land-based jobs. Furthermore, there are other reasons than profit to keep a fishery going in small-scale fisheries, e.g. a way of life or a part-time employment. The fact that profit is not the sole driver can have a huge impact on the market in terms of higher competition, due to that fishers don't have to make a profit from their business, thus making it harder for new firms/individuals to enter the market.

## COVID-19

Due to the COVID-19 pandemic in 2020 the demand for specific species decreased drastically. In Sweden it was mainly prices of the Norway lobster and freshwater species that dropped due to decrease in demand from restaurants. This caused a loss of income for vessels aiming for these species. The government introduced in June 2020 a possibility to get financial support for pausing the fishing activity, to help cover for non-variable costs and salary for the license owner over a chosen period. The conditions for receiving this financial support were mainly based on fishing activity and vessel length. Agents eligible for this support were fisheries with license, vessels smaller than 24 metres, not included in the pelagic ITQ-system and being actively fishing for at least 120 days over the years 2018-2019 or at least 60 days in 2019. However, there were some price adjustments and the offered support was not fully utilised. The result of COVID-19 on the Swedish fishing industry is therefore, somewhat uncertain.

## Landing obligation

The LO affected some part of the fleet and its activity. The use of the *de minimis* has been relatively low and mainly for Northern prawn, Norway lobster and some demersal species. When it comes to high survival exemption, the use of this exemption has been high, mostly for northern lobster. The loss of income due to the LO is expected to be low. Changes in enforcement have been low since there has been no surveillance using flights or camera.

## Brexit

The Brexit affects the Swedish fleet to some extent. The outcome for Sweden as results of Brexit indicates a lower key for species such as cod, herring, mackerel, sandeel, blue whiting etc. These lower keys will result in lower quotas for these species and depending on the substitution to other fisheries and utilisation of the quotas, Brexit could have an impact on the Swedish fisheries. Further, if in the long run the fisheries of member states will not have access to British waters, it will have negative consequences for Swedish fisheries targeting sandeel.

## 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 (87%) and tax declarations. Previously, Sweden used probability sampling when sending out the questionnaires. Since 2012, the survey had a census approach. With the census approach, the number of data points has increased by the double and the response rate has been stable around 85% since 2012. Information on economic of the fleet were previously assessed at segments level but since 2018 it is assessed on micro level, firm level, by ordering registered from Statistics Sweden. This has improved the quality of the data since it is register data from the Swedish Tax Agency. Further, in 2019 Swedish Agency for Marine and Water Agency made it possible to fill out the survey on economic cost online instead of by hand. This has and will increase the quality of the survey responses due to missing data and miss writing or miss readings.

An important issue is clustering. With a small and diminishing fleet, Sweden is forced to cluster all of the economic data and also report cluster definitions.

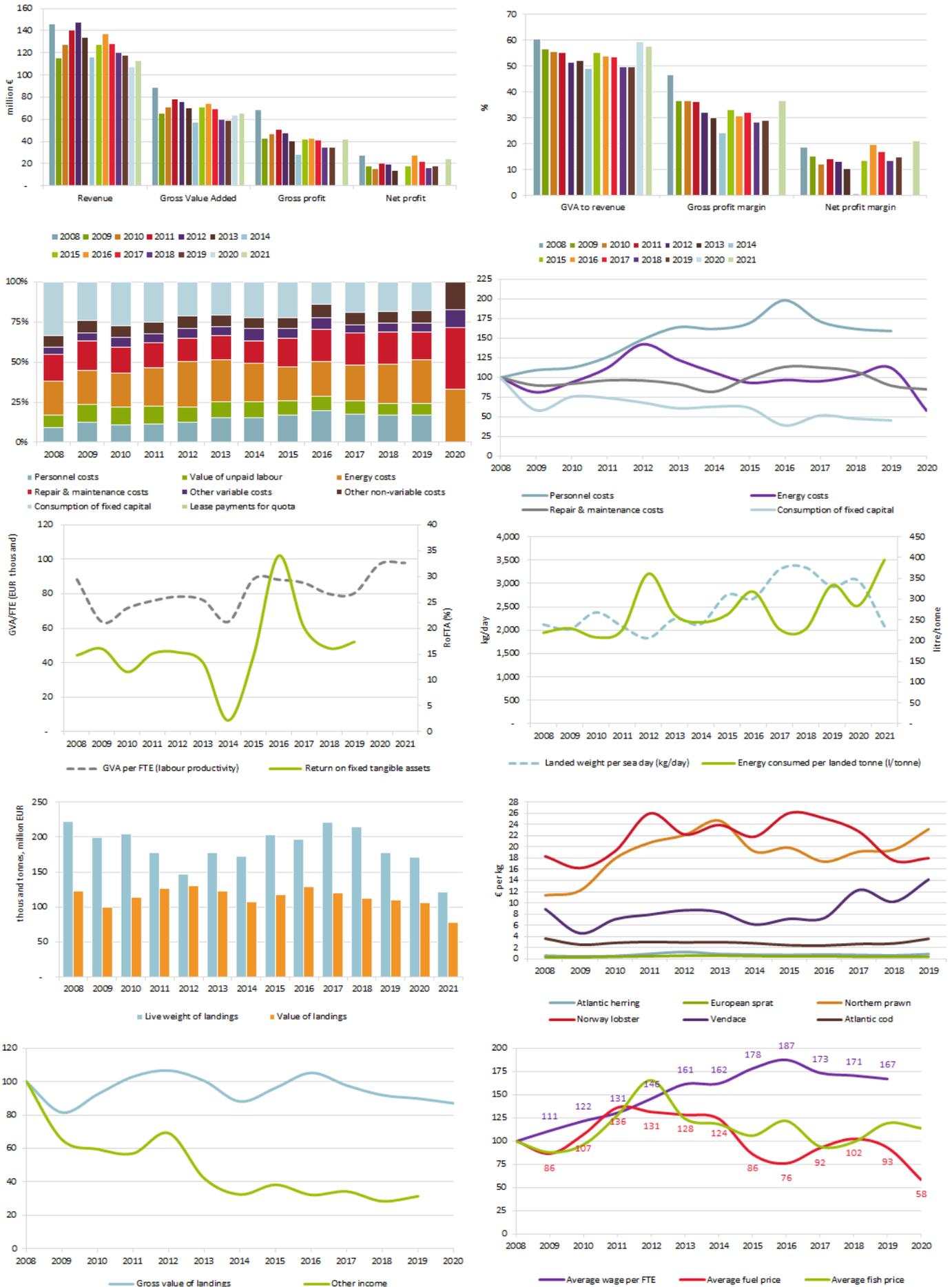


Figure 4.24 Sweden: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.

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

## 5 DATA COVERAGE AND QUALITY

### Data validation – AER Exercise

#### Quality and Coverage checking procedures on the data submitted under the 2021 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 21-03 virtual meeting on the 2021 Annual Economic Report of the EU fishing fleet, which took place during the week 19-23 April 2021.

#### Data issues

In terms of the completeness of the Member States data submissions, most countries submitted the majority of the parameters requested under the call. Overall, there has been an improvement in the data quality and coverage compared to previous years. In many cases missing data relates to fleet segments with low vessel numbers for which data are hard to obtain (detailed account of data coverage issues are provided in the DTMT).

For confidentiality reasons, Member States may aggregate fleet segments into clusters to provide sensitive economic data. In several cases, clustering may not be enough to guarantee confidentiality, and hence, parts of Member States fleets are not completely covered. These generally relate to distant-water fleet segments and include Estonia, Germany, Italy, Latvia and Poland.

In terms of data quality, inevitably some 'abnormal' estimates for various parameters were detected by the JRC or the EWG 21-03 and in most cases rectified by the Member States. However, some quality issues remain outstanding.

Incomplete time series data due to either the non-submission of data, questionable data and/or new Member State additions, make trend analysis at the EU level impossible without excluding the Member State fleets that are incomplete. These discrepancies make an evaluation of the overall economic performance of the EU fishing fleet for the period 2008-2017 impossible. The data submitted for the Greek fishing fleet for the year 2019 and 2018 in the 2021 data-call was deemed fit for purpose; Greece is therefore included in all EU level analyses for 2018 and 2019.

Submissions from France and Spain continue to be somewhat incomplete, especially for the period 2008-2010 that impacts on time-series analysis mainly. Some Member States continue to have problems in collecting comprehensive data sets for the under 10 metres segments. Transversal data sets for some effort and landing variables continue to not be provided at the correct aggregation levels (for e.g. days at sea at FAO fishing areas 3 or 4 or live weight and value of landings by FAO species 3-alpha code). Several Member States continue to provide 'zero' values for several of the new EU-MAP variables (debts, assets, investments in tangible assets, subsidies on investments, operating subsidies, etc.).

#### Member State specific data issues and developments

Although the coverage and quality of the data submitted by Member States has improved significantly over the years, some data transmission issues remain. These include, relative mainly to data for 2017-2019 (EU-MAP), the following:

**Belgium:** No major data transmission issues to report.

**Bulgaria:** No major data transmission issues to report. Again, huge efforts from the Bulgarian data experts to improve on the coverage and quality of the data, going back to 2008 where possible.

**Croatia:** No major data transmission issues to report. As a new Member State, Croatia submits data from 2012 onwards.

**Cyprus:** No major data transmission issues to report. Only partial data reported for PS VL2440 due to confidentiality (1 vessel).

**Denmark:** No major data transmission issues to report.

**Estonia:** No data transmission issues to report. For confidentiality reasons, Estonia only provides data for its Baltic Sea fleet, i.e., only Capacity data are provided for the distant water fleet; this impacts on the AER as a complete coverage of the EU fleet is not possible.

**Finland:** No major data transmission issues to report.

**France:** No major data transmission issues to report.

**Germany:** No major data transmission issues to report. For confidentiality reasons, Germany provides only partial data on its pelagic fleet. This impacts on the AER as a complete coverage of the EU fleet is not possible.

**Greece:** Major data transmission issues continue for previous years; however, almost complete data sets were provided for 2018 and 2019.

**Ireland:** No major data transmission issues to report.

**Italy:** No major data transmission issues to report.

**Latvia:** No major data transmission issues to report. For confidentiality reasons, Latvia does not provide economic data on its distant water fleet; this impacts on the AER as a complete coverage of the EU fleet is not possible.

**Lithuania:** No major data transmission issues to report.

**Malta:** No major data transmission issues to report.

**The Netherlands:** No major data transmission issues to report.

**Poland:** No major data transmission issues to report. Due to confidentiality reasons, Poland only provides partial data on its distant water fleets (NAO DTS 40XX, NAO TM VL40XX and OFR TM40XX). This impacts on the AER as a complete coverage of the EU fleet is not possible.

**Portugal:** No major data transmission issues to report.

**Romania:** No major data transmission issues to report.

**Slovenia:** No major data transmission issues to report.

**Spain:** No major data transmission issues to report. Capital costs not reported for inactive segments in 2019.

**Sweden:** No major data transmission issues to report.

See JRC online tool and data coverage report for more details on data transmission issues by fleet segment, variable and year <https://datacollection.jrc.ec.europa.eu/web/dcf/data-analysis>

## 6 LIST OF PARTICIPANTS EWG 21-03 AND 21-08

The 2021 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 19 to 23 of April (EWG 21-03) and 7 to 11 June (EWG 21-08). 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>

### STECF Members

Name	Address	Email
Raúl PRELLEZO (chair)	AZTI, Spain	<a href="mailto:rprellezo@azti.es">rprellezo@azti.es</a>
Sebastián VILLASANTE	Universidad de Santiago de Compostela, Spain	<a href="mailto:sebastian.villasante@usc.es">sebastian.villasante@usc.es</a>

### Invited Experts

Name	Address	Email
Jesper Levring ANDERSEN	University of Copenhagen, Denmark	<a href="mailto:jl@ifro.ku.dk">jl@ifro.ku.dk</a>
Edo AVDIC MRAVLJE	Fisheries Research Institute , Slovenia	<a href="mailto:edoavdic@gmail.com">edoavdic@gmail.com</a>
Jörg BERKENHAGEN	Thuenen Institute of Sea Fisheries, Germany	<a href="mailto:joerg.berkenhagen@ti.bund.de">joerg.berkenhagen@ti.bund.de</a>
Suzana CANO	Direção Geral Recursos Naturais e Segurança Marítima, Portugal	<a href="mailto:sfcano@dgrm.mm.gov.pt">sfcano@dgrm.mm.gov.pt</a>
Griffin CARPENTER	Independent researcher, UK	<a href="mailto:griffincarpenter@gmail.com">griffincarpenter@gmail.com</a>
Natacha DENTES DE CARVALHO (chair)	Independent expert	<a href="mailto:natcar0073@gmail.com">natcar0073@gmail.com</a>
Irina DAVIDJUKA	Institute of Food Safety, Animal Health and Environment, Latvia	<a href="mailto:irina.davidjuka@bior.lv">irina.davidjuka@bior.lv</a>
Ignacio FONTANEDA LÓPEZ	Ministry of Agriculture, Fisheries and Food. General Secretary for Fisheries. Spain	<a href="mailto:ifontane@mapa.es">ifontane@mapa.es</a>
Elena GARCIA CABALLERO	Ministry of Agriculture, Fisheries and Food. General Secretary for Fisheries. Spain	<a href="mailto:egcaballero@mapa.es">egcaballero@mapa.es</a>
Olivier GUYADER	IFREMER, France	<a href="mailto:oguyader@ifremer.fr">oguyader@ifremer.fr</a>
Geert HOEKSTRA	LEI wageningen UR, The Netherlands	<a href="mailto:geert.hoekstra@wur.nl">geert.hoekstra@wur.nl</a>
Myrto IOANNOU	Department of Fisheries & Marine Research, Cyprus	<a href="mailto:mioannou@dfmr.moa.gov.cy">mioannou@dfmr.moa.gov.cy</a>
Emmet JACKSON	Bord Iascaigh Mhara, Ireland	<a href="mailto:jackson@bim.ie">jackson@bim.ie</a>
Edvardas KAZLAUSKAS	Agricultural information and Rural Business Centre, Lithuania	<a href="mailto:edvardas.kazlauskas@vic.lt">edvardas.kazlauskas@vic.lt</a>
Michael KEATINGE	Independent expert. Ireland	<a href="mailto:keatinge@hotmail.com">keatinge@hotmail.com</a>
Emil KUZEBSKI	National Marine Fisheries Research Institute, Poland	<a href="mailto:emil@mir.gdynia.pl">emil@mir.gdynia.pl</a>
Janek LEES	Estonian Marine Institute, University of Tartu. Estonia	<a href="mailto:janek.lees@ut.ee">janek.lees@ut.ee</a>
Carmen Margarita MANCEBO ROBLEDÓ	Ministry of Agriculture, Fisheries and Food. General Secretary for Fisheries. Spain	<a href="mailto:cmancebo@mapa.es">cmancebo@mapa.es</a>
Janek LEES	Marine Institute, Estonia	<a href="mailto:janek.lees@ut.ee">janek.lees@ut.ee</a>

Marie-Dominique MINNE	Ministry of agriculture, France	<a href="mailto:marie-dominique.minne@agriculture.gouv.fr">marie-dominique.minne@agriculture.gouv.fr</a>
Simona NICHEVA	Executive Agency for Fisheries and Aquaculture, Bulgaria	<a href="mailto:simona.nicheva@iara.government.bg">simona.nicheva@iara.government.bg</a>
Heidi POKKI	Natural Resources Institute. Finland	<a href="mailto:heidi.pokki@luke.fi">heidi.pokki@luke.fi</a>
João RAMOS DO Ó	Direção Geral Recursos Naturais e Segurança Marítima, Portugal	<a href="mailto:jramos.do.o@gmail.com">jramos.do.o@gmail.com</a>
Alexandre RODRIGUEZ	EU Long Distance Advisory Council (LDAC), Madrid. Spain	<a href="mailto:alexandre.rodriguez@ldac.eu">alexandre.rodriguez@ldac.eu</a>
Rosaria SABATELLA	NISEA, Italy	<a href="mailto:r.sabatella@nisea.eu">r.sabatella@nisea.eu</a>
Andrew SCIBERRAS	Department for Fisheries and Aquaculture, Malta	<a href="mailto:andrew.d.sciberras@gov.mt">andrew.d.sciberras@gov.mt</a>
Arnaud SOUFFEZ	University Of Nantes, France	<a href="mailto:arnaud.souffez@univ-nantes.fr">arnaud.souffez@univ-nantes.fr</a>
Constantin STROIE	National Agency for Fisheries and Aquaculture of Romania	<a href="mailto:cstroie@ymail.com">cstroie@ymail.com</a>
Hanna SWAHNBERG	Swedish Agency for Marine and Water Management. Sweden	<a href="mailto:hanna.swahnberg@havochvatten.se">hanna.swahnberg@havochvatten.se</a>
Irene TZOURAMANI	Agricultural Economics Research Institute, Greece	<a href="mailto:tzouramani@agreri.gr">tzouramani@agreri.gr</a>
Maria VALIENTE CABALLERO	Ministry of Agriculture, Fisheries and Food. General Secretary for Fisheries. Spain	<a href="mailto:mvaliente@mapa.es">mvaliente@mapa.es</a>
Katrien VERLÉ	Institute for Agricultural and Fisheries Research (ILVO), Belgium	<a href="mailto:katrien.verle@ilvo.vlaanderen.be">katrien.verle@ilvo.vlaanderen.be</a>
Ivana VUKOV	Ministry of Agriculture, Directorate of Fisheries, Croatia	<a href="mailto:ivana.vukov@mps.hr">ivana.vukov@mps.hr</a>
Kolyo ZHELEV	Executive Agency for Fisheries and Aquaculture, Bulgaria	<a href="mailto:kolyo.zhelev@iara.government.bg">kolyo.zhelev@iara.government.bg</a>

### Invited Observers

NAME	ADDRESS	EMAIL
Pedro REIS SANTOS	Market Advisory Council	<a href="mailto:secretary@marketac.eu">secretary@marketac.eu</a>
Sean O'DONOGHUE	Market Advisory Council	<a href="mailto:sean@kfo.ie">sean@kfo.ie</a>
Rita FERREIRA	Direção Geral Recursos Naturais e Segurança Marítima, Portugal	<a href="mailto:rferreira@dgrm.mm.gov.pt">rferreira@dgrm.mm.gov.pt</a>
Matilde VALLERANI	North Western Waters Advisory Council	<a href="mailto:matilde.vallerani@nwwac.ie">matilde.vallerani@nwwac.ie</a>
Mo MATHIES	North Western Waters Advisory Council	<a href="mailto:mo.mathies@nwwac.ie">mo.mathies@nwwac.ie</a>

### JRC EXPERTS

Franca CONTINI	DG Joint Research Centre, Via E. Fermi, 2749. 21027 Ispra (VA) Italy	<a href="mailto:franca.contini@ext.ec.europa.eu">franca.contini@ext.ec.europa.eu</a>
Jordi GUILLEN	DG Joint Research Centre, Via E. Fermi, 2749. 21027 Ispra (VA) Italy	<a href="mailto:jordi.guillen@ec.europa.eu">jordi.guillen@ec.europa.eu</a>
Jarno VIRTANEN	DG Joint Research Centre, Via E. Fermi, 2749. 21027 Ispra (Varese) Italy	<a href="mailto:jarno.virtanen@ec.europa.eu">jarno.virtanen@ec.europa.eu</a>

### EU COMMISSION

Angel CALVO (DG MARE focalpoint)	DG Maritime Affairs and Fisheries. Unit A3 - Structural Policy and Economic Analysis. J-9902/70, B-1049 Belgium	<a href="mailto:Angel-Andres.CALVO-SANTOS@ec.europa.eu">Angel-Andres.CALVO-SANTOS@ec.europa.eu</a>
Jordi GUILLEN	DG Joint Research Centre, Via E. Fermi, 2749. 21027 Ispra (Varese) Italy	<a href="mailto:Jrc-stecf-secretariat@ec.europ.eu">Jrc-stecf-secretariat@ec.europ.eu</a>
Jarno VIRTANEN	DG Joint Research Centre, Via E. Fermi, 2749. 21027 Ispra (Varese) Italy	<a href="mailto:Jrc-stecf-secretariat@ec.europ.eu">Jrc-stecf-secretariat@ec.europ.eu</a>

## 7 LIST OF BACKGROUND DOCUMENTS

---

Background documents are published on the EWG-21-03 meeting's web site on:

<http://stecf.jrc.ec.europa.eu/web/stecf/ewg2003>

Background documents are published on the EWG-21-08 meeting's web site on:

<http://stecf.jrc.ec.europa.eu/web/stecf/ewg2006>

EWG-21-03 – Declarations of invited and JRC experts (see also section 6 of this report – List of participants)

EWG-21-08 – Declarations of invited and JRC experts (see also section 6 of this report – List of participants)

Member States Annual Report on the National Data Collection Programmes  
<http://datacollection.jrc.ec.europa.eu/ars>

Data-handling procedure for STECF Expert Working Groups

<http://datacollection.jrc.ec.europa.eu>

## LIST OF TABLES

Table 2.1 Main results for the EU-27 fleet (excl. Greece) for 2008-2019 and nowcasts for 2020 and 2021.....	31
Table 2.2 Main results for the EU-27 fleet, including Greece in 2018 and forward. ....	32
Table 2.3 Main results for the EU-27 Small-scale coastal fleets (excl. Greece) for 2008-2019 and nowcasts for 2020 and 2021 .....	33
Table 2.4 Main results for the EU-27 Large-scale fleets (excl. Greece) for 2008-2019 and nowcasts for 2020 and 2021.....	34
Table 2.5 Main results for the EU-27 Distant-water fleets for 2008-2019 and nowcasts for 2020 and 2021.....	35
Table 2.6 Demersal Trawlers and Demersal Seiners by number of vessels .....	54
Table 2.7 Demersal Trawlers and Demersal Seiners by days at sea .....	55
Table 2.8 Capacity and effort of Demersal Trawlers and Demersal Seiners Distant water fleet.....	56
Table 2.9 Demersal trawlers, weight of landings by Member State, 2019.....	58
Table 2.10 Demersal trawlers, value of landings by Member State, 2019.....	58
Table 2.11 Number of employees in DTS segments by length class and Fishing activity 2008-2019. ...	59
Table 2.12 Economic indicators of EU bottom trawlers fleet 2008-2019.....	61
Table 2.13 Main results for the EU-27 by Member State fleet for 2019 and nowcasts for 2020 and 2021 .....	71
Table 2.14 The Hague preferences .....	78
Table 2.15 Hague Preference shares and Key of '83 shares of North Sea Haddock, 1989 .....	79
Table 2.16 Hague Preference shares for North Sea Haddock, 1983 .....	80
Table 2.17 TOTAL VOLUME OF HAGUE TRANSFERS FOR KEY STOCKS IN THE NORTH SEA, IRISH SEA, CELTIC SEA, AND WEST OF SCOTLAND FOR YEARS 2010 – 2020 .....	80
Table 2.18 Example 1. Cod I ICES 7d .....	81
Table 2.19 Example 2: Anglerfish in ICES area 7.....	82
Table 2.20 Example 3: Saithe west of Scotland .....	82
Table 2.21 Example 3: Saithe west of Scotland .....	82
Table 2.22 Example 4: Cod Irish sea .....	83
Table 2.23 Distribution of losses/gains by MS .....	84
Table 2.24 Quota reductions attributable to TCA by Member State in 2021 .....	85
Table 2.25 Quota reductions attributable to TCA by Member State in 2025.....	86
Table 2.26 Economic impact of Brexit .....	87
Table 2.27 Example 5: Mackerel western stock .....	87
Table 2.28 Economic impact Break down by MS in 2021.....	88
Table 2.29 Example 5: Break down by MS in 2025 .....	88
Table 3.1 - TAC use for some of the most important stocks in the Baltic Sea region, 2016-2020 .....	109
Table 3.2 - Overview of the definitions and criteria used to assess the performance of the EU fleets operating in the RFMOs .....	160
Table 3.3 – Geographical indicator codes used in the EU-MAP data calls to identify OMR fleet segments .....	162
Table 3.4 – Summary results for the EU OMR fleet by Member State, 2019 .....	163
Table 3.5 – Fleet structure for the Madeira OMR fleet, 2019.....	167
Table 3.6 – Fleet structure for the Azores OMR fleet, 2019 .....	169
Table 3.7 - Summary results for the French <i>OMR fleets in 2019: Guadeloupe (GP)</i> .....	179
Table 3.8 - Summary results for the French <i>OMR fleets in 2019: French Guiana (GF)</i> .....	186
Table 3.9 - Summary results for the French <i>OMR fleets in 2019: Martinique(MQ)</i> .....	191
Table 3.10 - Summary results for the French OMR fleets in 2019: Reunion (RE).....	195

Table 3.11 - Summary results for the French <i>OMR fleets in 2019: Mayotte (YT)</i> .....	199
Table 3.12 - Member State fleet segments with activity in NAFO (excluding ICCAT species), 2019 ..	202
Table 3.13 - Number of vessels by Member State notified to fish in NAFO in 2019 .....	203
Table 3.14 - Catches (tonnes) by MS fleets operating in NAFO area .....	203
Table 3.15 - Catches (tonnes) by MS fleets operating in NAFO area (excluding ICCAT species) .....	203
Table 3.16 - Comparison between catch and landings data reported by NAFO and EU-MAP, excluding ICCAT major species, 2018-2019.....	204
Table 3.17 - Summary findings for the Spanish fleet segment with high dependency on NAFO CA, 2019.....	207
Table 3.18 - Summary findings for the Portuguese fleet segment with high dependency on NAFO RA, 2019.....	210
Table 3.19 - Summary findings for the German fleet segment with activity in NAFO CA, 2019 .....	212
Table 3.20 - List of major species or stocks covered by ICCAT.....	217
Table 3.21 - Summary of the latest ICCAT stock assessments and recommendations.....	218
Table 3.22 - Summary findings for the EU ICCAT fleet based on EU-MAP data for 2018-2019.....	221
Table 3.23 - Coverage of the EU-MAP data for the EU ICCAT fleet and EU ICCAT LDF fleets in 2018, 2019.....	222
Table 3.24 - Selected Mediterranean LDF fleets.....	223
Table 3.25 - Selected Atlantic LDF fleets .....	223
Table 3.26 - Summary findings for the Spanish fleet segments with high dependency on ICCAT Mediterranean major stocks, 2019.....	227
Table 3.27 - Summary findings for the Spanish fleet segments with high dependency on ICCAT major Atlantic stocks, 2019.....	230
Table 3.28 - Summary findings for the French fleet segments with high dependency on ICCAT major Mediterranean stocks, 2019 .....	240
Table 3.29 - Summary findings for the French fleet segments with high dependency on ICCAT major Atlantic stocks, 2019.....	241
Table 3.30 - Summary findings for the French OMR fleet segments with high dependency on ICCAT major Atlantic stocks, 2019 .....	244
Table 3.31 - Summary findings for the Portuguese fleet segments with high dependency on ICCAT major Atlantic stocks, 2019 .....	246
Table 3.32 - Summary findings for the Italian fleet segments with high dependency on ICCAT major Mediterranean stocks, 2019 .....	256
Table 3.33 - Summary findings for the Maltese fleet segments with high dependency on ICCAT major stocks, 2019 .....	259
Table 3.34 - Summary findings for the Greek fleet segment with high dependency on ICCAT major stocks, 2019 .....	262
Table 3.35 - Summary findings for the Croatian fleet segment with high dependency on ICCAT major stocks, 2019 .....	263
Table 3.36 - Summary findings for the Cypriot fleet segments with high dependency on ICCAT major stocks, 2019 .....	264
Table 3.37 - Summary findings for the Irish fleet segments with high dependency on ICCAT major Atlantic stocks, 2019.....	265
Table 3.38 - List of major species or stocks covered by IOTC.....	271
Table 3.39 - Coverage of the EU-MAP data for the EU IOTC fleet in 2019 .....	272
Table 3.40 - Comparison between data reported by IOTC and EU-MAP for fleets active in IOTC, 2019 .....	272
Table 3.41 - Member State fleets operating in IOTC, 2019 .....	273
Table 3.42 - Selected IOTC LDF fleets, 2019.....	273
Table 3.43 - Summary findings for the French fleet segments with activity in IOTC RA, 2019.....	274
Table 3.44 - Summary findings for the Spanish fleet segments with activity in IOTC RA, 2019 .....	278

Table 3.45 - Summary findings for the Portuguese fleet segments with activity in IOTC RA, 2019 ..	280
Table 3.46 - Summary findings for the Italian fleet segment with activity in IOTC RA, 2019 .....	282
Table 3.47 - Summary results for the 13 fleets operating in the CECAF area with high dependency on non-ICCAT species – including both small scale and long-distance fisheries (EU-MAP) .....	287
Table 3.48 - Comparison between landings (tonnes) data reported by FAO and EU-MAP (CECAF all species and excluding ICCAT species) for 2017-2019 .....	289
Table 3.49 - Dependency of the Spanish Morocco Coastal fleet on CECAF fisheries, 2019.....	292
Table 3.50 - Structure of the EU CECAF LDF (excluding ICCAT) in 2019.....	296
Table 3.51 - Spanish fleet segments with high dependency on non-ICCAT species in CECAF, 2019 .	298
Table 3.52 - Activity of the Spanish hook and line 24-40 segment with high dependency in CECAF, 2019.....	298
Table 3.53 - Portuguese fleet segments with high dependency on non-ICCAT species in CECAF, 2019 .....	301
Table 3.54 - Italian fleet segment with high dependency on non-ICCAT species in CECAF, 2019 ....	304
Table 3.55 - Lithuanian fleet segment with high dependency on non-ICCAT species in CECAF, 2019	305
Table 3.56 - French fleet segments with activity in CECAF, 2019 .....	307
Table 3.57 - Summary results for the EU NEAFC fleet, highlighting fleets with high dependency on activity in the NEAFC RA, 2019.....	311
Table 3.58 - Comparison between data reported by NEAFC and EU-MAP (for the CA and RA), highlighting discrepancies between the data sources, 2019.....	312
Table 3.59 - Summary findings for the German fleet segments with high dependency on NEAFC RA, 2019.....	313
Table 3.60 - Summary findings for the Spanish fleet segments with high dependency on NEAFC RA, 2019.....	314
Table 3.61 - Summary findings for the French fleet segments with high dependency on NEAFC RA, 2019.....	316
Table 3.62 - Summary findings for the Irish fleet segments with high dependency on NEAFC RA, 2019 .....	317
Table 3.63 - Summary findings for the Lithuanian fleet segment with high dependency on NEAFC RA, 2019.....	319

## LIST OF FIGURES

Figure 2.1 Trends and variations on capacity in number of vessels, gross tonnage and engine power (Greece excluded) .....	36
Figure 2.2 Trends on employment (in persons employed and FTE) and average wage per FTE .....	37
Figure 2.3 Variation in employment and average wage (based on 2008=100); average wage per FTE by MS .....	37
Figure 2.4 Trends and variations on fishing effort and fuel consumption (based on 2008=100) .....	38
Figure 2.5 Trends and variations on landings in weight and value and average landed price (based on 2008=100) .....	38
Figure 2.6 Trends for the top six species landed in weight and in value .....	38
Figure 2.7 Average landed price of the top species landed in weight and/or value .....	39
Figure 2.8 Variations in average price of the top species landed in weight and/or value (based on 2008=100) .....	39
Figure 2.9 Trends and variations on landings per unit of effort (days-at-sea) by weight (LPUE) and value (VPUE) (based on 2008=100).....	40
Figure 2.10 Trends on main income and costs items .....	40
Figure 2.11 Trends on costs as a percentage of revenue .....	41
Figure 2.12 Variations on main income and costs items (based on 2008=100).....	41
Figure 2.13 Trends on revenue and profit for the EU fleet.....	42
Figure 2.14 Variations on revenue and profits for the EU fleet (based on 2008=100) .....	43
Figure 2.15 Trends on labour (GVA per FTE) and capital productivity (RoFTA) for the EU fleet.....	44
Figure 2.16 Trends and variations on energy consumed per day-at-sea and per landed tonne.....	44
Figure 2.17 Fluctuations of the average marine fuel oil prices (in euro) for EU-27.....	45
Figure 2.18 Energy consumption per landed tonne (litres per tonne) per fishing gear and segment in 2019.....	46
Figure 2.19 Trends on the landings in value and vessel tonnage for the SSCF and LSF .....	47
Figure 2.20 Trends on landings in value for the SSCF by main fishing region .....	48
Figure 2.21 Trends on FTE in numbers for the SSCF and LSF by main fishing region. ....	48
Figure 2.22 Trends on average GVA per vessel for the SSCF and LSF.....	49
Figure 2.23 Trends on average GVA per vessel for the SSCF and LSF by fishing region .....	49
Figure 2.24 Trends on gross and net profit margin for the SSCF and LSF.....	50
Figure 2.25 Trends on gross profit margin for the SSCF (up) and LSF (down) by fishing region .....	51
Figure 2.26 Trends on gross profit for the SSCF and LSF .....	51
Figure 2.27 Trends on gross profit for the SSCF and LSF by fishing region.....	52
Figure 2.28 Trends on average gross profit per vessel for the SSCF and LSF by fishing region .....	52
Figure 2.29 Share of DTS segments in number of vessels in EU fishing fleet (left) and Number of DTS vessels by length class (right) .....	55
Figure 2.30 Number of vessels in DTS segment by Member State.....	55
Figure 2.31 Days at sea of DTS vessels by length class (left) and share of DTS segments in days at sea in the EU fishing fleet (right).....	56
Figure 2.32 Days at sea of DTS segments by Member State .....	56
Figure 2.33 Share of demersal trawlers (DTS) in total landed weight (right) and value (left), 2008-2019.....	57
Figure 2.34 Share by MS in landed weight and value of demersal trawlers fleet, 2019. ....	57
Figure 2.35 Demersal trawlers fleet landings weight and volume structure by length classes, 2019. ..	57
Figure 2.36 Trends on landings in weight and value for EU demersal fleet, 2008-2019.....	58
Figure 2.37 Share of number of employees in DTS (left) and distribution by Member Sate (right) ....	59

Figure 2.38 Revenues of EU demersal fleet by fishing gear, vessel length and Member State, 2008-2019.....	60
Figure 2.39 Gross profit of EU demersal fleet by Member State in 2019 and by vessel length in 2008-2019.....	60
Figure 2.40 Distribution of UK Hague surplus post Brexit.....	84
Figure 2.41 TCA related losses by MS in 2021 .....	86
Figure 2.42 Brexit related losses by MS in 2025 .....	87
Figure 2.43 Break down by MS 2021.....	88
Figure 2.44 Break down by MS 2025.....	88
Figure 3.1 Importance of the NSEA for MS fisheries in landings weight and value, 2019 .....	90
Figure 3.2 Share by MS fleet and fishing activity in the NSEA, 2019 .....	91
Figure 3.3 Trends on effort and landings for MS fleets operating in the NSEA.....	91
Figure 3.4 Trends on average wage per FTE and GVA per FTE by fishing activity for MS fleets operating in the NSEA .....	92
Figure 3.5 Trends on revenue and profits for MS fleets operating in the NSEA.....	92
Figure 3.6 Trends on number of vessels and employment (in FTE) for MS fleets operating in the NSEA .....	93
Figure 3.7 Trends on fishing effort (in days-at-sea) and fuel consumption for MS fleets operating in the NSEA .....	93
Figure 3.8 Trends on landings in weight and value for MS fleets operating in the NSEA .....	94
Figure 3.9 Top 10 species in landed weight and value from the NSEA, 2019 .....	94
Figure 3.10 Trends on landings for the top species in landed weight and value for MS fleets operating in the NSEA.....	94
Figure 3.11 Trends on revenue and profit (GVA, gross profit and net profit) for MS fleets operating in the NSEA.....	95
Figure 3.12 TACs pre-uplift for demersal species (left) and major pelagic species (right).....	97
Figure 3.13 Top 10 species landed in weight and value by MS SSCF operating in the NSEA, 2019 .....	98
Figure 3.14 Trends in landings of the top species landed in weight and value by MS SSCF operating in the NSEA.....	98
Figure 3.15 Top 10 species landed in weight and value by MS LSF operating in the NSEA, 2019.....	99
Figure 3.16 Trends in landings of the top species landed in weight and value by MS LSF operating in the NSEA.....	99
Figure 3.17 Importance of the Baltic Sea region for MS fleets in terms of landings in weight and value, 2019.....	102
Figure 3.18 Share by MS and fishing activity fleets operating in the Baltic Sea, 2019 .....	102
Figure 3.19 Trends on effort and landings for MS fleets operating in the Baltic Sea region .....	103
Figure 3.20 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the Baltic Sea .....	103
Figure 3.21 Trends on revenue and profits for MS fleets operating in the Baltic Sea.....	104
Figure 3.22 Trends on the number of vessels and employment in FTE for MS fleets operating in the Baltic Sea .....	104
Figure 3.23 Trends on effort (in days-at-sea) and energy consumption for MS fleets operating in the Baltic Sea .....	105
Figure 3.24 Trends on landings in weight and value for MS fleets operating in the Baltic Sea .....	105
Figure 3.25 Top 10 species in landed weight and value by MS fleets operating in the Baltic Sea, 2019 .....	105
Figure 3.26 Trends on landings of the top six species in landed value for MS fleets operating in the Baltic Sea .....	106
Figure 3.27 Trends on revenue and profits for MS fleets operating in the Baltic Sea region .....	106
Figure 3.28 Reported catches for the four most important TACs species in the Baltic Sea region, 2016-2020.....	109

Figure 3.29 Top 10 species landed in weight and value by the SSCF operating in the Baltic Sea, 2019 .....	110
Figure 3.30 Trends in landings of the top species landed in weight and value by the SSCF operating in the Baltic Sea.....	110
Figure 3.31 Top 10 species landed in weight (left) and value (right) by LSF operating in the Baltic Sea, 2019.....	111
Figure 3.32 Trends in landings of the top species landed in weight and value by the LSF operating in the Baltic Sea.....	111
Figure 3.33 Importance of the North Western Waters for MS fleets in terms of landings in weight and value, 2019 .....	113
Figure 3.34 Share by MS fleet and fishing activity in NWW, 2019 .....	113
Figure 3.35 Trends on effort and landings for MS fleets operating in NWW.....	114
Figure 3.36 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in NWW .....	114
Figure 3.37 Trends on revenue and profits for MS fleets operating in NWW.....	115
Figure 3.38 Trends on the number of vessels and employment (in FTE) for MS fleets operating in NWW .....	115
Figure 3.39 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in NWW .....	116
Figure 3.40 Trends on landings in weight and value from MS fleets operating in NWW .....	117
Figure 3.41 Top 10 species in landed weight and value for MS fleets operating in NWW, 2019 .....	117
Figure 3.42 Trends on landings of the top six species landed value for MS fleets operating in NWW .	117
Figure 3.43 Trends on revenue and profit for MS fleets operating in NWW .....	118
Figure 3.44 Trends on TACs for major demersal (left) and pelagic (right) stocks in the NWW.....	120
Figure 3.45 Top 10 species landed by LSF operating in NWW, 2019.....	121
Figure 3.46 Trends in landings of top species landed by LSF operating in NWW .....	122
Figure 3.47 Top 10 species landed by SSCF operating in NWW, 2019.....	122
Figure 3.48 Trends in landings of top species landed by SSCF operating in NWW.....	123
Figure 3.49 Importance of the SWW for MS fleets in terms of landings in weight and value, 2019 ...	124
Figure 3.50 Share of MS fleets and fishing activity in the SWW, 2019 .....	124
Figure 3.51 Trends on effort and landings for MS fleets operating in the SWW .....	125
Figure 3.52 Trends on average wage and labour productivity (GVA per FTE) by fishing activity for MS fleets operating in the SWW.....	126
Figure 3.53 Trends on revenue and profits for MS fleets operating in the SWW * .....	126
Figure 3.54 Trends on the number of vessels and employment (in FTE) for MS fleets operating in the SWW .....	127
Figure 3.55 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the SWW .....	127
Figure 3.56 Trends on landings in weight and value from MS fleets operating in the SWW .....	128
Figure 3.57 Top 10 species in landed weight and value for MS fleets operating in the SWW, 2019 ...	128
Figure 3.58 Trends on landings of the top species in landed weight and value for MS fleets operating in the SWW .....	129
Figure 3.59 Trends on revenue and profit for MS fleets operating in the SWW.....	129
Figure 3.60 Trends on TACs for major demersal (left) and pelagic (right) stocks in the SWW.....	132
Figure 3.61 Top 10 species landed by SSCF operating in the SWW, 2019 .....	133
Figure 3.62 Trends in landings of top species landed in weight and value by SSCF operating in SWW .....	133
Figure 3.63 Top 10 species landed by LSF operating in the SWW, 2019.....	134
Figure 3.64 Trends in landings of top species landed in weight and value by LSF operating in SWW .	134

Figure 3.65 Importance of the Mediterranean Sea for MS fisheries in terms of landings in weight and value, 2019 .....	136
Figure 3.66 Share by MS fleets and fishing activity in the Mediterranean Sea, 2019.....	136
Figure 3.67 Trends on effort and landings for MS fleets operating in the Mediterranean Sea. ....	137
Figure 3.68 Trends on average wage and labour productivity by fishing activity for MS fleets operating in the MED.....	138
Figure 3.69 Trends on revenue, profits and profit margins for MS fleets operating in the MED.....	139
Figure 3.70 Trends on the number of vessels and employment (in FTE) for the MS fleets operating in the MED .....	139
Figure 3.71 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the MED .....	140
Figure 3.72. Trends on landings in weight and value by MS fleets operating in the MED .....	140
Figure 3.73. Top 10 species in landed weight and value for MS fleets operating in the MED, 2019. ..	141
Figure 3.74. Trends on landings for the top species in landed weight and value for MS fleets operating in the MED.....	141
Figure 3.75. Trends on revenue and profits for MS fleets operating in the MED .....	142
Figure 3.76 Top 10 species landed by SSCF, 2019.....	146
Figure 3.77 Trends on landings for the top species in landed weight and value for SSCF operating in the MED.....	146
Figure 3.78 Top 10 species landed by MS LSF operating in the MED, 2019.....	147
Figure 3.79 Trends on landings for the top species in landed weight and value for MS LSF operating in the MED .....	147
Figure 3.80 Importance of the Black Sea for MS fleets in terms of landings in weight and value, 2019 .....	149
Figure 3.81 Share of MS and fishing activity in the Black Sea, 2019.....	149
Figure 3.82 Trends on effort and landings for MS fleets operating in the BKS .....	150
Figure 3.83 Trends on average wage and GVA per FTE by fishing activity for MS fleets operating in the BKS .....	150
Figure 3.84 Trends in revenue and profits for MS fleets operating in the BKS.....	151
Figure 3.85 Trends in the number of vessels and employment (in FTE) for the MS fleets operating in the BKS.....	151
Figure 3.86 Trends on fishing effort (in days-at-sea) and energy consumption for MS fleets operating in the BKS.....	152
Figure 3.87 Trends on landings in weight and value by MS fleets operating in the BKS.....	152
Figure 3.88 Top 10 species in landed weight and value for MS fleets operating in the BKS, 2019.....	152
Figure 3.89 Trends in landings of the top species in landed weight and value for MS fleets operating in the BKS.....	153
Figure 3.90 Trends in revenue and profit by MS fleets operating in the BKS.....	153
Figure 3.91 Top 10 species landed by SSCF operating in the BKS, 2019 .....	156
Figure 3.92 Trends in landings of top species landed by the SSCF operating in the BKS .....	156
Figure 3.93 Top 10 species landed by LSF operating in the BKS, 2019 .....	157
Figure 3.94 Trends in landings of top species landed by the LSF operating in the BKS, 2019.....	157
Figure 3.95. EU OMR fleet landings (in value and weight) by Member State (left) and FAO fishing areas (right), 2019.....	163
Figure 3.96. Top species landed in value (left) and weight (right) by the EU OMR fleet, 2019.....	164
Figure 3.97. Top 10 species in landed weight and value for EU OMR fleets operating in 2018.....	164
Figure 3.98 Average wage and GVA per FTE for PRT OMR fleets .....	165
Figure 3.99 Trends on the number of vessels and employment in FTE for PRT OMR fleets.....	166
Figure 3.100 Trends on average wage and GVA per FTE for PRT OMR fleets.....	166

Figure 3.101 Trends on fishing effort (in days-at-sea) and energy consumption for Madeira OMR fleet .....	167
Figure 3.102 Trends in landings of the top species in landed weight and value for PRT OMR fleets operating in Madeira .....	167
Figure 3.103 Trends in engaged crew and FTE for PRT OMR fleets operating in Madeira .....	168
Figure 3.104 Cost structure of the Madeira OMR fleet in 2019 .....	168
Figure 3.105 Trends on live weight of landings, value of landings, revenue, profits and profit margins for PRT OMR fleets in Madeira .....	168
Figure 3.106 - Top species in landed weight and value for PRT NAO HOK1824 fleet in Madeira, 2019	169
Figure 3.107 - Top species in landed weight and value for PRT NAO HOK2440 fleet in Madeira, 2019	169
Figure 3.108 Trends on fishing effort (in days-at-sea) and energy consumption for Azores OMR fleet .....	170
Figure 3.109 Trends in landings of the top species in landed weight and value for PRT OMR fleets operating in Azores.....	170
Figure 3.110 Cost structure of the Azores OMR fleet in 2019.....	170
Figure 3.111 Trends on live weight of landings, value of landings, revenue, profits and profit margins for PRT OMR fleets in Azores .....	171
Figure 3.112 Trends in landings of the top species in landed weight and value for PRT NAO HOK1012 fleet in the Azores .....	171
Figure 3.113 Trends in landings of the top species in landed weight and value for PRT NAO HOK2440 fleet in the Azores .....	172
Figure 3.114 Trends on net profit for PRT NAO HOK2440 fleet in the Azores .....	172
Figure 3.115 Landings in value and weight by FAO fishing area for Canary Islands OMR fleet.....	173
Figure 3.116 Trends on fishing effort (in days-at-sea) and energy consumption for Canary Islands OMR fleet.....	173
Figure 3.117 Trends in landings value and weight for Canary Islands OMR fleet, 2017-2019.....	173
Figure 3.118 Top 10 landed species in term of weight (right) and value (left) for the Canary Islands OMR, 2019 .....	174
Figure 3.119 Trends in engaged crew and FTE for the Canary Islands OMR.....	174
Figure 3.120 Cost structure for the Canary Islands OMR fleet, 2019 .....	174
Figure 3.121 Economic performance for the Canary Islands OMR fleet, 2017-2019 .....	175
Figure 3.122 French fleet landings in value and weight by OMR and FAO fishing area, 2019 .....	176
Figure 3.123 - Top species landed in value (left) and weight (right) by the French OMR fleet, 2019.	176
Figure 3.124 – Active vessels per by OM (left), total engaged crew and FTE (right) for French OMR fleet (Mayotte since 2015) .....	176
Figure 3.125 – Top species landed in value and weight by the French OMR fleet of Guadeloupe in 2019 and between 2010 and 2019.....	177
Figure 3.126 – Trends on capacity, effort, landings and profit for the French OMR fleet in Guadeloupe .....	178
Figure 3.127. Cost structure from the Guadeloupe OMR fleet, 2019 .....	178
Figure 3.128. Top species landed in value and weight by PGP0010 GP*in 2019 .....	179
Figure 3.129. Trends on capacity, effort, landings and GVA and gross profit for FRA OFR PGP0010 GP* .....	180
Figure 3.130. Top species landed in value and weight by DFN0010 GP in 2019 .....	180
Figure 3.131. Trends on capacity, effort, landings and GVA and gross profit for DFN0010 GP.....	181
Figure 3.132. Top species landed in value and weight by FPO0010 GP in 2019.....	181
Figure 3.133. Trends on capacity, effort, landings and GVA and gross profit for FPO0010 GP.....	182
Figure 3.134. Top species landed in value and weight by HOK0010 GP in 2019 .....	182
Figure 3.135. Trends on capacity, effort, landings and GVA and gross profit for HOK0010 GP .....	183

Figure 3.136. Top species landed in value in 2019 and between 2010 and 2019 by the French OMR fleet of French Guiana .....	184
Figure 3.137. Trends on capacity, effort, landings and profit for the French OMR fleet in French Guiana .....	185
Figure 3.138. Cost structure from the French Guiana OMR fleet, 2019 (all DFN segments) .....	185
Figure 3.139. Top species landed in value and weight DFN0010 GF in 2019 .....	186
Figure 3.140. Trends on capacity, effort, landings , GVA and gross profit for DFN0010 GF .....	187
Figure 3.141. Top species landed in value and weight DFN1012 GF in 2019 .....	187
Figure 3.142. Trends on capacity, effort, landings, GVA and gross for DFN1012 French Guiana .....	188
Figure 3.143. Top species landed in value in 2019 and between 2010 and 2019 by the French OMR fleet of Martinique .....	189
Figure 3.144. Trends on capacity, effort, landings , GVA and gross profit for the French OMR fleet in Martinique .....	190
Figure 3.145. Cost structure for the Martinique OMR fleet, 2019 .....	190
Figure 3.146. Top species landed in value by PGP0010 MQ* in 2019 .....	191
Figure 3.147. Trends on capacity, effort, landings and profit for PGP0010 MQ .....	192
Figure 3.148. Top species landed in value by HOK0010 MQ* in 2019 .....	192
Figure 3.149. Trends on capacity, effort, landings and profit for HOK0010 MQ* .....	193
Figure 3.150. Top species landed in value in 2019 and between 2010 and 2019 by the French OMR fleet of Reunion .....	194
Figure 3.151. Trends on capacity, effort, landings for the French OMR fleet in Reunion .....	195
Figure 3.152. Top species landed in value by HOK0010 RE* in 2019 .....	195
Figure 3.153. Trends on capacity, effort, landings for the HOK0010 RE* .....	196
Figure 3.154. Top species landed in value by HOK1218 and HOK1824 RE in 2019 .....	196
Figure 3.155. Trends on capacity, effort, landings and profit for the HOK0010 and HOK1824 RE (* including direct subsidies) .....	197
Figure 3.156. Top species landed in value by the French OMR fleet of Mayotte, 2019 .....	198
Figure 3.157. Trends on capacity, effort, landings for the French OMR fleet in Mayotte .....	199
Figure 3.158. Landings for the French OMR fleet in Mayotte (NETTERS 00-10) .....	200
Figure 3.159. The scientific and statistical subareas, divisions and subdivisions are outlined in Annex I of the NAFO Convention .....	201
Figure 3.160. Trends on capacity, employment and fishing effort by the EU fleet operating in NAFO targeting non ICCAT major species .....	204
Figure 3.161. Trends on landings and average price for fleets operating in NAFO (excluding ICCAT major species), 2019 .....	205
Figure 3.162. Trends on landings in value and weight by EU fleet operating in NAFO targeting non ICCAT major species .....	205
Figure 3.163. Top species landed in value and share by EU fleets operating in NAFO (excluding ICCAT major species), 2019 .....	205
Figure 3.164. Trends on revenue, profits and costs for the fleets operating in the NAFO (left) and cost structure by MS fleet in 2019 (right) .....	206
Figure 3.165. Historical catches of top species (in tonnes) by Spanish fleets operating in the NAFO area .....	207
Figure 3.166. Trends on the dependency (left) and activity by main fishing area (right) in NAFO for the Spanish demersal trawler fleet .....	207
Figure 3.167. Trends on landings (left) and average price (right) for the Spanish demersal trawler fleet operating in NAFO .....	208
Figure 3.168. Trends on top species landed in value by the Spanish demersal trawler fleet operating in NAFO (left) and for 2019 .....	208
Figure 3.169. Trends on key indicators for the activity of the Spanish demersal trawler fleet operating in NAFO .....	209

Figure 3.170. Historical catches of top species (in tonnes) by Portuguese fleets operating in the NAFO .....	209
Figure 3.171. Trends on the dependency (left) and activity by main fishing area (right) in NAFO for the Portuguese demersal trawler fleet.....	210
Figure 3.172. Trends on landings (left) and average price (right) for the Portuguese demersal trawler fleet operating in NAFO .....	210
Figure 3.173. Trends on the top species landed in value by the Portuguese demersal trawler fleet operating in NAFO (left) and for 2019 .....	211
Figure 3.174. Trends on key indicators for the Portuguese demersal trawlers operating in NAFO .....	211
Figure 3.175. Historical catches of top species (in tonnes) by German fleets operating in the NAFO area .....	212
Figure 3.176. Historical catches of top species (in tonnes) by Estonian fleets operating in the NAFO area.....	212
Figure 3.177. Trends on landings in value and weight by the EU fleet of ICCAT major species.....	221
Figure 3.178. Trends on landings in value and weight by the EU fleet of ICCAT major Atlantic (left) and Mediterranean (right) stocks.....	222
Figure 3.179. Trends on the top six species landed (in value) by the ICCAT Mediterranean LDF combined .....	224
Figure 3.180. Trends on the average price of the top species landed by the EU Mediterranean ICCAT LDF combined .....	224
Figure 3.181. Trends on key indicators for the EU Mediterranean ICCAT LDF combined .....	225
Figure 3.182. Trends on the top six species landed (in value) by the EU Atlantic ICCAT LDF combined .....	225
Figure 3.183. Trends on the average price of the top species landed by the ICCAT Atlantic LDF combined .....	226
Figure 3.184. Trends on key indicators for the EU Atlantic ICCAT LDF combined.....	226
Figure 3.185. Top species landed in value by the Spanish fleet targeting ICCAT Mediterranean (left) and Atlantic (right) stocks, 2019. ....	227
Figure 3.186. Trends on landings of the top species in value (left) and weight (right) by the Spanish large purse seiners in the Mediterranean. ....	228
Figure 3.187. Trends on key indicators for the Spanish large purse seiner (24-40m) segment with high dependency on ICCAT major Mediterranean stocks. ....	228
Figure 3.188. Trends on the dependency (left) and cost structure (right) for the Spanish MBS purse seiner 24-40m segment in ICCAT .....	229
Figure 3.189. Trends on landings of the top species in value (left) and weight (right) by the Spanish large longliner segment in the Mediterranean.....	229
Figure 3.190. Trends on key indicators for the Spanish large longliner (18-24m) segment with high dependency on ICCAT major Mediterranean stocks. ....	230
Figure 3.191. Trends on the dependency (left) and cost structure (right) for the Spanish MBS longliner 18-24m segment in ICCAT.....	230
Figure 3.192. Trends on landings of the top species in value (left) and weight (right) by the Spanish industrial purse seiner (>40m) segment in the Atlantic .....	231
Figure 3.193. Trends on key indicators for the Spanish industrial purse seiner (>40m) segment with high dependency on ICCAT major Atlantic stocks.....	232
Figure 3.194. Trends on the dependency (left) and cost structure (right) for the Spanish OFR purse seine over 40m segment in ICCAT .....	232
Figure 3.195. Trends on landings of the top species in value (left) and weight (right) by the Spanish large purse seiners in the Atlantic.....	233
Figure 3.196. Trends on key indicators for the Spanish large purse seiner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.....	233
Figure 3.197. Trends on landings of the top species in value (left) and weight (right) by the Spanish large longliners predominately active in OFR. ....	234

Figure 3.198. Trends on key indicators for the Spanish large longliner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.....	234
Figure 3.199. Trends on the dependency (left) and cost structure (right) for the Spanish OFR longliner 24-40m segment in ICCAT.....	235
Figure 3.200. Trends on landings of the top species in value (left) and weight (right) by the Spanish large longliners in the Atlantic. ....	235
Figure 3.201. Trends on key indicators for the Spanish large longliner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.....	236
Figure 3.202. Trends on the dependency (left) and cost structure (right) for the Spanish NAO longliner 24-40m segment in ICCAT.....	236
Figure 3.203. Trends on landings of the top species in value (left) and weight (right) by the Spanish large hook and line segment operating predominately in OFR.....	237
Figure 3.204. Trends on key indicators for the Spanish large longliner (24-40m) segment with high dependency on ICCAT major Atlantic stocks.....	237
Figure 3.205. Trends on the dependency (left) and cost structure (right) for the Spanish OFR hook and line 24-40m segment in ICCAT.....	237
Figure 3.206. Trends on landings of the top species in value (left) and weight (right) by the Spanish large hook and line segment operating predominately in OFR.....	238
Figure 3.207. Trends on key indicators for the Spanish Hook and line (24-40m) segment from the Canary OMR with high dependency on ICCAT major Atlantic stocks. ....	238
Figure 3.208. Trends on the dependency (left) and cost structure (right) for the Spanish Canary Island hook and line 24-40m segment in ICCAT.....	239
Figure 3.209. Top species landed by the French fleet targeting ICCAT Mediterranean (left) and Atlantic (right) stocks, 2019. ....	239
Figure 3.210. Trends on landings of the top species in value (left) and weight (right) by the French large purse seiners targeting Mediterranean stocks.....	240
Figure 3.211. Trends on key indicators for the French large purse seine segment with high dependency on ICCAT Mediterranean stocks. ....	241
Figure 3.212. Trends on the dependency (left) and cost structure (right) for the French MBS purse seine 24-40m segment in ICCAT. ....	241
Figure 3.213. Trends on landings of the top species in value (left) and weight (right) by the French large purse seiners targeting Atlantic stocks. ....	242
Figure 3.214. Trends on key indicators for the French large purse seiner segment (>40 metres) with high dependency on ICCAT Atlantic stocks. ....	243
Figure 3.215. Trends on the dependency (left) and cost structure (right) for the French IWE purse seiners over 40m segment in ICCAT. ....	243
Figure 3.216. Trends on landings of the top species in value (left) and weight (right) by the French Reunion fleet targeting Atlantic stocks.....	244
Figure 3.217. Trends on key indicators for the French Reunion fleet segment with high dependency on ICCAT major Atlantic stocks.....	245
Figure 3.218. Trends on the dependency (left) and cost structure (right) for the French Reunion HOK 18-24m segment in ICCAT.....	245
Figure 3.219. Top species landed in value by the Portuguese fleet targeting ICCAT major stocks, 2019. ....	246
Figure 3.220. Trends on landings of the top species in value (left) and weight (right) by the Portuguese HOK 18-24m segment in the Atlantic. ....	247
Figure 3.221. Trends on key indicators for the Portuguese HOK 18-24m fleet segment with high dependency on ICCAT major species.....	247
Figure 3.222. Trends on the dependency (left) and cost structure (right) for the Portuguese HOK 18-24m segment in ICCAT. ....	248
Figure 3.223. Trends on landings of the top species in value (left) and weight (right) by the Portuguese HOK 24-40 segment in the Atlantic. ....	248

Figure 3.224. Trends on key indicators for the Portuguese HOK 24-40m segment with high dependency on ICCAT major species. ....	249
Figure 3.225. Trends on the dependency (left) and cost structure (right) for the Portuguese HOK 18-24m segment in ICCAT. ....	249
Figure 3.226. Trends on landings of the top species in value (left) and weight (right) by the Portuguese Madeira HOK 24-40 segment. ....	250
Figure 3.227. Trends on key indicators for the Madeira HOK 24-40m segment with high dependency on ICCAT major species. ....	250
Figure 3.228. Trends on the dependency (left) and cost structure (right) for the Portuguese Madeira HOK 24-40m segment in ICCAT. ....	251
Figure 3.229. Trends on landings of the top species in value (left) and weight (right) by the Portuguese Azorean pole and line (24-40m) segment in the Atlantic. ....	251
Figure 3.230. Trends on key indicators for the Azorean pole and line (24-40m) segment with high dependency on ICCAT major species. ....	252
Figure 3.231. Trends on the dependency (left) and cost structure (right) for the Portuguese Azorean pole and line 24-40m segment in ICCAT. ....	252
Figure 3.232. Trends on landings of the top species in value (left) and weight (right) landed by the Portuguese large longline fleet fishing exclusively in international waters segment in the Atlantic. ....	253
Figure 3.233. Trends on key indicators for the Portuguese large longline fleet fishing exclusively in international waters (OFR HOK 2440 IWE) with high dependency on ICCAT major species. ....	253
Figure 3.234. Trends on the dependency (left) and cost structure (right) for the Portuguese OFR HOK 24-40m segment in ICCAT. ....	254
Figure 3.235. Trends on landings of the top species in value (left) and weight (right) by the Portuguese industrial longline fleet fishing exclusively in international waters. ....	254
Figure 3.236. Trends on key indicators for the Portuguese industrial longliner fleet fishing exclusively in international waters with high dependency on ICCAT major species. ....	255
Figure 3.237. Trends on the dependency (left) and cost structure (right) for the Portuguese OFR HOK 40XXm segment in ICCAT. ....	255
Figure 3.238. Top species landed in value by the Italian fleet targeting ICCAT major stocks, 2019 ..	256
Figure 3.239. Trends on landings of the top species in value (left) and weight (right) by the Italian large purse seiners targeting Mediterranean stocks. ....	257
Figure 3.240. Trends on key indicators for the Italian large purse seiner segment with high dependency on ICCAT Mediterranean stocks. ....	257
Figure 3.241. Trends on the dependency (left) and cost structure (right) for the Italian purse seine 40XXm segment in ICCAT. ....	258
Figure 3.242. Top species landed in value by the Maltese fleet targeting ICCAT major stocks, 2019.	258
Figure 3.243. Trends on landings of the top species in value (left) and weight (right) by the Maltese HOK18-24 segment targeting Mediterranean stocks. ....	259
Figure 3.244. Trends on key indicators for the Maltese HOK 18-24m segment with high dependency on ICCAT major Mediterranean stocks. ....	260
Figure 3.245. Trends on the dependency (left) and cost structure (right) for the Maltese HOK 1824m segment in ICCAT. ....	260
Figure 3.246. Trends on landings of the top species in value (left) and weight (right) by the Maltese purse seiners in the Mediterranean. ....	261
Figure 3.247. Trends on key indicators for the Maltese purse seine segment with high dependency on ICCAT major Mediterranean stocks. ....	261
Figure 3.248. Trends on the dependency (left) and cost structure (right) for the Maltese purse seine 1824m segment in ICCAT. ....	262
Figure 3.249. Top species landed in value by the Greek fleet targeting ICCAT major stocks, 2019...	262
Figure 3.250. Top species landed in value by the Croatian fleet targeting ICCAT major stocks, 2019	263
Figure 3.251. Top species landed in value by the Cypriot fleet targeting ICCAT major stocks, 2019 .	264

Figure 3.252. Trends on some key indicators for the Cypriot LDF with high dependency on ICCAT major Mediterranean stocks. ....	264
Figure 3.253. Top species landed in value by the Irish fleet targeting ICCAT major stocks, 2019.....	265
Figure 3.254. Trends on landings of the top species in value (left) and weight (right) by the Irish large pelagic trawler segment targeting Atlantic stocks. ....	265
Figure 3.255. Trends on key indicators for the Irish large pelagic trawler segment with some dependency on ICCAT major Atlantic species. ....	266
Figure 3.256. Trends on the dependency (left) and cost structure (right) for the Irish pelagic trawlers 24-40m segment in ICCAT.....	266
Figure 3.257. Top species landed in value by the EU IOTC fleet, 2019.....	273
Figure 3.258. Top species landed in value by the French IOTC fleets, 2019 .....	274
Figure 3.259. Top species landed in value by the French industrial purse seiner (left) and OMR (right) fleets, 2019. ....	274
Figure 3.260. Trends on landings of the top species in value (left) and weight (right) by the French industrial purse seine segment targeting IOTC stocks.....	275
Figure 3.261. Trends on key indicators for the French industrial purse seine fleet with high dependency on IOTC stocks.....	276
Figure 3.262. Trends on the dependency (left) and cost structure (right) for the French purse seine OFR 40XXm segment in IOTC.....	276
Figure 3.263. Trends on landings of the top species in value (left) and weight (right) by the French Reunion large longliner segment targeting IOTC stocks. ....	276
Figure 3.264. Trends on key indicators for the French Reunion segment with high dependency on IOTC major stocks. ....	277
Figure 3.265. Trends on the dependency (left) and cost structure (right) for the French purse seine OFR 40XXm segment in IOTC.....	277
Figure 3.266. Top species landed by the Spanish fleet operating in IOTC, 2019.....	278
Figure 3.267. Trends on landings of the top species in value (left) and weight (right) by the Spanish industrial purse seine segment targeting IOTC stocks.....	278
Figure 3.268. Trends on key indicators for the Spanish (purse seine) fleet segment with high dependency on IOTC major stocks.....	279
Figure 3.269. Trends on the dependency (left) and cost structure (right) for the Spanish purse seine OFR 40XXm segment in IOTC.....	279
Figure 3.270. Top species landed in value by the Portuguese IOTC fleet, 2019.....	280
Figure 3.271. Trends on landings of the top species in value (left) and weight (right) by the Portuguese longline segment targeting IOTC stocks.....	280
Figure 3.272. Trends on key indicators for the Portuguese longline segment with high dependency on IOTC major stocks. ....	281
Figure 3.273. Trends on the dependency (left) and cost structure (right) for the Portuguese HOK OFR 40XXm segment in IOTC. ....	281
Figure 3.274. Top species landed in value by the Italian vessel active in IOTC, 2019 .....	282
Figure 3.275. Trends on some key indicators for the Italian purse seine segment with high dependency on IOTC major stocks.....	282
Figure 3.276. Map of the CECAF Area of Competence.....	286
Figure 3.277. Trend on capacity (no. vessels) and effort (days at sea) for the EU fleet active in the CECAF Area of Competence .....	290
Figure 3.278. Trend on landings in value and weight by EU fleet activity in the CECAF Area of Competence.....	290
Figure 3.279. Trend on landings in value of the top species, including (left) and excluding (right) ICCAT stocks, by the EU fleet operating in the CECAF Area of Competence.....	291
Figure 3.280. Trend on landings in value of the top species (including and excluding ICCAT species) by the EU fleet operating in the CECAF Area of Competence.....	291

Figure 3.281. Trends on dependency of the Spanish Morocco Coastal fleet on CECAF demersal species (left) and on CECAF ICCAT stocks (right).....	292
Figure 3.282. Top species landed by the Spanish longliner 12-18m segment operating in the Morocco Coastal.....	292
Figure 3.283. Trends on key indicators for the Spanish Morocco Coastal fleet operating in CECAF targeting non ICCAT and ICCAT stocks.....	294
Figure 3.284. Cost structure for the Spanish Morocco Coastal fleet, 2019 .....	294
Figure 3.285. Trends on key indicators for the EU CEACF LDF and cost structure in 2019. ....	297
Figure 3.286. Trends on key indicators for the Spanish hook and line 24-40m segment in CECAF (no ICCAT major stocks). ....	299
Figure 3.287. Trends on the dependency (left) and cost structure in 2019 (right) for the Spanish hook and line 24-40m segment in CECAF (no ICCAT major stocks).....	299
Figure 3.288. Recent trends of the top earning Spanish fleet segment with high dependency on activity in CECAF (no ICCAT major stocks).....	300
Figure 3.289. Trends on the dependency (left) and cost structure in 2019 (right) of the Spanish demersal trawler 24-40m segment in CECAF (no ICCAT major stocks). ....	300
Figure 3.290. Top species landed by the Portuguese fleet operating in CECAF targeting non-ICCAT major species.....	301
Figure 3.291. Trends on main species landed by the Portuguese passive and mobile gear 18-24m segment operating in CEACF (no ICCAT species). ....	301
Figure 3.292. Trends on key indicators for the Portuguese passive and mobile gear 18-24m segment operating in CECAF (no ICCAT species). ....	302
Figure 3.293. Trends on the dependency (left) and cost structure (right) of the Portuguese passive and mobile 18-24m segment in CECAF (no ICCAT major stocks). ....	302
Figure 3.294. Trends on main species landed by the Portuguese passive and mobile gear 18-24m segment operating in CEACF (no ICCAT species) .....	303
Figure 3.295. Trends on key indicators for the Portuguese hook and line 18-24m segment with activity in CECAF (no ICCAT major stocks).....	303
Figure 3.296. Trends on the dependency (left) and cost structure (right) of the Portuguese passive and mobile 18-24m segment in CECAF (no ICCAT major stocks). ....	304
Figure 3.297. Top species landed by the Italian fleet operating in CECAF targeting non-ICCAT major species.....	304
Figure 3.298. Trends on key indicators for the Italian demersal trawler 40XX segment with activity in CECAF (no ICCAT major stocks). ....	305
Figure 3.299. Top species landed by the Lithuanian fleet operating in CECAF targeting non-ICCAT major species.....	305
Figure 3.300. Trends on some key indicators for the Lithuanian pelagic trawlers with activity in CECAF (no ICCAT major stocks). ....	306
Figure 3.301. Top species landed by the German fleet operating in CECAF targeting non-ICCAT major species.....	307
Figure 3.302. Top species landed by the French fleet operating in CECAF, 2019 .....	307
Figure 3.303. Top species landed by the Dutch fleet operating in CECAF targeting non-ICCAT major species.....	308
Figure 3.304. Map of the NEAFC area of competence .....	309
Figure 3.305. Top species landed by fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right), 2019.....	311
Figure 3.306. Top species landed by the German fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right), 2019.....	313
Figure 3.307. Key indicators for the German demersal trawler segment with high dependency on activity in NEAFC, 2018-2019.....	314
Figure 3.308. 309 Top species landed in 2019 by Spanish fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).....	314

Figure 3.310. Key indicators for the Spanish PGP 24-40m segment with high dependency on activity in NEAFC, 2018-2019. ....	315
Figure 3.311. Top species landed in 2019 by French fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).....	316
Figure 3.312. Key indicators for the French demersal trawler segment with high dependency on activity in NEAFC, 2018-2019.....	317
Figure 3.313. Top species landed in 2019 by Irish fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).....	317
Figure 3.314. Key indicators for the Irish demersal trawler segment with high dependency on activity in NEAFC, 2018-2019 .....	318
Figure 3.315. Top species landed in 2019 by Lithuanian fleet segments >18m LOA operating in the NEAFC CA (left) and NEAFC RA (right).....	318
Figure 3.316. Key indicators for the Lithuanian pelagic trawler segment with high dependency on activity in NEAFC, 2018-2019.....	319
Figure 4.1 Belgium: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	328
Figure 4.2 Bulgaria: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	336
Figure 4.3 Croatia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	345
Figure 4.4 Cyprus: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in cost items; productivity and efficiency indicators; landings and average price (EUR /kg) of top species; variation in income and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	356
Figure 4.5 Demark: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	364
Figure 4.6 Estonia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	369
Figure 4.7 Finland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	376
Figure 4.8 France: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	387
Figure 4.9 Germany: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg)	

of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	398
Figure 4.10 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 (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	407
Figure 4.11 Ireland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	415
Figure 4.12 Italy: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	423
Figure 4.13 Latvia: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	431
Figure 4.14 Lithuania: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	439
Figure 4.15 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 (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	449
Figure 4.16 Netherlands: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	460
Figure 4.17 Poland: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	466
Figure 4.18. DTS2440 – Relation between fuel costs and net profit (2010-2019).....	471
Figure 4.19. DTS2440 – Relation between landing weight and value for the Iberian sardine (2010-2019).....	471
Figure 4.20 Portugal: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	477
Figure 4.21 Romania: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100). Nowcast figures for 2020 and 2021.....	485
Figure 4.22 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 (EUR/kg)	

of top species; variation in income variables and average prices of key input/outputs (2008=100).  
Nowcast figures for 2020 and 2021..... 494

Figure 4.23 Spain: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100).  
Nowcast figures for 2020 and 2021..... 504

Figure 4.24 Sweden: Main trends in (from top to bottom, left to right): economic performance indicators (absolute value and relative values); cost structure and variation in main cost items; productivity and efficiency indicators; landings (in weight and value) and average price (EUR/kg) of top species; variation in income variables and average prices of key input/outputs (2008=100).  
Nowcast figures for 2020 and 2021..... 511

## ABBREVIATIONS

### *European Member States*

BEL	BE	Belgium	HRV	HR	Croatia
BGR	BG	Bulgaria	IRL	IR	Ireland
CYP	CY	Cyprus	ITA	IT	Italy
DEU	DE	Germany	LTU	LT	Lithuania
DNK	DK	Denmark	LVA	LV	Latvia
ESP	ES	Spain	MLT	MT	Malta
EST	EE	Estonia	NLD	NL	Netherlands
EU	EU	European Union	POL	PL	Poland
FIN	FI	Finland	PRT	PT	Portugal
FRA	FR	France	ROU	RO	Romania
GBR	UK	United Kingdom	SVN	SV	Slovenia
GRC	EL	Greece	SWE	SE	Sweden

### *Fishing Technologies – DCF categories*

DFN	Drift and/or fixed netters
DRB	Dredgers
DTS	Demersal trawlers and/or demersal seiners
FPO	Vessels using pots and/or traps
HOK	Vessels using hooks
MGO	Vessel using other active gears
MGP	Vessels using polyvalent active gears only
PG	Vessels using passive gears only for vessels < 12m
PGO	Vessels using other passive gears
PGP	Vessels using polyvalent passive gears only
PMP	Vessels using active and passive gears
PS	Purse seiners
TM	Pelagic trawlers
TBB	Beam trawlers

### *Fishing activity – scale of fishing operation*

SSCF	Small-scale
LSF	Large-scale fleet
DWF	Distant water fleet

### *Fishing regions*

BS	Baltic Sea
BKS	Black Sea
MED	Mediterranean Sea
NSEA	North Sea & Eastern Arctic
NWW	North Western Waters
OFR	Other fishing regions
SWW	South Western Waters

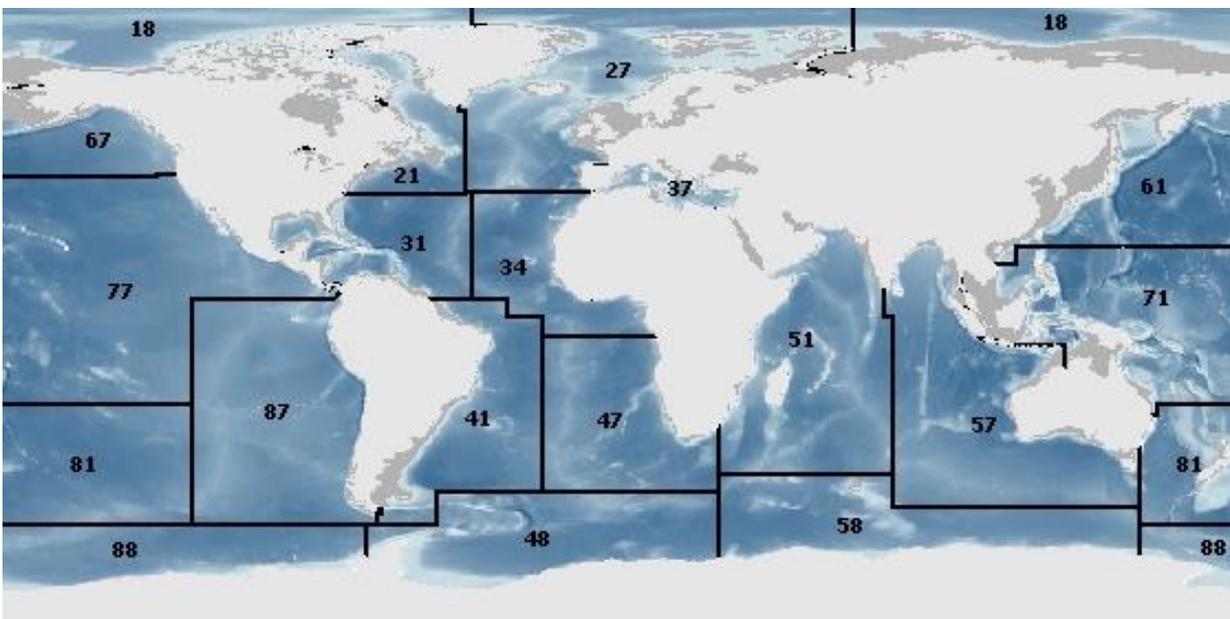
### *Regional fisheries*

ABNJ	Areas Beyond National Jurisdiction
------	------------------------------------

CECAF	Fishery Committee for the Eastern Central Atlantic
GFCM	General Fisheries Commission for the Mediterranean
ICCAT	International Commission for the Conservation of Atlantic
IOTC	Indian Ocean Tuna Commission
LDF	Long Distant Fisheries
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North-East Atlantic Fisheries Commission
OMR	EU Outermost Regions
RFB	Regional Fisheries Bodies
RFMO	Regional Fisheries Management Organisations
SFPAs	EU Sustainable Fisheries Partnership Agreements

### **Food and Agriculture Organization of the United Nations (FAO) Major Fishing Areas**

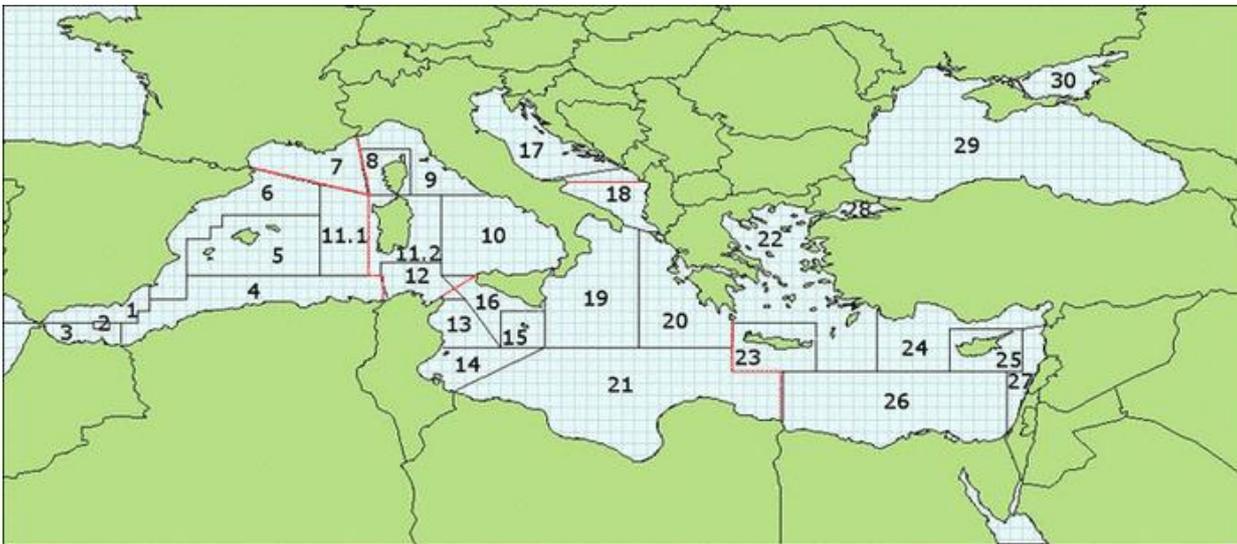
FAO area 18	Arctic Sea	FAO area 57	Indian Ocean,
FAO area 21	Atlantic, Northwest	FAO area 58	Indian Ocean,
FAO area 27	Atlantic, Northeast	FAO area 61	Pacific, Northwest
FAO area 31	Atlantic, Western Central	FAO area 67	Pacific, Northeast
FAO area 34	Atlantic, Eastern Central	FAO area 71	Pacific, Western
FAO area 37	Mediterranean and Black Sea	FAO area 77	Pacific, Eastern
FAO area 41	Atlantic, Southwest	FAO area 81	Pacific, Southwest
FAO area 47	Atlantic, Southeast	FAO area 87	Pacific, Southeast
FAO area 48	Atlantic, Antarctic	FAO area 88	Pacific, Antarctic
FAO area 51	Indian Ocean, Western		



Source: <http://www.fao.org/fishery/area/>

## General Fisheries Commission for the Mediterranean (GFCM) Geographical subareas (GSAs)

GSA 1	Northern Alboran Sea	GSA 16	Southern Sicily
GSA 2	Alboran Island	GSA 17	Northern Adriatic
GSA 3	Southern Alboran Sea	GSA 18	Southern Adriatic Sea
GSA 4	Algeria	GSA 19	Western Ionian Sea
GSA 5	Balearic Island	GSA 20	Eastern Ionian Sea
GSA 6	Northern Spain	GSA 21	Southern Ionian Sea
GSA 7	Gulf of Lion	GSA 22	Aegean Sea
GSA 8	Corsica	GSA 23	Crete
GSA 9	Ligurian Sea and North Tyrrhenian Sea	GSA 24	Northern Levant Sea
GSA 10	Southern and Central Tyrrhenian Sea	GSA 25	Cyprus
GSA 11.1	Western Sardinia	GSA 26	Southern Levant Sea
GSA 11.2	Eastern Sardinia	GSA 27	Eastern Levant Sea
GSA 12	Northern Tunisia	GSA 28	Marmara Sea
GSA 13	Gulf of Hammamet	GSA 29	Black Sea
GSA 14	Gulf of Gabes	GSA 30	Azov Sea
GSA 15	Malta		



Source: <http://www.fao.org/gfcm/data/maps/gsas>

## STECF

The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.

## The European Commission's science and knowledge service

Joint Research Centre

### JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



**EU Science Hub**

[ec.europa.eu/jrc](https://ec.europa.eu/jrc)



@EU\_ScienceHub



EU Science Hub - Joint Research Centre



Joint Research Centre



EU Science Hub



Publications Office  
of the European Union

doi:10.2760/60996

ISBN 978-92-76-40959-5